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ADOLESCENT SUBSTANCE ABUSE TREATMENT: DOES FAMILY SYSTEMS
THERAPY IMPROVE FAMILY FUNCTIONING AND DECREASE SUBSTANCE
ABUSE?

A Dissertation

Presented to

the Faculty of the Graduate School of Social Work

University of Denver

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

by

Darin J. Wallis

June 2013

Advisor: Julie A. Laser, PhD

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Author: Darin J. Wallis

Title: ADOLESCENT SUBSTANCE ABUSE TREATMENT: DOES FAMILY SYSTEMS THERAPY INCREASE FAMILY FUNCTIONING AND DECREASE SUBSTANCE ABUSE?

Advisor: Julie A. Laser, PhD

Degree Date: June 2013

Abstract

Family systems therapy is a way of working with individuals, couples, families, or a group of people that emphasizes relationships and a person's/family's greater "system" as important factors in establishing change and health (Haley, 1976; Minuchin, 1974). Treating adolescent substance abuse with family systems therapy has been demonstrated in the literature as being an effective method of intervention (Coatsworth, Santisteban, McBride, & Szapocznik, 2001; Kumfer & Alvarado, 2003; Leichtling, Gabriel, Lewis & Vander Ley, 2006; Liddle, 2002; Liddle et al., 2001; Rowe & Liddle, 2003), as the various ecological and epidemiological factors associated with adolescent substance abuse can be addressed effectively with family systems work (Cunningham & Henggler, 1999; Kaufman & Kaufman, 1979; Liddle et al., 2001; Szapocznik & Williams, 2000). The dissertation used a sample of 71 families who participated in a family systems therapy intensive outpatient substance abuse program in the greater metro-Denver area from 2006 to mid-2008. The youth, aged 13-17 years old, tended to be highly involved with substance abuse, were not motivated to change, and were not interested in participating in treatment. A three-month follow-up survey was evaluated and demonstrated that both youth and parents/guardians found that that family systems therapy was effective in increasing the family's functioning, decreasing the youth's

substance use, increasing the youth's school performance, and decreasing the youth's court involvement.

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Chapter One: Introduction

Statement of Substantive Area

Adolescent substance use and abuse problems continue to be a concern for schools, the public, families, and professionals. The consumption of both prescription and illicit drugs among adolescents has been a focus of attention with the media, public education, social science studies, treatment facilities, human service agencies, and law enforcement. In addition, the opinion that drugs are becoming more easily obtainable by adolescents has drawn concern from families and professionals who are uneasy about children's safety at school and in the community.

The focus of the dissertation was to analyze adolescent substance abuse treatment literature and then conduct a quantitative research project to analyze adolescent substance abuse treatment with the use of family systems therapy. In order to cover the major areas of the dissertation, the following plan was followed. First, two varying theoretical models, Family Systems Theory and Motivational Interviewing, were used throughout the dissertation to critically analyze the literature. Second, the dissertation summarized findings established within the literature and then critiqued the relevant studies identified with adolescent substance abuse treatment. After a review of the literature was completed, dissertation questions were posed based on information elicited from the literature. To answer the dissertation questions, a quantitative research methodology was constructed to collect secondary data from a local adolescent substance abuse treatment

program using family systems therapy as the primary intervention treatment. The information from the treatment program was collected, analyzed, and reported. The findings from the research were discussed and conclusions were identified. And finally, policy and research recommendations were fashioned to structure future research.

To introduce the reader to adolescent substance abuse, the initial part of the dissertation presents general findings on the prevalence and social costs that the substantive problem area has had on society.

Prevalence and Cost to Society

The importance of studying the problem of adolescent substance abuse can be useful to a variety of concerned parties. Adolescents who abuse substances tend to have several problems in various areas of their lives (Liddle et al., 2001; Steinman & Schulenberg, 2003; Sussman, Skara, & Ames, 2008). The many troubles associated with substance abuse exacerbate an adolescent's difficulty in developing both a healthy sense of self and the healthy relationships needed for a successful transition to adulthood (Liddle, et al., 2001). Increased family conflict, poor peer relationships, increased anti-social activities, lack of respect for local law enforcement, low scholastic aspirations and achievements, and several mental health problems (including poor self-concepts and depression) are a few examples of these problems (Beman, 1995).

Monitoring the Future.

In the annual "Monitoring the Future" publication, Johnston, O'Malley, Bachman, & Schulenberg (2011) collected quantitative data from 44,900 adolescents in public schools around the country on substance use (n = 15,300 eighth graders, 15,200 tenth graders, and 14,400 twelfth graders). The Johnson et al. (2011) report from their 2010

data collection found that 48.2% of high school seniors have used illicit drugs in their lifetime, with 37.0% of high school sophomores and 21.4% of eighth graders doing the same. These percentages for the age groups have dropped each of the last seven years between 2001 and 2007 and have remained relatively stable since then (i.e., 48.2% for 12th graders in both 2007 and 2010). These figures indicate that nearly half of teens have used drugs, but are also significant in terms of contemplating two different phenomenon. The first is related to the perception shared frequently by youth that most kids use drugs. This “perceived prevalence” is based on teens observing substance use taking place by peers at both school and in the community, which communicates that this behavior is normal and frequent (Finn, 2006; Newcome, 1995). The misperception is that because youth observe these practices in the open, this must mean most peers are also doing this behavior and that non-users are in the minority (Newcome, 1995). Approximately 50% of 12-17 year olds believe that marijuana is either “easy” or “fairly easy” to obtain in their community (SAMHSA, 2003). Likewise, the presence of drugs in schools (perpetuated by students who use drugs) creates “an illusion that most students use drugs and cause students who don’t use drugs to feel unsafe” (Finn, 2006, p. 75). In addition, those adolescents who use drugs often surround themselves with peers practicing similar behaviors (Blanton et al., 1997; Dishion & Owen, 2002; Farrington & Hawkins, 1991), thus reinforcing the idea that because their friends use, nearly all teenagers do as well (Baer, Stacy, Larimer, 1991; Blanton et al., 1997; Bosari et al., 2000). Similarly, Blanton et al. (1997) reported the phenomenon of “perceived favorability,” where youth often view their peers as having more favorable views of drugs than the individual does him/her self, perpetuating the idea that drug use is taking place more frequently.

The second related phenomenon has to do with drug-using practices of adolescents, meaning the intensity of their use. The literature shows that when adolescents and young adults use substances, especially alcohol, they tend to use intensely (Bonomo, Bowes, Coffey, Carlin, & Patton, 2004). Observing and practicing extreme levels of substance use breeds ideas that intense use is normal and desired. With alcohol, a frequent *rite of passage* for many adolescents is that the more alcohol a person consumes in a single episode, the better (Glider, Midyett, Mills-Novoa, Johannessen & Collins, 2001).

Adolescent Substance Abuse & the Diagnostic and Statistical Manual (DSM).

According to Sussman et al. (2008), approximately 5% of all adolescents in the US qualify for a DSM-IV substance abuse disorder, with 9.5% qualifying for any disorder (Ford, Goodman, & Meltzer, 2003). A statistical estimate of 43% of adolescents who are receiving mental health services also have a substance abuse/dependence diagnosis as well (Center for Mental Health Services, 2000). Comorbid disorders are reported to be more difficult to treat (Grella, Hser, Joshi, & Rounds-Bryan, 2001; Henderson, Dakof, Greenbaum, & Liddle, 2010), as treatment providers can have a more difficult time contemplating where problem behaviors should be attributed (mental health or substance abuse). Research has found that when co-occurring/dual diagnoses are measured for success with treatment, it is difficult to understand recovery patterns, which, from a research standpoint, creates difficulties in determining how influential mental health issues were on treatment and how much can be attributed to substance abuse (Chung, Martin, & Clark, 2008).

Cost to Society.

The problem of adolescent substance use has required the administrative and financial attention of political, legal, professional, and educational parties. These problems extend to other areas of the public, as law enforcement, legislative bodies, the criminal justice system, human service agencies, and treatment facilities are mandated to deal with the social problems associated with adolescent substance abuse. Within the school system in the United States, an estimated \$41 billion is spent on needed programs, personnel, and faculty hours associated with substance use with adolescent students (Califano, 2001). Several research studies have found that alcohol-related injuries are the leading cause of death among young adults (Institute of Medicine, 1990) and adolescents (McWhirter, 2008; Sussman, Skara & Ames, 2008). In fact, the three leading causes of mortality among adolescents are linked to adolescent substance abuse (motor vehicle accidents, suicides, and homicides; Greenfield, Wold-Branigin, & Karageorge, 2008). High correlations exist between adolescent substance abuse and school failure (Liddle et al., 2001), delinquency (Liddle et al., 2009), car accidents (Greenfield et al., 2008), arrests and incarcerations (Liddle, Rowe, Dakof, Ungaro, & Henderson, 2004), and physical illnesses (Hansell & White, 1991; Sussman et al., 2008). In sum, the impact that adolescent substance abuse has on society as a whole should not and cannot be underestimated.

Individual Costs. Substance abuse for the adolescent has obvious impacts on the individual as well. More specifically, substance abuse at this age has a dramatic effect on the cognitive abilities of a developing brain (Sussman & Ames, 2001), as true brain maturity does not occur until around the age of 25 (Giedd et al., 1999), leading to

cognitive distortions in thinking and *disorganized thinking* (Sussman et al., 2008). This kind of disorganized thinking by the youth is centered around the idea that the problem is with others and not the responsibility of the youth him/her self (Sussman & Ames, 2001). Mounting problems associated with their drug use can be dismissed as other peoples' problems (i.e., parents or authority figures), problems with society (i.e., the drinking age should not be 21 years old), or problems with structure (i.e., school is too hard or too much work; Sussman & Ames, 2001; Sussman et al., 2008).

Treating the Problem. According to Diamond et al. (2006), approximately 87% of referred adolescent substance abuse cases are treated at the outpatient (OP) or intensive outpatient (IOP) levels of treatment. A similar finding was found by Muck et al. (2001), which indicated that of the youth involved in substance abuse treatment: 69% are in OP; 11% in IOP; 6% in short-term Residential Treatment Centers (RTCs); 9% in long-term RTCs; and 5% in other forms of treatment. Although OP and IOP programs are significantly less expensive compared to residential and in-patient agencies, the financial burden on families and funding sources can be troublesome. As an added expenditure, approximately 50% of adolescents participating in some form of substance abuse treatment are being mandated to do so by the court systems (US Dept. of Health and Human Services, 2001), putting further financial pressure on families and public service agencies to fit the bill. Of the estimated 1.4 million teens in need of substance abuse services, only 10% actually make it to some form of treatment (Office of Applied Studies, 2002), indicating that a vast majority of substance abusers go untreated, making it difficult to engage them in change. For families, one of the main factors that prompt parents into initiating treatment for their son or daughter is when the youth's substance

abusing behavior collides with either the school system (use at school) or with the legal system (Liddle et al., 2001), meaning that even though parents may know their child is using drugs, it isn't until other systems become involved that professional assistance is pursued.

In-patient and Residential Treatment Centers (RTCs) are the most expensive programs for youths, but they have the highest percentage of drug reductions from intake to discharge (Sussman et al., 2008). However, RTCs also have the highest percentage of relapse after treatment (Sussman et al., 2008). These statistics have to do with in-patient and RTCs' common practice of isolating the youth from the environment that supports their drug using behaviors (i.e., peers), which initially works to reduce drug use (Abrams, 2006). Family systems work is well-suited to address this problem, as services are focused on treating the drug use by working with the individual's entire system, including the family, school, and pro-social entities (Cunningham & Henggler, 1999; Santiseban et al., 1997; Santiseban et al., 2003; Szapocznik & Williams, 2000), and thus preparing both the individual and the system to accommodate needed systemic changes, which include individual changes. A potential hole in the literature appears to exist with this subject, as no studies could be found comparing RTCs who have family involvement and those who do not. This would make for an informative research study, as this could detect potential influences of working with the family while an adolescent is in residential treatment.

Natural Recovery. The many problems, prevalence, and expenses of dealing with adolescent substance abuse are not without hope. Experimentation of substances occurs frequently for many teens and studies have found that adolescents who experiment with drugs do not usually go on to develop substance abuse problems later in life (Gotham,

Sher, Wood, 1997; Newcomb, 1995; Zucker, 1994). The “maturing out effect” occurs for many young adults in their mid-20’s (Gotham, et al., 1997; Zucker, 1994), as the pre-frontal cortex is fully developed at age 25, allowing for more rational decisions-making, an increased awareness of consequences, and superior planning abilities (Giedd, et al., 1999), all of which can interfere with previous conceptions of what is normal and reasonable substance use. In addition, the concept of *natural recovery* can occur during early adulthood, where responsibilities of marriage/partnerships, employment, and having children decrease substance abusing behaviors (Misch, 2007; Rohrbach, Sussman, Dent, & Sun, 2005). However, for a certain percentage of the adolescent population, these behaviors continue on to and through adulthood (Laser & Nicotera, 2011).

Dissertation Questions

Before the methodology of studying adolescent substance abuse was considered, the development of relevant research questions occurred first, as the methodology was specifically developed around the needs of the research questions.

After an extensive review of adolescent substance abuse treatment, the most effective treatment modality, family systems therapy, became apparent. Of the myriad of family therapy models for treating adolescent substance abuse, five appeared to be the most effective in the literature: Multisystemic Therapy (MST), Multi-dimensional Family Therapy (MDFT), Brief Strategic Family Therapy (BSFT), Solution-focused Brief Therapy (SBFT), and Structural Family Therapy (SFT). Four have been listed in both the Substance Abuse and Mental Health Service Administration (SAMHSA) and National Registry of Evidence-based Programs (NREPP) as effective evidence-based forms of treatment (SBFT is currently being considered; Kim, 2013), with MST and MDFT

becoming manualized (NREPP, 2011; SAMHSA, 2011). All five family treatments have many similarities in their approach to treating substance abuse problems with youth, as the family is the unit of focus. Family functioning, cohesion, adaptability, and communication styles are a few of the focal points of treatment. Similarly, Motivational Interviewing/Motivational Enhancement (MI/MET) Therapy has also received significant support in the literature. Like the family models mentioned previously, MET has received recognition from both SAMHSA and NREPP as effective evidenced-based treatments for adolescent substance abuse (NREPP, 2011; SAMHSA, 2011). Another similarity is that MET works to decrease client resistance (this came from BSFT) and subsequently increases motivation for change.

Denver Family Therapy Center's Adolescent Substance Abuse Program (ASAP) also subscribes to the aforementioned family models (MST, MDFT, BSFT, BSFFT, and SFT), as well as using techniques from MET, as MET uses techniques borrowed from family systems therapy (Rollnick & Miller, 1995). By using the family systems techniques of working with the family, working on their family functioning, and working with the family's greater systemic environment (i.e., working with schools, probation, human services, etc.), would this allow for a youth's substance abuse problems to decrease, their school performance to improve, and their involvement with court systems to decrease? These questions were the major focus of the dissertation research.

Family Functioning.

The dissertation observed how family functioning was influenced by the use of family systems work. For the dissertation, family functioning was described in detail in the Methodology section. The connection between family functioning and family

systems work was answered primarily through the use of a three-month follow-up survey (described in the Methodology section) conducted by ASAP personnel following a youth's therapeutic treatment, and answered two questions: 1) for the adolescent three months post-treatment, did involvement with family systems therapy improve current family functioning?, and 2) for the parent(s)/guardian(s) three months post-treatment, did involvement with family systems therapy improve current family functioning?

Drug Use.

The dissertation analyzed how substance/drug use was influenced by the use of family systems work. For the dissertation, substance use was described in detail in the Methodology section. The connection between substance use and family systems work was answered primarily through the use of the three-month follow-up survey (described in the Methodology section) and answered two questions: 1) for the adolescent three months post-treatment, did involvement with family systems therapy decrease current drug use?, and 2) for the parent(s)/guardian(s) three months post-treatment, did involvement with family systems therapy decrease current drug use with the youth?

School Performance.

The dissertation studied how school performance was influenced by the use of family systems work. For the dissertation, school performance was described in detail in the Methodology section. The connection between school performance and family systems work was answered primarily through the use of the three-month follow-up survey (described in the Methodology section) and answered two questions: 1) for the adolescent three months post-treatment, did involvement with family systems therapy improve current school performance?, and 2) for the parent(s)/guardian(s) three months

post-treatment, did involvement with family systems therapy improve current school performance with the youth?

Court Involvement.

The dissertation observed how court involvement was influenced by the use of family systems work. For the dissertation, court involvement was described in detail in the Methodology section. The connection between court involvement and family systems work was answered primarily through the use of the three-month follow-up survey (described in the Methodology section) and answered two questions: 1) for the adolescent three-months post-treatment, did involvement with family systems therapy decrease current court involvement?, and 2) for the parent(s)/guardian(s) three months post-treatment, did involvement with family systems therapy decrease current court involvement with the youth?

State of Theory and Knowledge about the Problem

Why Adolescents Use Substances.

The development of models on the motivation for substance use is founded on two fundamental premises. The first is based on the notion that the substance use produces some desired or valued outcome (Cox & Klinger, 1988). Adolescents can use substances to achieve some perceived positive outcome, which in turn produces a series of positive reinforcements for the using behavior (Cox & Klinger, 1990). For example, O'Malley & Johnston (1998) indicate that adolescents emphasize the pleasurable aspects of substance use as the primary motivation for substance consumption, such as allowing the youth to: 1) feel good; 2) feel high; and 3) have the ability to relax, all of which receive positive reinforcement when those feelings return after each substance use.

Similarly, perceived positive outcomes with substance use in youth can also be attached to social/peer influences, as adolescents seeking peer acceptance or socialization may use drugs to meet those needs (Blanton et al., 1997). The second premise is based on meeting an individual's particular needs that serve various functions in his/her life, which develop into unique patterns of behavior (Cutter & O'Ferrell, 1994). For example, if a youth discovers that substance use assists in coping with negative emotions, other adaptive ways to manage these emotions may no longer be used or developed. This pattern may lead towards psychological dependence on the drug and away from "normal" or adaptive ways to manage stress (Cooper, Russell, & George, 1988). Similarly, youth also report substance use as not only a way to escape, but to avoid boredom as well (O'Malley & Johnston, 1998). Consequently, youth may not only use substances for the perceived positive outcomes, but may use to avoid negative ones as well (Cox & Klinger, 1990).

Analysis of Theoretical Frameworks for Examining the Problem Area

Two different theoretical perspectives were used for the dissertation. The combination of a Family Systems Theory and a clinical practice-based theory of Motivational Interviewing will be used to analyze both the research and social work practice of working with youth who use/abuse substances. Each theory draws from previous philosophical and practical knowledge of theories/models that came before them and will require brief backgrounds to add sustenance to their application throughout the dissertation. For example, Family Systems Theory was descended from the original General Systems Theory (GST) and shares many of the foundational concepts from GST, only to apply them to the family system (von Bertalanffy, 1967). Similarly, Motivational

Interviewing borrowed ideas from several other theories (i.e., Social Learning Theory and Transtheoretical Model) when theorizing about change and motivation (Miller, 1995).

Family Systems Theory

Family Systems Theory was primarily developed on two major fronts, with Don Jackson at the Mental Research Institute on one end and Murray Bowen of the National Institute for Mental Health on the other. This is not to discredit the major contributions of other early family systems practitioners/pioneers, such as Nathan Ackerman and Lyman Wynne, but to underscore those who championed family systems as the primary theoretical foundation for analyzing human behaviors (vs., for example, psychoanalysis). Each theorist developed concepts based on General Systems Theory, along with other systemic-based philosophies (i.e., Cybernetics), even though both were trained in the individual psychotherapeutic style of psychoanalysis and were licensed psychiatrists (Nichols, 2009).

Don Jackson.

Don Jackson developed a theory that the family could not only be viewed as interconnected with each other and the outside world, but as a living system – complete with independent objects that influence, regulate, and stimulate each other, but cannot necessarily be understood in isolation from one another (Schultz, 1984). To understand the individual family members, a “synchronic approach” was developed – individuals must be studied as they interact with the rest of their family in the context of that system (Schultz, 1984). Jackson’s group at the Mental Research Institute (MRI) initially came together to study the then often ignored psychological phenomena of schizophrenia by examining the entire family system and how families organized themselves (and the

family environment) around the symptoms of schizophrenia (Nichols & Swartz, 2009; Shultz, 1984). To study schizophrenia and the family, Jackson combined concepts from von Bertalanffy's GST with notions of the then emerging field of Cybernetics (Nichols, 2009), which emphasized the understanding of feedback loops and sequencing in communication. Cybernetics borrowed several ideas from GST's self-regulation functions, such as organisms/structures forming circular *causal chains* in that system that both act and react to changes in the system (Fisch, Weakland, & Segal, 1982; Haley, 1976). von Bertalanffy, in his later works, began connecting his organismic open systems theory to psychology in his books *Robots, Men and Minds* (1967) and *Organismic Psychology and Systems Theory* (1968) by relating the interconnectedness of individual people to one another. This was a pivotal influence on and validation of Jackson and his colleagues at MRI, as this facilitated a solid connection between GST with Jackson's interest in Cybernetics.

Jackson and the MRI group developed several major concepts that contribute to Family Systems Theory. The first of which are Jackson's 5 axioms of relational communication: 1) one cannot not communicate (meaning two or more people in a relationship are always communicating *something* at all times, even if that means they are ignoring each other or are preoccupied with something else); 2) any communication implies a commitment and therefore defines a relationship; 3) the nature of a relationship is contingent upon the punctuation of a communication sequence; 4) human beings communicate verbally and nonverbally (anywhere from 70-93% of human communication is communicated non-verbally [Borg, 2008]); and 5) all communication is symmetrical and complimentary (meaning that the flow and characteristics of how

people in a relationship communicate with one another determines sequential flow and characteristics; Nichols, 2009; Nichols & Schwartz, 2009). For the purpose of the dissertation, these communication axioms became valuable when observing the influence of familial risk/protective factors later in the paper.

Another concept developed by Jackson (borrowed from biology) was the idea that people existing in a relational system find themselves in a static, self-regulating structure called *homeostasis* (Jackson, 1957). Based on W. B. Cannon's work in biology, a homeostatic system contains properties that normalize or stabilize the surrounding environment towards a constant condition or conditions (i.e., temperature, body hydration, blood glucose balance, etc.; Cannon, 1929). Homeostasis, like cybernetics and GST, makes use of negative and positive feedback loops as control mechanisms that both stabilize and perpetuate the system having little variance and thus becoming stable and predictable (Haley, 1976; Madanes, 1981). Within relational homeostasis is the *redundancy principle*, which can be thought of as the limited range of repetitive behavioral sequences that reinforce order and thus maintain homeostasis (Nichols, 2009). A similar concept to the homeostatic system is the *relational quid pro quo*, which is the concept that individuals in a relationship must "give to get," and that this giving and receiving sequence allows for a sense of balance in the relationship in terms of collaboration and value (Nichols, 2009; Nichols & Schwartz, 2009). The notion of *family rules* is also related to these other concepts, which help to define the rights and duties of the people in the family that perpetuate relational quid pro quo and homeostasis. These rules are not necessarily spoken, but are enforced and regulated by family members to ensure that particular functions within the family are preserved and sustained without

mention (Goldenberg & Goldenberg, 2009; Nichols, 2009). Put simply, homeostasis, relational quid pro quo, and family rules maintain the status quo by keeping a balance in relationship interactions that are predictable and repetitive. When this balance is situated in a family system that perpetuates a problem behavior (i.e., adolescent substance abuse), the behavior can unintentionally be supported in the environment of the system. Therefore, a change in one part of the system may be counteracted or overpowered by another, leading to change being stunted or averted in favor of homeostasis being maintained (i.e., problem behavior being maintained; Fisch et al., 1982). Throughout the dissertation, these concepts helped to investigate how the risk and protective factors explored within the dissertation were systemically supported.

Murray Bowen.

The other major initial contributor to Family Systems Theory was Murray Bowen, while at the National Institute for Mental Health (NIMH), when he combined GST with his Theory of Triangulation within families. Triangle Theory was developed through the observation of how a dyad of family members “balance” a conflictual relationship by triangulating a third family member (Kerr & Bowen, 1988; Shultz, 1984). With the introduction of a third person, Bowen separated himself from the dominant discourse of singular thinking (i.e., psychoanalytic/psychodynamic’s internal ego psychology) and bypassing the more simplistic dyadic thinking (connection between caregiver [mother] and child), by settling in on triadic thinking, which was both relational and systemic (Rothbaum, Rosen, Ujiie & Uchida, 2002). The triangle concept, with the function of balancing conflictual relationships, hypothesized that the triangle was the most stable unit in human relationships (Bowen, 1966). Individuals in conflict will seek-out a third party

as a way to balance themselves and stabilize the system (by triangulating/aligning two people against a single other or all three individuals aligning with one another; Hoffman, 1981). The unbalanced triangle system (all three individuals are in conflict or one individual is simultaneously aligned with two others who are in conflict) will attempt to balance itself by drawing-in additional individuals for balance, therefore recruiting more and more systems into the original conflict (Hoffman, 1981).

Triangle Theory ultimately influenced Bowen to develop 8 major “constructs” to his theory: 1) Differentiation of Self, 2) Triangulation, 3) Nuclear Family Emotional Process, 4) Family Projections Process, 5) Multi-generational Transmission Process, 6) Emotional Cut-off, 7) Sibling Position, and 8) Societal Emotional Process (Goldenberg & Goldenberg, 2009; Nichols, 2009; Nichols & Schwartz, 2009). These 8 constructs promoted an understanding about how human beings function systemically in a family system – emotions, intellect, connections with family members, and interactions with the social environment are all explored. As explained in Goldenberg & Goldenberg (2009), Nichols (2009), Nichols & Schwartz, (2009), and Rothbaum et al. (2002), three of these constructs have a major influence on the overall theory of Family Systems as this relates to adolescent substance abuse issues:

- 1) Differentiation of self. Bowen believes that the better differentiated an individual is, the better able a person is to process emotional pressure from his/her family of origin (better able to think when feeling high levels of emotions and emotional pressure). Differentiation is based on the person’s ability to separate their intellectual functioning from their emotional functioning and cognitively separating thoughts from the emotional reactivity of the family. This is done

through two levels of differentiation – the *solid self*, which is the most basic level of differentiation, and is nonnegotiable when under pressure from family relationships; and the *psuedo self*, which is the functional level of differentiation and allows an individual to shift when under pressure from family relationships.

Fusion occurs when the unhealthy, dependent relationship between family members discourages independence from the family system's way of functioning.

2) Triangulation. When there is tension or conflict in a relationship, one of the members will tend to move away from this relationship dilemma by moving towards fusion with a third party to take the pressure off the initial relationship.

Problematic triangles are those which lack flexibility, leading to constricted relationship options for family members.

3) Societal emotional process. This is a construct based on how a family adapts to society at large. When there is high conflict in the family, this adaptation is maintained through 4 major processes: a) *emotional distance* – distance from one another based on the emotional reactivity to one another (this is not to be mistaken with an emotional cutoff), as the distance is situated to allow two people in conflict to have sparing “closeness” with one another while maintaining some emotional contact; b) *spousal/partner conflict* – each spouse/partners' emotional reactiveness is focused on the other spouse/partner; c) *spousal/partner dysfunction* – one spouse/partner becomes “sick” and diverts attention away from the original conflict; and d) *impairment of the children* – this follows triangulation, as a child becomes “sick” when triangulated to relieve conflict between quarrelling parents and detours the focus of attention on him/her self.

Why Family Systems?

Family Systems Theory was used as the primary theory for the dissertation for two reasons, both having to do with the way Family Systems addresses multi-layered problems. Perhaps the most important was that Family Systems Theory provided a way of thinking about the ecology of adolescent substance abuse. In Western culture, the ecological factors involved with any adolescent, whether or not he/she is abusing substances, includes a variety of social, community, ethnic, spiritual, familial, and individual characteristics, among other factors. Each of these factors can be studied individually, but it is the study of each factor interrelating to one another that forces study to be both comprehensive and inclusive (Kaufman & Kaufman, 1979; Liddle et al., 2001). Mutually exclusive analysis of ecological information often leads to misinformation and missing data, as observing a phenomenon from only one angle (i.e., from the individual person) cannot be understood in its totality until combined with other perspectives in the system (Kaufman & Kaufman, 1979; Liddle et al., 2001). Some of the ecological factors involved with adolescent substance abuse, which were discussed later in the dissertation, included the family's history of substance abuse (Jacob & Johnson, 1999), parenting styles (Rothbaum et al., 2002), family relationships (Loeber, Farrington, Stouthamer-Loeber, & Van Kammen, 1998), family characteristics (Liddle et al., 2004), gender (Johnston et al., 2011); socioeconomic class (Rowe et al., 2010), peer association (Dishion & Owen, 2002), poor school performance (Liddle et al., 2009), and environmental risks (Hall et al., 2008; Wilson & Donnermeyer, 2006). Understanding ecology and the potentially complex interactions of various factors requires a theory of thought that is equal to multi-factored inclusions (McWhirter, 2008; Szapocznik &

Williams, 2000). Observing these ecological factors from the Family Systems perspective – seeing factors as a network of systems simultaneously interacting and responding to one another, allows a researcher to avoid some of the pitfalls that come from misinformation or missing data from the single perspective. In addition, Family Systems allocates that not only are multiple factors involved in influencing one’s ecology, but that unknown factors could be unrealized (Liddle et al., 2001; Liddle, Rowe, Dakof, Ungaro & Henderson, 2004; Liddle, Rowe, Dakof, Henderson, & Greenbaum, 2009).

The second reason Family Systems was selected was to address the epidemiology of adolescent substance abuse. The epidemiology of this issue has many well-established roots in an adolescent’s ecology (i.e., individual and environmental risk factors; Hawkins, Catalano, & Miller, 1992), many of which were a focus of the dissertation, and serve to contribute to this social problem. The multiple individual, social, familial, and environmental factors were researched independently, but more importantly, all were taken in combination with one another to form an epidemiological pattern worth studying. Due to adolescent substance abuse problems being multi-determined, a multisystemic approach, like Family Systems, was necessary to address these problems ethically and adequately (Cunningham & Henggler, 1999; Szapocznik & Williams, 2000). With the dissertation, only major factors found in the literature were covered.

Within the last few decades, Family Systems approaches, in their application to adolescent substance abuse, have received tremendous support from research literature (Coatsworth, Santisteban, McBride, & Szapocznik, 2001; Kumfer & Alvarado, 2003; Leichtling, Gabriel, Lewis & Vander Ley, 2006; Liddle, 2002; Liddle et al., 2001; Rowe

& Liddle, 2003) and from the literature on practice (Drug Strategies, 2005; Hazelrigg, Cooper, & Borduin, 1987; Kaufman et al., 1979; Szapocznik, Kurtines, Foote, Perez-Videl, & Hervis, 1986). The success of this research has influenced such entities as the Substance Abuse & Mental Health Service Administration (SAMHSA) and National Registry of Evidence-based Programs and Practices (NREPP) to list family therapy (the practiced form of Family Systems Theory) as one of the major evidenced-based forms of treatment for adolescent substance abuse (NREPP, 2011; SAMHSA, 2011; Sussman et al., 2008).

The current family-based treatments of this millennium have many similarities with social work values, as the individual, family, and environment are addressed (Austin, Macgowan, & Wagner, 2005). Austin et al., (2005) indicated an association between social work values and the practice of family-based work, as many social workers are using such techniques when working with families. The “fit” between the two has promoted a greater interest within social work to research family work using substantiated models, but a lack of well-established treatment standards has inhibited the validity of such research (Austin et al., 2005).

Motivational Interviewing (MI)/Motivational Enhancement Therapy (MET)

The theory of Motivational Interviewing (MI) or Motivational Enhancement Therapy (MET, as it is practiced in the field), was developed by William Miller in the early 1980s. MI makes use of working with the resistance and defensiveness of a substance abuser through empathy, non-threatening dialog, and collaboration. MI is based on several influential practice theories (Festinger’s Cognitive Dissonance, Bem’s Self-Perception Theory, Bandura’s Social Learning Theory, and Roger’s Unconditional

Positive Regard) in combination with the MRI Brief Strategic and Solution-Focused models of family therapy, and Prochaska and DiClemente's Transtheoretical Model (Miller & Rollnick, 2002; Miller & Rose, 2009).

Stages of Change.

Based on Prochaska and DiClemente's (1982) model, MI makes use of 6 main Stages of Change to gauge a substance abuser in terms of their level of ambivalence around modifying substance using behavior and their motivation for change (DiClemente & Velasquez, 2002). These stages, known as both the Transtheoretical Model or Stages of Change, were developed by Prochaska & DiClemente (1982) and are used for not only substance abuse, but various other human behavior issues, such as domestic violence (Babcock, Canady, Senior & Eckhardt, 2005) and medical conditions (Hammond, 2003). However, DiClemente and Velasquez (2002) describe Stages of Change as "growing up together" with MI (p. 202), as the stages have played an essential part of advancing MI's theoretical development through the use of taking steps towards change in a gradual fashion, vs. the "all or nothing" approach of other theories. These stages can be used with any substance abuser, whether or not the person is an adult or adolescent, and involve the concept of *decisional balance* with each stage, which is essentially the act of weighing the pros and cons of any decision to make change (Migneault, Adams, & Read, 2005). The 6 stages are: 1) pre-contemplation; 2) contemplation; 3) determination/preparation; 4) action; 5) maintenance; and 6) relapse (DeClemente & Velasquez, 2002; Laser & Nicotera, 2011; Miller, 1995; Miller et al., 2002).

The first stage is *pre-contemplation*, which is considered to be a phase where a person has no intention of changing substance using behavior and may not realize or are

not aware that a problem even exists (DiClemente & Velasquez, 2002, Laser & Nicotera, 2011). No action can be expected of a client in this stage, as the behavior is not considered a problem by the person (DiClemente & Velasquez, 2002). From the individual's point of view, the behavior generally "works" for his/her agenda, so little effort should be considered in changing (DiClemente & Velasquez, 2002). If a problem is recognized, the person does not hold him/her self accountable for it, but blame is placed on others, on circumstances, or on nature (DiClemente & Velasquez, 2002). The focus of treatment here would be to simply provide information about the problem behavior, with no effort to attempt to get the person to take responsibility, as the substance abuser is not ready for change (Laser & Nicotera, 2011; McWhirter, 2008).

The second Stage is *contemplation*, which involves a slight sense of readiness to begin small steps of change (DiClemente & Velasquez, 2002, Laser & Nicotera, 2011). This stage is characterized by a greater awareness that the individual's substance use is creating at least some problem in their lives, anywhere from interpersonal issues to unintended contact with authority figures, and that there are potential pros and cons to some form of change (DiClemente & Velasquez, 2002). Blaming the problem on other things still permeates during this stage and may even dominate, but a certain level of personal responsibility begins to develop (DiClemente & Velasquez, 2002). From a practice standpoint, effort is made to help the substance abuser recognize that the problem behavior exists, there are pros and cons to changing, and that some work could be considered in reducing some of the cons (DiClemente & Velasquez, 2002). No actual steps in making change occur are pursued, just the recognition that change may be needed in the future (Laser & Nicotera, 2011; McWhirter, 2008). The transition from

pre-contemplation to contemplation is characterized by the idea of consciousness-raising, where there are observations and interpretations about the problem, re-evaluation of the nature of the problem, and a self-assessment of the social, physical, and mental impacts of the person's behavior (DiClemente & Velasquez, 2002; Miller, 1995).

The third Stage of Change is *determination or preparation*, which entails a plan of actually taking steps towards change in substance using behaviors (DiClemente & Velasquez, 2002). According to DiClemente & Velasquez (2002), this stage is exemplified by small steps being taken to alter either substance using behaviors or the behaviors that support continued drug use, as well as some form of a plan for change. Small changes can include the substance abuser having open discussions with those closest to him/her that there is a problem, that the person has the responsibility to change, and that others in the surrounding environment can expect these changes to occur in the near future (Miller, 1995). Plans for change may include ideas around what kind of environment the substance abuser wants him/her self to be surrounded (i.e., peer groups, social gatherings, school activities), who are the primary resources that the person can both trust and received support from (i.e., family, friends, organizations), and how the person plans on using any progress made with these efforts to further their agenda (Miller, 1995). As this applies to practice, clinicians/therapists can facilitate dialog around developing coping strategies to resist temptation, discussing how the substance abuser will feel once these steps are being taken, who will notice, what will they notice, how this will affect those around the abuser, and how the person can be as prepared as possible to follow through on change (Laser & Nicotera, 2011; McWhirter, 2008). The transition from contemplation to determination/preparation includes clarifying the values

and reasons the individual is willing to start making changes (DiClemente & Velasquez, 2002; Miller, 1995).

MI's fourth Change Stage is called *action* and is often where significant and noticeable change is taking place (DiClemente & Velasquez, 2002, Laser & Nicotera, 2011). According to DiClemente & Velasquez (2002), this stage is characterized by the individual taking the plans and steps applied with determination/preparation to a variety of activities, behaviors, and environments. The steps taken towards change are made more permanent by substituting all problem behaviors (or behaviors that supported the problem) with activities that promote a healthier lifestyle, avoiding "trigger" situations/people, re-establishing positive relationships with supportive allies, and rewarding him/her self for accomplishing goals he/she wants to achieve (Miller, 1995). Perpetual movement forward is the key element of the action stage, as the commitments made in the previous stage are strengthened through repetition and adaptation to distractions (Miller, 1995). From a practice perspective, clinicians/therapists encourage all the hard work being made to invoke change, reinforce the change effort by having the individual discuss how the changes are affecting the people and environment around him/her, strengthen coping skills that have been developed, and discuss what else can be done to push those positive changes even further (Laser & Nicotera, 2011; McWhirter, 2008). Making the transition from determination/preparation to action includes the idea of commitment, as this is a process that involves the individual making a conscious decision to make specific and strategic changes in his/her life (Miller, 1995). There will inevitably be distractions and disruptions to this process, which will require a continued

commitment from the individual to overcome such obstacles (DiClemente & Velasquez, 2002; Migneault, Adams, & Read, 2005).

The fifth Stage of Change is *maintenance*, which requires the individual to have spent a significant amount of time in the action stage (approximately 6 months) and is pursuant of a healthy lifestyle as this applies to their substance abusing behaviors (DiClemente & Velasquez, 2002, Laser & Nicotera, 2011). Working with abusers who are in this phase includes creating an awareness of potential situations that may prompt the individual away from progress they have made, encouraging the person to surround him/her self with others who share in the same healthy lifestyle, supporting efforts the individual makes in participating in pro-social activities, and reiterating the development and maintenance of coping skills (Laser & Nicotera, 2011; McWhirter, 2008). Making the transition to maintenance from action requires the application of *counter-conditioning*, which is the concept of substituting a new environment – full of healthy people, places, and/or choices that can counter the old or negative behaviors, triggers, and stimuli (Migneault et al., 2005).

In addition, what is considered a sixth Stage (although not sequential to the other stages) is *relapse*, which is *not* included in the original Prochaska and DiClemente (1982) general Trans-theoretical Model of Change, but is more unique to the addictions. This stage is linked heavily to Alcoholics Anonymous and the 12-step model idea that relapse is part of any addict's recovery, should not be viewed as a failure, but is a natural part of the process of getting sober and maintaining a healthy, substance-free lifestyle (Alcoholics Anonymous World Services, 2001; Hazelden Foundation, 1993). When an individual relapses, all behaviors and decisions that may have lead-up to the actual act of

using again are reviewed and challenged. A re-evaluation process takes place where the person must assess not only what led to the relapse, but how to formulate a new plan and steps to get clean again, which is called a *relapse prevention plan* in substance abuse realms (Marlatt & Witkiewitz, 2005), but called *negotiating a plan* in Motivational Interviewing (Miller, 1995). With substance abuse work, this often means getting reestablished again in either the determination/preparation or action stages and reworking the change process (Miller, 1995).

Motivational Principles.

The theory of Motivational Interviewing promotes the idea of the substance abuser as being innately resistant due to both their ambivalence to modifying behavior and repeated failed attempts at change (Miller & Rose, 2009). MI is guided by 5 general Motivational Principles: 1) Expressing Empathy; 2) Developing Discrepancy; 3) Avoiding Argumentation; 4) Rolling with Resistance; and 5) Supporting Self-efficacy (Laser & Nicotera, 2011; Miller & Rollnick, 2002; Miller, 1995). Both the five general principles and the 6 Stages of Change were used throughout the dissertation to analyze adolescent substance abuse literature. The general principles were described to give the reader a foundational understanding of the theory-base for MI, while a description of the Stages of Change became useful later in the dissertation when comparing the risk/protective factors with adolescent development and the appropriateness of particular treatment strategies.

The first motivational principle of *Expressing Empathy* drew upon the works of C. Rogers and the concept of *unconditional positive regard*, in which the listener communicates to the speaker his/her acceptance and support no matter what the speaker

is doing or saying (Rogers, 1961). This principle is regarded by MI experts as the relational component of the theory that is most likely to lead to positive, desired change (Miller et al., 2009). The Expressing Empathy principle was developed to communicate great respect between the clinician/therapist and the client through the use of reflective listening skills. Reflective listening, the practice of hearing what the client has to say and providing an accurate reflection of what the listener gathered from the individual without judgment or criticism, displays the therapist's willingness to express only the client's perspective without adding any negative commentary, either verbal or non-verbal. The underlying concept of *acceptance* is at the heart of Expressing Empathy, as the therapist responds to the person's perspectives as understandable, comprehensible, and valid (Bosari & Carey, 2000; Faris, Cavell, Fishburne, & Britton, 2009; Miller, 1995; Miller, Benefield, & Tonigan, 1993). In other words, expressive empathy is listening rather than telling and can be the first step in decreasing the resistance of the client while simultaneously gaining the client's trust.

Based on L. Festinger's Cognitive Dissonance Theory, which focuses on the psychological consequences of disconfirmed expectations (Festinger, Reichken, & Schachter, 1956; as cited by Aronson, 1997) is the second principle, *Developing Discrepancy*. The principle also drew from D. Bem's Self-perception Theory, which employs the idea that people develop their beliefs by reviewing their behaviors and concluding what beliefs fostered those actions (Bem, 1967). Developing Discrepancy calls for the therapist to attempt to help the client perceive a discrepancy (or ambivalence) between where they are and where they want to be, calling attention upon the client's past as to predict the possible future. This can be done tactfully by raising the

individual's awareness of the adverse personal consequences of his or her drug use (from the past) and getting the person to predict if this line of behavior will lead to a future where the individual is hopeful. This has to do with the *importance* of change, not to be mistaken for the amount of change to be accomplished (Miller, 1995). More specifically, *how important* is the change rather than *what* is the change (Miller, 1995). MI experts consider the significance of this principle to lie in the change-promoting value of hearing oneself (not the clinician/therapist) argue for needed change (Borsari, et al., 2000; Faris et al., 2009; Miller & Rose, 2009). With the Developing Discrepancy principle, MI also separates itself from Rogerian thinking by being intentionally directive towards the resolution of ambivalence in the service of change (Miller, 1995). In other words, the client is being encouraged to move themselves past their ambivalence and towards what he/she is motivated.

Avoiding Argumentation is the third principle and is supported by MRI Brief Strategic Family Therapy's concept of Therapeutic Maneuverability, which maintains that the clinician/therapist should avoid taking positions on issues too early in treatment (i.e., that drug use is negative) and allow the client to take positions so that the therapist can both understand the client's beliefs and reasoning for their behaviors (Fisch et al., 1982). This principle can be considered the "art" of the theory when it is put into practice, as the clinician/therapist balances statements of desire and willingness to change from the individual with the client's ambivalence to not change (Borsari et al., 2000; Faris et al., 2009; Miller & Rose, 2009). With Avoiding Argumentation, the clinician/therapist will tactfully attempt to encourage the individual to discover constructive solutions for him/her self and make arguments for optimistic change, as this

argument comes strictly from the client and seldom from the therapist (Miller et al., 2009). In addition, the clinician/therapist does not attempt to get the person to admit to a diagnosis or label that the client him/her self does not use as a self-description. Labeling is incongruent with MI's alignment with Roger's *unconditional positive regard*, as it can function to disempower a client's ability towards self-determinism (Miller, 1995).

Akin to Avoiding Argumentation, the fourth principle of *Rolling with Resistance* is supported by MRI's Brief Strategic Family Therapy with the concept that there is no such thing as resistance from the client – the resistance comes from the *therapist* who is attempting to get the client to see things the therapist's way (Fisch et al., 1982).

Borrowing from J. Haley and *psychological judo*, Rolling with Resistance can be thought of metaphorically as the Art of Judo, where Masters do not meet force with force, but use the force and momentum of the opponent against them (Rollnick & Miller, 1995).

Similarly, Rolling with Resistance also draws from S. deShazar's Solution-Focused Therapy's belief that resistance is not a useful concept when attempting to help the client find their own solutions (deShazar, 1985). Taking the aspects of resistance-tactics of Expressing Empathy to a higher level, Rolling with Resistance makes no attempt to challenge or amend the positions of the client, as the clinician/therapist sees the resistance from the client as ambivalence to perceived change (Miller & Rollnick, 2002). The clinician/therapist does not impose new views or goals, but rather invites the client to consider new information and/or perspectives (Miller & Rollnick, 2002). With ambivalence, the person's behaviors and thoughts are not viewed by the therapist as being pathological, but a normal adjustment to indecision (Borsari et al., 2000; Faris et

al., 2009; Miller et al., 2009). Put simply, the clinician/therapist sees ambivalence as part of the change process, not resistance to it.

Finally, the fifth motivational principle of *Supporting Self-efficacy* was based on A. Bandura's Social Learning Theory, which includes the Theory of Self-efficacy (belief that he/she is capable of achieving desired goals or competence) and Human Agency (exercise control over one's life within the bounds of a broader network of socio-structural influence; Bandura, 1977, Faris et al., 2009). With Supporting Self-efficacy, even a person who believes there is a problem will not move towards change unless there is hope (Miller, 1995). The clinician/therapist does not necessarily afford solutions to instill hope, but encourages the client's belief that he/she can change the conditions of the problem to make the problem either solvable or obsolete (Borsari, et al., 2000; Miller, 1995). The client's statements of desire, ability, reasons, the need for change (with a focus on a strong commitment to change), along with hope, begin to modify the client's language about change and motivation (Miller, 1995). Once commitment language emerges, behavior change is more likely to occur (Miller et al., 2009) and is a great predictor of treatment outcome (Ball et al., 2007; Faris et al., 2009). The therapist does not provide these answers, but assists the client in discovering what answers the client believes are going to work best for him/her self.

Why Motivational Interviewing?

Similar to Family Systems work, MI/Motivation Enhancement Therapy (MET) has been supported by the Substance Abuse and Mental Health Service Administration (SAMHSA) and the National Registry of Evidence-based Programs and Practices (NREPP), as well as the National Institute on Alcohol Abuse and Alcoholism (NIAAA)

as an effective evidence-based form of treatment for adolescent substance abuse (Burke, Arkowitz, & Menchola, 2003; NREPP, 2011; Project Match Research Group, 1997; SAMHSA, 2011). The literature supports MI's abilities with two vital elements of reducing adolescent substance abuse: the engagement and retainment of the youth in treatment (Carroll, et al., 2006). Studies have observed both engagement (Flaskas, 1997; Friedlander, Escudero, & Hetherington, 2006) and retainment (Bornovalva & Daughters, 2007; Miller, Southam-Gerow, & Allin, 2008) as prominent factors in the success of treatment in general, but many studies in the literature emphasized this as especially relevant to adolescent substance abuse treatment (Carroll et al., 2006; Coatsworth, Santisteban, McBride, & Szapocznik, 2001; Liddle et al., 2008; Liddle et al., 2009; McWhirter, 2008; Sussman et al., 2008; Szapocznik et al., 1988) The factors of engagement and retainment of clients with MI/MET were applied throughout the dissertation to demonstrate its appropriateness as a selected theoretical model.

MI was also selected for its crucial ability of working with people who are either resistant to treatment or defensive of their substance using behaviors, both of which are customary of adolescents using drugs/alcohol. Breaking away from the abstinence-based ideation of 12-step/Minnesota Model treatments, MI focuses on harm-reduction effects based on areas the individual is motivated to change (Monti et al., 1999). Efforts to resist change can be made obsolete when the youth does not feel pressure to change things the individual does not want to (i.e., *Rolling with Resistance*) and therefore the person can relax without being defensive (Miller, 1995). In this way, MI is directly related to Family Systems in that changes in one part of the system (i.e., the individual's motivation in one area of their life) will inevitably affect other areas of the system (i.e., the individual's

substance using behaviors; Fisch et al., 1982; Minuchin, 1974; Minuchin, Nichols, & Lee, 2007). MI is also equipped to match adolescent readiness for change (through assessing a youth's stage of change) with considerations of the adolescent's individual (developmental), social, environmental, and familial needs (McWhirter, 2008).

In addition, MI is more than just a way of *working* with youth abusing substances, but a way of *thinking* about change (Miller, 1995). It is a belief system that awards people the benefit that change is not only inevitable and constant, but natural (Miller, 1995). MI encourages clinicians/therapists to take the stance that resistance is not really resistance, but ambivalence about the potential consequences of change (Miller, 2002). This shift in thinking allows for a more strengths-based philosophy to be exercised, moving therapists towards the idea that substance abusers want to procure positive changes in their lives (Miller & Rose, 2009), while moving people away from pathology and the deficit-based judgments that place blame and criticism on the individual and his/her system. Success of change is awarded to the individual's choices and actions, not the clinician/therapist as the "hero" (Faris et al., 2009). MI was used throughout the dissertation to demonstrate how the thinking behind MI (via the principles of motivation and stages of change) can be applied successfully towards addressing issues related to adolescents abusing substances.

Review of the Relevant Literature

An extensive review of the literature was conducted for the dissertation. A review of theoretical literature was examined first, followed by an analysis of the research literature focusing in on family systems work with adolescent substance abuse treatment.

Analyzing both the theoretical and research literature served as a stepping stone for the dissertation research questions and methodology.

Family Factors Contributing to Adolescent Substance Abuse.

The family environment can influence adolescents who abuse substances (Jacob & Johnson, 1999; Scheer & Unger, 1998) and can be viewed along with personal, peer, school, and community factors in gauging a child's "risk" with problem behaviors (Vakalahi, 2001). These risk factors within families can be thought of as being permeable to problem behaviors in youth (Vakalahi, 2001), but they are not necessarily conclusive to adolescent substance use. The risk factors within families will be categorized into four general groupings: family history of substance abuse, parenting and/or family styles, family relationships, and family characteristics.

Family History of Substance Abuse. Drug use by family members, whether this is by an individual's siblings or parents, can increase the risk of a child abusing substances (Chassin et al., 1999; Jacob & Johnson, 1999; Johnson & Leff, 1999; Santisteban, Szapoznik, & Kurtines, 1994). Siblings of an alcohol-dependent person have an elevated rate of alcohol dependence himself (49.3-50.1%) or herself (22.4-25.0%; Agrawal & Lynskey, 2008). Parental substance abuse has been identified as one of the three main "paths" to adolescent substance abuse (Blanton et al., 1997). Because parents and siblings have an active and powerful role in both shaping a youth's environment and role modeling, it is conceivable that this will increase the chance of a youth replicating observed behaviors. For example, a study by Johnson and Pandina (1991) found that parents' drug use behavior and choice of drugs were highly predictive of their children's use, behaviors, and choice of drugs. Youth with a drug using relative

are eight times more likely to engage in substance use themselves and are five times more likely to eventually develop alcoholism later in life if a parent was an alcoholic (Agrawal et al., 2008). A similar finding found that permissive parental views on substances increases the likelihood that children will develop substance using behaviors, as substance abusing parents have a higher probability of raising children that begin using substances at a younger age, require more treatment, have longer treatment histories, and suffer more substance abusing consequences (Leichtling, Gabriel, Lewis, & Vander Ley, 2006). Adolescents with a substance abusing parent also tend to have greater severity with other kinds of problems (housing instability, poorer physical health, greater lifetime stressor ratings, poorer family functioning ratings; Leichtling, et al., 2006), all of which contribute to increasing substance abuse problems and/or maintaining them. From a family systems perspective, these additional issues stabilize homeostasis and make it more difficult to create change. Substance abuse patterns can be transmitted from one generation to the next through spoken or unspoken *family rules*. Similarly, transmission of *differentiation of self* can take place, making it more difficult to alter any family legacy of problem substance using (Goldenberg & Goldenberg, 2009; Nichols, 2009; Nichols & Schwartz, 2009). Due to the high impact that substance abuse among family members (especially parents) has on adolescents, it becomes evident that treating the family system, not just the individual youth, becomes obvious and necessary.

Treatment differences exist between youths with substance abusing parents/siblings and those who do not (Leichling et al., 2006). In a treatment study by Leichling et al. (2006), youth with a substance abusing parent demonstrate a greater degree of change in their own drug use than youth whose parent is not a user. However,

initial change in youth with non-drug using parents takes place with family therapy, with greater change in children of substance abusing parents later in treatment (Leichling et al., 2006). From a family systems perspective, an explanation of this finding may be that family systems work with the substance abusing parents may destabilize the entire system, as the family has been organized around the maintenance of substance using behaviors of multiple family members (the family environment is set-up to accommodate these behaviors) and so a greater amount of time is required for the family to restructure itself with new behaviors (Fisch et al., 1982; Minuchin, 1974; Minuchin et al., 2007). In a family where parents are non-users, familial restructuring may not be as drastic or cumbersome and therefore the needed systemic changes that assist changes in the youth's using are more pliable.

Parenting Styles. Other parental factors influence adolescent substance abuse. Poor parenting styles effect children, as parents who show less acceptance, less warmth, less affection, less support, and have little attachment to their children tend to increase substance use (Chassin et al., 1999; Hauser, Powers, & Noam, 1991; Kung & Farrell, 2000; Rothbaum et al. 2002; Rowe, La Greca, & Alexandersson, 2010; Santisteban et al., 1997). Poor parental mental health is associated with increased adolescent substance use (Liddle et al., 2001; Rowe et al., 2010). Parents who are suffering from their own mental problems are not as able to connect with their children, have more difficulty supervising a child's behaviors, are less able to become involved in their children's activities (struggle in social situations), are less prepared to effectively deal with conflict with their children, and are more likely to develop a reversed caretaking role between the parent and child (i.e., the youth becomes the caretaker of the parent; Liddle et al., 2001; Rowe et al.,

2010). Similarly, parental stress can influence increased adolescent substance abuse (La Greca, 2009; Rowe et al., 2010; Scheeringa & Zeanah, 2008), which can be related to Family Systems' concepts of *emotional distancing* (as an effort by the adolescent to distance him/her self from the parent's problems) and *impairment of the children* (as the child become's "sick" with the substance use; Goldenberg & Goldenberg, 2009; Nichols, 2009; Nichols & Schwartz, 2009). Parenting styles that are more defensive in nature also tend to produce similar styles in their children, therefore making it more difficult to manage problems associated with adolescent substance abuse (Hanson, Henggler, Haefele, & Rodick, 1984), which is a trait that lends itself towards MI's *Avoiding Argumentation* and *Rolling with Resistance*, as such techniques were specifically developed to accommodate such behaviors. According to McWhirter (2008), a parent who has difficulty effectively working with the other parent can also be a risk factor, as it becomes more difficult to achieve consistency in parental stances against substance use. There is less continuity in enforcing rules, and the parents are splitable and therefore allows more room for the youth to manipulate situations, creating confusion and mistrust among all parties (McWhirter, 2008). This is related to Bowen's *Theory of Triangulation*, as the child can manipulate attention away from him/her self by adding tension between the quarreling parents, making cooperation against negative behaviors more unlikely by sabotaging efforts to unite (Goldenberg & Goldenberg, 2009; Nichols, 2009; Nichols & Schwartz, 2009). Conversely, the same concept of Triangulation can also make the substance abuse problems of the child a focus in the family, deterring the parents from the problems between the two of them, which is also the main element of the theory's *spouse/partner conflict* (Goldenberg & Goldenberg, 2009; Nichols, 2009;

Nichols & Schwartz, 2009). Humes & Humphrey (1994) found that parents failing to individuate from their family of origin (based on Bowen's Trans-generational Family Therapy Theory) tend to have children who do the same, making it more difficult to break family legacies of substance abuse (Kandel, 1990).

When a teen believes his/her parent(s) have a permissive view on drugs or alcohol, this is likely to perpetuate substance use (Cox & Ray, 1994; McDermott, 1984). A relationship between a parent's view on drugs and the degree to which this belief is transmitted appears to influence the drug using behaviors of an adolescent, as youth tend to use substances more often when parents do not express negative beliefs about drugs (Harbach & Jones, 1995). In addition, the transmission process that takes place between parents and their children also indicates substances as a valid way of dealing with stressors and a way to relax (Cox et al., 1994). Conversely, overly rigid views around an adolescent's substance use are also related to increased use, through a youth's drive for independence from authoritarian parents (Cox et al., 1994). This rigidity is related to the Family Systems Theory's concepts of *fusion* and *emotional distance*, as an adolescent that notices a fused boundary between him/her self and his/her parents, may attempt to create separation through emotionally distancing him/her self to achieve a sense of autonomy (Goldenberg & Goldenberg, 2009; Nichols, 2009; Nichols & Schwartz, 2009).

The level of a parent's enabling behavior can perpetuate an adolescent's belief of parental permissiveness, as children may not have negative consequences attached to their drug use (Nowinski, 1990). A parent's minimization or "covering-up" for a child's use may be a way for parents to maintain the peace in the family and reduce any disruptive conflicts (Nowinski, 1990). This behavioral cycle is related to Family

System's *relational quid pro quo*, as parents who do not address substance use problems with their children (a perceived benefit by the drug-using youth) receive the perceived benefit of not having to deal with conflict (Goldenberg & Goldenberg, 2009; Nichols, 2009; Nichols & Schwartz, 2009). In addition, this is related to Jackson's second and fifth axioms of communication: any communication implies a commitment and therefore defines a relationship; and all communication is symmetrical and complimentary (Nichols, 2009; Nichols & Schwartz, 2009). Both are represented with this familial behavior cycle, as the parents are communicating that no consequences are to take place with substance abuse (therefore the youth pays little attention to potential consequences) and the cyclical effect of this is that continued substance use behaviors will result in continued covering-up behaviors (or will simply be ignored).

Similar to parental permissive views and enabling, a lack of sanctions and discipline, as well as poor monitoring can impact an adolescent's use of drugs (Oetting & Beauvais, 1987). If teens believe parental sanctions and appropriate discipline will incur due to misbehaviors, the likelihood of substance use will decrease (Oetting & Beauvais, 1987). A study by Chilcoat & Anthony (1996) found that children in the bottom quartile of parent monitoring tended to start using drugs at an earlier age, as this lack of monitoring may push adolescents into independence and autonomy before they may be ready to do so (Isohanni, Moilanen, & Koiranen, 1994).

As indicated earlier, conflict between parents and children seems to impact the use of substances by adolescents, as persistent family conflict involving harmful arguing tends to perpetuate a child's view of his/her relationship with parent(s) as negative, which often can lead to isolation from the family and increase the chances of substance use

(Rothbaum et al., 2002; Wills & Yaeger, 2003). This conflict can stem from various sources (e.g., grades, independence, rules, friends, etc.), but when looking at how teenagers view their relationship with their parent(s), the reason for the conflict is not as important as the conflict itself (Wills et al., 2003). Similarly, conflict between other family members (not necessarily involving the adolescent) can also promote disengagement by youth from their families and influence substance use (Norem-Hebeisen, Johnson, Anderson, & Johnson, 1984). In addition, lack of parental involvement can be a factor, as adolescents that believe they are more attached to their parents are less likely to use substances if they believe this would offend their parent(s) (Coombs & Coombs, 1988).

Family Relationships and Characteristics. Many family characteristics are associated with increased adolescent substance abuse. From the literature, one of the most outstanding family features has to do with the family's functioning, as poor functioning creates a major risk factor in both the initiation of adolescent substance abuse (Loeber et al., 1998) and its maintenance (Patterson, 1982; Santisteban et al., 1997). Family functioning has to do with the organizational style of the family, which effects both the family's ability to adjust to change (adaptability) and ability to have cohesion (connection; Olson, 2000). In Western culture, families who are not able to adjust to needed change (needing increased flexibility), are too inconsistent in adaptability (needing increased structure), are too enmeshed (needing more boundaries), or are too disengaged (needing more connection), tend to represent poor family functioning, resulting in higher risk (Olson, 2000). Emotionally disengaged families tend to experience more adolescent substance abuse problems, as children do not feel connected

to their family, are more isolated, are more loyal to the needs of their peers, and have more difficulty engaging with their parents (Liddle et al., 2004). Families that are more socially isolated are also at greater risk, as schools, other parents, and professionals may have limited access to seeking parental help in dealing with a youth's problems (Resnick et al., 1997), as well as the families having limited access to schools and professionals (Resnick et al., 1997). These situations are representative of the Family Systems concept of *societal emotional process*, as dysfunctional or rigid interactions between family members can lead to disconnection with society, or vice versa (Goldenberg & Goldenberg, 2009; Nichols, 2009; Nichols & Schwartz, 2009).

More specific family characteristics appear to influence the likelihood of increased risk with adolescent substance use, as correlations occur between teen substance use/delinquency and single-parent households (Sampson, Raudenbush, & Earls, 1997; Vakalahi, 2001). However, Vakalhi (2001) reports that that substance use levels have more to do with the strength of the parent-child relationship than if two parents are living in the same home. In addition, children being raised by family members other than the biological parents (i.e., grandparents) are also at increased risk (Raudenbush et al., 1997). Furthermore, a major disruption in the family (i.e., divorce, death, family move) has also been observed to increase risk of adolescent substance abuse, as families are not as able to address a youth's need for support or are incapable of providing the structure and connection required to effectively deal with growing behavioral problems (Stanger et al., 2002).

Ethnicity, Gender, and Socioeconomic Class. Ethnicity is not directly associated with increased adolescent drug use, with varying degrees of difference between gender

and socioeconomic class. With the latest “Monitoring the Future” data (Johnston et al., 2011), which analyzes differences between African-American, Hispanic, and White adolescents, found that African-American and Hispanic illicit drug use lifetime was greater in 8th grade than White students (African-American 8th graders = 23.1%, Hispanic = 26.1%, and White = 18.2%), but by 12th grade, White students have the highest rate (African-American 12th graders = 43.8%, Hispanic = 47.1%, and White = 48.0%). “Monitoring the Future” (Johnston et al., 2011) did find that gender differences exist, as male adolescents have a consistently higher rate of use than females at all the measured ages (8th, 10th and 12th grades). Higher rates do exist among socioeconomic class as well, as the middle class and the extreme poor have the highest rates of substance use among adolescents (Rowe et al., 2010). For example, differential rates among African-American, Hispanic/Latino, White, and Asian-American populations appear to be *nested* within extreme economic disadvantage, not ethnic background (Rowe et al., 2010). When taking these economic variables into consideration, ethnicity does not appear to be a risk factor on its own.

Acculturation. The cultural construct of acculturation produced some cultural relevance to adolescent substance abuse (Santisteban, Coatsworth, Briones, & Szapocznik, 2002; Vega, Gil, Warheit, Zimmerman, & Apospori, 1993). The collision of new cultural influences (i.e., Western culture’s individualism) with native culture practices (i.e., traditional gender roles) plays itself out in families’ ability to address problems with adolescent substance abuse (Vega et al., 1993). For example, Vega et al. (1993) and later Santisteban et al. (2002) found that Hispanic youths were confronted with Western society’s determination that individualism is paramount for an adolescent

to be viewed as an adult (thus substance using as statement to achieve autonomy or independence from parents). This comes into direct conflict with Hispanic culture's view that honoring your family is paramount for being viewed as an adult (i.e., following the wishes of parents; Vega, 1993). From a family systems point of view, this collision with Hispanic families lends itself to particular therapeutic strategies, especially ones that create structure over independence (i.e., Structural Family Therapy; Santisteban et al., 1997; Szapocznik et al., 1989).

Individual, Peer, Social, and Environmental Risk Factors.

Genetics and Individual Risk Factors. Genetics, or the “nature” aspect of adolescent substance abuse, also appears to play a part in a child's susceptibility to abuse substances (Cloninger, 1987; Jacobs & Johnson, 1999). Evidence seems to indicate that alcoholism and other drug disorders may be associated with family genetics, as a child having at least one parent who has had substance use issues tends to increase the probability of the child having substance problems as well (Jacobs & Johnson, 1999), but this could arguably be an indication of “nurture” if a child is raised in a household with a substance abusing family member (Gordon, 2002). Hereditary vulnerability to addictive disorders is estimated to be between 30-60%, with evidence linked to the aldehyde dehydrogenase 2 genotype (Kreek, Nielsen, Butleman, & LaForge, 2005) and the gamma-aminobutyric acid receptor A-subunit 2 gene (Agrawal et al., 2008). The serotonin system, serotonin transporter, dopaminergic system, dopamine receptors, dopamine transporters, monamine metabolism pathways, catechol-O-methyltransferase, noradrenergic system, inhibitory system, GABAergic and nitric oxide systems, have all been associated with alcoholism or some other substance abuse addiction (Kreek et al.,

2005). In more layman's terms, genes broadly grouped as influencing particular neurotransmitters (serotonin, dopamine, and γ -aminobutyric acid) and metabolism have evidence of influencing genetic transmission of substance abuse problems (Kreek, Neilson, & LaForge, 2004).

Genetic pre-dispositioning of substance dependence can be a risk factor (Agrawal et al., 2008; Kreek et al., 2004). For alcohol, the estimated heritability lies between 50-70% (Agrawal et al., 2008; Kreek et al., 2004). With marijuana, 58-62% of variance is accounted for through genetic factors, while 87% for sedative dependence, 54% for heroine, 26% for psychedelics, 79% for cocaine, 79% for hallucinogen, and 22% for stimulants are accounted for through genetic pre-dispositioning (Agrawal et al., 2008). These figures should not be considered "causes" for substance abuse, but as factors that may influence abuse or make it more likely. The argument in the literature contends that genetic studies should not obscure the focus away from environmental factors (Cox et al., 1994; Young, Rhee, Stallings, Corley & Hewitt, 2006), as well as environmental factors doing the same to genetics (Agrawal et al., 2008; Kreek et al., 2004; Kreek et al., 2005; Young et al., 2006), as both are viable influences on the problem and should be considered in the context of the other. In addition, a separate argument on the genetic influence can be made with a study by Plomin, Owen, & McGuffin (1994), as genetic factors were found to be no higher than 50% on pre-dispositioned human behavior variables, including substance abuse. This comes into direct conflict with the high pre-disposition factors found in the Agrawal et al. (2008) study for specific substances and indicates that further research into these phenomenon will be needed in the future.

Early Use of Substances. The earlier a youth begins using drugs can be a major predictor of problem use and delinquency (Catalano, Haggerty, Gainey, & Hoppe, 1997; Flory, Lynam, Milich, Leukefeld, & Clayton, 2004). With early use, there is the problem of developing a pattern of problem behaviors before the youth has developed cognitively and is able to assess risks and possible consequences of their actions (Liddle et al., 2009). The majority of adolescents who go on to develop substance abuse problems tend to have had initial use early in their adolescence (aged 14 years or younger; Dennis & Scott, 2007). Regular drug use in late childhood/early adolescence tends to set the stage for later drug use, more intense use, use of more dangerous drugs, in addition to potential antisocial behaviors (Brook, Balka, & Whiteman, 1999) and early sexual activity (Stueve & O'Donnell, 2005). McGue and Iacono (2005) report that the initiation of substance abuse and conduct problems before the age of 15 is a strong and consistent predictor of chronic criminal offending, depression, school failure, unemployment (in adolescence and adulthood), relational problems with peers and family members, and low self-esteem throughout adolescence and into adulthood.

Individual Personality Characteristics. Several individual personality characteristics are related to an increased risk of adolescent substance abuse. *Shyness* has been linked to increased risk, as youths may use substances to overcome introverted or reserved tendencies, blend in more with peers, and find it easier to socialize (Kellam, Brown, Rubin, & Ensminger, 1983). Masse & Tremblay (1997) report that *high novelty seeking* (or high sensation seeking) is connected with increased risk, as youths who are naturally more exploratory, more curious, and more apt to “go for it,” also tend to push limits with substance use and delve into heavier or more dangerous drug use. According

to Kreek et al. (2005), a consistently replicated finding with high novelty risk taking is related to the ‘D2-like’ family of dopamine receptors, meaning that high novelty individuals may require more “reward” in order to be stimulated. *Low harm avoidance* is another characteristic risk factor, as individuals who do not become anxious in higher stress situations tend to take more risks with substance use (Masse et al., 1997). One study suggests that low harm avoidance can be linked to an individual’s serotonin transportation and regulation functions, as an individual’s mood is not as greatly affected by potential danger as it might be in others (Koller et al., 2008). *Aggressiveness* is also related to higher risk, as youths who are more aggressive tend to take more chances, are more resistant to following rules, and pay less attention to warning signs (Kellam et al., 1983). Shedler and Block (1990) also found that *social alienation*, *poor impulse control*, and *emotional distress* can be associated with adolescent substance abuse. A youth can overcome social alienation through the social act of drinking and drugging, thus developing social connections and support (Shedler & Block, 1990). Poor impulse control is the act of doing without thinking or consideration, both of which make peer pressure with substance use more likely (Shedler & Block, 1990). And finally, particular substances can have either numbing or escaping effects for an adolescent who is emotionally distressed, making drug use a perceived solution to manage an individual’s stress (Cooper, Russell, & George, 1988; O’Malley & Johnston, 1998; Shedler & Block, 1990). From a Motivational Interviewing standpoint, several of the personality characteristics can be addressed through the motivational principles. *Expressing Empathy* would be well-suited to address both shyness and social alienation problems that a youth may be going through by actively listening to the issues the client is

experiencing. *Developing Discrepancy* techniques may enable a clinician/therapist to help work with individuals who have high novelty, low harm avoidance, and poor impulse control by getting the client to choose to slow him/her self down enough to see other possibilities than the choices they are currently making. *Avoiding Argumentation/Rolling with Resistance* may work well with aggressive clients, as their aggression towards the perceived threat of change coming from a therapist would be reduced or negated.

Severe Illness. Adolescents who have suffered or are suffering from a severe illness have higher rates of substance abuse as a result of greater mental health stress (Werner & Smith, 2001). The connection between severe illness and substance abuse lies with the general stress that comes with being sick (i.e., long periods of low energy, frequent periods of sleeplessness, etc.), as well as increased isolation from pro-social and relational activities associated with healthy adolescent development, such as time at school, time socializing with kids their age, and participation in activities (i.e., sports, hobbies, associations; Werner & Smith, 2001). As children are not able to develop social and relational skills normally, youth can become socially isolated, be adverse towards social organizations, and/or turn towards negative peer groups for acceptance (Laser & Nicotera, 2011).

Confusion Over Sexual Orientation. Confusion over sexual orientation can be predictive of adolescent substance abuse and mental health distress (Fergusson, Horwood, & Beautrais, 1999; Garofalo, Wolf, Kessel, Palfrey, & DuRant, 1998; Savin-Williams, 1994). Confusion over conflictual societal expectations and a youth's sexual orientation may be associated with Erikson's *authentic identity* (Erikson, 1968), creating

internal conflict, self-esteem problems, social isolation, and depression. Gay, lesbian, bisexual, and transgender (GLBT) youth report a disproportionate rate of engagement in risky behaviors at an earlier age than their peers, which has been demonstrated to increase both substance abusing activities and the acceptance of drug-using identification (Garofalo et al., 1998).

History of Being Bullied. Having a history of being the victim of bullying behavior can be linked to increased mental health disturbances and adolescent substance abuse (Laser, 2006; Olweus, 2001a, 2001b). The high value of *peer acceptance* is of upmost importance for adolescents (Laser & Nicotera, 2011) and is associated with feelings of self-worth and competence. Issues related to self-esteem, social isolation or withdrawal, sadness and depression, and lack of peer support can all contribute to both early and continued substance abuse in youth (Ialongo et al., 1999).

Exposure to a Traumatic Event. Exposure to a significant traumatic event can present itself as a risk factor (McFarlane et al., 2009). According to McFarlane et al. (2009), the use of substances is significantly related to the idea of self-medication in a traumatized individual. An increase in trauma or exposure to a traumatic event reduces a youth's ability to effectively cope with stress, making substance abuse as a coping mechanism more likely (Kingston & Raghavan, 2009; Rowe et al., 2010). Several studies were found that supported the statistical finding that there is a significant statistical difference in the percentage of adolescents suffering from a traumatic event that end-up abusing substances than from the general population (Giaconia et al., 2000; Jaycox, Ebener, Damesek, & Becker, 2004; Williams, Smith, An, & Hall, 2008), supporting the idea that trauma increases the risk for substance use. However, from a

treatment standpoint, adolescents with or without trauma tend to respond equally well to treatment interventions (Williams et al., 2008)

Gender Influences. Gender appears to have some influence on various aspects of the problem, but these differences may be confounded with cultural norms and expectations. With 18 year olds, roughly a third of girls and half of boys have at least one symptom (from the DSM-IV) of alcohol abuse or dependence (Young et al., 2006). Genetic and environmental risk factors appear to operate similarly across genders, but particular cultural differences mixed-in with gender seem to confound some of the findings (i.e., cultures that deem it socially inappropriate for women to drink alcohol, yet women drink anyway may indicate a “high loading of genetic susceptibility”; Agrawal et al., 2008). Males tend to have higher rates of binge drinking than do females (Marlatt et al., 1998), with overall treatment “success” tending to be similar between males and females (Borsari & Carey, 2000).

Peer Risk Factors.

The choice of peer group has a major influence on both adolescent substance abuse itself as well as type of substances used, including frequency and intensity (Blanton et al., 1997; Dishion & Owen, 2002). Along with parental substance abuse and various parent/child relationship variables, peer group influence is deemed one of the “3 main paths” to adolescent substance abuse (Blanton et al., 1997). This influence is entrenched with the intense developmental idea that adolescents want to both belong and feel accepted by their peers, which is associated with feelings of self-worth, self-esteem, and competence (Laser & Nicotera, 2011). Adolescents who use substances frequently surround themselves with drug-using peers (Blanton et al., 1997; Dishion & Owen, 2002;

Farrington & Hawkins, 1991). A youth who has any kind of relationship with a substance abusing peer, even a moderate one, has an increased chance of using themselves (Blanton et al., 1997). Peer selection can influence the initial conduct disorder/antisocial behaviors in a youth and perpetuate the process of systematic acceleration of those behaviors with drugs and criminality (Farrington & Hawkins, 1991; Liddle, et al., 2001). As indicated previously, there is a powerful perceived notion that if an individual's immediate peer group uses drugs, nearly all teens do as well (Baer et al., 1991; Blanton et al., 1997; Bosari & Carey, 2000), perpetuating the idea that substance use is normal and consistent through all peer groups (Finn, 2006).

Social Risk Factors.

Poor School Performance. Adolescent substance abuse is associated with overall school performance (Henggler, Schoenwald, Borduin, Rowland, & Cunningham, 1998; Liddle et al., 2001; Liddle et al., 2009; Paulson, Coombs, & Richardson, 1990; Resnick et al., 1997). Involvement with drugs can interfere with a youth's ability to concentrate and pay attention, is associated with memory problems, and can interfere with an adolescent's ability to get along with peers (Henggler et al., 1998, Paulson et al., 1990). A lack of connection between a youth and the school, whether it is with teachers, school personnel, or school-related activities, can influence greater risk with substance abuse problems (Eggert, Thompson, Herting, Nicholas, & Garii Dicker, 1994; Paulson, 1990).

Delinquent/Criminal Activity. Delinquency and criminality in youth is associated with greater risk to drug use (Hawkins et al., 1992). The relationship between criminality and substance use appears to be cyclical, as exposure to criminal behavior increases the risk of drug/substance use, while drug use also increases the risk of criminal behavior

(Flannery, Williams, Vazsonyi, 1999; Harrison & Gfroerer, 1992; Johnson, Cohen, Smailes, Kasen, Oldham, Skodol, et al., 2000)

Other social risk factors exist with adolescent substance abuse. Extreme economic deprivation seems to be associated with higher substance use, as youth may be using drugs to escape from economic pressures and lack of opportunities (Hawkins, Catalano, & Miller, 1992; Rowe et al., 2010). According to Blanton et al. (1997), other factors have to do with social imaging, as youth use drugs and drink alcohol, in part, to adopt some of the identifying images, drug images, or risk images portrayed in the popular media. A favorable image of substance abuse increases the chances of youth using him/her self (Blanton et al., 1997). Indications are that the social images are not seen as “goal states,” but viewed as a relatively favorable prototype image that is tolerant of the consequences associated with drug-using problems (Blanton et al., 1997).

Environmental Risk Factors.

Adolescents living in rural and urban populations have had mixed findings in terms of prevalence and risk (Hall et al., 2008; Mason & Posner, 2009; National Center for Addiction and Substance Abuse, 2000; Wilson & Donnermeyer, 2006; Wright, 2004). The National Center for Addiction and Substance Abuse (2000) and Hall et al. (2008) both reported that younger rural teens are: 1) more likely to use drugs than their urban counterparts; and 2) that drug use with younger adolescents is more severe in rural communities. The Hall et al. (2008) study also found that rural communities tend to be more accepting of youth using alcohol, that rural teens are more accepting of alcohol use in adults, and that there is a perception in rural communities that they are “safe” and isolated from particular drug types, like cocaine, methamphetamines, or heroin.

Conversely, Wilson and Donnermeyer (2006) reported that there are higher rates of both peer pressure and substance use in urban areas, and urban youth were particularly more vulnerable to early and more severe substance use (Mason & Posner, 2009; Wright, 2004). The direct discrepancies in the studies lend themselves to the need for further research and investigation on rural and urban substance use prevalence rates. Despite these different discoveries, one overall finding was consistent, which is that rural adolescents and their families have greater trouble accessing treatment in general or appropriate levels of treatment than do their urban counterparts (Hall, et al., 2008; National Center for Addiction and Substance Abuse, 2000; Wilson et al., 2006). For example, rural communities may not have a mental health center or, if they do, it may not either provide treatment for adolescents or treatment for substance problems. Group and Intensive Outpatient programs may be unavailable, as there will be more reliance on individual or family therapy (Wilson et al., 2006). This may also be a problem, as the few individual and/or family therapists in rural communities may not have specific training in dealing with youth substance abuse issues (Liddle et al., 2008).

Availability of substances is another environmental factor, as accessibility of drugs will obviously increase substance use or make it more difficult to come by (Cox et al., 1994). Roughly half of teenagers believe that marijuana is either “easy” or “fairly easy” to obtain in their community (SAMHSA, 2003). The perceived prevalence phenomenon also factors into availability, or *perceived availability*, as youth who believe many other teens around them are using drugs will also believe more drugs are available to them (Blanton et al., 1997).

Protective Factors Against Adolescent Substance Abuse.

Familial Protective Factors. Although the family can be a risk factor to adolescent substance abuse, the family can also be a protective factor (Blanton et al., 1997; Vakalahi, 2001). As risk factors within families can increase adolescent substance use, family protective factors may mediate/moderate the effects of risks (Blanton et al., 1997; Santisteban et al., 1997; Santisteban, Szapocznik, & Kurtines, 1994; Vakalahi, 2001). In addition, protective factors can delay the onset of substance use by negating some of the “damage” resulting from prolonged use (Catalano et al., 1997). The protective factors within families can be categorized into five main groups: family support/bonding, family communication and practices, family as a barrier to drugs, family involvement, and family characteristics (Laser & Nicotera, 2011; Vakalahi, 2001).

Family Support and Bonding. The amount of support that adolescents believe they have from parents appears to have an influence against substance use. This can partially be attributed to the effect of parental support in preventing or reducing stress in their children (Wills & Cleary, 1996), providing emotional support (Wills & Yaeger, 2003), and parental value transmission (Laser & Nicotera, 2011). Family bonding is associated with reduced drug use, as teens who believe they are “close” to their parents are also less likely to participate in drug use (Scheer, Borden, & Donnermeyer, 2000; Spoth, Yoo, Kahn, & Redmond, 1996; Vakalahi, 2001). Similarly, when a youth believes the quality of his/her relationship with parents is good (Blanton et al., 1997) and they are cared about by their parents (Chamerlain & Rosicky, 1995; Liddle et al., 2001; Resnick et al., 1997), substance use tends to decrease. Swadi (1999) reports that various “attitudes and beliefs” held by youths about the indication of a strong bond between children, their

parents, and the greater society can decrease both delinquency and substance use. Family bonds also seem to have an effect on a teen's dedication to their education, which in-turn decreases both the likelihood and amount of substance use (Bahr, Marcos, & Maughan, 1995; Resnick et al., 1997). Interestingly, increased family bonds have a way of decreasing a youth's aggression (Santisteban et al., 1997), as an adolescent who has a close relationship to his/her family feels less of a need to forcefully push for autonomy through oppositional acts of independence, like substance use.

Family Communications and Practices. Scheer et al. (2000) found that teens who reported that their parents talked to them about the dangers of drug use tended to be less involved with drugs. Open and frequent communication between parents and their children appears to be a protective factor against adolescent substance abuse (Wills et al., 2003). Parental influence can support adolescents' abilities to use self-control, choose positive peers, and conduct themselves competently (Wills et al., 2001). Frequent communication between parents also encourages the discussion and employment of management strategies enforced by the parental subsystem (Blanton et al., 1997; Conger & Rueter, 1996; Minuchin, 1974), allowing for greater familial organization and the perception of the parents being a unified front. In addition, the quality of marital/parental subsystem (Erel & Burman, 1995; Marvin & Stewart, 1990), as well as the effectiveness of parents establishing and communicating appropriate hierarchical and boundary limitations (Marvin, 1992; Minuchin, 1974) provide a defense against adolescent problem behaviors. The marital/partner subsystem collaboration is often a fundamental aspect of Family Systems work (Minuchin, 1974; Minuchin et al., 2007).

Family as a Barrier to Drug Use. The family can act as an insulator against drug use and other environmental influences that may threaten a youth's behavior through improved family functioning (Santisteban et al., 1994) and emotional support (Santisteban et al., 1997). van der Vorst, Engels, Meeus, & Dekovic (2005) reported that parents who specifically communicate to their children that drug use will not be tolerated and that sanctions will be enforced will reduce early adolescent substance use from taking place. Authoritative parenting practices associated with preventing adolescent alcohol and drug use appears to be an effective indicator of protecting children from an early onset of use (van der Vorst et. al., 2005) and decreases the intensity of the use (Chassin & Handley, 2006). Johnson and Pandina (1991) found that families can be either a positive or negative influence on children's substance use, as parents can set behavioral and familial standards for their children to follow. Parents can influence the peer selection of their children, thus decreasing the likelihood of their children associating with negative social groups, although admittedly this is more so with young children than adolescents (Engles & Bot, 2006). Scheer et al. (2000) indicated a decrease in the probability of teens using when youth perceive their parents as "caring" if they used or not, if they thought their parents would stop them, that the parents are involved with the youth's school events, and that the family system itself functions as a "buffer" against substance use. Spoth et al. (1996) found that when parents are more involved in their children's lives, they are better equipped to communicate and implement pro-social values and norms with their teenagers, are more aware of who their children are associating with, and are able reduce the amount of response time to negative behaviors. In addition, Gerwitz, Gorgatch & Wieling (2008) found that effective parenting is the

biggest factor in post-traumatic interventions with adolescents, as parents can help protect traumatized youth from using substances as a coping strategy.

Family Involvement. Spoth et al. (1996) indicated that when a parent becomes more involved in an adolescent's school (e.g., parent-teacher conferences, sports, school board meetings), parents are more aware of their child's activities and are more familiar with school officials, and they can consequently decrease their children's involvement with substances, all of which contribute to the major protective factor of having a strong relationship between parents and the school system (Laser & Nicotera, 2011). Along with a parent's increased involvement with the school comes greater academic expectations of their children, which also serves as a protective factor (Liddle et al., 2001; Resnick et al., 1997)

Family Characteristics. Religiosity/spirituality may serve as a protective factor, as families with religious beliefs that teach abstinence seem to influence lower rates of adolescent drug use (Hawks & Bahr, 1992). According to Vakalahi (2001), religiosity appears to have some effect on lower substance use rates, but this is dependent upon the depth of religious affiliation, beliefs, and attendance. A youth who is more attached to the moral teachings of a particular religion/spirituality will be less likely to engage in substance use if those moral traditions either forbid the behavior or hold them in contempt (Vakalahi, 2001).

Parental Level of Education. Parental level of education has mixed findings in relation to influencing children's substance use, as Adams, Blanken, Ferguson & Kopstein (1990) indicated that when parental educational levels are high, a child's tendency to abuse substances actually increases. This may have more to do with

socioeconomic status, as more educated parents will tend to have higher paying jobs and have more disposable income – income that children may use for acquiring substances. Conversely, a study by Tymchuk & Andron (1990) found that when parental education is low, this increases economic challenges, which puts an adolescent at greater risk. These converse findings are an indication of the need for further investigation and research.

The Influence of Family Treatment with Adolescent Substance Abuse.

Tied closely with the various protective factors associated with the family system is the influence of treating adolescent substance abuse with family system interventions (Cunningham & Henggler, 1999; Szapocznik et al., 2000). Considerable research has looked at the role that families play in adolescent substance abuse (Chassin, Pitts, DeLucia, & Todd, 1999; Conger, & Rueter, 1996; Hanson et al., 1984; Hauser et al., 1991; Kandel, 1990; Kung & Farrell, 2000; Repetti, Taylor, & Seeman, 2002; Resnick et al., 1997). However, this interest has evolved over the last couple of decades. In a study about the risk and protective factors of families, Kazdin, Siegel, & Bass (1990) outlined the importance of working with a client's system, keeping in mind the influences of family and environment with substance abuse. Robins, Turner, Alexander, & Perez (2003) reported that treatment providers are making use of research on ecological and environmental factors, as this influences their practices with the families of substance abusing teenagers. Increasing or improving perceived support and bonding between family members, working on establishing effective communication between children and parents or among parents, parents establishing and/or enforcing boundaries around drug use, and increasing involvement levels that parents have with their children are all frequent examples of family systems work.

Individual & Peer Protective Factors. The relative *easy temperament* of a child has been associated with being an individual protective factor (Compas, Conner-Smith, & Jeser, 2004). Youth who are easy to get along with are better suited to adjust to new environments, tend to elicit positive responses from those around them, have a greater capacity to negotiate needs and desires, and are better equipped to manage the stress of accepting discomforting information (Compas et al., 2004). In other words, an easy temperament youth tends to have an easier time adjusting to change and collaborating with others, both increasing connectedness and decreasing isolation.

Pro-social Peers. As indicated in previous sections, youth who have established pro-social peers tend to have less problems with developing substance abuse problems or having their continued use being supported socially (Dishion & Owen, 2002). The establishment of a pro-social peer group can be influenced by parental influence (especially earlier in a youth's life), after-school/pro-social activities, involvement in sports, and general increased structure and adult monitoring, as all of these activities tend to increase the likelihood of pro-social relationships being established and maintained (Dishion & Owen, 2002).

Common Factors that Improve the Success of Treatment with Adolescent Substance Abuse.

From the literature, three dominant factors manifested as the most influential treatment features of adolescent substance abuse: 1) engagement of the client; 2) retention of the client in treatment; and 3) the therapeutic alliance between the therapist and the client (Coatsworth et al., 2001; Hubble, Duncan, & Miller, 1999; Kokotovic & Tracey, 1990; Liddle et al., 2008; Liddle et al., 2009; Meirer, Barrowclough, & Donmall,

2005; Szapocznik et al., 1988). Each of the factors are not mutually exclusive, but share commonalities between one another.

Engagement in Treatment. The first factor of engaging the client in treatment was repeatedly found as a consistent influence in successfully altering adolescent substance abuse (Coatsworth et al., 2001; Liddle et al., 2008; Liddle et al., 2009, McWhirter, 2008; Szapocznik et al., 1988). This has to do with the importance of engaging the individual and/or the individual's system, which is essential for the therapeutic process in establishing desired behavioral change for adolescents (Coatsworth et al., 2001). Engagement includes establishing a sense of trust and connection between the clinician/therapist and the client system, increasing the sense that treatment is voluntary, decreasing resistance to treatment, and an indication by the clinician/therapist to the client system that the process of treatment is safe (Hubble et al., 1999; McWhirter, 2008; Sprenkle, Davis, & Lebow, 2009). The difficulty in engaging and motivating youth has been found as a barrier to successful treatment (Sussman et al., 2008), requiring specific motivational techniques that are adept at decreasing resistance and increasing trust, such as those used with MET and family systems therapy.

Retention in Treatment. Retention in treatment is the second factor to the success of treatment. Being able to not only engage the client system in treatment, but to keep the client coming back is an invaluable element in assisting clients in goal attainment (Liddle et al., 2008; Liddle et al., 2009). Retention has to do with treatment completion, as treatment completion is highly correlated with treatment success (Coatsworth et al., 2001). Family systems work hinges on its capacity for engaging and retaining alignments with multiple subsystems (i.e., the parental/spousal and sibling

[children] subsystems; Minuchin, 1974; Minuchin et al., 2007), especially the parental subsystem, as parents are the key to the family and youth returning each session for treatment (Minuchin et al., 2007) and therefore allowing for treatment completion.

Therapeutic Alliance. Finally, the third component of therapeutic alliance tends to be the element between the client system and the clinician/therapist that ties together engagement and retention, as clients who believe him/her self to have an alliance with the therapist tend to do better in treatment (Meirer et al., 2005). A clinician/therapist establishing a safe and supportive therapeutic environment seems to at least increase therapeutic alliance early on in treatment (helping to increase engagement) making treatment success more likely (Kokotovic & Tracey, 1990). As much as 30% of treatment “success” can be attributed to the strength of the therapeutic alliance between the client and the therapist, compared to only 15% of therapeutic technique (Garner, Godley, & Funk, 2008; Lambert & Barley, 2002). Other research found moderate (Marcus, Kashy, Wintersheen, & Diamond, 2011; Shirk & Karver, 2003) to high correlations (Martin, Garske, & Davis, 2000) between therapeutic alliance and treatment success. Similarly, individual characteristics of the therapist can increase the strength of therapeutic alliance (Faris et al., 2009), such as empathy and support (Hubble et al., 1999; Miller, Benefield, & Tonigan, 1993; Sprenkle et al., 2009), age (similar in age is better; Garner et al., 2008), or being an ex-addict (Meier et al.; 2005). Conversely, particular therapist characteristics can decrease the alliance, such as being overly confrontational (White & Miller, 2007), age, (dissimilar is worse, Garner et al., 2008), and burn-out (Wintersteen, Mensinger, & Diamond, 2005). An interesting finding from the Meier et al. (2005) study is that the gender and ethnicity of the therapist do not produce significant

differences in therapeutic alliance, but this is recognized as needing further research. With the Motivational Interviewing principle of *Expressing Empathy*, MI is well suited to strengthen therapeutic alliance and reduce chances of the alliance being weakened by consistently communicating respect, support, and non-judgment to the client (Miller & Rollnick, 2002). In addition, with *Developing Discrepancy*, MI focuses on working with clients so that the client him/her self challenges their own thinking and helps to avoid confrontation (Miller & Rollnick, 2002).

Critical Review of Relevant Research Literature

In addition to the examination of theoretical literature, an analysis of research literature was important. Due to much of the literature identifying family work as a viable and influential treatment strategy for dealing with adolescent substance abuse (Drug Strategies, 2005; Hazelrigg et al., 1987; Kaufman et al., 1979; NREPP, 2011; SAMHSA, 2011; Szapocznik et al., 1986), this section focused on relevant research studies using family systems work addressing this problem area.

Measurement Issues. While analyzing the various research studies on adolescent substance abuse treatment and family therapy, a couple of measurement issues were identified. Perhaps the most important was the ability to uniformly measure the “success” or “effectiveness” of a treatment model or intervention. This is a common problem in both research and in the field, as researchers, professionals, and the general public are interested in a particular intervention or model of treatment being “successful” (Sigal, Barrs, & Doubilet, 1976). Determining if a research finding is truly effective and that the findings are actual measurements of “success” is subject to dialog (Sigal et al., 1976). According to D’Agostino & Kwan (1995), one of the best ways to evaluate the

effectiveness of treatment is to have a randomized control group to draw a comparison. This randomization assures that differences between groups is not a systematic anomaly, but can be attributed to the treatment conditions (i.e., Multidimensional Family Therapy compared to Cognitive Behavioral Therapy; Keppel & Wickens, 2004). Because of this, only studies that included randomized treatment conditions (i.e., being randomly selected to either Multidimensional Family Therapy or Cognitive Behavioral Therapy) were selected for this portion of the dissertation.

An additional measurement issue lies with the problem that family treatment varies from one model to another. For example, some models focus more on how a family is structured (i.e., Structural Family Therapy), some on problem relief (i.e., Strategic Family Therapy), some on connectedness (i.e., Emotionally-focused Therapy), and others on family stories (i.e., Narrative Family Therapy; Nichols, 2009; Nichols & Schwartz, 2009). Because of the ranging foci of treatments, the dissertation focused exclusively on two types of family therapies being used to study adolescent substance abuse treatment that were supported by both the Substance Abuse & Mental Health Service Administration (SAMHSA) and National Registry of Evidence-based Programs and Practices (NREPP) as being effective treatment modalities: Multidimensional Family Therapy; and Brief Strategic Family Therapy (NREPP, 2011; SAMHSA, 2011).

Studies Involving Family Therapy Versus Another Treatment. Seven studies were found that compared family therapy to some other form of treatment, all of which based their comparisons on some outcome measure/variable(s) of interest (Henderson, Dakof, Greenbaum, & Liddle, 2010; Liddle et al., 2001; Liddle et al., 2008; Liddle et al., 2009; Robbins et al. 2011; Santisteban, 2003; Szapocznik, Kurtines, Foote, Perez-Vidal,

& Hervis, 1986). Following D'Agostino and Kwan's (1995) assertion that the best way to evaluate effectiveness is to compare one model to another, these studies were specifically selected due to their use of randomized selection for treatment conditions when comparing results for adolescent substance abuse.

Comparing Brief Strategic Family Therapy (BSFT) to treatment as usual (TAU), Robbins et al. (2011) used a sample of 480 families (213 Hispanic, 148 White, 110 African-American, and 9 self-identified as "Other") in a randomized trial in eight different community treatment agencies across the country (including one in Denver). All youth (aged 13-17 years-old) were referred for substance abuse problems. Families were randomly selected to either participate in the BSFT or TAU modality. The study compared the two treatment conditions through the following outcome measures: demographics, which was measured through a demographic questionnaire; therapy dose, which was measured monthly through therapist interviews (based on clinical charts and billing data); adolescent drug use (primary outcome), which was measured by the Timeline Follow-Back (TLFB) scale and through urinalysis screens at baseline and monthly for 12 months; engagement (the study was unclear about how this was measured); retention, which was measured by treatment completion; and family functioning, which was measured by the Parenting Practices Questionnaire and the Family Environment Scale. Other than the adolescent drug use assessments (gathered monthly), each of the other assessments were collected at: baseline (intake), 4-months post-baseline, 8-months post-baseline, and 12-months post-baseline. The primary finding was that there were no significant differences between the BSFT and TAU groups across the 12-month study on drug use. BSFT was significantly more effective than TAU in

engagement ($X^2 = 11.33, p < .001$), retainment ($X^2 = 5.66, p < .02$), and family functioning ($X^2 = 9.10, p < .01$). One of the chief weaknesses of the study was that 25% (5 of 20) of the therapists using BSFT and 24% (7 of 29) in TAU dropped-out of the study. Another problem was that the TAU group used a variety of treatment methods (i.e., group, parent education, individual therapy) that were not standardized and were therefore inconsistent with one another.

Szapocznik et al. (1986) compared Brief Strategic Family Therapy (BSFT) models of one person family therapy (OPFT) vs. conjoint family therapy (CFT) on drug use reduction. The OPFT model used all the techniques of BSFT, but did so with just the individual youth in the room. An experimental design was used by randomly assigning families/youth to either of the treatment modalities. All 72 subject families were Hispanic, with the youth ranging in age from 13 to 17 years old and 21% having had a previous arrest for either conduct or drug-related problems (drug abuse was the major presenting problem for all participant youth). The data was collected at two time periods for two separate studies: one in 1983 ($n = 37$); and the other in 1986 ($n = 35$ – each were used for publication). Three outcome measures were used for the study: drug use, which was measured by the Psychiatric Status Schedule; behavior problems, measured by the Behavior Problems Checklist; and family functioning, measured by the Structural Family Task Ratings. The assessments were collected at intake, termination, and a 3-month follow-up. The overall finding of this study was that there was an improvement with all measures from intake to termination for both conditions. With substance use, both treatment conditions were significantly effective at reducing use as treatment progressed ($p < .01$). With family functioning, both treatment conditions were significant in

improving family functioning ($p < .001$). One significant weakness of the study was that although reduced drug use was stated in the discussion section, there was no direct measurement with the study (other than a p-value) that supported this idea. However, other studies (Loeber et al., 1998; Patterson, 1982; Santisteban et al., 1997) have associated greater family functioning (measured through this study's Structural Family Task Ratings) as influencing a decrease in adolescent substance abuse. Another weakness was there was not a treatment control group (i.e., no treatment at all condition) to draw comparisons for treatment effectiveness.

Santisteban et al. (2003) studied the efficacy of Brief Strategic Family Therapy (BSFT) with modifying substance use and conduct problems in youth in comparison to a group treatment control (GC). The study made use of 126 Hispanic youth and their families (70% were of two-parent households and 75% were males), with adolescents ranging in age from 12 to 18 years-old, and families were randomly selected to either the BSFT or GC treatment conditions. All youth were referred for substance abuse problems. Three outcome measures were used in the study: conduct problems, which were measured with the Revised Behavior Problem Checklist; drug involvement, measured by the Addiction Severity Index; and family functioning, measured by the Family Environment Scale and the Structural Family Systems Rating. Outcome measure assessments, along with urinalysis screens, were collected at intake and termination. With drug involvement, the BSFT condition had 41% of cases where a youth was abstinent at termination compared to intake, versus only 13% of the GC condition. A t-test indicated that the BSFT condition was significantly different to the GC condition with decreased marijuana use ($t = 2.64, p < .02$). With family functioning, there was a

significant pre- to post-treatment difference with the BSFT condition ($t = 3.32, p < .01$) compared to no significant change in the GC condition ($t = 0.18, p$ was not significant). With conduct problems, 36% of the BSFT condition showed improvement from intake to termination, versus 11% of the GC condition. One problem with the study was that it did not have a follow-up time period for measurement, which would have been helpful in analyzing if treatment changes were being maintained post-termination, as observed in the Borduin et al. (1995) study as being an important element in the effectiveness of a treatment.

Comparing Multidimensional Family Therapy (MDFT) to Cognitive Behavior Therapy (CBT) on adolescent substance abuse, Liddle et al. (2008) utilized a 2 x 4 repeated measure design (2 treatment conditions x 4 time periods). Two hundred twenty four youth participants were used for the study aged 12 to 17.5 years, with 81% being male, 58% coming from low-income single-parent homes, 71% being African-American, 18% White, and 10% Hispanic. Participants were randomly assigned to one of the two treatment modalities. All youth were referred for substance abuse problems. The study contained five outcome measures: drug use problem severity, which was measured using the Personal Experience Inventory; cannabis use; alcohol use; other drug use; and 30-day minimal use. Each of the drug abuse measures made use of the Time-line Follow-back Method (TLFB) to track daily frequency of use at each of the measured time periods. The measures were collected at four different time periods: intake; termination; 6-month follow-up; and a 12-month follow-up. There were no significant differences between cannabis and alcohol use between MDFT and CBT. MDFT was significantly superior to CBT in drug use problem severity ($B = 2.17, p < .05$) and other drug use ($B = 2.22, p <$

.05), but both conditions showed statistically significant decreases overall in substance problem severity and 30-day frequency of cannabis use. MDFT was also significantly different to CBT in drug use problem severity at both the 6-month ($t = 2.12, p < .05$) and 12-month ($t = 2.32, p < .05$) follow-ups. A major weakness of this study is that the substance use was based totally on self-reporting of the TLFB method and not on urinalysis screens. TLFB may have been good for tracking frequency of use, especially for cannabis, but it is only a self-report measure. Urinalysis screens are a more definitive indication of substance use (Mussoff & Madea, 2006). However, urinalysis screens are more effective for cannabis use than many other drugs, as THC (the psychoactive ingredient found within cannabis) can be detected in urine for 2-4 weeks (Musshoff & Madea, 2006). This would have been useful for the purposes of this study, as cannabis use was one of the outcome measures.

Liddle et al. (2001) examined differences in substance abusing youth between three different treatment modalities: Multidimensional Family Therapy (MDFT); adolescent group therapy (AGT); and multifamily education intervention (MEI). One hundred eighty two youth participated in the project, aged 13 to 18 years-old, 80% being male, 51% were White, 18% were African-American, 15% were Hispanic, 10% identified as “Other”, 6% were Asian, and all had been referred for drug abuse problems. Sixty one percent of the participants were on probation at the time of intake. Participants were randomly assigned to one of the three treatment modalities at intake. Five different outcome measures were used for the study: attrition, which was measured through client-initiated termination after the first session; drug use, which was measured using adolescent self-report, collateral (parental) report, urinalysis screens, and the Adolescent

Drug Use Scale; problem behaviors, which was measured by the Acting Out Behaviors Scale; school performance, which was measured through the youth's grade point average; and family functioning, which was measured using the Global Health Pathology Scale. The measures were collected at four different time periods: pre-intake; termination; 6-month follow-up; and a 12-month follow-up. With drug use, the primary finding of the study indicated that there was a significant difference between MDFT and AGT ($t = -3.33, p = .002$) and MDFT and MEI ($t = -3.11, p = .003$). With drug use at the 12-month follow-up, MDFT had a significant difference on sobriety to MEI ($t = -3.59, p = .0006$) and AGT was significantly different to MEI ($t = -2.36, p = .02$). With drug use at termination, 42% of MDFT had a clinically significant reduction of use, compared to 32% with MEI and 25% with AGT. With drug use at the 12-month follow-up, 45% of MDFT had a clinically significant reduction of use, compared to 26% with MEI and 32% with AGT. With attrition, 30% dropped-out of MDFT, compared to 35% of MEI and 47% of AGT participants, with a significant difference detected between MDFT and AGT ($X^2 = 4.79, p = .03$). This study was superior to all the others examined in this section of the dissertation in terms of the number of ways substance use was being tracked (i.e., self-report, parental report, urinalysis screens, & the Adolescent Drug Use Scale), although it was not entirely clear how each of the four methods of information gathering was put to statistical use. Another problem with the study was that MDFT was reported in the discussion as producing significant improvement with family functioning over both AGT and MEI, but no statistical data was presented in the results section or the tables that verified this.

Henderson et al. (2010) compared Multidimensional Family Therapy (MDFT) to an enhanced services as usual (ESAU) treatment modality for youth in detention facilities with substance use issues. The ESAU condition used both individual therapy and group therapy interventions in an office (initially in the detention center), while MDFT took place initially in the office at the detention center and then in the family's home. Both treatment conditions were designed to begin working with adolescents while still incarcerated and then continue the work after his/her release. One hundred fifty four youth participated in the project, with 82% being male, 60% were African-American, 22% Hispanic, 17% White, and 1% indentifying as an "Other" ethnic background. Participants were randomly assigned to one of the two treatment conditions, all were aged 13 to 17 years-old, and all youth had a history of substance abuse problems. Two outcome measures were included with the study: drug use problem severity, which was measured using the Personal Experience Inventory and the Time-line Follow-back Method (TLFB) to track daily frequency of use at each of the measured time periods; and family functioning, which was measured by the Family Environment Scales. Information from the measures was gathered at four different time periods: intake; 3-month post-intake; 6-month post-intake; and 9-month post-intake. Model fit statistics showed that a three-class model (high drug use problem severity, moderate severity, and lower severity) showed a better fit than a one-class model (all participants) in describing drug use severity and family functioning statistics. However, due to the third class containing only 10 participants (too small for statistical use), the model was optimized using two classes (higher severity, lower severity). According to the two-class model, 30% of MDFT treatment condition for the higher severity class showed clinically significant

improvement, while 34% of the lower severity showed clinically significant improvement. For the ESAU group, 18% of the higher severity and 35% of the lower severity showed clinically significant improvement. Comparatively with the higher severity class, MDFT participants had a significantly decrease in substance use than ESAU ($B = .53, p < .002$). A major problem with this study manifested within the reporting of the statistics, as the authors were inconsistent in their reporting between the two and three-class models, making continuity between the two confusing (i.e., the narrative reporting was based on the two-class model while the table indicated the three-class model).

A study comparing Multidimensional Family Therapy (MDFT) to adolescent group therapy (AGT) on substance use, delinquency, and internalized distress was conducted by Liddle et al. (2009). The study consisted of 83 participants who were randomly selected to either the MDFT or AGT groups. Participants were aged 11-15 years-old who were referred for substance abuse treatment. Most of the participants were male (74%), with 42% of the subjects being Hispanic, 38% were African-American, 11% were Haitian or Jamaican, and 3% were White. Approximately 53% of the subjects came from single-parent homes. The study included seven outcome measures: background and demographic information, measured by the GAIN scales and the Parent and Adolescent Interview (PAI); substance use, which was measured by Timeline Follow-back Method (TFBM) and the Problem Oriented Screening Instrument for Teenagers (POSIT); delinquency, measured by the National Youth Self-Report Delinquency Scale (SRD); internalized stress, measured by the General Mental Distress Index; family risk and protective factors, measured by the Oregon Social Learning Center's Adolescent Daily

Report; peer risk factors, measured by the National Youth Survey Peer Delinquency Scale; and school risk factors, measured by academic grades, conduct grades, and absences. The outcome measure assessments were taken at five different time periods: intake; 6-weeks post-intake; at discharge; 6-months post-discharge; and 12-months post-discharge. Both treatments showed significant decreases in substance use problems at the 12-month follow-up (pseudo $z = -4.29$, $p < .001$). MDFT had a significantly more rapid decrease in substance abuse than did AGT (pseudo $z = -10.47$, $p < .001$), MDFT had fewer days of substance use (pseudo $z = -3.51$, $p < .001$) and MDFT had increased abstinence (pseudo $z = -2.98$, $p = .003$). MDFT subjects decreased their delinquent behavior more rapidly than AGT (pseudo $z = -2.43$, $p < .05$), with MDFT continuing to decrease delinquent behavior at the 12-month follow-up, while AGT subjects had an increase in delinquency at the 12-month follow-up. With family functioning, MDFT participants had reported more positive family interactions (pseudo $z = 2.14$, $p < .05$), which continued through the 12-month follow-up and greater decreases in negative family interactions (pseudo $z = -2.25$, $p < .05$) which also continued through the 12-month follow-up. Similar to previous criticisms of the TFBM, the researchers for this study could have incorporated urinalysis screens and collateral (parent) reporting on a youth's substance use.

Key Research Elements Derived from the Research Literature.

The information derived from the seven research studies provided insight into what should be replicated in further research. Several key elements emerged from the research literature that should prove useful in informing future research on adolescent substance abuse, such as tracking substance use, tracking/measuring problem

behaviors/delinquency, engaging clients in treatment, and measuring family functioning. The research studies repeatedly tracked substance use frequency and drug type through various means (i.e., self report, parent report, urinalysis) and was a vital component in measuring a substance abuse treatment's "effectiveness" (Prendergast, Podus, Chang, & Urada, 2002). Similarly, tracking or measuring an adolescent's problem behaviors at home and/or in the community needed to be assessed to make sure that treatment was meeting the general goal of adolescent treatment decreasing problem behaviors (Henggler, Schoenwald, Bordin, Rowland, & Cunningham, 1998). As indicated earlier in the dissertation, engaging clients in treatment was recognized as important in all psychotherapeutic treatment (Hubble, et al., 1999; Sprenkle, et al., 2009), including adolescent substance abuse treatment (Coatsworth, et al., 2001; McWhirter, 2008). And finally, with 5 of the 7 studies having family functioning as an observed outcome measure, measuring how well a family functions was an important aspect of treatment to observe with this population (Chamerslain & Rosicky, 1995; Loeber et al., 1998; Patterson, 1982).

The methodological processes of the research literature informed the dissertation in two primary ways. The first was to have a methodology that allowed for the repeated assessment of various outcome measures during a client's treatment. For example, repeated measures with drug use through recurring urinalysis screens assisted researchers in the Liddle et al. (2001) study to see trends of substance use during and after the treatment conditions, which provided valuable information about during and post-termination effects of treatment. The second was to use established outcome measures that have been recognized in the field as optimal for measuring particular outcome

variables, such as family functioning or problematic behaviors. Using established measurement instruments, such as questionnaires or surveys used by other researchers in the field, provides added reliability and validity to findings (Switzer, Sisniewski, Belle, Dew, & Schultz, 1999). Such efforts give weight to research results and conclusions (Switzer et al., 1999).

Chapter Two: Methodology

As mentioned earlier in the dissertation, much of the Methodology was designed around the information being collected, the number of subjects being used for the study, and the kind of statistical methods that could be used that would appropriately answer the dissertation questions.

Subjects

Denver Family Therapy Center's Adolescent Substance Abuse Program (ASAP) was designed to treat adolescents ages 13-19 who were abusing drugs or alcohol, along with working with the adolescent's families. All clients in the ASAP program were required to have parental/family involvement in treatment. Both adolescent males and females who participated in the ASAP program and the parent(s) or guardian(s) of the adolescent in the ASAP program were included in the study. Information from either the youth alone or the family alone were not included in the study. Only data that included both the client and parent/guardian information was collected.

The sample of subjects were clients, aged 13-18 years old, and their families who were discharged from the ASAP program between 2006 to mid-2008. The sample size included 71 cases that met the criteria of having participated in the ASAP program for a minimum of 5 contacts, along with both the youth and at least one parent/guardian having been interviewed three months post-treatment. The total population of cases discharged

from the ASAP program during this time period (2006 to mid-2008) was estimated to be 245 client families.

Demographics.

The average age of the youth at the time of the first initial interview with the family was 16 years old (M = 16.34 years old, SD = 1.21). The gender of the sample was predominantly male (76% male and 24% female). As shown in Table 2.1, the sample was predominantly Caucasian (74.6%), with 15.5% self-identifying as Hispanic/Latino, 2.8% as African-American, 1.4% as Native American, and 5.6% as bi-cultural. Clients living with 2 biological parents occurred 36.6% of the time, with 28.2% splitting time between divorced parents (including single and blended families, with the client living in two different homes), 19.7% living with one biological parent (single parent), 8.5% living with one biological parent in a blended family (the client spends no time with the second parent), 5.6% living with grandparents, and 1.4% living with extended family. No clients in the study were living in foster-care or with non-family members.

Table 2.1

Ethnicity of the Youth Participants

Ethnicity	Frequency	Percent	Cumulative Percent
Caucasian	53	74.6	74.6
Hispanic/Latino	11	15.5	90.1
African American	2	2.8	93.0
Native American	1	1.4	94.4
Bi-cultural	4	5.6	100
Total	71	100	

Payer Sources.

Payment of treatment was divided into two categories: private pay (i.e., private health insurance or self-pay) and public pay (i.e., payments received from the Department of Human Services, Probation, Senate Bill-94, etc.). Private pay clients accounted for 64.8% of the sample, while the remaining 35.2% of the clients had therapeutic services paid for through public funding.

Discharge Status.

Clients were positively discharged from the program 54.9% of the time (see Table 2.2). Clients that did not return to treatment (dropping-out against program advice or due to financial reasons) occurred 29.6% of the time. Clients who dropped-out to enroll in a higher level of care occurred 4.2% of the time. Discharges as a result of incarceration occurred 5.6% of the time. Similarly, 5.6% of discharges were negative (meaning the client completed treatment, but did not meet therapeutic goals).

Table 2.2

Discharge Status of the Clients Upon Termination

Discharge Type	Frequency	Percent	Cumulative Percent
Positive	39	54.9	54.9
Dropped-out	21	29.6	84.5
Higher Level of Care	3	4.2	88.7
Incarceration	4	5.6	94.4
Negative	4	5.6	100
Total	71	100	

Design

The research questions posed earlier required quantitative research methods to provide answers. Quantitative research is the standard, empirical, and systematic way of investigating social phenomenon through statistical techniques (Creswell & Piano Clark, 2007). Quantitative methods provided numerical data to support if family therapy improved family functioning, reduced adolescent substance use, improved school performance, and decreased court involvement.

Instrumentation

Data was collected through the analysis of several instruments the ASAP program used to collect detailed information about adolescents and families pre-treatment, during-treatment, and post-treatment. The pre-treatment instruments included the Substance Use Survey (SUS) and the Adolescent Self-Assessment Questionnaire (ASAQ). Two during-treatment instruments were used, which were collected at the beginning of treatment with the Master Treatment Plan (MTP) and throughout treatment with the Monthly Treatment Planning and Utilization Reviews (MTPUR). In addition, the study made use of a three-month post-treatment follow-up survey questionnaire conducted with the adolescent and his/her parent(s)/guardian(s) following termination from treatment.

Measures

Substance Use Survey (SUS).

The SUS was one of two main assessment tools used by the ASAP program to assess a youth's drug/alcohol involvement and disruption (Wanberg, 2000). The SUS was a self-reported, psychometrically-based screening instrument used with adolescents

aged 12-20 years old who had shown a history of drug use (Wanberg, 2000). The SUS was viewed as an opportunity for a youth to indicate how they viewed themselves at the time of the survey in terms of motivation, disruption, defensiveness, and mood adjustment (Wanberg, 2000). The SUS also indicated the amount of involvement the youth had had with drugs/alcohol (Wanberg, 2000).

Sample Size, Reliability, & Validity of the SUS.

Data was collected on the SUS with a sample size of $N = 9,540$, which included state-wide (Colorado) youth on probation, youth involved in the Denver Juvenile TASC (Treatment Accountability for Safer Communities) Project, and youth committed to the Department of Youth Corrections (Wanberg, 2000). The Cronbach's Alpha indicated good reliability for each of the scale items (Cronbach, 1951). For involvement, Chronbach's Alpha (α) = .80; for disruption, $\alpha = .89$; for mood adjustment, $\alpha = .76$; for defensiveness, $\alpha = .80$; and for motivation, $\alpha = .80$ (Wanberg, 2000).

Construct validity, which was determined when a psychometric scale correlated with a psychological construct (Campbell & Fiske, 1959), was demonstrated through correlations between the SUS scales completed by the youth and the SUS Rater scales (completed by a "rater" who met with the youth during an interview and rated him/her on the various scales). Good construct validity was shown, as each of the correlations between the youth and the rater were higher than those among the other scales (i.e., disruption on the SUS scale with disruption on the rater scale was higher than disruption on the SUS scale with motivation on the rater scale). The following subsample correlations were found between the SUS scales completed by the youth and the SUS

rater scales: involvement correlation ($r = .80, p < .001$); disruption, $r = .76, p < .001$; mood adjustment, $r = .76, p < .001$; defensiveness, $r = .21, p < .001$; and motivation, $r = .17, p < .001$.

Description of the Substance Use Survey (SUS) Scales

According to Wanberg (2000), the SUS consisted of four major assessment scales: disruption, mood adjustment, defensiveness, and motivation. In addition, an involvement scale was also provided for the youth to complete.

SUS Involvement.

The involvement scale was based on 19 different substances (i.e., marijuana, cocaine, amphetamines, etc.) and measured the prevalence of substance use in the youth's lifetime. Wanberg (1999) indicated that the involvement scale not only measured the history of a youth's substance use, but was an excellent predictor of alcohol and drug use prevalence. The involvement scale also assisted in identifying poly-drug or mono-drug usage to an evaluator (Wanberg, 2000). The involvement scale included six categories of responses: 1) "never had a chance to use"; 2) "had a chance, but did not use"; 3) "used 1-10 times"; 4) "used 11-25 times"; 5) "used 26-50 times"; and 6) "used more than 50 times" (Wanberg, 2000).

SUS Disruption.

The disruption scale was a wide-ranging measure of negative consequences and harm due to substance use, with high scores indicating disruption in physiological functioning, disruption in psychological functioning, greater loss of control of the youth's behaviors, and greater problems at home, school, and work (Wanberg, 2000). The

disruption scale indicated the disruptive problems with alcohol and drugs overall and not with any one substance (Wanberg, 2000). Wanberg (2000) reports that the disruption scale was the best among the SUS scales at measuring drug abuse and dependence and resulted in fewer false negatives than using criteria from the DSM-IV. The disruption scale included five categories of responses: 1) “never”; 2) “1-3 times”; 3) “4-6 times”; 4) “7-10 times”; and 5) “more than 10 times” (Wanberg, 2000).

Mood Adjustment.

The mood adjustment scale focused exclusively on the psychological and emotional disruption of the youth (Wanberg, 2000), as these factors highly correlated with drug use in adolescents in terms of depression, low self-esteem, and poor self-concept (Bry, 1983; Deykin, Levy, & Wells, 1978; and Flay & Sobel, 1983). According to Wanberg (2000), high scores on the mood adjustment scale might indicate some form of “depression, worry, anxiety, irritability, anger, feelings of not wanting to live, and an inability to control emotions and/or behaviors” (p. 22).

SUS Defensiveness.

The defensive scale measured how open the youth was to revealing private and potentially vulnerable information about him/her self (Wanberg, 2000). The more closed the youth was about feeling angry with others, being unhappy, having broke the law, having felt sad, and not telling the truth, the higher he/she would rate on the defensive scale (Wanberg, 2000). Wanberg (2000) suggests that nearly every youth, in need of treatment or not, has at some point committed one of the scale items (i.e., felt unhappy,

gotten angry, etc.), but the scale accommodates this through qualifying the behavior (i.e., “I’ve felt unhappy many times”).

SUS Motivation.

The motivation scale was based on how much the youth was willing to stop alcohol/drug use in addition to how willing the youth was to accept assistance for substance use problems (Wanberg, 2000). High scores indicated that the youth was more likely to change his/her current substance use patterns and engage in some form of treatment (Wanberg, 2000).

Adolescent Self-Assessment Questionnaire (ASAQ)

The ASAQ was the second of two main assessment tools used by the ASAP program to assess a youth’s motivation and willingness to accept intervention and treatment assistance for substance use problems (Wanberg & Milkman, 2010). The ASAQ was developed based on two theoretical frameworks: 1) Prochaska & DeClimente’s (1982) Transtheoretical Model (TTM, discussed in the “Motivational Interviewing” section); and 2) Wanberg & Milkman’s (2008) Challenge to Change, a three stage model conceptualizing that change occurs in stages. Like the SUS, the ASAQ was a self-reported, psychometrically-based screening instrument used with adolescents 12-18 years old who had shown a history of drug use (Wanberg & Milkman, 2010).

Sample Size, Reliability, & Validity of the ASAQ.

Data was collected on the ASAQ with a sample size of N = 1,100, which included adolescents admitted to outpatient and inpatient treatment programs (Wanberg, 2010).

The Cronbach’s Alpha indicated good reliability for each of the scale items (Cronbach,

1951). For contemplation, Cronbach's Alpha (α) = .79; for psycho-social, α = .87; for community, α = .78; for acknowledgement, α = .86; for changed, α = .81; for readiness, α = .85; and for commitment to further change, α = .79 (Wanberg & Milkman, 2010).

Again, construct validity was determined when a psychometric scale correlated with a psychological construct (Campbell & Fiske, 1959), which was demonstrated with the ASAQ according to Wanberg & Milkman (2010). Wanberg & Milkman (2010) reported that "construct validity was supported with scale internal consistency and scale independence through high loadings of items intended to measure the scale and low loadings on items not in the scale" (p. 16). However, no information could be found on the correlations between ASAQ scales completed by the youth and some other external scale measurements. Wanberg & Milkman (2010) suggest that face-validity was supported by using a sample of substance use clinicians (who evaluated the content of the scales) and indicated that the scales seemed to match what they were intended to measure. No information was provided as to how many clinicians were used to demonstrate face-validity.

Description of the ASAQ Scales.

The ASAQ contained six major scales and two subscales to help identify how motivated a youth was to make changes to his/her substance use, as well as how open and ready the youth would be in accepting assistance (Wanberg & Milkman, 2010). The six major scales were: 1) contemplation; 2) psychosocial change; 3) community; 4) collateral; 5) help acknowledge; and 6) changed. Based on Prochaska & DiClemente's

(1982) work, the first subscale was *change readiness*, while the last subscale was derived from the *contemplation* and *changed* scales, and was called *commitment to change*.

ASAQ Contemplation – Challenge to Change.

The contemplation scale measured how much a youth was considering change in his/her life overall, as well as to his/her choices with drug and alcohol use (Wanberg & Milkman, 2010). The scale also considered if the youth had any plans to change behaviors, as well as had experienced some challenge to change from self or others (Wanberg & Milkman, 2010). High scores indicated that the youth was open to thinking about making changes in his/her life, was willing to consider altering substance use, and had had high hopes for these potential changes (Wanberg & Milkman, 2010).

ASAQ Psychosocial Change.

The psychosocial scale involved the individual's emotional adjustment, interpersonal adjustment, and social/community role adjustment (Wanberg & Milkman, 2010). The psychosocial scale focused on the youth's social/community role adjustment needed for change by taking into consideration his/her emotional and interpersonal struggles (Wanberg & Milkman, 2010). According to Wanberg & Milkman (2010), a youth who scored highly on the psychosocial scale was indicating a need to make changes in how he/she relates to their friends, family, and those around him/her, as well as needing some assistance on how to manage his/her self emotionally.

ASAQ Community – Social Role Adjustment.

The community scale was based on the youth's social role adjustment needed, meaning the youth indicated a need to change with his/her role in school, at work, or

following rules of society (Wanberg & Milkman, 2010). High scores with this scale indicated needed change in how the youth behaves in the community and how rules needed to be followed (Wanberg & Milkman, 2010).

ASAQ Collateral.

The collateral scale was a measure of how the youth perceived other people's belief that the youth needed to change (Wanberg & Milkman, 2010). Collateral people found within the scale included parents, teachers, employers, school counselors, siblings, friends, and probation officers (Wanberg & Milkman, 2010). High scores were an indication that people around the youth believed the youth needed to make changes in his/her life, including drug/alcohol use (Wanberg & Milkman, 2010). An important aspect of the scale was that not all youth had the same involvement with various collateral contacts, therefore some had lower scores due to this lack of contact with specifically named people in the scale (i.e., no contact with a school counselor or an employer; Wanberg & Milkman, 2010)

ASAQ Help Acknowledge.

The help acknowledge scale measured a youth's acknowledgment that he/she needed assistance for substance abuse problems (Wanberg & Milkman, 2010). High scores on this scale were an indication that the youth had an understanding of the importance of making changes, was open to participating in some form of treatment, and was willing to accept the help that was offered (Wanberg & Milkman, 2010).

ASAQ Changed – Taken Action.

The changed scale was used to measure the perception of the youth on how much he/she had already taken steps toward making changes with substance use (Wanberg & Milkman, 2010). High scores with this measure were an indication that the youth had already made changes to their substance use behaviors and that those actions were a deliberate effort (Wanberg & Milkman, 2010).

ASAQ Change Readiness.

As indicated above, the change readiness scale was based on Prochaska & DiClemente's (1982) contemplative/determination stages of the Transtheoretical Model (TTM) in that it measured the youth's desire to change and acknowledgment that help was needed (Wanberg & Milkman, 2010). High scores were an indication that the youth was interested in drug/alcohol treatment (Wanberg & Milkman, 2010).

ASAQ Commitment to Change.

The commitment to change scale was derived from the contemplation scale and the changed scale, and measured a combination of how committed the youth was to making changes along with his/her perception of changes that had already taken place (Wanberg & Milkman, 2010). High scores were an indication that the youth hoped to make changes, intended on further change taking place, and that there were plans by the youth to cease substance use (Wanberg & Milkman, 2010).

Master Treatment Plan (MTP) and the Monthly Treatment Planning & Utilization Review (MTPUR)

All ASAP Master Treatment Plans (MTPs) and Monthly Treatment Planning and Utilization Reviews (MTPUR) contained four main goals of treatment that were used as measures for the dissertation: 1) improving family functioning; 2) decreasing drug/alcohol use; 3) improving school participation; and 4) decreasing legal/court involvement. Each of the measures were rated through the following criteria: 1) the family's functioning, which was rated on a scale of 1-10 with 1 = intense conflict and 10 = no conflict; 2) drug/alcohol use, which was rated on a scale of 1-10 with 1 = daily use and 10 = no use and clean urinalysis screens for 30 days; 3) school/work activities, which was rated on a scale of 1-10 with 1 = poor performance and 10 = excellent performance; and 4) probation/legal involvement, which was rated on a scale of 1-10 with 1 = client was non-compliant with legal terms and conditions and 10 = full compliance with legal terms and conditions.

The Master Treatment Plan (MTP) rated all the goals of treatment (i.e., family functioning) through the collaborative efforts of the youth, parent(s)/guardian(s), and therapist agreeing on an overall score for that particular treatment goal. The subsequent MTPURs were scored solely by the therapist, while being informed and influenced by the youth, parent(s)/guardian(s), collateral professionals (i.e., probation officers, teachers), and urinalysis screens.

Three-Month Post-treatment Follow-up Survey.

With the three-month post-treatment survey questionnaire, information on the each of the outcome measures (improving family functioning, decreasing drug use, improving school performance, and decreasing court involvement) was rated on a Likert-scale of 1-5, with 1 = Strongly agree, 2 = Agree, 3 = Neutral, 4 = Disagree, and 5 = Strongly disagree. A sixth category of “Non Applicable” was also available. These numbers were reverse-coded with SPSS for continuity with other scales in the study, as weaker/negative outcomes were rated with low scores and stronger/positive outcomes were rated with higher scores. In addition, clients/parents were asked to select from 1 of 3 choices with each outcome measure (improving family functioning, decreasing drug use, improving school performance, and decreasing court involvement) as a result of their treatment with the ASAP program: 1) improved; 2) stayed the same; or 3) got worse. Again, these scores were reverse-coded for continuity with other scales.

Data Collection

Collecting particular information on each client (i.e., number of family therapy sessions, urinalysis results, drug involvement scores) required analyzing each client file individually and by hand. This phase of the dissertation required the cooperation and collaboration of the ASAP professional staff, as access to client files and the follow-up survey needed to be coordinated.

From a list of hundreds of discharged cases, a checklist was developed to track which clients would meet the criteria for inclusion in the study. Data collection began by creating a spreadsheet for each client in order to keep track of all measured information.

A code sheet was developed to link information on cases to the spreadsheet using a confidential identification number for each case. Each individual client file was pulled to collect the data. Information on various instruments in the client file (i.e., the SUS), along with a variety of pieces of information on each individual case (i.e., number of family therapy sessions) was gathered, tallied on the spreadsheet, and then inputted into SPSS (Statistical Package for the Social Sciences, version 20.0) for later statistical use. Similarly, information from each three-month post-treatment survey (which was not located in the client file) was also tallied on the spreadsheet and later inputted to SPSS.

Analysis

The SPSS statistical program (version 20.0) was used to provide descriptive statistics, t-tests, and correlation statistics on the information from the various survey instruments, the individual measures specific to each case, and the post-treatment survey. These statistical techniques were used to analyze the relationships between the variables, some of which were not apparent until the information was analyzed.

Risk to Subjects

Little risk was involved with this secondary data analysis. Although information data was coded for statistical use during the data analysis portion of the dissertation, the author of the dissertation needed to have direct access to client records at Denver Family Therapy Center (DFTC) to collect the needed information. This meant that the author of the dissertation had access to: the client's name (including parents' names), voluntary status, urinalysis test results, types of therapy used with the client, dates of service, payer information (public or privately funded), results of pre-treatment survey questionnaires,

results of a three-month follow-up survey, and the discharge status of the client. Prior to treatment, each client/family signed a release waiver of clinical information for training/research purposes titled “Consent for Follow-up” to collect follow-up information post-treatment (see under Appendix E). Under the conditions of the release waiver and the follow-up consent form, all information was kept confidential by the author of the dissertation per Colorado Mental Health Statute 12.43.214(1)(d) CRS: Privileged Communications (Lane, 2012).

To protect the identity of all subjects, the author of the dissertation individually coded each client with a numeric client number and therefore all identifying information was confidential to outside entities. Dissertation committee members, dissertation readers, and all interested parties were not be able to trace information back to any individual case, nor were they able to have access to any identifying information. A code sheet linking information from a client to a client number was kept at DFTC using three different key locks – a file cabinet containing the code sheet was locked, the clinical room with the code sheet was locked, and the main office at DFTC was locked. Only the author of the dissertation had access to this code sheet, along with keys to the cabinet and the clinical room.

One particular confidentiality issue did arise with the three-month follow-up survey, as the author of this dissertation was also the therapist for 22 of the 71 cases used for the study. Information on the three-month follow-up survey contained feedback about the therapist and the therapy, although none of this information was being tracked for the dissertation. A decision was made to keep these 22 cases based on two factors: 1)

that the information about the therapist was not what was being collected; and 2) the subtraction of 22 cases would significantly affect statistical power. Therefore, a research assistant was used for these 22 cases to collect this portion of the data from the three-month follow-up survey and tally the information with all the other cases, and the author of the dissertation did not view these surveys.

Key Concepts Operationalized

Several key concepts needed to be operationalized, as they served important aspects of the dissertation. The effort of operationalization was conducted to help the reader conceptualize how each term was defined and how it should be understood. Some of the concepts were operationalized to clarify the different modes of treatment that the Adolescent Substance Abuse Program (ASAP) used in their treatment. The remaining concepts were operationalized to describe the major foci of the dissertation questions, such as family functioning and drug use, so that it was clear what these terms meant when used throughout the dissertation.

Family Systems Therapy.

Family systems therapy, a term used synonymously with *family therapy* throughout the dissertation, has different meanings with different people (Nichols & Schwartz, 2009). Family systems therapy, as used in the dissertation, had to do with the emphasis of working with one or more parts of a person's system towards psychological health – highlighting relationships, problem maintenance, interactional patterns, and solution relief (deShazer, 1985; Haley, 1976; Minuchin, 1974; Nichols, 2009; Nichols & Schwartz, 2009). Unlike the field's early years of defining the family in a traditional

manner (i.e., parents and children), the concept of family therapy or family systems work extends to working with all relationships connected to the identified client, not just those related by blood or marriage (Goldenberg & Goldenberg, 2009, Minuchin, 1985). In other words, family systems therapy consists of working with the client's entire system and not just parents and children. With the dissertation data, family systems therapy was measured by the number of therapy sessions that included two or more family members engaging in therapy with at least one of the ASAP (Adolescent Substance Abuse Program) therapists.

Individual Therapy.

Like family therapy, individual therapy has different meanings to different people and is often difficult to define with any precision, as many types and models exist (Corsini, 2000). In general, individual therapy is the therapeutic relationship between a trained professional and a client/patient that is focused on some problem that is psychological in nature (Corey, 1996). Some individual therapies are focused on "curing" psychological ailments, while others focus on positive self-growth, encouragement, and direction in life (Brammer, Abrego, & Shostrom, 1993; Corey, 1996; Hill, 1992). According to Corey (1996), individual therapy is viewed as "a vehicle for helping people get more out of life through a self-exploratory experience" (p. 5). The various "types" of individual therapies and the techniques used are contingent to the therapist's experiences and expertise, as well as the different needs of the client (Brammer et al., 1993, Hill, 1992).

With the dissertation, there was an important aspect of individual therapy that needed clarification. Family therapists view the psychological features of the individual within the context of the greater system, so aspects of psychotherapy often focused upon in traditional individual therapy (i.e., instincts, self-sense of wellbeing, internal fears) are all part of the context of the greater system (Minuchin, 1985). For many family therapists, seeing a person individually is considered “individual therapy”, but is thought of as an extension of family systems work, as the individual is a contributing member of the family that assists in maintaining patterns, regulating behaviors (Minuchin, 1985; Tolsdorf, 1976), and can be the symptom bearer for the rest of the family (Goldenberg & Goldenberg, 2000). With the dissertation data, individual therapy was measured by the number of individual therapy sessions that included the adolescent engaging in therapy with at least one of the ASAP therapists.

Group Therapy.

Group therapy is a form of psychotherapy that simultaneously treats a small group of people on some specific therapeutic topic (Yalom & Leszcz, 2005). Particular group therapy principles, such as group cohesiveness and universality, are utilized to assist in either supporting each individual/family or promoting individual/systemic change (Yalom & Leszcz, 2005). With group therapy, support is provided to the individual/family through the *group therapeutic process*, which is a concept used to describe the exploration, development, and examination of alternatives to current behaviors or patterns (Kaminer, 2005), allowing the client to have a sense of support and relatability to the others in the group (O’Leary et al., 2002). As with individual therapy,

group therapy intervention within the dissertation was viewed as a contextual piece of the individual's greater system. With the dissertation data, group therapy was measured by the number of group therapy sessions that included either the adolescent or the adolescent and family members engaging in group therapy with at least one of the ASAP therapists.

Urinalysis Screens.

Self-report of drug use has been demonstrated as being inconsistent and unreliable (Winters, Stinchfield, Henly, & Schwartz, 1990). Urinalysis screens, or UAs, are a more definitive indication of substance use than self-report, as specific drugs or their metabolites can be detected in a person's urine (Mussoff & Madea, 2006). Urinalysis screens can be used to detect a variety of drugs, including alcohol, barbiturates, benzodiazepines, cocaine, amphetamines, and cannabis (Normand, Salyards, & Mahoney, 1990). However, UA screens are more effective for detecting cannabis use than many other drugs, as THC (the psychoactive ingredient found within cannabis) can be detected in urine for 2-4 weeks, whereas the test window for alcohol may only be 12-14 hours (Musshoff & Madea, 2006). A "diluted" urinalysis occurs when there is too much water in the urine specimen, therefore diluting the concentration of actual urine and making drug detection more difficult (Simerville, Maxted, & Pahira, 2005). With the dissertation data, urinalysis screens were measured by the number of urinalysis screens taken, the number of screens that detected some drug(s) (a "positive UA"), the number of screens that did not detect drugs (a "negative UA"), and the number of screens that contained too little concentration of urine (a "diluted UA").

Family Functioning.

One of the key elements to family therapy treatment is assessing and treating a family's functioning. According to Epstein, Bishop, & Levin (1978) and based on the McMaster's Model of Family Functioning, family functioning is based on six dimensions: problem solving, communication, roles, affective responsiveness, affective involvement, and behavioral control. *Problem solving* can be thought of as a family's capacity to resolve issues that present themselves as difficult for the family to manage (Epstein et al, 1978). Families that are more functional are able to problem solve more readily, less effort is required for resolutions, and they have effective behavioral patterns that allow for rapid solution development (Epstein et al., 1978).

Communication can be broadly defined as how the family exchanges information (Epstein et al., 1978). The McMasters' Model (Epstein et al., 1978) observes four main subcategories of familial communication styles: 1) *clear* and *direct*, meaning the intention for the communication between the family members is clear and who the communication is meant for is directly stated; 2) *clear* and *indirect*, meaning the intention is clear between family members, but who the communication is meant for is vague; 3) *masked* and *direct*, meaning the content of the communication is unclear, but whom it is intended for is clear; and 4) *masked* and *indirect*, meaning both the content and whom it is meant for is unclear.

Roles can be thought of as repetitive patterns of behavior fulfilled by individual family members (Epstein et al., 1978). With roles, family members fulfill both the "necessary" and "other" functions of the family, such as provision of resources, life skills

development, maintenance, management of the family system, and other unique functions required for the family (Epstein et al., 1978).

Affective responsiveness is the ability of the family and family members to respond to various life situations with an appropriate amount of quality and quantity (Epstein et al., 1978). *Affective involvement* is the amount of interest and value the family demonstrates to the rest of the family's interests and activities (Epstein et al., 1978).

Behavioral control can be defined as behavioral patterns the family adopts to manage specific familial situations (Epstein et al., 1978). These control mechanisms can be categorized into four subtypes: 1) rigid behavioral control, meaning a narrow and constricted series of controls are employed with negotiation and change; 2) structured behavioral control, meaning the adaptability is ordered with some allowance for negotiation; 3) flexible/Laissez-faire behavioral control, meaning negotiation is standard and flexible; and 4) chaotic behavioral control, meaning there are rapid fluctuations of rigidity and flexibility with negotiation (Epstein et al., 1978).

With the dissertation, improvement of family functioning was a centerpiece of the research and included several factors in its evaluation. First, the family and the adolescent themselves evaluated their functioning through being questioned by the therapist on how much conflict exists within the family. Second, the therapist also inquired about how cohesive the family has been with one another as a whole (problem solving, communication ability, clarity of roles). These aspects of conflict, problem solving, communication, and roles all factored in to the adolescent and family scoring

themselves on a scale during the development of the Master Treatment Plan (MTP). Furthermore, family functioning was evaluated by the therapist each month with the Monthly Treatment Planning & Utilization Review (MTPUR), by being informed by the youth and the parents on how they were all getting along, in addition to witnessing interactions between family members during family therapy sessions. Therefore, family functioning was measured through both the adolescent and family ratings of family conflict and cohesiveness (during MTP evaluation) and through the monthly therapist ratings on family functioning (during each of the MTPURs). Improvements were detected by increased ratings from one month to the next during the MTPURs.

Drug Use.

One of the obvious and primary reasons for referral to an adolescent substance abuse treatment program is a youth's drug/substance use. During the dissertation, the terms "drug" and "substance" were used interchangeably. Drugs/substances was also used to refer to all drugs, whether they are recreational drugs (i.e., cannabis, cocaine, methamphetamines; Kuhn, Schwartzwelder, & Wilson, 2008) or medicinal drugs (i.e., OxyContin; Cicero, Inciardi, & Munoz, 2005), as both were being used by adolescents.

Drug abuse was defined in the dissertation, as the "use of a drug for non-therapeutic effects with the potential for physical, social, and/or psychological harm" (Mosby's Medical Dictionary, 2009). Treatment for drug *use* fell into the same category as drug *abuse*, as the goal for the intervention was to create change in the abuser's use of the drug (Sussman et al., 2008). With the dissertation, any kind of drug used for its non-therapeutic effects was considered drug abuse.

With the dissertation, decreasing drug use was a central focus of the research and included two aspects in its evaluation. The family and the adolescent themselves evaluated with the therapist how much drug use was taking place by discussing the frequency of use and drugs being used, which were used to rate drug use during the Master Treatment Plan (MTP). In addition, the therapist also acquired urinalysis specimens from the youth to determine current drug use, which, along with information gathered from individual, family, and group therapy, was used to rate drug use on the MTPURs. Drug use was therefore measured by the rating by the youth and family during the MTP, as well as monthly ratings by the therapist with the MTPURs. Improvements were detected by increased ratings from one month to the next during the MTPURs (increased ratings indicated decreased drug use).

School Performance.

How well a youth was performing in school had several elements. One of the most outstanding was the youth's grades. How well a youth was doing in school was often thought of as what grades were being achieved (Beauvais, Chavez, Oetting, Deffenbacher, & Cornell, 1996). Attached to a youth's grades were his/her attendance in class. Truancy and absenteeism highly affect a youth's grades and performance in the classroom (Miller & Plant, 1999). Another element was how well the youth was getting along with peers. Bullying and a sense of belongingness can highly influence a youth's motivation of being in school (Gastic, 2008). Another indication of school performance was how well a youth was getting along with teachers or authority figures. A student's connectedness to school personnel was associated with school attendance, academic

achievement, and satisfaction (Skinner & Belmont, 1993). Similarly, a student's ability to follow school rules had a way of influencing attendance, achievement, and satisfaction (McEvoy & Welker, 2000). School performance was also associated with how much an adolescent was involved with extracurricular activities the school provided, such as sports, clubs, and organizations (Finn, 1989).

From the literature, adolescent substance abuse is associated with overall school performance (Henggler, Schoenwald, Borduin, Rowland, & Cunningham, 1998; Liddle et al., 2001; Liddle et al., 2009; Resnick et al., 1997). Involvement with drugs can interfere with a youth's ability to concentrate and pay attention, is associated with memory problems, and can interfere with an adolescent's ability to get along with peers (Henggler et al., 1998). Because of this, school performance was a major focal point of the dissertation.

With the dissertation, improvement of school performance was a major focal point of the research and included several factors in its evaluation. First, the family and the adolescent themselves evaluated how well the youth was doing in school in terms of attendance, school work/grades, and behavior. This information was used by the youth and family to rate school performance on the Master Treatment Plan (MTP). Second, the therapist also inquired about school performance during individual, family, and group therapy, as well as interactions with school personnel during staffings and phone interviews. This information gathered by the therapist assisted in rating school performance during the MTPURs. Therefore, school performance was measured through both the adolescent and family ratings of school performance (during MTP evaluation)

and through the monthly therapist ratings on school performance (during each of the MTPURs). Improvements were detected by increased ratings from one month to the next during the MTPURs.

Court Involvement.

Adolescents that use substances often get into trouble with the law, which frequently leads to involvement with the court system (Henggler et al., 1998; Liddle et al., 2001; Liddle et al., 2009). Many adolescent substance abuse related crimes that reach the courtroom, such as Minor in Possession (MIP) tickets, end-up in court appointed drug prevention programs, or, if the offense is more severe, could end-up in diversion or probation departments (Kurlychek, Torbet, Bozynski, 1999). For the dissertation, all of these cases, whether they were handled by probation or some other agency, were considered court involved. It was the judge/magistrate that originally ordered the action and, if needed, would have the final decision with sentencing (Kurlychek et al., 1999). For example, if a youth succeeds with probation, the court gives the probation department the power to terminate probation successfully and no further court action will be required (Kurlychek et al., 1999). However, if a youth fails probation, the case will be returned to court and the judge/magistrate will then decide sentencing (Kurlychek et al., 1999).

With the dissertation, decreasing court involvement was a centerpiece of the research and included several factors in its evaluation. First, the family and the adolescent themselves evaluated court involvement by discussing the level of the youth's involvement with the law, including current and future court appearances, police contacts, as well as diversion, probation, and/or parole requirements. This information

was used by the youth and family to rate court involvement on the Master Treatment Plan (MTP). Second, the therapist also inquired about court involvement during individual, family, and group therapy, as well as interactions with legal/judicial entities during staffings, phone interviews, court reports, and court hearings. This information gathered by the therapist assisted in rating court involvement during the MTPURs. Therefore, court involvement was measured through both the adolescent and family ratings of court involvement (during MTP evaluation) and through the monthly therapist ratings on court involvement (during each of the MTPURs). Improvements were detected by increased ratings from one month to the next during the MTPURs (increased ratings indicated decreased court involvement).

Chapter Three: Results

Adolescent Substance Abuse Program (ASAP) Clients.

All youth participated in some form of family therapy during their treatment, with each youth being assessed during the first session with at least one parent (100%, N = 71), and most participating in family therapy (91.5%, N = 65) and/or participating in group therapy with a parent (67.6%, N = 48). All youth had a stated goal of decreasing drug use. Approximately 95.8% of the youth had a stated goal of improving school performance (N = 68) and 90.1% had a stated goal of decreasing legal/court involvement (N = 64).

Substance/Drug Use.

The frequency and use of different drugs varied with the sample. Alcohol and marijuana were the most frequently abused substances – 94.4% of the clients reported marijuana use (N = 67) and 93% reported alcohol use (N = 66). The other most frequently reported drugs used were cocaine (50.7%, N = 36), mushrooms (35.2%, N = 25), and amphetamines (31%, N = 22; see Table 3.1).

Table 3.1

Substance/Drug Abused

Drug Type	N	Percent of Sample
Marijuana	67	94.4
Alcohol	66	93.0
Cocaine	36	50.7
Mushrooms	25	35.2
Amphetamines	22	31.0

Not only were marijuana and alcohol the most frequently used drugs, they were also the most heavily used as well. Marijuana was used 50+ times lifetime with 70.1% of the clients reporting marijuana use pre-treatment (N = 67). Among the alcohol users, 57.6% of the clients reported using alcohol 50+ times lifetime (N = 66). The remaining most frequently used drugs were not used as heavily, as 55.6% of cocaine use (among the cocaine users, N = 36) was used 1-10 times lifetime, with 76% of mushroom use being used 1-10 times (N = 25), and 59.1% of amphetamine use being used 1-10 times (N = 22).

Age of First Use.

The age of first use varied from one substance to the next, with tobacco being the lowest age (12.69 years, SD = 2.93, N = 48) and cocaine being the highest (15.5 years, SD = 1.50, N = 36). Other average ages of first use were as follows: huffing (13.00 years, SD = 1.41, N = 3); marijuana (13.07 years, SD = 2.16, N = 67); heroin (13.33 years, SD = 2.08, N = 4); alcohol (13.34 years, SD = 1.70, N = 66); mushrooms (14.8 years, SD = 1.66, N = 25); acid (14.81, SD = 1.83, N = 12); barbiturates (15.00 years, SD

= 1.58, N = 6); tranquilizers (15.00 years, N = 1); amphetamines (15.05 years, SD = 1.59, N = 22); and cocaine (15.5 years, SD = 1.59, N = 34).

Table 3.2

Age of First Use by Drug Type

Drug Type	Mean Age (First Use)	N	Standard Deviation
Tobacco	12.69	48	2.93
Marijuana	13.08	65	2.17
Heroin	13.33	4	2.08
Alcohol	13.34	64	1.70
Mushrooms	14.80	25	1.66
Amphetamines	15.05	22	1.59
Cocaine	15.50	34	1.50

By age 14, 75.0% of the youth had used alcohol (of the youth reporting alcohol use, N = 66), 72.9% had used tobacco (N = 48), and 69.2% had smoked marijuana (N = 67). By 15 years of age, 63.6% had used acid (of those reported acid use, N = 12), 60.0% had used mushrooms (N = 25), 54.5% had used amphetamines (N = 22), and 44.1% had used cocaine (N = 36).

Three-months Post-treatment: Responses to the 4 Goals of Treatment

With all clients coming into the ASAP program, each family during the Master Treatment Plan phase of the first interview were required by the therapist to rate each major goal of treatment: 1) improvement of family functioning; 2) decreasing drug use; 3) improving school performance; and 4) decreasing court involvement. These same goals were assessed throughout treatment with the Monthly Treatment Plan (MTP) and

Utilization Reviews (MTPUR) and then again in the three-month post-treatment follow-up interview.

Goal #1: Improvement of Family Functioning Three- months Post-treatment.

The sample indicated that 94.4% of the parents agreed that the goal of improving family functioning was achieved with their participation in the ASAP program. Those parents that strongly agreed accounted for 63.4%. The sample indicated that 92.9% of the youth agreed overall that the goal of improving family functioning was achieved with his/her participation in the ASAP program. This also included that the youth strongly agreed 56.3%.

Goal #2: Decreasing Drug Use Three-months Post-treatment.

The sample revealed that 94.4% of the parents agreed that the goal of decreasing drug use was achieved with their participation in the ASAP program. Parents who strongly agreed accounted for 64.8% of the sample. With the youth overall, 91.4% agreed that the goal of decreasing drug use was accomplished with his/her participation in the ASAP program, as strongly agree occurred 51.4%.

Goal #3: Improvement with School Performance Three-months Post-treatment.

The sample showed that 89.7% of the parents overall agreed that the goal of improving school performance was achieved with the treatment, with 55.9% strongly agreeing. The sample also showed that 92.9% of the youth overall agreed that the goal of improving school performance was achieved with his/her treatment with ASAP, as strongly agreed occurred 55.7%.

Goal #4: Decrease in Court Involvement Three-months Post-treatment.

The sample showed that overall 89.1% of the parents agreed that the goal of decreasing court involvement was accomplished with the treatment. Parents that strongly agreed accounted for 54.7% of the sample. Similarly, the sample indicated that 89.8% of the youth overall agreed that the goal of decreasing court involvement was accomplished with his/her participation in the ASAP program, as 55.9% strongly agreed.

Substance Use Survey (SUS) Ratings from the Sample

As indicated in the methodology section, the SUS was used as an initial assessment tool to gauge a youth's involvement with substances, how much influence drug/alcohol use had affected them, as well as how motivated he/she was in decreasing use. The SUS contained a decile-ranking system ranging from 1 to 10, with 1 being the lowest rank within the scale item and 10 being the highest rank. Low rankings indicated a low frequency/low impact of the scale item and high rankings indicated a high frequency/high impact of the scale item. In addition, Wamberg (2000) included quartile ranking descriptors to rate the youth's scores: low, low-medium, high-medium, and high. Due to some decile-rankings falling into two separate quartiles (i.e., a "3" can fall into both "low" or "low-medium"), only decile-rankings falling completely into a single quartile range were reported.

SUS Involvement.

The involvement scale measured the prevalence of substance use in the youth's lifetime based on 19 different substances (i.e., marijuana, cocaine, amphetamines, etc.; Wanberg, 2000). Nearly two-thirds of the sample were rated at a 7 or above (62.3%; see

Table 3.3) with how involved they were with drugs and alcohol. This included 29% of the sample rated at the maximum rank of 10, and over half the sample (50.7%) were in the “high” range.

Table 3.3

Involvement with Drugs (Decile Rankings 1 [least involved] to 10 [most involved])

Decile Ranking	Frequency	Percent	Cumulative Percent
1	0	0.0	0.0
2	10	14.5	14.5
3	6	8.7	23.2
4	1	1.4	24.6
5	4	5.8	30.4
6	5	7.2	37.7
7	8	11.6	49.3
8	5	7.2	56.5
9	10	14.5	71.0
10	20	29.0	100.0

SUS Disruption.

The disruption scale was a wide-ranging measure of negative consequences and harm due to substance use, as it served as an indication of the overall disruptive problems that alcohol and drugs have had on a youth (Wanberg, 2000). Exactly half of the sample ranked at a 7 or above (50%) on the impact that drugs and alcohol had created disruptions in their lives. Over a fifth of the sample (22.1%) were rated at a rank of 10, with over a third (35.3%) in the “high” quartile range.

SUS Mood Adjustment.

The mood adjustment scale focused exclusively on the psychological and emotional disruption of the youth, as these factors highly correlated with drug use in

adolescence (Wanberg, 2000). High scores on the mood adjustment scale indicated some form of depression, anxiety, anger, and/or emotional control problems (Wanberg, 2000). Over half of the sample rated at a 7 or above (50.7%) on the impact drug use had affected their moods. This included 17.4% rating at a rank of 10, with at least a third (33.3%) in the “high” quartile range.

SUS Defensiveness.

The defensive scale measured how open the youth was to revealing private and potentially vulnerable information about him/her self (Wanberg, 2000). The more closed the youth was about feeling angry with others, being unhappy, having broke the law, having felt sad, and not telling the truth, the higher he/she would rate on the defensive scale (Wanberg, 2000). The majority of the sample rated at a 7 or above (50.7%) in how defensive they were around their drug and alcohol activity, with 26.1% rated at the maximum rank of 10, with roughly a third (31.9%) being in the “high” quartile range.

SUS Motivation.

The motivation scale was based on how much the youth was willing to stop alcohol/drug use in addition to how willing the youth was in accepting assistance for substance use problems (Wanberg, 2000). High scores indicated that the youth was more likely to change his/her current substance use patterns and engage in some form of treatment (Wanberg, 2000). Most of the sample did not rate highly in their motivation to change their drug and alcohol behaviors, as 63.8% rated at a 6 or below, with over a half (58.0%) rated at low or low-medium in motivation (see Table 3.4).

Table 3.4

Motivation of Clients (Decile Ranking: 1 [least motivated] to 10 [most motivated])

Motivation	Frequency	Percent	Cumulative Percent
1	13	18.8	18.8
2	5	7.2	26.1
3	2	2.9	29.0
4	10	14.5	43.5
5	10	14.5	58.0
6	4	5.8	63.8
7	4	5.8	69.6
8	5	7.2	76.8
9	6	8.7	85.5
10	10	14.5	100.0

Adolescent Self-Assessment Questionnaire (ASAQ) Ratings from the Sample

Like the SUS, the ASAQ was used as an initial assessment tool to gauge how much a youth contemplated change in their lives, how they viewed other's seeing them as needing to change, and how ready the youth was for needed change. The ASAQ was similar to the SUS in that it contained a decile-ranking system ranging from 1 to 10, with 1 being the lowest rank within the scale item and 10 being the highest rank. In addition, Wamberg & Milkman (2010) included quartile ranking descriptors to rate the youth's scores: low, low-medium, high-medium, and high.

ASAQ Contemplation.

The contemplation scale measured how much a youth was considering change in his/her life overall, as well as changing his/her choices with drug and alcohol use (Wanberg & Milkman, 2010). High scores indicated that the youth was open to thinking about making changes in his/her life, was willing to consider altering substance use, and

had high hopes for these potential changes (Wanberg & Milkman, 2010). Approximately a fifth of the sample rated at the lowest level of contemplation (19.4%; see Table 3.5).

Table 3.5

Contemplation of Clients (Decile Ranking: 1 [least contemplative] to 10 [most contemplative])

Contemplation Rank	Frequency	Percent	Cumulative Percent
1	12	19.4	19.4
2	7	11.3	30.6
3	1	1.6	32.3
4	2	3.2	35.5
5	4	6.5	41.9
6	6	9.7	51.6
7	9	14.5	66.1
8	9	14.5	80.6
9	0	0	80.6
10	12	19.4	100.0

ASAQ Psycho-Social Change.

The psychosocial scale focused on the youth’s social/community role adjustment needed for change by taking into consideration his/her emotional and interpersonal struggles (Wanberg & Milkman, 2010). According to Wanberg & Milkman (2010), a youth who scored highly on the psychosocial scale indicated a need to make changes in how he/she related to their friends, family, and those around him/her, as well as needed some assistance on how to manage his/her self emotionally. Exactly half (50%) of the sample rated themselves at a 1 or a 2 with their drug/alcohol use requiring psychological and social changes. Only 12.9% rated that they needed these changes at a 7 or above.

ASAQ Community Social Role Adjustment.

The community scale was based on the youth's social role adjustment needed, meaning the youth indicated a need to change with his/her role in school, at work, or following rules of society (Wanberg & Milkman, 2010). High scores with this scale indicated needed change in how the youth behaved in the community and how rules needed to be followed (Wanberg & Milkman, 2010). Nearly a third of the sample (32.3%) rated at the lowest rank in terms of their perception that they needed to adjust their behaviors in the community, with only 11.3% rated at a 7 or above.

ASAQ Collateral.

The collateral scale was a measure of how the youth perceived other people's belief that the youth needed to change (Wanberg & Milkman, 2010). High scores were an indication that people around the youth believed the youth needed to make changes in their lives, including drug/alcohol use (Wanberg & Milkman, 2010). Similar to community change needed, 32.3% of the youth rated at the lowest rank in their perception of how collateral entities (i.e., parents, teachers, friends) viewed their drug and alcohol use as being in need of change. Ratings of 7 and above only accounted for 9.7%.

ASAQ Help Acknowledge.

The help acknowledge scale measured a youth's acknowledgment that he/she needed assistance for substance abuse problems (Wanberg & Milkman, 2010). High scores on this scale were an indication that the youth had an understanding of the importance of making changes, was open to participating in some form of treatment, and was willing to accept the help that was offered (Wanberg & Milkman, 2010). Over a

third of the youth (33.9%) rated at a 1 with their acknowledgement that they needed help changing their drug and alcohol use. The sample indicated that 85.5% of the youth rated at either a “low” or “low-medium” quartile range in acknowledging they needed help.

ASAQ Change – Taken Action.

The changed scale was used to measure the perception of the youth on how much he/she had already taken steps toward making changes with substance use (Wanberg & Milkman, 2010). High scores with this measure were an indication that the youth had already made changes to their substance use behaviors and that those actions were a deliberate effort (Wanberg & Milkman, 2010). Over a third of the youth (33.9%) believed that their drug and alcohol use had already changed at a 7 or above.

ASAQ Change Readiness.

The change readiness scale measured the youth’s desire to change and acknowledged that help was needed (Wanberg & Milkman, 2010). High scores were an indication that the youth was interested in drug/alcohol treatment (Wanberg & Milkman, 2010). Over two-thirds of the youth (67.7%) rated at a 3 or below in their readiness for additional change in their drug and alcohol behaviors (see Table 3.6). More than half of the sample (56.5%) were in the “low” quartile range.

Table 3.6

Change Readiness (Decile Ranking: 1 [least ready] to 10 [most ready])

Readiness Rank	Frequency	Percent	Cumulative Percent
1	21	33.9	33.9
2	14	22.6	56.5
3	7	11.3	67.7
4	6	9.7	77.4
5	4	6.5	83.9
6	1	1.6	85.5
7	4	6.5	91.9
8	1	1.6	93.5
9	3	4.8	98.4
10	1	1.6	100.0

ASAQ Commitment to Action.

The commitment to change scale was derived from the contemplation scale and the changed scale, and measured a combination of how committed the youth was to making changes along with his/her perception of changes that had already taken place (Wanberg & Milkman, 2010). High scores were an indication that the youth hoped to make changes, intended on further changes taking place, and that there were plans by the youth to cease substance use (Wanberg & Milkman, 2010). The youths' commitment to change was spread fairly evenly throughout the ranking, with the exception of 19.4% rating at the rank of 10. Approximately a quarter of the sample (22.6%) was highly committed to action.

Correlations and Level of Significance

Information about correlation measurements using interval/ratio variables (continuous variables) was reported using Pearson's r , as well as p values for level of

significance (Brace, Kemp, & Snelgar, 2003; Cohen, 1988). According to Cohen (1988) a Pearson's r of .01 to .19 indicates a negligible relationship; an r of .20 to .29 = a weak, positive relationship; an r of .30 to .49 = a moderate, positive relationship; an r of .50 to .69 = a strong, positive relationship, and an r of .70 or higher is a very strong, positive relationship. Similarly, a Pearson's r of -.01 to -.19 indicates a negligible relationship; an r of -.20 to -.29 = a weak, negative relationship; an r of -.30 to -.49 = a moderate, negative relationship; an r of -.50 to -.69 = a strong, negative relationship, and an r of -.70 or higher is a very strong, negative relationship. The standards set-out by Cohen (1988) were used to describe correlations within the dissertation.

Level of significance, or statistical significance (p value), was also reported, as this was an indication of how probable a finding could have been found as a result of coincidence (Brace, Kemp, & Snelgar, 2003). As a general rule in the social sciences, a level of 5% or below is the conventionally accepted level of significance that a social statistician would consider to be "statistically significant" (Brace, Kemp, & Snelgar, 2003). Examples: $p = .05$ indicates a 5% (1 in 20) chance that the finding has occurred by coincidence; $p = .01$ indicates a 1% (1 in 100) chance that the finding has occurred by coincidence; $p = .001$ indicates a .1% (1 in 1000) chance that the finding has occurred by coincidence.

Correlations of Continuous Variables

The data produced several relevant findings. There was a strong statistically significant positive relationship between the number of family sessions and the negative urinalysis screens ($r = .58, p < .001, n = 71$). A very strong statistically significant

positive relationship existed between the number of group sessions and negative urinalysis screens ($r = .83, p < .001, n = 71$). There was a very strong statistically significant positive relationship between the total number of sessions (individual, group, and family) and negative urinalysis screens ($r = .85, p < .001, n = 71$; see Table 3.7).

Table 3.7

Correlations: Negative Urinalysis (UA) with Session Types

	Family Sessions	Group Sessions	Total Sessions
Negative UA			
Pearson's r	.58	.82	.85
Sig. (2-tailed)	.000	.000	.000
N	71	71	71

The age the client first used both alcohol and marijuana appeared to be related to first use of other drugs. There was a strong statistically significant positive relationship between the age of first used alcohol and: 1) the age of first used marijuana ($r = .55, p < .001, n = 62$); 2) the age of first used cocaine ($r = .50, p = .003, n = 34$); 3) the age of first used amphetamines ($r = .50, p = .019, n = 22$); and 4) age of first used tobacco ($r = .58, p < .001, n = 46$). Age of first used alcohol had a very strong statistically significant positive relationship with age of first used mushrooms ($r = .70, p < .001, n = 25$).

There was a strong statistically significant positive relationship between age of first used marijuana and: 1) the age of first used cocaine ($r = .46, p = .007, n = 33$); and 2) age of first used amphetamines ($r = .56, p = .007, n = 22$). Age of first used marijuana had a very strong statistically significant positive relationship with both age of first use

mushrooms ($r = .75, p < .001, n = 25$) and age of first used tobacco ($r = .70, p < .001, n = 46$).

Correlations of Categorical Variables

Substance Use Survey (SUS) Involvement.

From the sample, several moderate statistically significant positive relationships existed between a youth's involvement with drugs and: 1) disruption in their lives ($r = .36, p = .003, N = 68$); 2) psycho-social change needed ($r = .41, p = .001, N = 62$); 3) collateral/others thinking there is a problem ($r = .40, p = .001, N = 62$); and 4) acknowledging help was needed ($r = .43, p < .001, N = 62$; see Table 3.8). This means that there were indications that if a youth was involved with drugs, he/she was more likely to have to deal with problems associated with his/her drug use, there was a need for the youth to change his/her behaviors, there was a need for the youth to change his/her view of him/her self, and that others share the view that changes were needed. In other words, the more a youth was involved with drugs, the more change was required and the more other people noticed such change was needed.

Table 3.8

SUS Involvement Correlations

	Disruption	Psych-social Change Needed	Collateral	Acknowledging Help is Needed
SUS Involvement				
Pearson's r	.36	.41	.40	.43
Sig. (2-tailed)	.003	.000	.000	.000
N	68	62	62	62

SUS Disruption.

A moderate statistically significant positive relationship was found with disruption in the youth's life and the youth's mood adjustment ($r = .49, p < .001, N = 68$). Therefore, as disruption increased due to substance use, so did emotional instability, which was consistent with other research (Beman, 1995; Ialongo et al., 1999; McGue & Iacono, 2005). Additionally, a relationship was found between disruption and the youth acknowledging he/she needed help ($r = .40, p = .002, N = 61$). Overall, the youth were not interested in help, but those that were feeling the greatest disruption were more aware that help was needed.

In addition, a strong statistically significant positive relationship was found between disruption and psycho-social change needed ($r = .57, p < .001, N = 62$). Psycho-social change needed was a combination of needed adjustment with the individual's emotional adjustment, interpersonal adjustment, and social/community role adjustment (Wanberg & Milkman, 2010), so it was sensible that when there was disruption in the youth's life that the youth would also see the need to make some adjustments internally and socially.

SUS Mood Adjustment.

As stated above, it was reasonable that mood adjustment and psycho-social change needed were similar, which produced a moderate statistically significant positive relationship between the two ($r = .45, p < .001, N = 62$). Both measures were an indication from the youth that adjustment was needed, with one focusing specifically on

emotional adjustment (mood adjustment) and the other on emotional, interpersonal, and social adjustment (Wanberg & Milkman, 2010).

SUS Motivation.

A moderate statistically significant positive relationship existed between a youth's motivation and contemplation to change drug behaviors ($r = .43$, $p = .001$, $N = 62$).

Surprisingly, only moderate relationships were found between motivation and changed/taken action ($r = .30$, $p = .018$, $N = 61$) and motivation and commitment to action ($r = .31$, $p = .014$, $N = 62$). These correlations were anticipated to be stronger than moderate relationships, as one would assume that a motivated youth would be more likely to be changed/taken action as well as be committed to take action. Perhaps the reason they were only moderately related could be that the youth were motivated, but had not yet committed to action with this motivation, which was normal for a person in either the Transtheoretical Model's "pre-contemplative" stage or "preparing for action" stage (Prochaska & DiClemente, 1982).

Adolescent Self-Assessment Questionnaire (ASAQ) Contemplation.

There was a strong statistically significant positive relationship between contemplation and changed/taken action ($r = .57$, $p < .001$, $N = 62$). This was reasonable, as the youth was increasingly more aware that change was needed, the more likely he/she had already taken some steps to change. This follows Prochaska & DiClemente's (1982) "action" stage, as the youth was strongly contemplating change and was either ready to make changes, or had already made changes. Similarly, there was a moderate statistically significant positive relationship between contemplation and motivation ($r = .43$, $p = .001$,

N = 62). This also makes sense, as the more contemplative a youth was, the more likely that he/she would be motivated to make changes.

A very strong statistically significant positive relationship existed between contemplation and a youth's commitment to action ($r = .73, p < .001, N = 62$; see Table 3.9). This also makes sense, considering that if a youth was contemplating change in behavior, he/she was also more likely to be committed to action.

Table 3.9

Contemplation Correlations

	Changed/ Taken Action	Motivation	Commitment to Action
Contemplation			
Pearson's r	.57	.43	.73
Sig. (2-tailed)	.000	.001	.000
N	62	62	62

ASAQ Psycho-social Adjustment.

Three strong statistically significant positive relationships existed with psycho-social adjustment and: 1) community adjustment ($r = .53, p < .001, N = 62$), 2) acknowledgement that help was needed ($r = .54, p < .001, N = 62$); and 3) readiness for change ($r = .61, p < .001, N = 62$). These relationships make sense, as psycho-social adjustment, which contains a social adjustment aspect, was similar to community adjustment (Wanberg & Milkman, 2010). Acknowledging that help was needed and being ready for change had similar elements, so it was understandable that both would

share such a strong relationship with psycho-social adjustment, considering that psycho-social adjustment required needed change and helped to prepare a youth for changes that needed to occur.

ASAQ Community/Social Role Adjustment.

With community/social role adjustment, both a moderate relationship with readiness for change ($r = .46, P < .001, N = 62$) and a strong relationship with acknowledging help is needed ($r = .53, p < .001, N = 62$) were found. It was conceivable that in order for a youth to be ready for change, he/she would already be in a position of acknowledging that help was needed. Community adjustment was based on the youth's social role adjustment needed, meaning the youth indicated a need to change his/her role in school, at work, or following rules of society (Wanberg & Milkman, 2010). If a youth was able to acknowledge he/she needed to adjust socially, this was an indication of the person's readiness for change and acknowledged that help was needed to assist with those social changes.

ASAQ Collateral.

A moderate statistically significant positive relationship was found between collateral and acknowledging help was needed ($r = .47, p < .001, N = 62$). This was an understandable connection, as collateral influences (adults in the youth's life) may have been persuading the youth to consider that help was needed.

ASAQ Acknowledging Help was Needed.

A very strong statistically significant positive relationship was found between acknowledging help was needed and readiness for change ($r = .82, p < .001, N = 62$). As

indicated earlier, acknowledging help was needed was an indication of a youth being ready for change, so the correlation between these two measures was understandable.

ASAQ Changed/Taken Action.

There was a very strong statistically significant positive relationship between changed/taken action and commitment to action ($r = .89, p < .001, N = 62$). This finding was completely understandable, as a youth haven taken action could be thought of as a direct reflection of his/her commitment to have taken action.

Master Treatment Plan (MTP) Family Rating.

With the Master Treatment Plan (MTP) family functioning rating (which was rated by the family upon intake), two moderate statistically significant positive relationships were found with the MTP school performance ($r = .49, p < .001, N = 71$) and MTP court/legal involvement ($r = .38, p = .003, N = 57$). These ratings were connected with one another as families and youth at the beginning of treatment would rate each goal (family functioning, school performance, and court/legal involvement) similar to one another, as it was assumed that important aspects of a person's life were connected in some systemic way (Fisch et al., 1982).

There was a strong relationship between MTP family functioning and the MTP drug rating ($r = .56, p < .001, N = 70$). It was reasonable to consider that how well things were going in the family influenced a youth's drug use (Chassin et al., 1999; Jacob & Johnson, 1999; Johnson & Leff, 1999; Santisteban et al., 1994), as well as how a youth's drug use was going influenced how well things went in the family (Leichling et al., 2006).

Not surprisingly, there was no relationship between the MTP family rating and the Monthly Treatment Planning & Utilization Review (MTPUR) family rating for month one ($r = .05$, $p = .672$, $N = 67$). On the surface, it would seem that due to these two ratings being done by the family within a month of one another, they would correlate highly. However, as a result of participating in family therapy, problems within the family would rise to the surface, issues that normally went unspoken began to be addressed, and family members that may have disengaged themselves from family functions were now expected to participate (Minuchin, Montalvo, Guerney, Rosman, & Schumer, 1967). All these factors would contribute to a change in the perception on how well a family was functioning.

MTP School Performance.

Two moderate statistically significant positive relationships existed between MTP school performance and: 1) MTP drug rating ($r = .38$, $p = .001$, $N = 70$); and MTP legal involvement ($r = .45$, $p < .001$, $N = 57$). Like with family functioning, it can be assumed at the beginning of treatment that the various aspects of a youth's life (i.e., school performance, drug use, and legal involvement) would be connected with one another and therefore be rated similarly.

There was no statistically significant relationship between MTP school performance and the Monthly Treatment Planning & Utilization Review (MTPUR) school performance month one ($r = .12$, $p = .356$, $N = 67$). Similar to family functioning, the reason school performances between the MTP and the first month of the MTPUR may differ was that a youth's school performance was then a focus in the therapy and

therefore come to the forefront of attention by all parties. Previous disagreements over grades and attendance, which may have subsided within the family over time due to intense conflict, were now being addressed and actively challenged (Liddle et al., 2001).

MTP Drug Use.

There were several moderate positive relationships between the MTP drug ratings and other measures: 1) with changed/taken action ($r = .31, p = .016, N = 62$); 2) with commitment to action ($r = .33, p = .008, N = 62$); and 3) with contemplation ($r = .42, p = .001, N = 62$). The reason the MTP drug rating was connected to both changed/taken action and commitment to action may be that by virtue of the youth being in treatment during the first interview (which was when the MTP ratings were done), he/she may have had a view him/her self as taken action and therefore indicated a commitment. Similarly, a youth's contemplation may have increased due to being involved in treatment and may have also been reflected in an increase in the youth's drug rating (an increase in the drug rating means a decrease in drug use).

Another moderate positive relationship was found between the MTP drug rating and MTPUR month one drug rating ($r = .31, p = .011, N = 66$). This was a reasonable connection, as drug problems were what lead the adolescent into treatment and therefore were at the forefront of why the family was in therapy. During the MTP ratings (during the first session), family functioning and school performance were problems that may have not been as apparent as the youth's drug problem, especially if drugs were why the family was referred to the ASAP program.

A strong statistically significant positive relationship existed between the MTP drug activity rating and the MTP court/legal involvement rating ($r = .58$, $p < .001$, $N = 57$). This was a sensible relationship, as a youth's drug use would logically be related to the amount of legal involvement he/she had, as drug use often lead to arrests and a higher probability of interaction with the police (O'Donnell, Hawkins, Catalano, Abbott, & Day, 1995).

MTP Court Involvement.

A moderate statistically significant positive relationship was found between the MTP court/legal involvement rating and the first MTPUR drug activity rating ($r = .34$, $p = .013$, $N = 54$). Similar to what was stated above, it makes sense that drug use and court involvement were connected.

A moderate statistically significant positive relationship existed between the MTP legal involvement rating and the first month of the MTPUR court/legal involvement rating ($r = .34$, $p = .012$, $N = 53$). It was reasonable to consider that a youth's court/legal involvement would be similar from the time of intake to the first month of treatment, as treatment was just beginning and the level of the courts' involvement that early in therapy would not vary a great deal.

Monthly Treatment Planning & Utilization Review (MTPUR) Family Rating, Month One.

There were 3 moderate statistically significant positive relationships with the first month of the MTPUR family rating and: 1) the first month of the MTPUR school performance rating ($r = .33$, $p = .006$, $N = 67$); the first month of the MTPUR drug rating

($r = .43$, $p < .001$, $N = 66$); and 3) the first month of the MTPUR court/legal involvement rating ($r = .41$, $p = .002$, $N = 53$). These were interesting findings, as the first goal of treatment (family functioning) was related to all the subsequent goals. This was an indication that once the family had been in therapy for a month and were talking with one another about the various aspects of how the problem(s) in the youth's life were impacting other areas in the system, the different ratings would be connected to one another and how well things were going in the family. As mentioned earlier, this was an indication of how one part of the system affected other parts in a systemic way (Fisch et al., 1982).

MTPUR School Performance, Month One.

Two moderate positive relationships were found with the first month of the MTPUR school performance rating and: 1) the first month's MTPUR drug rating ($r = .32$, $p = .008$, $N = 66$); and 2) the first month's MTPUR court/legal involvement rating ($r = .42$, $p = .002$, $N = 53$). As discussed earlier, the first month's MTPUR school rating was also moderately connected to the first month's MTPUR family rating, which means, like the first month's MTPUR family rating, all the first month's MTPUR ratings were connected to the school rating. Again, this indicated systemic changes affected other parts of the system (Fisch et al., 1982).

MTPUR Drug Use, Month One.

There was a very strong statistically significant positive relationship between the first month's rating on the MTPUR drug activity rating and the first month's rating on the MTPUR court/legal involvement rating ($r = .91$, $p < .001$, $N = 53$). This was the

strongest correlation in the dissertation and was representative of how influential a youth's drug use would be on his/her court involvement. The reason these two measures were so closely connected may have to do with the idea that family systems therapists, as part of their systemic thinking and practice, consistently communicate with court and legal entities (i.e., judges, probation officers, attorneys, etc.) as part of the family systems therapy. How well (or how poorly) a youth was doing with drug use was communicated to the family and court/legal entities and therefore influenced how the family and therapist rated the court/legal scales. For example, a positive urinalysis result for cocaine (meaning the youth used cocaine and it was traced in his/her urine) would result in a decrease in the drug use scale, which would also result in a decrease in the court/legal rating.

Paired Sample T-test Results

T-tests were used to assess if the means of two groups were statistically different from one another (Zimmerman, 1997). Degrees of freedom were the number of values in a statistic that were free to vary (Walker, 1940). The p-value in a paired sample t-tests was used to determine if the means were statistically significantly different from one another (Zimmerman, 1997).

Family Functioning.

The rating of family functioning at the beginning of treatment was found to be statistically different than family functioning at month five ($t = -2.667$, $df = 10$, $p = .02$; see Table 3.10). Similarly, the rating of family functioning at the month one was found to be statistically different than family functioning at month five ($t = -5.164$, $df = 10$, $p <$

.001). These two findings were a very good indication that family systems therapy improves family functioning over time.

Drug Use.

The rating of drug use at month one was found to approach a statistically significant difference when compared to drug use at month five ($t = -1.936$, $df = 10$, $p = .08$). Although the statistic did not quite reach significance, this does suggest that there was a difference between the drug use of the youth when he/she entered the ASAP program and drug use five months later. This was a good indication that family systems therapy does reduce adolescent drug use.

Table 3.10

Paired Sample T-tests

Pair	Mean	Standard Deviation	t	df	Sig. (2-tailed)
MTP Family with MTPUR Family, Month Five	-1.46	1.81	-2.67	10	.024
MTPUR Family Month One with MTPUR Family Month Five	-1.09	.70	-5.16	10	.000
MTPUR Drug Use Month One with MTPUR Drug Use Month Five	-1.09	1.87	-1.94	10	.082

Chapter Four: Discussion

Interpretation of the Results

ASAP Clients and Goals.

All the participants in the sample had at least one family session (100%, N = 71) meaning each family had at least some contact with the therapist and was involved in the development of the treatment goal of improving family functioning and decreasing drug use. All the families were also involved in either developing goals or at least considering them when appropriate for the client in improving school performance (95.8%, N = 68) and decreasing court involvement (90.1%, N = 64). Thus the great majority of families had input in both goals for improving school performance or decreasing court involvement.

Substance/Drug Use.

Previous to entering treatment with the ASAP program, most of the youth had either used or were using marijuana (94.4%, N = 67) or alcohol (93.0%, N = 66). These two drugs were also the most frequently used among the substances, as 70.1% of the marijuana users (N = 67) had used 50+ times in their lifetime, while 57.6% of alcohol users (N = 66) used 50+ times in their lifetime. These figures may have had to do with the acceptability of both marijuana and alcohol use in our society, as a study by Hall et al. (2008) found that greater acceptability of a particular substance by a community leads to more use of that substance by adolescents. Alcohol has been legal since 1933 with the

ratification of the 21st Amendment to the Constitution (Hamm, 1995), and medical marijuana licenses were made available in Colorado in November 2000 (Colorado Department of Public Health & Environment, 2013). Additionally, as of 2012, both marijuana and alcohol are now legal to possess in Colorado for adults aged 21 and over (Colorado Department of Public Health & Environment, 2013), therefore adding to the growing acceptability of their use among youth.

Age of First Use.

Marijuana and alcohol were among the lowest age of first use among the drugs being used, as the average age for marijuana was 13.07 years (SD = 2.16, N = 67) and alcohol was 13.34 years (SD = 1.70, N = 66). By 14 years old, 75.0% had used alcohol (N = 66) and 69.2% had used marijuana (N = 67). This was not surprising, as both were more acceptable to society and would therefore make them more difficult to treat (Ellickson, Tucker, Klein, & McGuigan, 2001). Surprisingly, the average age of first use for heroin was 13.33 years, although the number of participants that constituted this number was low (N = 4). However, this may have been a foreshadowing of how heroin use has increased among adolescents in recent years (Johnston et al., 2011).

Three Months Post-treatment: Responses to the 4 Goals of Treatment

Goal #1: Improvement of Family Functioning Three-months Post-treatment.

Studying the improvement of family functioning was one of the major goals of the study. With a sample set of 71 participant families, 94.4% of parents and 92.9% of the youth agreed that the goal of improved family functioning was achieved through their participation with the ASAP program. This was an overwhelming agreement that family

systems therapy helped families to function better with one another and was an indication that the program's goals had been achieved. These figures also served to answer the first two dissertation questions: 1) for the adolescent three-months post-treatment, did involvement with family systems therapy improve current family functioning?, and 2) for the parent(s)/guardian(s) three-months post-treatment, did involvement with family systems therapy improve current family functioning? Both parents and youth answered dissertation questions one and two with a resounding yes, as family systems therapy did improve current family functioning.

Goal #2: Decrease in Drug Use Three months Post-treatment.

Studying a decrease in drug use was another major goal of the dissertation. With 94.4% of parents and 91.4% of youth agreeing that the goal of decreased drug use was achieved through their participation with the ASAP program, the numbers overwhelmingly indicated success with this goal. These descriptive statistics can be used to answer the third and fourth dissertation questions: 3) for the adolescent three-months post-treatment, did involvement with family systems therapy decrease current substance use?, and 4) for the parent(s)/guardian(s) three-months post-treatment, did involvement with family systems therapy decrease current substance use with the youth? The overwhelming response from both parents and youth was that family systems therapy did decrease current drug use.

Goal #3: Improvement with School Performance Three months Post-treatment.

Studying improvement with school performance was another major goal of the dissertation. The sample indicated that 89.7% of the parents and 92.9% of the youth

agreed that the goal of improving school performance was met with their participation in the ASAP program. These numbers can be used to answer the fifth and sixth dissertation questions: 5) for the adolescent three-months post-treatment, did involvement with family systems therapy improve current school performance?, and 6) for the parent(s)/guardian(s) three-months post-treatment, did involvement with family systems therapy improve current school performance with the youth? The consensus from both the parents and the youth was that family systems therapy did improve current school performance.

Goal #4: Decrease in Court Involvement Three months Post-treatment.

The last of the major goals of the dissertation was to study a decrease in court involvement with the youth. The sample showed that 89.1% of parents and 89.8% of the youth agreed that the goal of decreasing court involvement was met with their participation with family systems therapy. These statistics served to answer the seventh and eighth dissertation questions: 7) for the adolescent three-months post-treatment, did involvement with family systems therapy decrease current court involvement?, and 8) for the parent(s)/guardian(s) three-months post-treatment, did involvement with family systems therapy decrease current court involvement with the youth? Once again, both the parents and the youth concur that family systems therapy did decrease current court involvement.

Substance Use Survey (SUS) Ratings from the Sample

SUS Involvement.

With nearly two-thirds of the sample (62.3%) rated at a 7 or above out of 10 with their involvement with substances, which indicated most of the subjects were heavy drug users, the impact of family systems therapy on their functioning was even more powerful. This sample was not youth who were simply experimenting with drinking alcohol or smoking marijuana, but were frequent abusers of the substances.

SUS Disruption.

Exactly half of the sample (50.0%) ranked at a 7 or above out of 10 with the impact that drugs and alcohol had with disrupting their lives, with 22.1% ranking a 10 out of 10. This means that many of these youth were experiencing a significant amount of problems in their life as a result of their substance use.

SUS Mood Adjustment. Over half of the sample (50.7%) ranked at a 7 or above out of 10 on the impact that drugs and alcohol have had on their moods, namely depression, anxiety, anger, or emotional control problems (Wanberg, 2000). Approximately 17.4% rated at a 10 out of 10. This indicated that most of the subjects were coming into treatment with comorbid emotional problems in addition to their substance abuse issues. It should be emphasized that the emotional problems investigated were considered severe for youth in correctional facilities and on probation where the survey was normed (Wanberg, 2000). Thus the youth in the sample were experiencing particularly severe emotional problems. With these scales, what was normal mood adjustment for an average youth might be low mood adjustment for this

population (Wanberg, 2000). It should be reiterated that youth with both severe emotional problems and severe substance abuse problems were positively affected by family systems therapy.

SUS Defensiveness.

Over half the sample (50.7%) ranked at a 7 or above out of 10 on defensiveness, with 26.1% at the maximum rating of 10 out of 10. This means that the sample included youth that were highly defensive about having previously broken the law, had sad feelings, were unhappy, had not been telling the truth, or had been angry with others (Wanberg, 2000). Again, this was not to be confused with normal levels of defensiveness that everyday adolescents experience, but based on defensiveness among youth on probation and in correctional facilities, thus the youth in this sample were extremely high on defensiveness.

SUS Motivation.

Over half of the sample (58.0%) rated at either low or low-medium in their motivation to change. This means that most of the sample were not motivated to change and would be conceivably resistant to changing their substance using behaviors. This was a striking statistic since even though they were not motivated to change, they experienced positive growth through family systems therapy.

Overall SUS Assessment.

An overall assessment from the data on the SUS was that the youth coming into treatment with the ASAP program were highly involved with drugs, were experiencing problems in their lives associated with their drug use, were experiencing problems with

emotional control, were highly defensive, and were not motivated to change. All of these findings would conceivably work against the occurrence of positive outcomes of the major goals of treatment (improved family functioning, decreased drug use, improved school performance, and decreased court involvement), however they did not. This once again underscores the effectiveness of family systems therapy in treating high risk substance abusing youth.

Adolescent Self-Assessment Questionnaire (ASAQ) Ratings from the Sample

ASAQ Contemplation.

Approximately four fifths of the sample (80.6%) rated at a 7 or below out of 10 in their contemplation of altering their drug and alcohol use. As shown earlier in the “Results” section, high scores indicated that the youth was open to thinking about making changes in his/her life, was willing to consider altering substance use, and had high hopes for these potential changes (Wanberg & Milkman, 2010). This means that most of the subjects were not highly contemplative in changing their behaviors, which made changing their behaviors less likely to occur (Miller & Rollnick, 2002). However, this sample was able to feel change in their lives, even though they did not believe it was possible.

ASAQ Psycho-Social Change.

Exactly half of the sample (50.0%) rated at either a 1 or a 2 out of 10 with their need to enact some psychological and social change, with only 12.9% rated at a 7 or above. This means that most of the sample did not believe they needed to make any

significant psychological and social changes, with half thinking that adjustments needed to be minimal. Ultimately, they did make positive changes.

ASAQ Community Social Role Adjustment.

Nearly a third of the sample (32.3%) rated at the lowest rank in terms of their perception that they needed to adjust their behaviors in the community, with only 11.3% rated at a 7 or above out of 10. This means that most of the sample did not believe they needed to adjust themselves in how they obeyed rules in the community. However, by the termination of family systems therapy, the youth and their families were aware that they had changed their functioning at school and with the legal system.

ASAQ Help Acknowledge.

Over a third of the sample (33.9%) rated at the lowest rank in acknowledging they needed help changing their drug use, with 85.5% at the low or low-medium quartile rank. As mentioned in the “Results” section, high scores on this scale were an indication that the youth had an understanding of the importance of making changes, was open to participating in some form of treatment, and was willing to accept the help that was offered (Wanberg & Milkman, 2010). This means that the vast majority of the subjects did not believe they needed help changing their substance use behaviors. However, this same sample was able to acknowledge the benefits of family systems therapy three months after termination. Thus family systems therapy must be considered an important modality for those who are resistant. Working with resistive clients has been well recognized as being troublesome in psychotherapy (Newman, 2002), but family systems

therapy models have demonstrated that they have been well-suited to address these difficulties (deShazer et al., 1986; Weakland, Fisch, Watzlawick, & Bodin, 1974).

ASAQ Change Readiness.

Over two-thirds of the youth (67.7%) rated at a 3 or below in their readiness for additional change in their drug and alcohol behaviors. As described earlier in the dissertation, high scores were an indication that the youth was interested in drug/alcohol treatment (Wanberg & Milkman, 2010). This means that most of the participants were not interested in participating in treatment and did not acknowledge that help was needed. Thus it must be concluded that family systems therapy can be a very effective treatment modality for resistant youth.

ASAQ Commitment to Action.

The sample percentages with commitment to action were spread out evenly through the rankings. As mentioned earlier in the dissertation, high scores were an indication that the youth hoped to make changes, intended on further change taking place, and that there were plans by the youth to cease substance use (Wanberg & Milkman, 2010). Due to the spread of the rankings, some of the youth recognized changes could take place with their drug use and were willing to take action, while others had trouble with this recognition and did not want to do anything differently. Thus, as stated already, this sample was not motivated for change, though they experienced positive change through family systems therapy.

Overall ASAQ Assessment.

An overall assessment from the data on the ASAQ was that the youth coming into treatment with the ASAP program were: 1) pre-contemplative in their thinking (they were not seriously considering changing their beliefs and actions regarding drug use; Prochaska & DiClemente, 1982); 2) they did not believe they needed to make psychological changes in relationship to their drug use; 3) they did not believe they needed to make social changes in relationship to their drug use or how they follow rules in society; 4) most did not believe that adults in their life viewed them as needing to change their drug using behaviors; 5) most did not think they needed professional assistance to change their drug using behaviors; 6) most were not actively taking steps to change their drug using behaviors; 7) most of the youth were not indicating they were ready to change their drug using behaviors, and 8) there were varying levels of how committed the youth were to actively doing something about their drug use. Similar to the SUS, the ASAQ, in general, indicated that the clients coming into treatment with the ASAP program did not recognize there was a drug problem and were not willing to voluntarily do something about it. These issues would conceivably work against the major goals of improving family functioning, decreasing drug use, increasing school performance, and decreasing court involvement, as the youth were not wanting to change. However, through family systems therapy, these youth experienced positive change in their lives.

Treatment/Practice Implications

Using a Systems Approach.

One of the most outstanding aspects of this dissertation research was the influence of the systems approach. The results demonstrated that by working on goals that were not just internal struggles found within the individual client, but how other parts of the client's system impact the problem (Haley, 1976; Madanes, 1981; Minuchin, 1974), as well as were an influence on the solution (deShazer, 1985; Berg, 1994), change could occur in multiple areas of the client's life. Working with goals that focus on family functioning, drug use, school performance, and legal/court involvement tended to "spread the problem" so that the entire system could work on the problem, had to adjust to new developments, accommodated sustainable change, and would not be dependent on the youth to make the changes alone (Home & Ohlsen, 1982). Other treatment programs that treat adolescent substance abuse can learn from a systems approach, as a change in one part of the system can affect changes in other parts (Fisch et al., 1982). This understanding can provide many options for treatment providers, who, for example, might get "stuck" in working with an adolescent client and can then focus on other areas of the client's system to enact change. Areas in the system that the client is motivated for can offset areas that become stuck and repeatedly fail to change (Miller & Rollnick, 2002). Just because a client is not willing to admit that change is needed with his/her drug use does not mean that drug use cannot be impacted in other, systemic ways.

Involving Families.

Working directly with a client's family was another aspect of the dissertation that had significant practice implications. Adjacent to a systems approach, working with families allows for all family members to be aware of what is happening, a discussion of what the problem is, how it affects all in the family, and what efforts are being done to deal with the problem (Haley, 1973). Working with the entire family allowed, for example, the ASAP therapists to include disclosure of urinalysis results to all family members, so that all could be included in on the client's substance using behaviors. This was then used by the therapist and the family to discuss how and why the drug use took place, helped to develop appropriate measures of discipline, and created barriers to further use.

Using Established Instruments.

Another practice indication from the dissertation was the usefulness of using established instruments that measured various aspects of substance using behaviors. Wanberg's (2000) Substance Use Survey (SUS) and Wanberg and Milkman's (2010) Adolescent Self-Assessment Questionnaire (ASAQ) were examples of instruments other treatment programs could use to help determine what substances a youth has been taking, the impact of the drug use on his/her behaviors and emotions, what impact this has had on others around the client, and how motivated the client is for change. Because these instruments had been substantiated by rigorous statistical evaluation (Wanberg, 2000; Wanberg & Milkman, 2010), treatment programs may benefit from their use in both assessing new clients and having an idea of where to begin treatment efforts. Each

instrument's measurement scales can provide therapists a starting point for targeted intervention and discussion, as well as an idea of what strengths the client already possesses.

Future Policy and Research Implications

Alcohol and Drug Abuse Division (ADAD) Approved Education and Treatment Curricula.

There are many policy implications from this dissertation for the Colorado Division of Behavioral Health's Alcohol and Drug Abuse Division (ADAD). The major findings confirm that family systems therapy was effective in improving family functioning, decreasing drug use, improving school performance, and decreasing court involvement, all of which can be applied to ADAD policy. Thus, family systems therapy should be viewed as a preferred method of treatment for adolescent substance abuse. This information can be directly implemented into the ADAD Approved Education and Treatment Curricula (2007) manual, which was published by the Colorado Department of Human Services to give structure to licensed treatment programs providing services to adolescents with substance abuse problems (ADAD, 2007) in Colorado. The importance of this document with concern to this dissertation is that it governs all licensed treatment facilities that work with substance abusing adolescents in Colorado. Due to the plethora of research articles on adolescent substance abuse advocating that family systems work be incorporated with treatment, K. Wells, Director of Adolescent Substance Abuse Services for the State of Colorado, was interviewed on ADAD's position of family involvement with adolescent substance abuse treatment (personal communication,

August 5, 2011). Wells stated that “ADAD will no longer approve an adolescent substance abuse treatment program if the facility does not incorporate the family in treatment” (K. Wells, personal communication). Formal documentation from ADAD could not be found to validate this statement. However, using the results of the dissertation that family involvement can improve family functioning should directly impact ADAD guidelines for treatment, and needs to be explicitly expressed in ADAD policy. The improvement of family functioning as it relates to improvement with treatment success with adolescents has been demonstrated in the literature (Berg, 1994; Epstein et al, 1978; Madanes, 1981; Minuchin, 1974, Minuchin et al., 2007), as well as with this dissertation. As indicated earlier in the dissertation, families that are more functional are able to problem solve more readily, less effort is required for resolutions, and they have effective behavioral patterns that allow for rapid solution development (Epstein et al., 1978).

Policy Implications for Decreased Drug Use.

Possibly the most important aspect of the dissertation’s findings that would be interesting to the Colorado Division of Behavioral Health/ADAD might be how family systems work decreases drug use. As indicated from the “Review of the Relevant Literature” section of the dissertation, family systems therapy approaches on decreasing drug use have received tremendous support from research literature (Coatsworth et al., 2001; Kumpfer & Alvarado, 2003; Leichtling et al., 2006; Liddle, 2002; Liddle et al., 2001; Rowe & Liddle, 2003;), as well as from the literature on practice (Drug Strategies, 2005; Hazelrigg et al., 1987; Kaufman & Kaufman, 1979; Szapocznik et al., 1986). The

results of the dissertation confirm the previous work in the field and should be assimilated into one or more of the approved models of treatment that ADAD provides to license treatment facilities. Put simply, the dissertation results had strong indications that family systems therapy decreases drug use, which should be considered with ADAD guidelines, and should be explicitly expressed in ADAD policy.

Policy Implications for Improvement of School Performance.

There are strong indications from the dissertation results that family systems work also improved school performance, which has important political and policy implications. None of the 11 models from ADAD curricula (2007) have any direct indication that the treatment model will address the school needs of the adolescent. This is concerning, due to the annual drop-out rate among Colorado high schools being at 6.1%, which is relatively higher than the national rate of 4.1% annually (Digest of Educational Statistics, 2012). In addition, the literature has indicated that poor school performance is a strong risk factor for adolescent substance abuse (Henggler et al., 1998; Liddle et al., 2001; Liddle et al., 2009; Resnick et al., 1997), making substance use a risk factor for dropping out (Eggert et al., 1994; Paulson, 1990; Resnick et al., 1997). Liddle & Dakof (1995) indicated that a strong connection between a youth and school serves as a protective factor against substance use. With the indication from the dissertation that family systems work improves school performance and helps to facilitate an increased connection between the adolescent and school goals, ADAD policy would benefit from systemically-based therapy models that specifically incorporate this connection.

Policy Implications for Decreased Court Involvement.

Similar to school needs, none of the 11 models from ADAD directly addresses the legal needs of the adolescent (ADAD, 2007). With incarceration becoming a multi-billion dollar a year industry in the USA in the last 20 years, prison-system budgets have increased 570% compared to 33% of public education funding (elementary and secondary school spending; US Dept. of Education, 2011), which should be of particular interest to policy makers interested in impacting criminal behavior. With the cyclical relationship of substance use influencing and being influenced by delinquent/criminal behaviors (Flannery et al., 1999; Harrison & Gfroerer, 1992; Hawkins et al., 1992; Johnson et al., 2000), the results of the dissertation that court involvement decreases with family systems work may be of interest to ADAD when endorsing therapy models that include court involvement features.

Research Implications for Working with Counties Across Colorado, Across Other States.

Some other interesting directions for policy and future research exist for treating adolescent substance abuse with family systems therapy. One area is to encourage family systems work with the local Departments of Human Services (DHS) and Probation Departments of the Juvenile Justice system. Due to most DHS caseworkers being trained as social workers, person-in-environment thinking is a natural parallel to systems thinking, which includes working with families, schools, the legal system, mental health, and medical entities among others (Karls, Lowrey, Mattaini, & Wandrei, 1997). An interesting prospect with this effort is that this research can serve to encourage local DHS

caseworkers with adolescents that are abusing substances to utilize treatment facilities that use family systems as the dominant method of therapy for the adolescent.

Multisystemic Therapy (MST), a form of family therapy based heavily on Structural Family Therapy and Strategic Family Therapy (Swenson, Henggeler, & Taylor, 2005), has gained influence with many DHS agencies in treating adolescent substance abuse (Littel, 2005). Similarly, MST has been used extensively with Juvenile Justice systems as well (Timmons-Mitchell, Bender, Kishna, & Mitchell, 2006). These trends are congruent with how family systems therapy can be used in the future with treating this population across counties in Colorado and among other states. Continued research in this area would be beneficial to caseworkers and probation officers working with this population.

Research Implications for Family Systems Therapy Linked to School Systems.

Another area for future research is to link family systems therapy to the school systems that are experiencing substance abuse problems among their students. As was demonstrated with the results of the dissertation, family systems therapy was successful in assisting youth in achieving goals with school performance. Using this information in combination with other studies on adolescent substance abuse and school performance (Henggler et al., 1998; Liddle et al., 2001; Liddle et al., 2009; Paulson et al., 1990; Resnick et al., 1997), school authorities should consider how to involve family system therapists in the prevention and treatment of substance abuse, which would include the involvement of appropriate school representatives in treatment efforts (i.e., school guidance counselors, school social workers, involved teachers). If done, this would make

an interesting study on how the coordinated effort between systemically trained therapists working directly with school officials could maximize substance abuse treatment efforts.

Research Implications for Family Systems Therapy Linked to the Legal/Court System.

Similar to linking family systems therapy to school systems, this work can also be coupled to youth who are involved with the legal system. Much work has been done on how the use of family systems work can be used to decrease criminal behavior and legal involvement (Henggler et al., 1998; Johnson et al., 2005; Liddle et al., 2001; Liddle et al., 2009; Swenson et al., 2005), but not on how to directly involve legal/court professionals in the therapy itself. This is what family systems therapy could do with the legal system, which would make an interesting research endeavor. How a family systems therapist would coordinate therapeutic efforts with, for example, a probation officer in order to decrease substance use might be interesting to Juvenile Justice entities. This level of collaboration between mental health services and the Juvenile Justice system may serve as a benchmark for how different systems, each with their own diverse rules and goals, can learn to work as partners towards the overall goal of assisting youth and their families.

Limitations

Personal Bias of the Author of the Dissertation. There is a natural tendency for a family therapist to want family therapy to be successful. The research questions being asked within this dissertation were all related to how a family therapist might like to successfully assist a substance abusing youth in treatment. Any family therapist would

openly admit that he/she would want family systems work to be viewed as an evidence-based way of working with adolescents abusing substances, supported by research, and that this kind of work could be replicated in other programs similar to ASAP. When a family therapist does this kind of research, there will be excitement about gathering data that may support research questions geared towards family therapy's efficacy with this population. However, this enthusiasm cannot alter the numbers that were gathered, nor would enthusiasm modify the feedback that youth and parents had provided, which served as an advantage of doing quantitative research. The numbers didn't change because the author of the dissertation may have wanted them to – the numbers were what they were and served as a good indication of what was occurring with treatment. The data and numbers that were gathered would be the same for a family therapist gathering them or some other non-bias entity. How a family therapist might look at the data may be different from one person to the next, as what was focused on or neglected may vary, but the numbers themselves would not change.

What has been focused on with the dissertation, with consideration that the author of the dissertation was a family therapist, was to answer the questions of how family systems work affects family functioning, drug use, school performance, and court involvement. An argument can be made that this was an advantage, as a family therapist was able to look for important correlations within the data that a non-family therapist may not have had the understanding to do. This belief can then be argued as adding to the research, the findings, and the conclusions.

Confounding Variable. One significant limitation of the study was that the ASAP program’s goal for improving school performance also included a “work” component, meaning a youth who had completed school goals was then rated on employment goals. Both school and employment were the same goal to be rated. Therefore, not all clients and therapists were rating progress with the goal on just school performance, but on work performance when the adolescent was working and not going to school. When going through the case files by hand, it can be argued that most of the youth were either involved with school or were making efforts to become involved with school and were being rated on activities associated with academics. However, a very few of the adolescents were only involved with work. Some youth were able to finish school (i.e., graduate high school or received a GED) and then began efforts to obtain employment, which then became the focus of the goal. So, for example, a youth might have been rated a “10” consistently from month to month for school performance, graduated from high school, then was rated a “1” the next month after graduation for not pursuing employment opportunities. Because of this, some of the statistics on school performance were confounded by “work” performance activities.

Inflated Correlation. Another issue to be considered was that the ASAQ survey used item questions that assist in measuring multiple scales, which could have had inadvertently inflated the strength of the correlations between the scales that used the same item questions. For example, the changed/taken action scale used 4 item questions, all of which were also used with the commitment to action scale, along with 6 other items. These scales then had a correlation of .89 ($p < .001$), which is one of the highest in

the entire study. This was a potential situation that may have inflated the correlation (Wold, Ruhe, Wold, & Dunn, 1984).

Attrition. Another limitation could be attributed to both attrition and completion of treatment. As with all longitudinal data, attrition can lead to missing data and influencing results (Twisk & de Vente, 2002). With the data, the subjects did not complete treatment in a standard timeframe, as some families were in treatment for several weeks, while others were involved for over a year. Because of this, relatively few cases could be compared between month 1 and month 5 with the Monthly Utilization Review rated by the therapist from month to month.

Limited Sample Size. The sample size was another limitation. With only 71 cases meeting the standards set-out at the beginning of the data collection process, this limited the power of the statistics and limited the kinds of statistical methods that could be used. Several years of data was reportedly collected by the ASAP program, but could not be found, and therefore reduced the number of cases that were collected. However, 71 cases allowed for the descriptives, the correlations and the t-tests to be conducted.

Low Response Rate. The dissertation was also limited with the low response rate of follow-up surveys collected that met the standards set-out at the beginning of the research. Out of an estimated 245 possible cases from 2006 to mid-2008, only 71 were collected, with a collection rate of 29.4%. According to Krejcie and Morgan (1970), a population size of 245 would require 150 cases to be collected to meet the minimum standard of acceptance. Having collected less than half of the recommended cases, the

dissertation could be challenged as not having a large enough sample size to be a statistically valid study.

The Data is Dated. Another limitation was that the data collected is not recent. A consequence of collecting secondary data, the data collected from 2006 to mid-2008 is fairly dated, but the information reported was still useful for 2013. Indications about family systems therapy being an effective treatment for adolescent substance abuse are the same today as they were five years ago.

Directions for Future Research

Research on the ASAP Program. The data from the ASAP program could be used for several research projects in the future. Perhaps the most important direction for future research could be that the dissertation did not make use of any qualitative research methodology strategies. Using qualitative methods would be a tremendous way of gathering and capturing the richness of experience that the participants in the ASAP program had (Creswell & Piano Clark, 2007), how they experienced change, why change occurred, what prevented change, and what was the meaning of their experience (Patton, 2002). This kind of information can only be captured through the clients' stories, insights, and knowledge, which can be acquired with qualitative research data collection (Creswell & Piano Clark, 2007). Making use of individual and family interviews, conducting structured group discussions, and using open-ended qualitative survey questionnaires are a few examples of what can be done in the future.

Pre and Post-testing. A pre and post testing method would be advantageous to future research. This quantitative research method would allow for a more transparent

and lucid understanding of what has changed over time for a client and the family system (Dugard & Todman, 1995). This can also provide a researcher with valuable information about what is and is not being impacted with treatment interventions (Dugard & Todman, 1995). Although a forms of repeated measures were used in the dissertation (i.e., urinalysis screens and the MTPURs), true pre and post tests would better reflect changes over time.

Larger, More Diverse Sample. In addition, a larger and more diverse sample would be interesting for future research. This would allow a researcher to collect data from youth who are of different ethnic and socio-economic status (SES), compare the information quantitatively, and analyze the differences (if any). A larger sample size, collected rigorously over a longer period of time may allow for this. The annual “Monitoring the Future” research by Johnston et al., (2011) is a prime example of how large sample sizes allow researchers to collect and compare data on SES, ethnicity, and ages of the subjects being studied.

Chapter Five: Summary

Summary of the Introduction. The amount of information accumulating within the literature on the prevalence of adolescent substance abuse and the impact it is having on society has grown tremendously in the last couple of decades. With nearly half of high school seniors having experimented with drug/alcohol use in their lifetime, along with approximately 1.4 million adolescents in need of substance abuse treatment, social workers, among other professionals, need to take this problem seriously. In addition, taking into account that the 3 leading causes of death for this age group are all associated with substance use issues leads one to consider how to best address the prevention and treatment needs necessary for impacting substance use. These figures alone are an indication of how important it is to study this problem and develop effective strategies that will make the prevention and/or treatment of substances for adolescents more impactful.

The problem of adolescent substance abuse lead to the development of the four dissertation questions, each being addressed to both the adolescent and a parent/guardian (eight total questions): 1) three-months post-treatment, does family systems therapy improve family functioning?; 2) three-months post-treatment, does family systems therapy decrease substance use?; 3) three-months post-treatment, does family systems therapy improve school performance?; and 4) three-months post-treatment, does family systems therapy decrease court involvement?

Summary of Family Systems Theory & Motivational Interviewing. The usefulness of studying adolescent substance abuse from the perspective of Family Systems Theory (FST) was demonstrated repeatedly throughout the dissertation. The multiple facets of a youth's life that are impacted by substances cannot be studied in isolation from one another if a researcher is to discover how the multiple factors of this problem interact with one another. A theory that can observe multiple factors, such as FST, was capable of accommodating such complex inclusions and interactions. Similarly, analyzing the problem from a Motivational Interviewing perspective allowed for a better understanding of how to work with adolescents by focusing on what the adolescent was motivated for and decreasing his/her resistance to treatment, both of which were found to be helpful in understanding how various risk and protective factors found in the literature could be utilized with intervention.

The various risk and protective factors that contribute to the knowledge of the multiple components of the problem of adolescent substance abuse have become incredibly important in understanding how many different areas within a person's system the problem impacts. Factors stemming from an individual, the family, social/peer influences, the environment, and culture were all observed during the dissertation. An interesting result of the research on risk and protective factors was the indication that certain factors can present themselves as both a risk and a protective factor for the youth, depending on different aspects of the factor. This growing body of knowledge warrants further investigation, as the information suggests that a plethora of research areas could significantly impact the problem.

Summary of Methodology. This dissertation was a quantitative research methodology analyzing secondary data from the Adolescent Substance Abuse Program (ASAP) approved by the Institutional Review Board (IRB) at the University of Denver. ASAP cases that met the following criteria were included in the study: the client was discharged from the ASAP program between 2006 to mid-2008; the client system participated in at least five therapeutic sessions; the client system signed the release for their information to be used for research purposes; the three-month follow-up survey was documented; and both the parent and the youth participated with the three-month follow-up survey. Of the approximate 250 cases discharged during 2006 to mid-2008, 71 cases met all of these criteria.

The ASAP program is located in the greater metro-area of Denver, Colorado. The youth were ages 13-18 years old (M=16.34 years old), all having a history of substance abuse problems. Approximately 76% of the youth were male, with the sample being predominately Caucasian (74.6%), with 15.5% self-identifying as Hispanic/Latino, 2.8% as African-American, 1.4% as Native American, and 5.6% as bi-cultural. Clients living with 2 biological parents occurred 36.6% of the time, with 28.2% splitting time between divorced parents (including single and blended families, with the client living in two different homes), 19.7% living with one biological parent (single parent), 8.5% living with one biological parent in a blended family (the client spends no time with the second parent), 5.6% living with grandparents, and 1.4% living with extended family. Approximately 64.8% of the sample were private pay (health insurance, self-pay) with 35.2% receiving services through public funding (i.e., probation, Department of Human

Services, Senate Bill 94, etc.). Clients were positively discharged from the program 54.9% of the time, 29.6% dropped-out of the program, 5.6% were incarcerated, 5.6% were negatively discharged, and 4.2% went to a higher level of care.

The dissertation made use of several instruments to gather information, including the Substance Use Survey (SUS), the Adolescent Self-Assessment Questionnaire (ASAQ), the ASAP program's Master Treatment Plan (MTP), the ASAP program's Monthly Treatment Planning and Utilization Review (MTPUR), urinalysis (UA) screens, and the three-month follow-up survey. The SUS and ASAQ surveys were used to collect data on various measures about the youth pre-treatment, including the youths' involvement with drugs, the disruption drugs has had on their lives, their motivation to change, their contemplation for change, and their willingness to accept help. The pre-treatment MTP rated family functioning, drug use, school performance, and court involvement. The MTPUR rated monthly progress on the treatment goals of improved family functioning, decreased drug use, improved school performance, and decreased court involvement. The UA screens measured drug use. The three-month follow-up survey measured agreement on how family systems therapy at the ASAP program currently (three-months post-treatment) improved family functioning, decreased drug use, improved school performance, and decreased court involvement.

The dependent variables for the dissertation were family functioning, drug use, school performance, and court involvement. Family functioning was defined as the clarity of roles, communication styles, problem-solving abilities, institution of appropriate hierarchy, and the institution of appropriate boundaries of the family system.

Drug/substance use was defined as the use of a drug for the non-therapeutic effects with the potential for physical, social, and/or psychological harm. School performance was defined as the youth's grades, attendance in class, ability to get along with peers, ability to get along with school personnel, and the youth's ability to following school rules. Court involvement was defined as the youth following court instructions and obeying laws.

The independent variable for the dissertation was family systems therapy, which included family therapy, individual therapy, group therapy, and urinalysis screens. Family systems therapy included all of these aspects of treatment, as each plays a part in the youth's system (family, individual, peer, and behavior). Family therapy was defined as highlighting relationships, problem maintenance, interactional patterns, and solution relief within the system. Individual therapy was defined as an extension of family therapy, as the psychological features of the individual were highlighted within the context of the greater system. Group therapy was defined as support provided to the individual/family through the group therapeutic process, which exploration, development, and examination of alternatives to patterns of behavior were discussed. Urinalysis screens were defined as the detection of a variety of drugs (i.e., alcohol, marijuana, cocaine, etc.) through the youth's urine samples.

The quantitative methodology included the use of descriptive statistics, correlations, and t-tests. Descriptive statistics were used to analyze means, discover proportions/percentages, determine frequencies, and observe distributions. The correlation statistics allowed for the analysis of the strength of the correlations, the

direction of the correlations, and the statistical significance of these statistics. The t-tests were used to compare if two groups were statistically different from one another.

All of the secondary analysis information was collected by hand at the ASAP program. There were 118 variables collected for the dissertation. Information such as the number of family therapy sessions, ratings of the SUS Involvement measure, urinalysis screen results, family types, and discharge status were all collected from the client's file and tallied on a spreadsheet. The results from the three-month follow-up survey were also collected by hand and tallied on a spreadsheet. All the information was then transferred from the spreadsheet to SPSS (version 20.0) for statistical analysis.

Summary of the Results. The usefulness of a quantitative research methodology allowed for the statistical findings to answer the eight dissertation questions (four questions, each being answered by a parent and the youth). Using the SPSS statistical package, it was found that an adolescent substance abuse treatment program, using family systems therapy as the model of treatment for the adolescent abusing substances, was successful in improving family functioning, decreasing drug use, improving school performance, and decreasing court involvement. Both parents/guardians and adolescents alike agreed that family systems therapy was helpful with the research areas of interest. These findings were tied to the literature, supporting previous research that indicated that family system work was a legitimate method in treating adolescent substance abuse, and also verified that this method should be repeated with other programs in the future.

One of the most interesting aspects of the research was that through family systems therapy, success could be achieved in decreasing drug abuse with an unmotivated, highly resistant, highly drug-involved youth. This truly lends itself to the notion that changes in one part of a youth's system can produce changes in another part of the system, which, in these cases, was with their drug use and family functioning. The youth did not have to be motivated or even believe that changes were necessary for change to actually occur. Working with the system, not just the individual, was a key component of success.

Summary of the Discussion. Some of the dissertation's findings should encourage similar research endeavors, as well as informing future policy work. Perhaps the most important was that family systems work should be included, in some shape or form, with all treatment of adolescent substance abuse. Programs getting parents and/or other people involved with the adolescent to engage with treatment will allow professionals to work with the adolescent in ways that were not previously available. This includes developing alliances with the system that can influence the youth when the youth refuses to comply. As demonstrated with the results of the dissertation, other programs can now see that working through these kinds of problems was what family systems therapy was able to do.

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Appendix A
IRB Approval Letter

University of Denver

Emily Caldes, MA
Manager, Regulatory Research Compliance

Tel: 303-871-4052

Certification of Human Subjects Approval

August 28, 2012

To,
Julie Laser, MSW, PhD

Subject **Human Subject Review**

TITLE: Family therapy and adolescent substance abuse

IRB# : 2012-2188

Dear Laser,

The Institutional Review Board for the Protection of Human Subjects has reviewed the above named project. The project has been approved for the procedures and subjects described in the protocol at the 07/10/2012 meeting (or through expedited review). This approval is effective for twelve months. We will send you a courtesy continuation reminder for this project. However, it is the responsibility of the Principal Investigator to keep track of the expiration date of each protocol. This form must be submitted to the Office of Research and Sponsored Programs if the project continues. This information must be updated on a yearly basis, upon continuation of your IRB approval for as long as the research continues. No human subjects-related work can take place during an expiration period.

NOTE: Please add the following information to any consent forms, surveys, questionnaires, invitation letters, etc you will use in your research as follows: This survey (consent, study, etc.) was approved by the University of Denver's Institutional Review Board for the Protection of Human Subjects in Research on 07/10/2012. This information must be updated on a yearly basis, upon continuation of your IRB approval for as long as the research continues. This information will be added by the Research Compliance Office if it does not already appear in the form(s) upon continuation approval.

The Institutional Review Board appreciates your cooperation in protecting subjects and ensuring that each subject gives a meaningful consent to participate in research projects. If you have any questions regarding your obligations under the Assurance, please do not hesitate to contact us.

Sincerely yours,



Paul Olk, PhD
Chair, Institutional Review Board
for the Protection of Human Subjects

Approval Period:	07/10/2012 through 08/28/2013	
Review Type:	EXPEDITED - NEW	
Funding:		SPO:
Investigational New Drug :		
Investigational Device:		
Assurance Number:	00004520, 00004520a	

Appendix B
Substance Use Survey

SCORING DIRECTIONS FOR THE SUBSTANCE USE SURVEY (SUS)

INVOLVEMENT: Measures degree of involvement in different drugs.

Scoring weights: a=0; b=0; c=1; d=2; e=3; f=4.

Score items 1 through 19.

Enter total score in box 1, page 1; and on profile.

DISRUPTION: Measures extent of disruptive symptoms resulting from alcohol or other drug (AOD) use.

Scoring weights: a=0; b=1; c=2; d=3; e=4.

Score items 21 through 41.

Enter total raw score in box 2, page 3 and on profile.

MOOD ADJUSTMENT: Measures mood disruption, e.g., anxiety, depression, anger.

Scoring weights: a=0; b=1; c=2; d=3.

Score items 42 through 51.

Enter total raw score in box 3, page 4 and on profile.

DEFENSIVE SCALE: Measures extent to which client defends against admitting to undesirable and negative psychosocial emotions or behavior - higher the score, the higher the defensiveness. Scores in the 9th or 10th decile range indicates high defensiveness and results might be in question.

Scoring weights (NOTE: REVERSE SCORING): a=3, b=2, c=1, d=0.

Score items 57 through 61.

Enter total raw score in box 4, page 4 and on profile.

MOTIVATE SCALE: Measures plan and desire to not use alcohol and other drugs, a perceived need for help and willingness to seek help. Scores in the first and second decile range may indicate low motivation to change and seek help AOD use problems.

Scoring weights: a=0, b=1, c=2, d=3.

Score items 62 through 67.

Enter total raw score in box 5, page 4 and on profile.

OVERALL ADOLESCENT DISRUPTION SCALE - OADS

Derive score by summing across INVOLVEMENT, DISRUPTION AND MOOD ADJUSTMENTS scales.

SUBSTANCE USE SURVEY RATING - SUSR

The raw score on this scale is derived from summing across items 1 and 2 under the SUMMARY OF SUBSTANCE USE SURVEY part one, page one. Maximum score on this scale is 18. This is a rater scale. Put sum of these two rater items on profile.

SINGLE ITEM ANALYSIS

Peruse all items in the SUS as to the significant of individual responses for each client.

Attend to the more severe symptoms which measure DISRUPTION. Also, attend specifically to items 23, 24, 50, 51 and 54.

Attend to the age of first use for drug items 1 through 20, and recency of use and symptoms of use as measured by the by the "Past Six Months" columns for both specific drugs (items 1 through 20) and AOD use symptoms (items 21-41).

NORMATIVE SAMPLE: Based on 1,334 juvenile offenders on probation status in the juvenile justice system.

For each of the following types of substances or drugs, including beer, wine and hard liquor, circle the letter under the answer that best fits you as to your lifetime use. If you did use the substance, write down how old you were when you first used it. Then, on the right column of the page, for each substance, for the past six months you have been in the community, circle an "a" if you never had a chance to use the drug, circle a "b" if you had a chance to use it as did not, circle a "c" if you used the drug one to ten times, circle a "d" if you used it from 11 to 25 times, circle an "e" if you used it 26 to 50 times and circle a "f" if you used it more than 50 times in the past six months.

Name of Drug	Number of Times Used in Your Lifetime							Age that you first used	Number of times used in past six months
	Never had a chance to use	Had a chance but did not use	Used 1-10 times	Used 11-25 times	Used 26-50 times	Used more than 50 times			
1. Beer, malt liquor	a	b	c	d	e	f	_____	abc def	
2. Wine, (wine coolers, maddog, Third, Boones)	a	b	c	d	e	f	_____	abc def	
3. Hard liquor (gin, rum, whiskey, vodka, tequila)	a	b	c	d	e	f	_____	abc def	
4. Marijuana (pot, weed, joint, hash, THC, fry)	a	b	c	d	e	f	_____	abc def	
5. Cocaine (coke, crack, rock, primos, soda)	a	b	c	d	e	f	_____	abc def	
6. Amphetamines (speed, ice, black beauties, uppers, crystal, crank, ecstasy)	a	b	c	d	e	f	_____	abc def	
7. Acid (LSD)	a	b	c	d	e	f	_____	abc def	
8. Mushrooms (shrooms)	a	b	c	d	e	f	_____	abc def	
9. PCP (angel dust)	a	b	c	d	e	f	_____	abc def	
10. Huffed or sniffed glue	a	b	c	d	e	f	_____	abc def	
11. Huffed gasoline	a	b	c	d	e	f	_____	abc def	
12. Huffed paint	a	b	c	d	e	f	_____	abc def	
13. Huffed white out/markers	a	b	c	d	e	f	_____	abc def	
14. Sniffed rush (poppers, amyl nitrate)	a	b	c	d	e	f	_____	abc def	
15. Heroin (horse, junk, smack, chiva, speedball)	a	b	c	d	e	f	_____	abc def	
16. Opium	a	b	c	d	e	f	_____	abc def	
17. Pain killers (morphine, Percodan, Vicodin)	a	b	c	d	e	f	_____	abc def	
18. Barbiturates/sedatives (reds, blues, yellows, quaaludes, Dalmane, seconal, sleeping pills)	a	b	c	d	e	f	_____	abc def	
19. Tranquilizers (valium, Librium, Atavan, Serax, Miltown, meprobamates, Equanil, "Ropes")	a	b	c	d	e	f	_____	abc def	

1

Cigarettes/tobacco (blunt, swishers, phillies)	Never had a chance to use	Had a chance but did not use	Number of cigarettes a day				Age that you first smoked
			1-5 a day	6-10 a day	11-20 a day	More than 21 a day	
	a	b	c	d	e	f	_____

As a result of using or coming off of any of the above drugs (including alcohol), how often have any of the following happened to you in your lifetime? Circle the letter under the answer that best fits you. Then, in the column on the right side of the page, as a result of using or coming off any of the above drugs, indicate how many times each of the following have happened to you in the past six months you have been in the community. Circle an "a" if it did not happen to you in the past six months, circle a "b" if it happened to you 1-3 times, circle a "c" if it happened to you 4-6 times, circle a "d" if it happened to you 7-10 times, and circle an "e" if it happened to you more than 10 times in the past six months.

Things that have happened to you because of using alcohol or other drugs:	Total Number of Times in Lifetime					Number of times in the past six months
	Never	1 - 3 times	4 - 6 times	7 - 10 times	More than 10 times	
21. Had a blackout (forgot what you did but were still awake)?	a	b	c	d	e	a b c d e
22. Passed out (became unconscious)?	a	b	c	d	e	a b c d e
23. Tried to take your life?	a	b	c	d	e	a b c d e
24. Became physically violent?	a	b	c	d	e	a b c d e
25. Became sick to your stomach?	a	b	c	d	e	a b c d e
26. Had physical shakes or tremors?	a	b	c	d	e	a b c d e
27. Unable to go to school or work	a	b	c	d	e	a b c d e
28. Broke the law or committed a crime?	a	b	c	d	e	a b c d e
29. Caused problems with your family?	a	b	c	d	e	a b c d e
30. Lost interest in things?	a	b	c	d	e	a b c d e
31. Stole goods or money in order to buy drugs or alcohol?	a	b	c	d	e	a b c d e
32. Felt guilty and felt bad?	a	b	c	d	e	a b c d e
33. Became very upset and emotional?	a	b	c	d	e	a b c d e
34. Saw or heard things not there?	a	b	c	d	e	a b c d e
35. Had a fast or rapid heart beat?	a	b	c	d	e	a b c d e
36. Became very nervous and tense?	a	b	c	d	e	a b c d e
37. Felt sad and cried?	a	b	c	d	e	a b c d e
38. Felt feverish, hot or sweaty?	a	b	c	d	e	a b c d e
39. Did not eat or sleep?	a	b	c	d	e	a b c d e
40. Felt tired and weak?	a	b	c	d	e	a b c d e
41. Felt rejected by friends?	a	b	c	d	e	a b c d e

2

For each of the following questions, please circle the letter under the answer for each question which best fits you.

	No	Sometimes	Usually	All the time
42. Have felt nervous or tense (uptight).	a	b	c	d
43. Have felt down or depressed?	a	b	c	d
44. Have worried a lot about things?	a	b	c	d
45. Have felt upset?	a	b	c	d
46. Have gotten angry and lost my temper?	a	b	c	d
47. Haven't gotten along with people?	a	b	c	d
48. Have felt mixed up or confused?	a	b	c	d
49. Have seen or heard things not there when not on drugs?	a	b	c	d
	No	Once	Twice	More than two times
50. Have you had thoughts about not wanting to live (committing suicide)?	a	b	c	d
51. Have you tried to take your life?	a	b	c	d
52. Have you had help for emotional or mental health problems?	a	b	c	d
53. Have you had help for drug or alcohol problems?	a	b	c	d
54. Have you injected drugs (use a needle to take drugs)?	a	b	c	d
	No	A few times	A lot of times	All the time
55. Have you ever been part of a gang or involved in gang activities?	a	b	c	d
56. Have you ever been involved in selling or dealing drugs?	a	b	c	d
	No never	One or two times	Quite a few times	Many times
57. Have you gotten angry with someone?	a	b	c	d
58. Have you ever been unhappy?	a	b	c	d
59. Have you broken the law?	a	b	c	d
60. Have you ever cried or felt sad?	a	b	c	d
61. Have you ever told a lie or not told the truth?	a	b	c	d
	For sure no	Maybe no	Maybe yes	For sure yes
62. Do you want to stop using alcohol; or do you want to continue not using alcohol?	a	b	c	d
63. Do you want to stop using other drugs; or want to continue not using other drugs?	a	b	c	d
64. Do you plan to stop using alcohol; or plan to continue not using other drugs?	a	b	c	d
65. Do you plan to stop using other drugs; or plan to continue not using other drugs?	a	b	c	d
66. Do you need help with an alcohol problem or other drug use problem?	a	b	c	d
67. Would you be willing to go to a program where people get help for alcohol or other drug use problems?	a	b	c	d

END OF SURVEY. THANK YOU.

3 4 5

Appendix C

Adolescent Self-Assessment Questionnaire

ADOLESCENT SELF ASSESSMENT QUESTIONNAIRE - ASAQ

Kerneth W. Wanberg
Harvey B. Milkman
Authors

DESCRIPTIVE INFORMATION (To be completed by test taker)

NAME _____ DATE OF BIRTH _____ TODAY'S DATE _____
 DATE _____ AGE _____ GENDER: Male Female YEARS OF SCHOOLING _____
 ETHNICITY: Anglo Black Hispanic Native American Other
 PREVIOUS ALCOHOL OR OTHER DRUG SERVICES:
 Outpatient: None 1-2 times 3-5 times more than 6 times
 Inpatient: None 1-2 times 3-5 times more than 6 times

INFORMATION AND INSTRUCTIONS ON THE USE OF THIS QUESTIONNAIRE

This booklet has some questions about how you see and think about yourself at this time. The answers you give will be treated as confidential, according to the laws of the State of Colorado. Your answers will help us in working with you. Be as honest as you can. This will help those working with you around your concerns and questions about yourself and your current situation. Choose the answers that best fit you and then mark your with a check mark. NOW YOU MAY TURN THE PAGE AND BEGIN TO ANSWER THE QUESTIONS.

TO BE COMPLETED BY STAFF		
AGENCY NAME	TEST ADMINISTRATOR	CLIENT I.D. NUMBER
CURRENT SETTING (Check only one)		STATUS (Check all that apply)
<input type="checkbox"/> Inpatient treatment - private <input type="checkbox"/> Inpatient treatment - public <input type="checkbox"/> Intensive outpatient <input type="checkbox"/> Traditional outpatient <input type="checkbox"/> Juvenile corrections <input type="checkbox"/> Criminal justice/corrections		<input type="checkbox"/> Voluntary self referred admission <input type="checkbox"/> Voluntary agency/professional referred <input type="checkbox"/> Voluntary other referred <input type="checkbox"/> Probation <input type="checkbox"/> Commitment <input type="checkbox"/> Other court

ASAQ Profile Summary																							
SCALE NAME	RAW SCORE	Low		Low-medium					High-medium		High	NUMBER IN NORM SAMPLE*											
		1	2	3	4	5	6	7	8	9	10												
1. CONTEMPLATE		0	4	6	10	11	12	13	13	14	15	16	17	18	788								
2. PSYCHSOCIAL		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	24	798	
3. COMMUNITY		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	24	798	
4. COLLATERAL		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	24	760	
5. HELPPACKNOW		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	24	750	
6. CHANGED		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	24	791	
A. READINESS		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	24	774	
B. ACTION		3	8	9	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	774
		1	10	20	30	40	50	60	70	80	90	99					Juvenile Offenders						

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Version 0504

SCORING INSTRUCTIONS FOR ADOLESCENT SELF ASSESSMENT QUESTIONNAIRE

SCORING PROCEDURE FOR SCALES:

1. **CONTEMPLATE:** Contemplating and planning change.
Items 1 through 7 (put raw score in box 1)
(a=0, b=1, c=2, d=3, e=4).
2. **PSYCHSOCIAL:** Change needed in Emotional and Relationship Areas.
Items 9, 13, 14, 15, 17, 21, 22 and 23 (put raw score in box 2)
(a=0, b=1, c=2, d=3).
3. **COMMUNITY:** Change in community and social role adjustment.
Items 10, 11, 12, 18, 19 and 20 (put score in box 3)
(a=0, b=1, c=2, d=3).
4. **COLLATERAL:** Client sees others as seeing him/her as needing to change.
Items 24 through 31 (raw score in box 4):
(a=0, b=1, c=2).
5. **HELP ACKNOWLEDGE:** Acknowledges need for AOD help and treatment.
Items 16, 32 through 43 (raw score in box 5)
(a=0, b=1, c=2, d=3).
6. **CHANGED:** Reports having taken action in making changes.
Items 44 through 47 (put score in box 6)
(a=0, b=1, c=2, d=3, e=4).
- A. **READINESS:** Broad scale measuring readiness for needing help and change.
Items 8, 9, 13, 16, 17, 21, 32 through 39, 41 and 42 (score in box A)
(a=0, b=1, c=2, d=3).
- B. **ACTION:** Broad scale measuring a commitment to and taking action to change.
Items 1, 3 through 7, 44 through 47 (put score in box B):
(a=0, b=1, c=2, d=3, e=4).

PUT RAW SCORES IN RAW SCORE BOX ON PROFILE AND PLOT PROFILE. V0304

1. Have you been giving some thought about making some changes in your life?
 - a. No, not really.
 - b. Yes, I have thought a little about making some changes.
 - c. Yes, I have thought a lot about making some changes.
 - d. Yes, making some changes in my life has been on my mind every day.
2. Do you feel that you need to make some changes in your life at this time?
 - a. No, not at all.
 - b. Yes, maybe a few changes, but I'm not sure what.
 - c. Yes, there are few changes that I know I need to make.
 - d. Yes, there are many changes that I need to make.
3. Do you want to stop using or continue to not use alcohol?
 - a. No, not at all.
 - b. Maybe I do.
 - c. Yes, I want to stop using alcohol.
4. Do you plan to stop using or continue to not use alcohol?
 - a. No, not at all.
 - b. Maybe I do.
 - c. Yes, I do intend to stop using alcohol.
5. Do you want to stop using or not use drugs other than alcohol?
 - a. No, not at all.
 - b. Maybe I do.
 - c. Yes, I want to stop using drugs other than alcohol.
6. Do you plan to stop using or not use drugs other than alcohol?
 - a. No, not at all.
 - b. Maybe I do.
 - c. Yes, I do intend to stop using drugs other than alcohol.
7. What would you say as to your hope of making changes in your life?
 - a. I don't really have to make any changes.
 - b. I have little hope I can make changes in my life.
 - c. I have some hope I can make some changes.
 - d. I have a lot of hope I can make some changes.
 - e. I am very hopeful I can make changes.

Now, do you feel you need to change anything in any of the following areas:

	No changes necessary	Maybe a few changes	Quite a few changes	I need to make many changes
8. Alcohol or other drug use	<input type="checkbox"/> a	<input type="checkbox"/> b	<input type="checkbox"/> c	<input type="checkbox"/> d
9. Emotional health	<input type="checkbox"/> a	<input type="checkbox"/> b	<input type="checkbox"/> c	<input type="checkbox"/> d
10. School problems	<input type="checkbox"/> a	<input type="checkbox"/> b	<input type="checkbox"/> c	<input type="checkbox"/> d
11. Job or employment problems	<input type="checkbox"/> a	<input type="checkbox"/> b	<input type="checkbox"/> c	<input type="checkbox"/> d
12. Problems with the law	<input type="checkbox"/> a	<input type="checkbox"/> b	<input type="checkbox"/> c	<input type="checkbox"/> d
13. Family problems	<input type="checkbox"/> a	<input type="checkbox"/> b	<input type="checkbox"/> c	<input type="checkbox"/> d
14. Problems with friends	<input type="checkbox"/> a	<input type="checkbox"/> b	<input type="checkbox"/> c	<input type="checkbox"/> d
15. Getting along with people	<input type="checkbox"/> a	<input type="checkbox"/> b	<input type="checkbox"/> c	<input type="checkbox"/> d

Now, do you feel you need help in any of these areas below:

	I do not need any help	I need a little help	I need quite a bit of help	I need all the help I can get
16. Alcohol or other drug use	___ a	___ b	___ c	___ d
17. Emotional health	___ a	___ b	___ c	___ d
18. School problems	___ a	___ b	___ c	___ d
19. Job or employment problems	___ a	___ b	___ c	___ d
20. Problems with the law	___ a	___ b	___ c	___ d
21. Family problems	___ a	___ b	___ c	___ d
22. Problems with friends	___ a	___ b	___ c	___ d
23. Getting along with people	___ a	___ b	___ c	___ d

Do any of the following persons think that you need to make changes in your life? 3

	No	Yes, somewhat	Yes, for sure
24. Mother or mother figure	___ a.	___ b.	___ c.
25. Father or father figure	___ a.	___ b.	___ c.
26. Brother or sister	___ a.	___ b.	___ c.
27. Other relative	___ a.	___ b.	___ c.
28. Friends	___ a.	___ b.	___ c.
29. School counselor or teacher	___ a.	___ b.	___ c.
30. Counselor or therapist	___ a.	___ b.	___ c.
31. Probation officer, parole office or client manager	___ a.	___ b.	___ c.

32. Do you think you need help with an alcohol problem at this time? 4

- ___ a. No, not at all.
- ___ b. Maybe not, but I would like to check to see if I do have a problem.
- ___ c. Maybe I need some help.
- ___ d. Yes, I feel I need help.

33. Do you think you need help with problems having to do with the use of drugs other than alcohol?

- ___ a. No, not at all.
- ___ b. Maybe not, but I would like to check to see if I do have a problem.
- ___ c. Maybe I need some help.
- ___ d. Yes, I feel I need help.

34. Would it be hard for you to stop using or to not use alcohol?

- ___ a. No, I can stop using or not use alcohol at any time.
- ___ b. Yes, it would be kind of hard.
- ___ c. Yes, it would be very hard to give up using alcohol.

35. Would it be hard for you to give up using or not use drugs other than alcohol?

- ___ a. No, I can stop using or not use other drugs at any time.
- ___ b. Yes, it would be kind of hard.
- ___ c. Yes, it would be very hard to give up using drugs other than alcohol.

36. Would you be willing to come to a program where people get help for problems having to do with the use of alcohol and other drugs?
- a. No, not at all.
 - b. Yes, maybe I would.
 - c. Yes, most likely.
 - d. Yes, for sure.
37. How many times a week would you be willing to come to such a program?
- a. I am not willing to come at all.
 - b. Probably once a week for an hour or two.
 - c. Two or three times a week for an hour or two.
 - d. Every day for an hour or two.
38. How important would it be to you to make changes in your life around the use of alcohol or other drugs?
- a. Not important at all.
 - b. Somewhat important.
 - c. Very important.
 - d. Probably the most important thing in my life right now.

Do any of the following persons think that you need help with alcohol or other drug use problems?

	No	Yes, somewhat	Yes, for sure
39. Mother or mother figure	<input type="checkbox"/> a.	<input type="checkbox"/> b.	<input type="checkbox"/> c.
40. Father or father figure	<input type="checkbox"/> a.	<input type="checkbox"/> b.	<input type="checkbox"/> c.
41. School counselor or teacher	<input type="checkbox"/> a.	<input type="checkbox"/> b.	<input type="checkbox"/> c.
42. Counselor or therapist	<input type="checkbox"/> a.	<input type="checkbox"/> b.	<input type="checkbox"/> c.
43. Probation officer, parole office or client manager	<input type="checkbox"/> a.	<input type="checkbox"/> b.	<input type="checkbox"/> c.

5

44. In the past six months, have you taken action to change your life?
- a. No, not really.
 - b. I have done a few things to make some changes.
 - c. I have done a lot of things to make changes.
 - d. I have been doing some things every day to make changes.
45. In the past six months, have you taken action to make changes in your use of alcohol or other drugs?
- a. No, not really.
 - b. I have done a few things to make some changes.
 - c. I have done a lot of things to make changes.
 - d. I have been doing some things every day to make changes.
46. In the past six months, have you made changes in the amount or number of times you have used alcohol?
- a. No, I haven't made any changes.
 - b. I have cut down on the amount or number of times I drank alcohol.
 - c. I have stopped drinking alcohol for a few days.
 - d. I have stopped drinking alcohol for up to a week.
 - e. I have stopped drinking or have not use alcohol for up to a month or more.
47. In the past six months, have you made changes in the amount or number of times you have used drugs other than alcohol?
- a. No, I haven't made any changes.
 - b. Yes, I have cut down on the amount or number of times I use drugs.
 - c. Yes, I have stopped using drugs for a few days.
 - d. Yes, I have stopped using drugs for up to a week.
 - e. I have stopped using or have not used drugs up to a month or more
48. Would you like to talk with a counselor at this time about your use of alcohol or other drugs?
- a. No.
 - b. Yes, I think so.
 - c. Yes, for sure.

6
A
B

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE

Appendix D
Three-Month Follow-up Survey

ASAP WORD SURVEY

NAME:

EXPECTATIONS:

- 1) WHAT DID YOUR FAMILY EXPECT TO GET OUT OF THE PROGRAM?
- 2) WHAT DID YOU THINK YOU WOULD DO AT ASAP?
- 3) DID YOU THINK ANYTHING WOULD CHANGE AFTER COMPLETING THE PROGRAM?

ANY OTHER GOALS:

**RATING GOALS OF TREATMENT AS A RESULT OF THE ASAP PROGRAM:
STRONGLY AGREE, AGREE, NEUTRAL, DISAGREE, STRONGLY
DISAGREE**

- 1) IMPROVEMENT OF FAMILY FUNCTIONING:
- 2) REDUCE ADOLESCENT DRUG USE:
- 3) IMPROVE SCHOOL/WORK PERFORMANCE/ATTENDANCE:
- 4) DECREASE COURT INVOLVEMENT:

**AS A RESULT OF THE PROGRAM: IMPROVED, STAYED THE SAME, GOT
WORSE**

- 1) FAMILY FUNCTIONING:
 - 2) DRUG USE:
 - 3) SCHOOL/WORK:
 - 4) COURT INVOLVEMENT:
 - 5) OTHER GOALS:
- EXPERIENCES:**

- 1) FAMILY THERAPY:
- 2) INDIVIDUAL THERAPY:
- 3) MULTI-FAMILY:
- 4) PARENT GROUP:
- 5) PEER GROUP:
- 6) UA'S:

WHAT CHANGED?:

WHAT BARRIERS?:

ANYTHING ELSE?:

Appendix E
Consent for Follow-up

DENVER FAMILY THERAPY CENTER, INC.
4891 INDEPENDENCE # 165
WHEAT RIDGE, CO 80033
PHONE: 303-456-0600
FAX: 303-456-0607

CONSENT FOR FOLLOW-UP

I authorize Denver Family Therapy Center to contact me during and after the termination of treatment to gather information for follow-up and research studies. I understand that all information will be kept strictly confidential as outlined in Colorado Law 12.43.214(1)(d) CRS: Privileged Communications.

Client Signature (Parent/Guardian if Minor)

Date