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By
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Targeting Parents of Adolescent Substance Users
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Abstract

Adolescent substance misuse is a public health problem that results in substantial costs to society. Teenagers who move beyond normative use and require treatment often do not improve due to poor treatment initiation, retention, and completion. As such, efforts are needed to improve adolescent-focused substance use treatment. One potential avenue for strengthening outcomes is increasing parental engagement, as parents are central for adolescent treatment progress. The present study sought to increase treatment initiation, adherence and completion by targeting parental ambivalence about treatment using a brief motivational enhancement (ME) intervention. Using random assignment, the ME was compared to a time-matched psychoeducation (PE) control intervention and a standard care control (SCC) condition. Results from the study indicated no differences in outcome across conditions. Participants who received the ME were not significantly more likely to follow through with treatment recommendations, attend more sessions of treatment, or complete the program with greater frequency. Overall findings suggest that motivational enhancement does not provide added value to a private-pay, traditional adolescent substance use assessment. The present findings underscore the need to consider context when using motivational interviewing as extant findings may inflate its relative efficacy.
The Effects of a Brief Motivational Enhancement
Targeting Parents of Adolescent Substance Users

The Adolescent Substance Use Problem

National epidemiological data suggest that more than three-quarters of high school students have used an addictive drug (e.g., nicotine, marijuana, cocaine, alcohol) at least once, and nearly half have used within the previous month [National Center on Addiction and Substance Abuse (CASA, 2011). The nature of the problem is reflected in data from the two primary major national surveys that track adolescent substance use (ASU): The Substance Abuse and Mental Health Services Administration’s (SAMHSA) National Survey on Drug Use and Health (NSDUH; SAMHSA, 2015) and Monitoring the Future (MTF; Johnson, O’Malley, Miech, Bachman, & Schulenberg, 2016). The most recent NSDUH data show significant year-over-year increases in past-month use among children aged 12-17 for any illicit drug, cannabis, and diverted prescription medications (SAMHSA, 2015). Data from MTF is somewhat contradictory, suggesting past-month use for these substances is relatively stable (Johnson et al., 2016). However, MTF data suggest that the proportion of 12th graders using cannabis daily matches levels not seen since the upward surge of the mid-1990’s. Additionally, the study found significant reductions across all age cohorts in perceptions of drug use risk and the disapproval associated with daily cannabis use.

Nearly one-third of current youth substance users, representing 20% of all high school students—are estimated to meet criteria for a formal substance use disorder (CASA, 2011). Despite this high prevalence, conservative estimates suggest that only 6.4% of adolescents who meet diagnostic thresholds receive formal treatment (CASA,
Further, among those who do enter treatment, success is often limited, with estimates suggesting that only slightly more than 30% achieve sustained abstinence (Williams & Chang, 2000). The combination of decreased perceptions of risk (MTF, 2016), increased use (SAMHSA, 2015), and modest rates of treatment success (Tanner-Smith, Wilson, & Lipsey, 2013) underscore the inadequacy of presently available ASU prevention and treatment approaches to meet current needs.

Factors Affecting Adolescent Substance Use and Treatment

**Family-Related Factors.** Family-related variables are among the most robust and consistent predictors of ASU (CASA, 2011), suggesting that families exert considerable influence on adolescent behavior, particularly with regard to substance use. Significant predictors of ASU include parental use (Castro, Brook, Brook, & Rubenstone, 2006), parental attitudes toward ASU (SAMHSA, 2015), family environment (Hundleby & Mercer, 1987), parental monitoring (Steinberg, Fletcher, & Darling, 1994), family structure (Barrett & Turner, 2006), and parenting style (Baumrind, 1991; Chan & Koo, 2010).

**Parenting Style.** Baumrind (1971) developed the construct of parenting style by placing parent dyads on two theoretical orthogonal dimensions: demandingness (expectations and requirements) and responsiveness (adaptation and warmth). Subsequent work in the area (see Baumrind, 1991) has refined these initial classifications into the widely-used categories of authoritative (high expectation, high warmth), authoritarian (high expectation, low warmth), and laissez-faire/permissive (low expectation, high warmth) parenting styles. Results from a longitudinal study spanning the late 1960s to the late 1970s showed differential substance use outcomes based on these parenting
dimensions (Baumrind, 1991). That is, children reared in low expectation homes were more likely to use drugs while children from high expectation/high warmth homes were more likely to avoid substance use completely (Baumrind, 1981). Though this initial examination was limited by generalizability concerns, the results have been used to argue for a temporal relationship between child-rearing practices and substance use initiation. (Liddle et al., 2001). That is, longstanding patterns of parent-child interaction pre-date substance initiation, suggesting a causal relation between parenting style and ASU is probable (Liddle et al., 2001). The influence of parenting style on adolescent substance use also appears to extend beyond the household, as recent findings indicate that the parenting approach of friends’ parents confers unique risk/protection for ASU (Shakya, Christakis, & Fowler, 2012).

Parenting style has been proposed as a mediator of the relationship between social support and health outcomes (Dunbar-Jacob & Schlenk, 2001). That is, those who parent in an authoritarian manner may be less likely to adhere to prescribed treatment regimens which, in turn, negatively affects outcomes. Empirical evidence supports this model as a number of studies have found decreased treatment adherence among authoritarian parents managing a child’s medical issues, including cancer (Manne, Jacobsen, Gorfinkle, Gerstein, & Redd, 1992), diabetes (Davis et al., 2001), and obesity (Stein, Epstein, Raynor, Kilanowski, & Paulch, 2012). These findings prompt the question of whether psychosocial interventions that selectively activate and charge the most beneficial dimensions of parenting (i.e., demandingness and warmth) might result in increased treatment adherence and improved outcomes.
Parental Motivation for Treatment. Parental motivation is another mechanism that may hold promise toward improving adolescent treatment outcomes. However, as of this writing, empirical study of parental motivation for their child’s treatment remains “scant and unclear” (Breda & Reimer, 2012, p. 119). Most research done to date in this area has focused on identifying sound measures to capture parent motivation. For example, Nock and Photos (2006) created a self-report measure, the Parent Motivation Inventory. Validation studies generally supported the measure and, importantly, indicated parental motivation was unrelated to demographic factors associated with the adolescent (e.g., gender, race), the parents (e.g., single-parent, biological parent), and the entire family (e.g., receipt of public assistance). These results suggest that parental motivation is best understood as a general population trait and does not disproportionately affect specific demographic groups (Nock & Photos, 2006). Another recent study of a different self-report measure, the Motivation for Youth’s Treatment Scale (MYTS; Breda & Reimer, 2012), found small but significant positive correlations between parents’ problem recognition, treatment readiness, and total motivation. Although study in this area remains in its infancy, interventions targeting parental motivation for adolescent treatment may prove widely beneficial, particularly at the point when parents make treatment decisions for their children (Breda & Reimer, 2012).

Family Treatment for ASU

The importance of family factors for ASU is also supported by the efficacy of family-focused treatment. As adolescents transition to problem use and require intervention, professionals can turn to an array of evidence-based behavioral approaches – many of which are based in family skills development. Empirically supported
approaches include brief-strategic family therapy (Szapocznik, Kurtines, Foote, Perez-Vidal, & Hervis, 1983, 1986; Waldron & Turner, 2008), functional family therapy (Friedman, 1989), and multi-dimensional family therapy (Liddle et al. 2001; Liddle, Dakof, Turner, Henderson, & Greenbaum, 2008). These first-line treatments are all built upon a core foundation of parent skills training (i.e., establishing clear expectations for the child, identifying and maintaining boundaries, improving buy-in, and increasing warmth). The efficacy of these various family-focused interventions suggests that addressing issues with parents may provide the active ingredient for the observed positive outcomes.

**Barriers to Effective Adolescent Substance Use Treatment**

However, treatment is only effective if it is consumed and premature termination remains the biggest barrier to effective ASU treatment (Sia, Dansereau, & Czuchry, 2000; Stahler, Cohen, Shipley, & Bartelt 1993). Research suggests that only about 50% of teens who are assessed as needing ASU complete outpatient treatment (Szapocznik et al., 1983), with completion rates of residential therapeutic community programs ranging from 10-18% (Pompi, 1994). These poor rates of retention are particularly concerning as treatment duration is a strong and consistent predictor of long-term positive ASU outcomes (Hubbard, Craddock, Flynn, Anderson, & Ethridge, 1997; Simpson et al., 1997).

As a means of identifying the reasons why clients do not seek or stay in treatment, researchers developed the conceptual frame of barriers to treatment (Kazdin, Hollan, Crowley, & Breton, 1997). This approach considers adherence to be the product of risk and protective factors. Within this framework, risk factors include: (1) the
experience of distress (e.g., family conflict, unwillingness of child to attend); (2) poor therapist-client relationship (e.g., perceived lack of support and disclosure with a treatment professional); (3) perception of treatment as irrelevant; and (4) perception of treatment as too demanding. Each risk factor in isolation has been shown to significantly predict treatment dropout (Kazdin et al., 1997) Within this model, parental perceptions emerged as particularly important as Kazdin et al. (1997) reported that even among families with high risk of dropout, lower parental perceptions of barriers appeared to serve as protection against premature termination. These findings suggest that interventions that serve to inoculate parents against potential roadblocks by making them seem surmountable and manageable may have considerable utility.

One likely reason parental factors appear so influential is the pivotal role parents play in the decision to seek and initiate treatment for an adolescent. Parents gather information, make treatment decisions, and manage contingencies outside of treatment. Parents are typically responsible for deciding to seek treatment, managing their child’s treatment attendance, engaging in treatment-related parent programming, paying for treatment services, and illustrating appropriate treatment-consistent behaviors (Nock & Kazdin, 2005). As such, parents remain a poorly explored mechanism for improving adolescent treatment engagement and, in turn, positive treatment outcomes. Despite the suspected importance of parents in adolescent treatment, there have been only a handful of studies evaluating parent-related characteristics and their impact on outcome. In fact, in their review of the literature, Nock and Ferriter (2005) underscored the dearth of research in this area. The authors noted that existing studies have relied almost entirely on convenience variables (e.g., socioeconomic status, minority status, parent
psychopathology, severity of adolescent psychopathology) that are descriptive of who may be likely to drop-out of treatment, but provide minimal insight as to why certain families stop attending.

Improving Parental Motivation and Adherence

In the effort to identify specific factors that protect against early termination, parental motivation has shown early promise (Day & Reznikoff, 1980; Prinz & Miller, 1994; Szapocznik et al., 1988). Ample evidence exists to indicate the effectiveness of motivational enhancements to improve adult clients’ treatment adherence and subsequent treatment outcomes (Miller & Rollnick, 2013). However, only two known studies have evaluated pretreatment interventions targeting parents of adolescents with the goal of increasing treatment adherence – with both utilizing standalone motivational sessions given prior to the start of already scheduled treatment. No study to date has explored the use of motivational enhancement within the context of intake/assessment—when the decision about the need for treatment must be made and parental motivation may be most ripe for intervention. The two known studies in this area evaluated different approaches: Rapp-Paglicci and Savon (2009) tested a parenting skills-building approach and Nock and Kazdin (2005) assessed a motivational interviewing-consistent intervention.

Prodigy Cultural Arts Program. As a complement to the larger Prodigy Cultural Arts Program (PCAP; see Stewart, Rapp-Paglicci, & Rowe, 2009 for a full program description), Rapp-Paglicci and Savon (2009) developed a one-session motivational enhancement to provide parents with techniques and approaches likely to increase success in a court-mandated juvenile justice rehabilitation program. Specifically, Rapp-Paglicci and Savon’s (2009) motivational session covered program
expectations and requirements, while therapists modeled targeted parenting behavior—
eg., encouraging parents to address their child with respect during times of conflict. Clinicians also took time to discuss the factors that brought the parents’ youth to treatment, highlighting the impact of their child’s delinquent behaviors on others. Throughout the session, the PCAP was framed as an opportunity for positive growth, with clinicians underscoring the number of youth who enjoy the mandated experience.

Preliminary evaluation of the PCAP program provided support for its overall effectiveness. Results indicated that completion of the program was associated with reductions in psychiatric symptoms, decreased recidivism, and improved family functioning (Stewart, Rapp-Paglicci, & Rowe, 2009). However, as of yet, the PCAP program has yet to be validated with a voluntary substance-use specific population, and there appears to be no published dismantling study investigating the value and contribution of individual components. As such, the relative value of the PCAP manualized pretreatment parental motivational enhancement protocol remains unknown.

**Motivational Interviewing.** Motivational Interviewing (MI) is a person-centered counseling approach established by Miller and Rollnick (1991) that helps clients voice the reasons they have to change while subtly reinforcing their desire to do so. Substantial empirical evidence supports the efficacy of MI and it has become a first line approach for helping ambivalent clients move toward change (Burke, Arkowitz, & Menchola, 2005; Lundahl, Kunz, Brownell, Tollefson, & Burke, 2010). The model is flexible and has been applied in multiple formats and contexts (Britt, Blampied, & Hudson, 2003; Miller & Rollnick, 2013). It has shown success as a precursor to treatment (Vasilaki, Hosier, & Cox, 2006), a standalone treatment (Miller, Zwedben, DiClemente, & Rychtarik, 1992),
and appears quite robust as it has displayed efficacy with as little as a 10-minute dose (Butler et al., 1999). In sum, MI is a low-cost, responsive, and effective strategy for improving treatment outcomes.

*Motivational Interviewing to Increase Parental Motivation.* A growing line of research has explored using parent-focused MI to improve treatment compliance. Studies have revealed success using parent-focused MI to increase treatment adherence with a variety of pediatric medical issues (e.g., Berg-Smith et al., 1999; Erickson, Gerstle, & Feldstein, 2005; Schwartz et al., 2007; Weinstein, Harrison, & Benton, 2004). In the only known study evaluating parent-focused MI for improved child treatment adherence for a mental health issue, Nock and Kazdin (2005) evaluated a brief (i.e., 5-45 minute) intervention with parents of children with oppositional, aggressive, and antisocial behavior. The study revealed that those parents who received the experimental motivational enhancement reported higher motivation, were rated by therapists as having more motivation, attended more sessions, and adhered more closely to program expectations. As such, it is plausible that MI may hold utility as a brief parent-focused intervention aimed at improving adherence to ASU treatment.

**The Present Study**

At present, ASU continues to rank among the most costly and dangerous public health problems in the United States (CASA, 2011). Of high school students who need treatment, only a small fraction receives it – and those who do often leave treatment and without benefit (CASA, 2011; Tanner-Smith, Wilson, & Lipsey, 2013). Given adolescents’ non-autonomous status, parental attitudes and commitment to treatment can be viewed as central to treatment success. However, research on how to optimize
parental influence is scant, particularly in the context of the intake, screening, assessment, and admission process. This time frame offers untapped potential as it represents the crucial juncture between accepting a recommendation for treatment and initiating services or dismissing the findings and opting to forgo treatment. As of this date, no known study has isolated and evaluated a parent-focused pretreatment intervention for children in the ASU population. As such, the present study sought to evaluate a brief MI-congruent intervention with a clinical sample in a real-world setting, thereby providing maximum external validity. Doing so measures the potential of motivational enhancement in improving adherence, engagement, and outcome in the context of an established ASU treatment program. Specifically, the present study set out to answer the following questions: 1) Does an intervention targeting parental motivation increase the likelihood that parents will initiate treatment for their children? 2) Does such an intervention result in better engagement, as shown by attending more sessions and/or completing a treatment program? 3) How long might the effects last? Could such an intervention improve long term-engagement and increase continuing care attendance following the successful completion of treatment? and 4) Would treatment engagement and outcomes differ based on parenting style?

**Methods**

**Partner Agency Program**

The partner agency is an independent private practice offering three levels of care for adolescent (ages 13-19) substance users: a four-session psychoeducational program, a 24-session intensive outpatient (IOP) treatment, and a continuing care (CC) program for
families and adolescents who complete all requirements of the IOP program. In addition to the three treatment programs, the agency also offers comprehensive substance use assessment. Clients are referred from a variety of sources including juvenile court diversion programs, schools, physicians, and other mental health care practitioners. The agency and its programs are credentialed by the Ohio Department of Mental Health and Addiction Services (MHAS) and the Commission on Accreditation of Rehabilitation Facilities (CARF).

The assessment procedure is a multimodal process that addresses areas in which substance use often causes impairment. The process begins with a brief introduction to the purpose and process of the session, followed by adolescents and parents completing the agency’s required consent and fee paperwork. After this, parents are sent to a waiting room to complete a parent assessment form as the counselor begins a psychosocial interview with the adolescent. After completing the interview, the adolescent is provided instructions for completing the Adolescent Substance Abuse Subtle Screening Inventory (SASSI-A2; Miller & Lazowski, 2001), during which time the counselor meets briefly with the parents to gather information from parents. After this, the counselor leaves the parents, returns to the adolescent, scores and interprets the SASSI-A2 protocol and offers a formal recommendation to the adolescent. Once the adolescent has heard the results of the assessment, parents/guardians are invited into the office to hear the recommendation, be informed about treatment options, or referral to appropriate facilities. After this discussion, clients pay for the service and leave the agency.

The treatment recommendations made during the assessment range from no-treatment-necessary to residential or inpatient detoxification as per the American Society
MOTIVATIONAL ENHANCEMENT FOR PARENTS

of Addiction Medicine (ASAM) patient placement criteria standards (Mee-Lee, Shulman, Fishman, Gastfriend, & Griffith, 2001). The treatments offered by the partner agency are based on Level 0.5- Early Intervention (i.e., the psychoeducational program) a Level II-Intensive Outpatient Program (IOP) program, and a level I-Outpatient Continuing Care (CC). The IOP program is a 24-session, 3 hours per session, abstinence-based group therapy treatment that was developed on a cognitive-behavioral skills-deficit model. The program includes individual care, family groups, a 12-step recovery component, and gender-specific group treatment. Completion of all program requirements results in a formal graduation ceremony during which clients and parents are given the option to share observed changes from treatment. Clients who complete the requirements of the IOP program are then offered entrance into the continuing care program. The CC program meets once per week for an hour and lasts a total of 20 sessions.

Participants

All families who sought an assessment from the partner agency between July 2014 and March 2016 were recruited for the present study (N = 289). Of those who were approached, 65.1% of families (n = 188) elected to participate. Entrance criteria included at least one consenting parent/guardian, assent from the adolescent, and being recommended to IOP level treatment. A total of 157 families who consented were recommended to IOP level of treatment, met full criteria, entered the study and were randomized to a treatment condition. Participant families were not compensated for their participation. However, participant families could opt to be entered into a drawing for two sets of four Cincinnati Reds baseball tickets.
Adolescents were a private-pay sample with a mean age of 16.98 years ($SD = 1.13$) and were primarily male (73.2%; $n = 115$). Racial composition of the sample was primarily White/Caucasian (82.8%; $n = 130$), followed by multiracial, (7.6%; $n = 12$), Black/African-American, (3.9%; $n = 6$), Asian (1.3%; $n = 2$), and Hispanic (.6%; $n = 1$). Although no specific data on participant socioeconomic status was collected, the agency is located in affluent suburban community with a household median income of $73,464. Tables 1 – 3 contain detailed demographic and substance use data.

**Interventions**

The present study utilized three arms: standard care control, psychoeducation control, and an experimental motivational intervention.

**Standard Care Control (SC).** Participants in the SC condition received the partner agency’s standard assessment procedure without additional intervention.

**Psychoeducation Control (PE).** The PE served as a time-matched condition to control for the effects of additional attention. Participants assigned to the PE condition completed the partner agency’s standard assessment procedure. Following the assessment, parent participants were engaged in a brief psychoeducational session. The sessions lasted approximately 15-20 minutes and provided factual information about adolescent substance use patterns and associated factors (see Appendix A).

The PE was based on information from the National Center on Addiction and Substance Abuse (CASA; 2011) report on adolescent substance use. The primary PE components were general information about adolescent substance use and abuse prevalence rates, information about the difficulty distinguishing between typical adolescent substance experimentation and problem use, and substance-specific use
patterns. The PE was primarily didactic and educational and avoided eliciting or reflecting feelings and emotions from parent participants. Families who received the PE were sent home with a copy of general drug and alcohol information (see Appendix B).

**Motivational Intervention Experimental Condition (ME).** Participants assigned to the ME condition completed the agency’s standard assessment procedure. Following the assessment, a brief motivational enhancement intervention was conducted with the parent(s) of the adolescent by the assessment professional (see Appendix C). The first portion of the ME was based on the techniques of motivational interviewing (Miller & Rollnick, 2002) and designed to identify and reduce parental ambivalence, increase commitment to treatment, and alter parental perceptions of their adolescent’s alcohol/drug use. This component of the intervention was drawn from the evocative questions for change talk included in the second edition of the motivational interviewing manual (Miller & Rollnick, 2002). The authors provide four types of open questions to stimulate talking about change, including: disadvantages of the status quo, advantages of changing, optimism about change, and intention to change. The evocative questions were formatted to facilitate discussion with parents about their child’s issues (e.g., “In what ways does your child’s use concern you?”). Partner agency clinicians were trained to respond with reflections of content and feeling and followed a protocol that offered guidance for modifying responses based on possible behavior and parenting approach and style (i.e., authoritative, authoritarian, permissive).

After completing the motivational interviewing portion of the interventions, information about empirically supported parenting techniques were delivered, followed by suggestions for maximizing the likelihood of success in treatment. This portion of the
intervention was adapted from the pretreatment parent orientation to the Prodigy Cultural Arts Program (PCAP), an empirically supported treatment for at-risk youth and their parents (Stewart, Rapp-Paglicci, & Rowe, 2009). The duration of entire protocol typically was between 15-20 minutes. Families who received the ME were sent home with a copy of the parenting skills presented in the intervention (see Appendix D).

**Procedure**

Prior to data collection, the project was reviewed and approved by the Xavier University Institutional Review Board (IRB; see Appendix E). Due to the extended nature of the project, a yearly update was filed and granted on 7/30/2015. All agency clients were recruited for the study at the onset of the assessment process, after completing standard agency paperwork which includes clinician introduction of mandatory disclosures, limits to confidentiality, and treatment/fee agreements. However, only adolescents who required IOP treatment were enrolled into the study and randomized. As a result, 28 agency clients consented/assented to participate in the study but did not meet the inclusion criteria of requiring IOP level of care and were not randomized. Following assessment and the determination that IOP was not the appropriate level of care, these families were informed they did not qualify for the study, thanked for their willingness to participate and reminded that their name would be included in the drawing for the Reds tickets and the agency would contact them if they won.

**Randomization.** Randomization was accomplished using a stratified, permuted, block design to ensure that an equal number of the three parenting styles were assigned to each condition (Hedden, Woolson & Malcolm, 2006). Parenting style was anticipated to
be non-proportional as authoritative parenting is over-represented in dominant culture samples (Baumrind, 1991).

**Process.** After obtaining consent/assent and orienting families to the assessment process, parents were provided with the agency’s standard parent assessment form, along with the Parenting Styles and Dimensions Questionnaire (PSDQ; Robinson, Mandleco, Olsen & Hart, 1995, see Appendix F), to complete. While the parents were completing the measures, clinicians met separately with the adolescent and completed a comprehensive psychosocial interview in accordance with agency protocol. After completion of this interview, clinicians explained and provided the adolescent with instructions for completing agency self-report measures, along with the adolescent record form.

Before rejoining the parents, clinicians scored the PSDQ to determine self-reported parenting style. Parents were categorized as authoritative, authoritarian, or permissive based on PSDQ results and randomized accordingly. The clinician then rejoined the parents, reviewed and discussed a partner facility parent assessment form, and shared the IOP treatment recommendation. Following the IOP recommendation, the experimental intervention (ME or PE) was provided.

**Clinician Training.** All members of the partner facility’s staff received formal training on administering the treatment protocols and on general components of motivational interviewing. Training occurred during two interactive workshops, both lasting approximately two hours. Clinicians engaged in role-play enactments of each protocol and were provided with feedback and shaping by study authors until mastery of
the protocols was attained. Throughout training, the need for intervention adherence was emphasized. To determine intervention fidelity, all active interventions were audiotaped.

**Review of Adherence to Protocols.** Treatment fidelity was assessed through review of a subset of intervention audio recordings by two doctoral students in clinical psychology who were blind to condition. A total of 22 (21%) of intervention recordings were reviewed, representing 11 randomly selected recordings from each active intervention arm. For each selected recording, the graduate student coders completed a purpose built questionnaire (see Appendix G). This measure prompted the coders to indicate the experimental condition and rate the degree of motivational interviewing technique present. Sample questions included, “the clinician demonstrated reflective listening,” “the clinician offered advice and/or was directive,” and “the clinician responded to and reflected emotional content."

**Measures**

**Demographic and Outcome Variables Summary Sheet.** The Demographic and Outcome Variables Summary Sheet (DOVSS; see Appendix H) was developed for use in the present study. All demographic and outcome data for the DOVSS were collected from the partner agency’s electronic health records system, MedEZ, deidentified and then recorded in a data-base by participant study number. The DOVSS contains three major sections: 1) demographic and contact information; 2) primary outcome variables; 3) long-term outcomes. Section 1 collected general demographic information including: date of assessment, race, age, primary drug of choice, any secondary drug(s) of choice, sex, year in school, type of school placement, family composition, and telephone number(s) for follow-up data collection. Section 1 also indicated which IOP program the family
selected—weekend or weekday—the intended treatment start date and the actual treatment start date, if treatment was scheduled during the initial intake session or whether the agency and parents had subsequent contact to prompt enrollment and treatment initiation.

Section 2 recorded data relevant to treatment entry—the primary hypothesis of the study. Collected variables included latency to treatment initiation. Latency to treatment was operationally defined as: 1) showed up as scheduled; 2) re-scheduled first session but attended; or 3) never attended. Latency to treatment initiation was quantified by assigning a number to each possible outcome: showed up as scheduled = 2; re-scheduled but attended = 1; never attended = 0.

Section 3 of the DOVSS captured treatment completion data. Information about total number of sessions attended and the three levels of treatment completion status were extracted from the clinical record. Treatment completion status was operationally defined and quantified as: 1) never came = 0; 2) attended but did not complete = 1; and 3) completed =2. Additionally, total number of CC program session attendance for completers was recorded, with CC discontinuation operationalized as 4 consecutive weeks of non-attendance.

**Parenting Styles and Dimensions Questionnaire.** An adapted version (Winsler, Madigan & Aquilino, 2005) of the Parenting Styles and Dimensions Questionnaire (PSDQ; Robinson et al., 1995) was used to measure parenting style. The PSDQ is a 62-item self-report measure designed to classify parents according to Baumrind’s (1971) three global parenting styles: authoritative, authoritarian or permissive. The original PSDQ asked parents to rate themselves and their spouses using a Likert-type scale (I =
never; 5 = always) for how often a specified behavior is enacted. Domain scores are derived by averaging the question scores within a parenting style domain and can range from 1 to 5. The authoritative domain includes 27 questions; a sample item is “I know the name of our child’s friend.” The authoritarian domain includes 20 questions; a sample item is “I explode in anger towards my child”. The permissive domain includes 15 items; a sample item is “I state punishments to our child and do not actually do them.” For the purposes of stratified randomization in the present study, a family’s predominant parenting style was determined by the domain with the highest score. The measure generally takes 15 minutes to complete and can be scored in approximately 5 minutes.

The version of the measure used in the present study removed the spouse-rating component included in the original. This adaptation was used as many of the families served by the partner agency are not traditional two parent households, making spouse ratings inappropriate. Additionally, eliminating spouse ratings reduced the overall amount of time spent completing paperwork. The PDSQ showed good internal consistency in the present sample for the authoritative (α = .85) and authoritarian (α = .81) domains. The permissive domain showed modest internal consistency (α = .57).

**Timeline Follow-Back Interview.** The Timeline Follow-Back Interview (TLFB; Sobell & Sobell, 1992) was selected to assess post-treatment substance use. The TLFB was developed to assess drinking behavior more accurately than standard quantity/frequency methods (see Appendix I). Originally developed for use with alcohol consumption, the TLFB collects data on substance use during a pre-selected time period (i.e., last month, previous year). The measure is flexible as respondents can be instructed to report their use in many different formats, such as average number of drinks per day or
percentage of days without drinking. The TLFB is comprised of a calendar covering the target interval, anchored by important dates—both personal (e.g., birthdays, parties, anniversaries) and societal (e.g., Christmas, major news events)—to aid recall.

Validation studies of the TLFB have shown it more sensitively detects patterns and variability in substance use compared to standard frequency/quantity measures (Carey, 1997; Sobell & Sobell, 1992; Waldron, Slesnick, Brody, Tuner, & Peterson, 2001) and that the built-in memory aides reduce the cognitive distortions that typify autobiographical recall (Bradburn, Rips, & Shevell, 1987). The TLFB can be conducted in person, via telephone, or on computer (Sobell, Brown, Leo, & Sobell, 1996).

The TLFB has shown good test-retest reliability in a variety of populations.¹ In a sample of psychiatric patients over 30 days, the TLFB test-reliability was $r = .65$ (Carey, 1997); in a sample of psychoactive substance users, over a 90-day period, test-retest reliability ranged from $r = .70$ to $r = .94$ (Fals-Stewart, O'Farrell, Freitas, McFarlin, & Rutigliano, 2000). The TLFB has been successfully used with an adolescent population. Waldron et al. (2001) found that TLFB data of marijuana use was significantly correlated with both parent, $r = .37$, and sibling, $r = .55$, reports.

Results

Analytic Approach

The first two primary hypotheses were tested using multinomial logistic regression as the primary outcomes of interest—latency and treatment engagement—were both categorical and each had three levels. Multinomial logistic regression allowed

¹ For the present study, the TLFB was not utilized due to time and power constraints. Full psychometric data on the TLFB for the present study will be available upon completion of data collection.
for comparison of the three intervention arms across the three levels of outcome and for estimation of the odds of category membership. Using multinomial logistic regression allowed for retention of the full sample when predicting treatment engagement as the three categories were: 1) never attended; 2) attended but did not complete and 3) completed. Collapsing engagement into outcome categories allowed for all participants to be included in the analyses despite a markedly non-normal distribution for number of treatment sessions attended and avoided distorting the structure or meaning of outcome. The non-normal distribution was due to a large proportion of zeroes—or participants who never initiated treatment. Excluding never-starters when assessing treatment engagement would reflect a different population—treatment initiators. The effect of intervention on treatment engagement was further investigated in the subset of the sample who started treatment using standard parametric tests.

**Preliminary Analyses**

Prior to formal hypotheses testing, all continuous data were visually and statistically assessed for normalcy; no deviations appropriate for transformation were identified. Multivariate outlier analyses, including calculation of the Mahalanobis distance, Cook’s distance and centered leverage values, were conducted (Tabachnick & Fidell, 2001) for continuous variables. No outliers were identified and the entire data set was retained for analyses.

Treatment fidelity and intervention protocol adherence were assessed. Two masters-level graduate students independently reviewed a subset (15%; \( n = 22 \)) of audio recordings for treatment fidelity using structured rating criteria. The recordings reviewed were selected using a two-step process: First, all protocols were grouped by agency
clinician as a disproportionate number of assessments \((n = 99)\) were completed by two of the five agency staff members. Second, 16 recordings were randomly selected from the interventions completed by the two staff clinicians who conducted the majority of assessments and six recordings were randomly selected from the three remaining clinicians. Each recording was independently reviewed by both graduate student raters who were blind to study condition. Results indicated 100% of protocols were accurately classified by study condition by both raters, \(r(20) = 1.00, p < .001\), indicating that the interventions were distinct and readily discernable. Additional analyses focused on the presence of MI behaviors revealed a high degree of inter-rater reliability. The average measure intra-class correlation coefficient was .89, 95% confidence interval = .73 to .95, \(F(2,21) = 8.86, p < .001\). Results also indicated that the ME intervention samples accurately adhered to core principles of motivational interviewing. When averaging the scores of both adherence raters, significant differences were observed between conditions. Specifically, when providing the ME condition, clinicians showed significantly higher levels of MI-congruent behaviors, \(t(20) = 16.93, p < .001\).

Finally, the effectiveness of randomization was assessed in regards to demographic, drug use and baseline study variables. Separate one-way analysis of variance (ANOVA) were conducted on continuous variables and \(\chi^2\) tests of association on categorical variables to identify any significant differences across condition. Results indicated that the three intervention arms were equivalent and no significant differences emerged across conditions for any variable. See Table 1.
Sample Summary

Participants’ drug use patterns were investigated. Results indicated the most frequently used drug was marijuana (98.7%; \( n = 155 \)), with 80.9% identifying cannabis as their substance of choice; with the exception of alcohol, other drugs were used much less frequently. The second most frequently used category of illegal drug was hallucinogens, which was endorsed by 38.9% of the sample. The full sample reported a modal use of 2 substances and a mean of 3.58 (SD = 1.73) different drugs. See Tables 2-3.

With regard to family and environmental characteristics, approximately half indicated a two-parent household structure (\( n = 79, 50.3\% \)), including blended (\( n = 9, 5.7\% \)) and adoptive families (\( n = 12, 7.6\% \)). The modal adolescent was presently enrolled in a traditional high school (59.9%) and reported that their mother (46.8%) was the primary disciplinarian in their home. See Table 1. The results for parenting style indicated that 98.1% (\( n = 153 \)) of parent participants self-identified as authoritative based on the PSDQ. See Table 4.

Last, 23.6% (\( n = 37 \)) of participant families indicated they were formally referred for assessment by a diversion program or the legal system; the rest voluntarily sought evaluation. No data were available on the proportion of voluntary assessments prompted by school disciplinary action or pursued to pre-emptively address substance use before impending legal proceedings.

To determine if any sample characteristics were predictive of outcome, three analyses were run. First, a series of multinomial logistic regressions were used to detect any significant relations between adolescent background variables (i.e., sex, race, age, and number of substances used) and latency (i.e., never scheduled/no-showed, rescheduled...
and attended, and scheduled and attended). The never scheduled/no-showed condition was set as the comparison group. Results from these analyses revealed that attending as initially scheduled neared significance in association with sex, $b = 1.09, p = .06, OR = 2.98$, and significantly associated with number of substances used, $b = .34, p = .02, OR = 1.40$. Girls were more likely to start treatment as scheduled than were boys and youth who used more substances were more likely to initiate treatment compared to those who used fewer substances. No other significant differences emerged. For a full review, see Table 5. Second, a series of linear regressions were conducted to determine any relations between background variables (i.e., chronological age, number of substances used, gender, and race) with the number of treatment days attended for those who initiated treatment and attended at least one day. Results from these analyses indicated that no background variable was significantly related to total treatment days, see Table 6. Last, a series of logistic regression equations were employed to assess the relation between demographic factors and completion status (completed/did not complete) in the subset of youth who initiated treatment. Results from these regressions indicated no significant relations between any demographic factor and treatment completion.

**Treatment Engagement and Completion**

Out of 157 individuals who were randomized into the study, 81.3% ($n = 126$) entered treatment; of these, 56.3% ($n = 71$) completed the program and 43.7% ($n = 55$) attended some sessions but did not complete treatment. The mean number of sessions attended by study participants was 16.32 ($SD = 10.66$); almost all of those who left treatment prior to completion were either discharged with a recommendation to a higher level of care ($n = 25; 45.5\%$) or opted to discontinue treatment of their own accord ($n = \ldots$)
25; 45.5%). Results for engagement were similar to those seen in a preliminary analysis of the partner agency’s historical data. This data indicated that 80% of clients attended at least one IOP session. Table 7 provides a comprehensive overview of participant engagement and completion for the present study.

**Primary Hypotheses**

**Hypothesis 1.** Hypothesis 1 predicated that families who received the motivational enhancement intervention would be more likely to initiate intensive outpatient treatment as scheduled compared to families who received psychoeducation or a standard care control. Treatment condition was dummy-coded. Multinomial logistic regression was conducted to test hypothesis 1, with treatment initiation defined as: 1) not scheduling or scheduling but never showing; 2) rescheduling the first appointment and then attending and 3) initiating treatment as scheduled. Not scheduling/never showing was set as the comparison group for testing the effect of condition. Treatment condition was dummy coded. The hypothesis was not supported. Results indicated that condition did not significantly predict treatment initiation. Specifically, participant families who showed up as scheduled were no more likely to have received the ME intervention than the standard control, $b = -.71, p = .16, OR = .49$ or psychoeducation, $b = -.17, p = .72, OR = .84$.

The partner agency’s enrollment protocol includes providing a follow-up telephone call to families that have not scheduled within 24 hours of assessment. Results indicated 26.1% ($n = 41$) of families had post-assessment contact; of these, 14.0% ($n = 22$) were contacted by the agency and 10.8% ($n = 17$) initiated contact with the agency. See Table 7 for review of follow-up call data. Hypothesis 1 was retested controlling for
the presence of additional contact. Results indicated follow-up contact with the agency was positively associated with showing up as scheduled, \( b = -2.06, p < .001, OR = .13 \).

Controlling for follow-up contact did not change the intervention associations: ME condition, \( b = -.25, p = .65, OR = .78 \); PE condition, \( b = .06, p = .72, OR = 1.06 \).

However, condition was significantly associated with follow-up contact, \( b = 1.22, p = .01, OR = 3.38 \); those in the SC condition were significantly more likely to require follow-up contact compared to those in the ME condition. No effect was seen for the PE condition, \( b = .39, p = .36, OR = 1.48 \).

As sex and number of substances emerged as significant predictors of treatment initiation, Hypothesis 1 was retested including both as covariates. Results did not change and condition remained unrelated to treatment initiation: ME, \( b = -.23, p = .69, OR = .79 \) and PE, \( b = .10, p = .86, OR = 1.10 \).

**Hypothesis 2.** Hypothesis 2 predicted that those who received the ME intervention would complete more sessions of treatment compared to those in the other treatment conditions.\(^1\) Hypothesis 2 was tested in two ways given the distributional properties of the DV. Multinomial logistic regression was used to detect differences in engagement. The comparison group was never attended. Treatment condition was dummy coded. Using this approach, the hypothesis was not supported. The ME intervention was not predictive of attending without completing, \( b = -.83, p = .13, OR = .44 \), or of completing treatment, \( b = -.53, p = .33, OR = .59 \). Likewise, PE condition was not predictive of attending without completing \( b = -.76, p = .19, OR = .47 \) or of completing treatment, \( b = -.10, p = .86, OR = .90 \).

\(^1\) The proposal suggested using a single ANOVA with the outcome being total sessions – due to the non-normal distribution and high number of zeroes \((n = 49)\), the two approaches delineated above were used to test Hypothesis 2.
Second, the effect of intervention on number of treatment sessions completed among the subsample who received at least one day of services was tested using a one-way univariate analysis of co-variance (ANCOVA); the grouping variable was condition and had three levels: ME, PE and SC and the covariate was treatment initiation prompt. Again, it was hypothesized that participants in the ME condition would attend more sessions that those in the PE and SC conditions. The hypothesis was not supported, $F(2, 122) = 2.45, p = .09$. Treatment condition was not associated with total days in treatment for all initiators. The analysis was re-run using only those participants who initiated treatment but did not extend beyond the standard 24 sessions. This was done to eliminate the effect of participants who lingered in treatment beyond the expected duration. Results did not change and indicated no significant differences across intervention conditions, $F(2, 98) = 1.46, p = .24$.

**Hypothesis 3.** Hypothesis 3 predicted that a significantly larger proportion of adolescents whose families received the ME intervention would graduate from treatment in comparison to the two control conditions. A chi-square test of equal proportions was conducted to determine whether there were significant differences between those who completed treatment and those who did not complete. Results revealed no significant differences for the likelihood of program completion based on study condition, $X^2(2, N = 157), 1.36, p = .51$.

**Exploratory Hypotheses and Analyses**

**Exploratory Hypothesis 1.** Exploratory Hypothesis 1 predicted that adolescents from families who received the ME intervention would attend at least one continuing care session at a greater proportion than controls. Of those who completed treatment ($N = 71$),
71.8% \((n = 51)\) attended at least one continuing care session. A dichotomous logistic regression was conducted to determine whether treatment condition predicted attending at least one continuing care meeting. Treatment condition was dummy coded. Results indicated that treatment condition was unrelated to the likelihood of attending continuing care \((b = .37., \, p=.28, \, OR = 1.44)\). This result did not change when controlling for the presence of post-assessment agency contact.

**Exploratory Analyses.** Exploratory analyses sought to identify relations between treatment condition, self-reported parenting style, and days in IOP treatment. As no extant research exists in this area, no *a priori* hypotheses were established and the analyses were conducted in an exploratory manner.

Parenting classification could not be used as the basis of exploring these relations due to restricted range. However, although the parent-participants almost exclusively self-reported as authoritative \((n = 154; \, 98.1\%)\), with only three parenting dyads self-reporting as either authoritarian \((n = 2; \, 1.3\%)\) or permissive \((n = 1; \, .6\%)\), examination of the pattern of scores within each parenting style domain revealed normal distributions for the full sample: authoritative \((M = 3.83, \, SD = .40)\), authoritarian \((M = 1.99, \, SD = .39)\), and permissive \((M = 2.43, \, SD = .36)\). As such, although lack of variability precluded using parenting classification to explore associations between parenting style, intervention condition and treatment engagement, these associations were able to be explored using parents’ total domain scores.

EA1 was evaluated three ways: first a series of three linear regressions were used to assess for univariate relations between parenting style and outcome for those who attended at least one session. The DV for all three equations was total sessions attended
by treatment initiators. The first equation regressed total sessions attended on authoritative parenting domain score. Results indicated no significant relation between the authoritative scale total score and total treatment sessions, $b = 2.23, t(123) = 1.30, p = .20$; the second equation found no significant relation between the authoritarian scale total score and total treatment sessions, $b = -.91, t(123) = -.51, p = .61$; the third equation also found no significant relation between the permissive scale total score and total treatment sessions, $b = -2.65, t(123) = -1.42, p = .16$. Second, the unique association of each parenting style with total days completed by treatment initiators after controlling for treatment condition was assessed by entering the parenting domain scores as a set on the second step. Results from this analysis approached significance for the first step, $R^2 = .073, F(1, 45) = 3.54, p = .07$, but did not see added value with the second step, $R^2$ change $= .029, F(3, 42) = 1.19, p = .33$.

The association of PSDQ domains scores and overall treatment engagement (i.e., never attended, attended, did not complete, and completed) was evaluated using a multinomial regression entering the three parenting domains scores as a set. The comparison group was never attended. Results revealed that authoritative parenting predicted completion of treatment, $b = 1.29, p = .03, OR = 3.64$. No other significant relationships emerged. See Appendix J for additional details.

**Discussion**

The scope, nature, and societal cost of adolescent substance misuse underscore the need to identify effective interventions that can be easily implemented. The present study tested the effectiveness of targeting parents of substance abusing youth in order to
increase treatment initiation and engagement. Specifically, this study assessed the effectiveness of a brief motivational intervention (ME) by comparing it to a time-matched psychoeducation condition (PE) and a standard-care control (SC) condition. The present study also explored the potential influence of parenting style on treatment initiation and engagement.

**Primary Hypotheses**

It was hypothesized that, in comparison to the control conditions, parents receiving the ME would show reduced latency to initiate treatment on behalf of their children. Latency to treatment initiation was conceptualized as having three distinct levels, each representing a different level of commitment: 1) started treatment as scheduled; 2) rescheduled and started treatment later; and 3) failed to start treatment. The vast majority of study participants (80.3%) initiated treatment and attended at least one treatment session. Contrary to the hypothesis, parents receiving the ME were no more likely than parents who received the PE or SC conditions to start their child in treatment as scheduled rather than reschedule or never attend. This result was true for both parents who scheduled treatment at the time of assessment and for parents who opted to process the IOP recommendation and declined to schedule treatment on their initial visit. The partner agency’s protocol is to contact clients on the day following their initial visit if they did not schedule treatment. For the study sample, this represented 23% of families. Follow-up contact was significantly associated with attending at least one session. Although the ME was unrelated to treatment initiation, families in the ME condition were significantly less likely to require a follow-up call, suggesting that ME parents were more
driven to schedule following assessment but this momentum was not sustained as ME participants were not significantly more likely to actually attend treatment.

The observed significant positive relation between the presence of a follow-up call and starting treatment suggests that additional contact with the partner facility functioned as a mechanism to increase treatment motivation. It may be that the follow-up phone contact was perceived by families as supportive and caring—indicating sincere concern by the agency. Although one known study found a reminder call had no effect on substance abuse treatment attendance (Stasiewicz & Stalker, 1999), it may be that reminder calls about already scheduled appointments are experienced differently than contacts to inquire about treatment decisions. It may be that allowing families the time to process the IOP recommendation felt respectful and increased trust with the agency.

The second primary hypothesis posited that families receiving the ME would engage in more treatment (attend more sessions) in comparison to those in either the PE or SC conditions. In the full sample (including nonstarters), 45.2% (n = 71) of participants completed the program, with completers attending an average of 24.6 sessions. The hypothesis that ME would be associated with more treatment was not supported as no difference in amount of treatment completed emerged across conditions. This was true when the relation between condition and treatment attendance was tested including those who completed “zero” sessions—i.e., nonstarters—and when assessing only those who initiated treatment and came for at least one session.

When considering the meaning of session counts, it is important to consider that having attended more treatment sessions is not necessarily an analog for treatment success. That is, clients who complete a treatment program in the minimum number of
sessions possible are likely the most motivated and driven for success. In the partner 
agency’s program, clients who relapse to use, are slow to fulfill program requirements, or 
lack engagement in the group setting are not expelled from the program but are offered 
extended treatment beyond the initial 24 sessions. This was true for some participants 
within the study sample. When the distribution of treatment sessions for program 
completers was examined, six participants completed in less than 24 sessions\textsuperscript{1}, 46 
completed in 24, and 19 completed in greater than 24 sessions. However, limiting the 
analysis to only those who attended 24 or fewer sessions did not change the results, 
underscoring the ME’s lack of efficacy.

The third primary hypothesis was that a significantly higher proportion of 
adolescents who received the ME intervention would graduate from treatment in 
comparison to those in the PE and SC conditions. The hypothesis was not supported. 
There were no differences in program graduation across conditions, indicating that the 
ME intervention failed to improve the likelihood of program completion and provided no 
added value. Examination of the pattern of results showed that the added contact time 
and additional information about adolescent substance use and risks provided by the PE 
also did not influence outcome.

\textbf{Exploratory Hypotheses and Analyses}

In addition to the primary hypotheses, the more distal effects of the intervention 
arms were explored. Specifically, it was posited that families receiving the ME 
intervention would not only be more likely to complete treatment but would also be more

\textsuperscript{1} A total of 6 participants completed IOP in less than 24 sessions. Although partner agency policy typically 
requires 24 sessions for program completion, exceptions are made for extraordinary circumstances (i.e., 
family events, planned vacations toward the end of treatment, exceptional commitment and engagement in 
the program and insurance session denials).
likely to attend at least one continuing care session than those receiving the PE or SC. The hypothesis was not supported and intervention arm was unrelated to engaging in continuing care. This null finding may be due, at least in part, to a somewhat restricted range and ceiling effects in the context of reduced power. Specifically, a large proportion (71.8%; \(n = 51\)) of treatment completers attended at least one continuing care session. This participation rate represents a similar proportion to what has been reported in past research (e.g., 77.1%; Godley et al., 2010). Given the high rate of continued participation, it appears fair to surmise that families/adolescents who completed the partner agency’s program perceived benefit from treatment and experienced a sense of connection to the agency. The high base-line engagement fostered by the partner agency likely increases overall treatment success but may eliminate the effect of targeting motivation.

Last, the relations between study condition, self-reported parenting style, and days in treatment were explored. The most striking finding to emerge in this area was that nearly every parent-participant self-identified as authoritative (98.1%). Although it had been anticipated that the authoritative style would be over-represented, the magnitude of this effect was not expected and the lack of variation precluded the intended analyses. However, a variety of parenting behavior was displayed by the parent-participants during the assessment process and parents often acted in ways that were contrary to their self-identified authoritative approach. This suggested that parents’ classification may not be accurate and their self-report may have been distorted by social desirability factors. Although parent-participants were almost universal in rating the authoritative items as most like them, the three summary parenting style domain scores varied across
participants. This suggested that the relative elevation across the three domains may contain information worth exploring, provided the results are viewed with caution and as highly tentative. Within this context, the relations of the domain scores to amount of treatment for the full sample (i.e., never attended, attended but did not complete, completed) and those who initiated treatment (i.e., total sessions attended) were explored. No significant relations emerged between individual parenting style domain scores and number of treatment sessions attended for those who attended at least one day. However, when the effects of all three parenting styles were examined simultaneously for the full sample, authoritative scores were modestly, but significantly, predictive of completion status. This suggests that an authoritative approach, once the effects of both authoritarian and permissive attributes are removed, may contribute to treatment engagement. However, the more important finding is that self-report does not appear to a valid approach to assessing parenting style in a relatively high socioeconomic status, dominant culture, sample. Reliance on self-report assumes that parents are aware of actual parenting behavior and are able to distinguish how they parent from how they aspire to parent. The near-universal self-classification as authoritative suggests that distinguishing these differences is difficult. Future studies interested in investigating the intersection of parenting and treatment engagement might be wise to employ a clinician-rated parenting style measure, thereby eliminating concerns about participants’ willingness to endorse socially unacceptable behaviors reflecting authoritarian and permissive approaches (i.e., “I punish by taking privileges away from my child with little if any explanation”; “I appear to be more concerned with my own feelings than with our child’s feelings”).
Participant Factors

The current findings should be considered within the scope of the adolescent and parent characteristics of the sample. Males accounted for nearly three-quarters (74.5%) of the sample and most adolescents (85.4%) identified their race as White/Caucasian. Although not representative of the overall adolescent population, the sample does align with those who abuse substances (SAMHSA, 2015). Similar to patterns of use seen in national data sets, the vast majority of adolescents in the current sample reported primary use of cannabis and alcohol (Johnston, O’Malley, Miech, Bachman, & Schulenberg, 2016). The modal number of substances used was two, indicating that even amongst an IOP alcohol and other drug (AOD) treatment sample, most adolescents who develop substance difficulties use only alcohol and cannabis. Although similar in some ways to national samples, the current sample differed in some important ways. Specifically, the sample was composed of mostly traditional high school students (59.9%), with only one participant reporting having dropped out of high school. This was somewhat unexpected, as past research has indicated that substance misuse dramatically increases the likelihood of high school dropout. However, consistent with past findings, it is likely that the relatively high socioeconomic status of the current sample provided protection against dropping out of high school (Townsend, Flisher, & King 2007).

Socioeconomic status (SES) has traditionally been considered a combination of three factors: income, education, and occupation (for review, see American Psychological Association, 2006). Although no data were collected to formally determine SES out of participant privacy concerns, the current study was conducted in a real-world setting at a Midwestern private-pay facility located in an affluent suburb. Although the partner
agency is contracted with nearly all private health insurers, it does not accept any state-funded health plans and does not work on a sliding scale. As such, the composition of the sample was dramatically skewed toward higher SES brackets due to the high fees associated with engaging in treatment.

This is particularly relevant as SES is a likely contributor to the high observed rates of adherence, retention, and completion, especially as compared to community-based treatment samples (Coatsworth, Santisteban, McBride, & Szapocznik, 2001). A full 80.3% of participants attended at least one day of treatment and the majority (56.3%) of attenders completed the program. Additionally, amongst those participants who left treatment prematurely, more than half did not quit treatment but left for a variety of other reasons—the primary one being transfer to a higher level of care. As quitting treatment and being transferred to more intensive treatment represent very different treatment trajectories, the relation of quitting treatment and study condition was tested and produced null results such that the ME, $b = .06, p = .91, OR = 1.06$, or PE, $b = -.43, p = .45, OR = .65$, were not significantly more likely to quit treatment. The present sample’s rate of retention outperforms many other studies of structured adolescent substance use treatment (see Williams & Chang, 2000 for a review of treatment outcomes), suggesting a highly motivated sample with fewer barriers to initiation. It is noteworthy that the study was embedded within a private-pay treatment facility and was not a stand-alone clinical trial. As such, participants were recruited from families who had already made the decision to seek, at minimum, assessment from the partner agency. This underscores the impact of SES on the present results. Participants in the sample likely had more financial flexibility than those in a comparative community sample. Access to monetary recourses
likely enabled clients to pursue, attend, and complete treatment at a higher frequency than possible for less resourced clients. Resources not only affect families’ ability to afford treatment sessions but also affect non-fee factors, such as reliable transportation to a facility, proper nourishment, and time to engage with adolescent children. Additionally, high SES tends to be related to educational privilege and access to informational resources. For example, everyone who contacts the partner agency to schedule an assessment is encouraged to visit the agency’s website in advance to learn more about the facility and what to expect during the assessment and treatment process. Thus, study participants may have been primed to receive recommendations and may have developed treatment readiness prior to their initial visit to the agency.

However, although the SES characteristics of the current sample are assumed to be narrow and limit the generalizability of the findings to all adolescents who abuse substances, the current sample is likely representative of adolescents in this country who have access to private addictions care. Research indicates that only 6.4% of high school students in need of formal treatment receive it (CASA, 2011). This further underscores the importance of the present null findings. That is, in a fee-for-service setting with high SES clients, the tested interventions did not improve latency to treatment, increase engagement in treatment, or result in greater likelihood to complete treatment.

**Limits to Motivational Interviewing**

Based on the body of research supporting the use of brief Motivational Interviewing (MI) with parents in a variety of settings (Berg-Smith et al., 1999; Schwartz et al., 2007, Weinstein, Harrison, & Benton, 2004), it was believed that incorporating an MI exercise into the standard assessment process would improve adherence, retention,
and outcome. However, the ME failed to outperform the SC and a time-matched PE intervention on the targeted outcome variables. In the current study, targeting parental motivation produced no improvement in adherence and retention. Although the ME did increase the odds of scheduling during the assessment appointment and not requiring agency follow-up, it was the PE which showed a nonsignificant trend ($p = .08$) with increased session attendance among participants who initiated treatment; this suggests the PE may have prompted some parents to reset their internal norms and more accurately assess the severity of their child’s substance use and need for treatment.

MI has been supported across a wide range of health issues and delivery formats (Britt, Blampied, & Hudson, 2003; Miller & Rollnick, 2013). The approach has become nearly ubiquitous among helping professions as a choice approach for working with clients who are ambivalent about change. However, the results of the present study underscore that motivational interviewing does not always provide added value. It may be that both the nature of the current sample and its treatment needs obviated the need for additional motivation. However, it may also be that prior studies with similar results did not enter the literature as researchers did not believe their findings merited dissemination. This phenomenon—sometimes called “the file drawer effect”—results in a publication bias that favors studies with significant findings (Ioannidis, 2005). Such bias may exist in the MI literature, resulting in an exaggerated perception of the efficacy of MI. This study is not alone in finding unexpected null findings for an MI intervention and raising concerns that MI’s power may have been overgeneralized. For example, one recent randomized clinical trial, which found that a psychoeducation condition outperformed the MI condition in a sample of tobacco users with low motivation to quit, discussed the need
for caution in viewing MI as a universal treatment of choice and highlighted the need for context in determining MI effectiveness (Catley et al., 2016).

Given this concern, further exploration as to why the ME intervention did not work is critical. The consistency of the results across the three arms of the current investigation indicates that either parent-participants were sufficiently motivated prior to the intervention or the ME did not affect parent motivation. Past research has demonstrated benefits from a brief parental motivation intervention targeting parents of adolescents with behavioral problems (Nock & Kazdin, 2005). However, the sample characteristics of that study were very different from those of the current study, as more than 40% of the participants had received public assistance, more than 50% came from a single-parent home, and approximately 42% self-identified as an ethnic minority. Accordingly, direct comparisons with the Nock and Kazdin (2005) findings may be misleading. Additionally, in the current study parent motivation was not directly assessed but was inferred by the behavioral indices of treatment initiation and completion. Using a validated measure of parent motivation (Parent Motivation Inventory; Nock & Photos, 2006) would have strengthened the study design and allowed for direct comparisons of parent motivation across conditions.

Another factor that may have influenced the results was the relatively low rate of consent/assent obtained from prospective participants in the present study. Across all partner agency clients who were approached for participation, only 65.1% opted to enter the study. It may be that those participants who would have most benefited from the protocol elected not to participate. Specifically, the types of factors that have been shown as most responsive to MI approaches (i.e., distrust of treatment professionals, resentment
toward treatment, denial of problem severity) are also those that might contribute to the disinclination to volunteer for a research study. If this is the case, any potential effects of the ME might remain undetected due to self-selection factors in the sample. However, participants in the present sample attended treatment at a similar rate to clients from a historical data analysis. This suggests that overall, those who declined to participate were not different from those who consented.

**Limitations and Future Directions**

There are several limitations to the current study that warrant consideration. First, as discussed above, sample characteristics limit the generalizability of the findings. Second, the interventions were tested following nearly 90 minutes of therapeutic assessment between parents and adolescents. The partner agency’s assessment protocol is designed to promote engagement. Although the assessment appointment includes facility orientation and is structured around information gathering, it is possible that the ethos of the partner agency overlaps with the core principles of MI (i.e., supportiveness, responsiveness, warmth) and effectively rendered the content of the ME intervention redundant. This possibility is impossible to directly assess as it would require review and coding of the entire clinical encounter and not only the recorded study/intervention portion. Third, although adherence coding suggested strong fidelity to the model, partner agency clinicians were not trained by a certified MI master clinician. Such training would have assured that the ME intervention fully adhered to the tenets of MI. Last, this study relied on a volunteer sample that was recruited immediately following review of the agency’s disclosure statements, fee agreements, and treatment structure. This sequencing allowed for limited time to build rapport with prospective participants during
what tends to be an emotionally distressing event. Future designs might incorporate time for rapport building prior to seeking consent/assent process with the hope of recruiting a wider range of participants.

Despite these limitations and generally null results, the findings of the present study have use for informing future studies. Given the positive results previous motivational enhancement interventions have had with diverse samples (Nock & Kazdin, 2005), it would be beneficial to replicate the study at a facility that accepts publicly-funded insurance and/or low-cost services to see if the motivational intervention could improve outcomes in a less advantaged population. Additionally, future studies might look further at the influence of external pressures on treatment motivation. For the present study, court-ordered diversion was the only recorded external variable. However, many adolescents who present for treatment at the partner agency have been encouraged to do so by lawyers as a pre-emptive measure to reduce sentencing or have been required by their school to complete an assessment/treatment to quality for reinstatement following an expulsion. Although this information was not collected in the current study, these circumstances represent external pressures to seek treatment and may have an impact on adherence, retention, and completion rates. Last, empirical review of a number of MI studies revealed small but statistically significant benefits for using MI with adolescents (Jensen et al., 2011); however, no studies appear to have tested MI within the context of an initial assessment. As such, examining the impact of a motivational enhancement targeting the adolescent client, and not the parent, during assessment may provide a promising avenue for improving outcomes.
References


Table 1

Adolescent Sample Demographics

<table>
<thead>
<tr>
<th></th>
<th>FS (N = 157)</th>
<th>SCC (n = 52)</th>
<th>PE (n = 50)</th>
<th>ME (n = 55)</th>
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<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M = 16.97</td>
<td>M = 17.14</td>
<td>M = 16.88</td>
<td>M = 16.90</td>
<td></td>
</tr>
<tr>
<td>(SD = 1.13)</td>
<td>(SD = 1.16)</td>
<td>(SD = 1.13)</td>
<td>(SD = 1.10)</td>
<td></td>
</tr>
<tr>
<td>Sex (N = 157)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
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<td>n</td>
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</tr>
<tr>
<td>Female</td>
<td>117</td>
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<td>38</td>
<td>40</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White/Caucasian</td>
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<td>43</td>
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<tr>
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<td>1</td>
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<td></td>
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<td>Intact</td>
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<td>29</td>
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<td>Child –Reported Disciplinarian (N = 138)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mom</td>
<td>65</td>
<td>27</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Dad</td>
<td>43</td>
<td>11</td>
<td>18</td>
<td>14</td>
</tr>
<tr>
<td>Both</td>
<td>21</td>
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<td>4</td>
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<td>Other</td>
<td>9</td>
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Note. *p < .05; FS = Full sample; SCC = Standard care control; PE = Psychoeducation control; ME = Motivational enhancement.
## Table 2

*Average Number of Substances Used*

<table>
<thead>
<tr>
<th></th>
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<th>SD</th>
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<tbody>
<tr>
<td>Total</td>
<td>3.58</td>
<td>1.73</td>
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<tr>
<td>Standard Care Control</td>
<td>3.56</td>
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<tr>
<td>Psychoeducation Control</td>
<td>3.57</td>
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<tr>
<td>Motivational Enhancement</td>
<td>3.62</td>
<td>1.65</td>
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*Note. *p* < .05*
Table 3

*Self-Reported Substance Use and Preferences Across Study Conditions*

<table>
<thead>
<tr>
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<th>PE</th>
<th>ME</th>
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</thead>
<tbody>
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<td></td>
<td>(N = 157)</td>
<td>(n = 52)</td>
<td>(n = 50)</td>
<td>(n = 55)</td>
</tr>
<tr>
<td><strong>Average Substances Used</strong></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
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<tr>
<td>Cannabis</td>
<td>3.58</td>
<td>1.72</td>
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<td>1.74</td>
</tr>
<tr>
<td>Alcohol</td>
<td>151</td>
<td>97</td>
<td>46</td>
<td>94</td>
</tr>
<tr>
<td>Hallucinogens</td>
<td>61</td>
<td>39</td>
<td>18</td>
<td>36</td>
</tr>
<tr>
<td>Stimulants</td>
<td>54</td>
<td>35</td>
<td>17</td>
<td>31</td>
</tr>
<tr>
<td>Opioids</td>
<td>53</td>
<td>34</td>
<td>16</td>
<td>29</td>
</tr>
<tr>
<td>Anxiolytics</td>
<td>51</td>
<td>33</td>
<td>16</td>
<td>31</td>
</tr>
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<td>Club Drugs</td>
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<td>17</td>
<td>7</td>
<td>14</td>
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<td>Inhalants</td>
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<td>3</td>
<td>6</td>
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<tr>
<td><strong>Substance of Choice</strong></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
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<td>40</td>
<td>80</td>
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<tr>
<td>Alcohol</td>
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<td>12</td>
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<td>2</td>
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<td>Opioids</td>
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<tr>
<td>Anxiolytics</td>
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<tr>
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*Note.* *p* < .05; FS = Full sample; SCC = Standard care control; PE = Psychoeducation control; ME = Motivational enhancement.
Table 4

*Parenting Styles and Dimensions Questionnaire Domain Scores Across Condition*

<table>
<thead>
<tr>
<th></th>
<th>FS (N = 157)</th>
<th>SCC (n = 52)</th>
<th>PE (n = 50)</th>
<th>ME (n = 55)</th>
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<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
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<td>Authoritative Domain</td>
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<td>.40</td>
<td>3.87</td>
<td>.43</td>
</tr>
<tr>
<td>Authoritarian Domain</td>
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<td>.39</td>
<td>1.96</td>
<td>.47</td>
</tr>
<tr>
<td>Permissive Domain</td>
<td>2.43</td>
<td>.36</td>
<td>2.44</td>
<td>.37</td>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>n (%)</th>
<th>n (%)</th>
<th>n (%)</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authoritative</td>
<td>154 (98)</td>
<td>50 (96)</td>
<td>50 (100)</td>
<td>54 (98)</td>
</tr>
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<td>Authoritarian</td>
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<td>1 (2)</td>
<td>0</td>
<td>1 (2)</td>
</tr>
<tr>
<td>Permissive</td>
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</table>

*Note.* *p* < .05 denotes differences across conditions; FS = Full sample; SCC = Standard care control; PE = Psychoeducation control; ME = Motivational enhancement.
Table 5

*Association of Demographic Variables to Treatment Initiation*

<table>
<thead>
<tr>
<th>Predictor Variable</th>
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<th>$p$</th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex (Males as Comparison)</td>
<td>1.09</td>
<td>0.06</td>
<td>2.98</td>
<td>97 – 9.18</td>
</tr>
<tr>
<td>Race (Non-Whites)</td>
<td>-0.35</td>
<td>0.50</td>
<td>0.70</td>
<td>0.25 - 1.98</td>
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<tr>
<td>Age</td>
<td>-0.14</td>
<td>0.47</td>
<td>0.87</td>
<td>0.61 – 1.26</td>
</tr>
<tr>
<td>Number of Substances Used</td>
<td>0.34</td>
<td>0.02</td>
<td>1.40</td>
<td>1.06 - 1.86</td>
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</tbody>
</table>

*Note.* Treatment initiation had three levels: Showed as Scheduled; Rescheduled and Showed and Never Scheduled/No-Showed. Never Schedule/No-showed was used as the comparison group for analysis.
Table 6

*Univariate Relations of Demographics Factors and Days In Treatment*

<table>
<thead>
<tr>
<th>Predictor Variable</th>
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<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>-.39</td>
<td>.799</td>
</tr>
<tr>
<td>Race</td>
<td>-3.22</td>
<td>.110</td>
</tr>
<tr>
<td>Age</td>
<td>-.005</td>
<td>.994</td>
</tr>
<tr>
<td>Number of Substances Used</td>
<td>-1.79</td>
<td>.649</td>
</tr>
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</table>

*Note.* Only includes those participants ($n = 126$) who attended at least one treatment day.
Table 7

Treatment Engagement and Completion

<table>
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<tr>
<th></th>
<th>FS ((N = 157))</th>
<th>SC ((n = 52))</th>
<th>PE ((n = 50))</th>
<th>ME ((n = 55))</th>
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</thead>
<tbody>
<tr>
<td>Total Sessions Attended</td>
<td>(M) (SD)</td>
<td>(M) (SD)</td>
<td>(M) (SD)</td>
<td>(M) (SD)</td>
</tr>
<tr>
<td></td>
<td>16.32</td>
<td>14.13</td>
<td>17.92</td>
<td>16.93</td>
</tr>
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<td>Completion Status</td>
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<tr>
<td>Never Attended</td>
<td>31 (20)</td>
<td>13 (25)</td>
<td>10 (20)</td>
<td>8 (15)</td>
</tr>
<tr>
<td>Attended, Did Not Complete</td>
<td>55 (35)</td>
<td>17 (33)</td>
<td>14 (28)</td>
<td>24 (44)</td>
</tr>
<tr>
<td>Completed</td>
<td>71 (45)</td>
<td>22 (42)</td>
<td>26 (52)</td>
<td>23 (42)</td>
</tr>
<tr>
<td>Needed Follow-up Contact(^1)</td>
<td>41 (26)</td>
<td>19 (37)</td>
<td>14 (28)</td>
<td>8* (15)</td>
</tr>
<tr>
<td>Agency Initiated Contact</td>
<td>22 (14)</td>
<td>11 (21)</td>
<td>11 (22)</td>
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<tr>
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<tr>
<td>Quit Attending</td>
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<td>Discharged to Higher Level of Care</td>
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<td>Transferred to Same Level of Care</td>
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<td>Incarceration</td>
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<td>1 (2)</td>
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</table>

\(n\) (%): \(n\) (percentage)

\(M\), \(SD\): Mean and Standard Deviation

Note. *\(p < .05\); **\(p < .001\); FS = Full sample; SC = Standard care control; PE = Psychoeducation control; ME = Motivational enhancement.

\(^1\) It unknown whether the contact was participant or agency initiated for two of the participants who needed follow-up contact.
Appendix A

Attention Control Psychoeducation (PE) Protocol

Parenting Education Protocol
Study Participant: ______________________________
Assessment Professional: __________________________

☐ Script for Giving the Parenting Style Index (both parents)
During my time with your child, we would like for you to answer some questions that will give us a sense of how you and your spouse/partner interact with your child. Please rate both your own and your spouse/partner’s interactions. We ask that you each answer the questions independently without talking or consulting with each other. When you are done answering the questions, please give the forms to the receptionist behind the glass.

☐ Script for Giving the Parenting Style Index (1 parent)
During my time with your child, we would like for you to answer some questions that will give us a sense of how you and your spouse/partner interact with your child. Please rate both your own and your spouse/partner’s interactions. When you are done answering the questions, please give the forms to the receptionist behind the glass.

☐ Adolescent’s Report of Disciplinarian
Who is the primary disciplinarian in the household? In other words, who is in charge? __________________________

☐ Parental Concordance
Do the parents agree on who is the primary disciplinarian? ☐ yes ☐ no

☐ Court Referral?
Is the referral a result of diversion for a legal charge? ☐ yes ☐ no

☐ Likely Appropriate for IOP?
Is the child likely appropriate for IOP services? ☐ yes ☐ no

Section I: Education about Adolescent Drug Use and Abuse

“As the last part of your visit today, we are going to share with you some basic information about teen drug use and abuse. Over the years, we have learned that many parents don’t feel they have accurate information about teen drug use as they ask us lots of questions -- questions like: ‘How many teens use drugs?’ ‘What types of drugs do teens use?’ ‘When teens use drugs, how much do they use?’ ‘Why do teens try drugs?’ and ‘Why do some teens who try get addicted but others who try don’t develop any problems?’ If you are like many of the parents we have worked with over the years you
likely have at least some of these questions. As a result, we have created a “fact” sheet, so-to-speak, that we hope will answer any questions you might have now – or that might occur to you after you leave here today and think about everything.”

“Let’s start with the question that parents are most interested in – and is the hardest to answer: Why do some teens who try drugs get addicted and others who try drugs have no problems? Unfortunately, at this point researchers are not sure why some kids can try drugs, even use drugs quite a bit, but never develop significant problems while others run into major issues. We know that two kids can start off using a substance – alcohol or another drug – in the exact same way but it will wind up having a totally different impact on their lives. By studying large groups of teens, research has identified certain factors that are associated with having more or less risk of moving from experimentation to problem use, but not every kid who develops a problem has the risks and not every kid who has the risks will develop a problem. Although research is getting better at figuring out which kids are most likely to develop a drug problem, at this point we can only say for certain that a child who doesn’t try drugs will never develop a problem. Currently, there are all kinds of prevention programs being developed, helping target all kids, so that they never get to the point they might need the kind of treatment that we offer here.

So, let me share with you what research has identified as increasing the chance that a teen who experiments with drugs or alcohol will develop a real problem.

**General Information**

“The first thing to keep in mind is that research has shown there is not a single cause or reason anyone develops a problem with drugs or alcohol. Rather, substance problems are the result of many factors including genetics, personality, and the environment. Some teens have lots of the factors related to developing substance problems and some only have a few. As mentioned earlier, the only thing that is absolutely necessary is experimentation with substances. Therefore, our best recommendation is that parents pay close attention to what their kids are doing and encourage their teens not to use at all.”

“Before I share with you the overall rates of teen substance use, there are couple things to consider when thinking about the numbers. First it is important to remember that the figures reflect the number of teens using or experimenting but don’t tell us anything about how many of these teens have, or will develop, problems from their use. Second, as you will see in a moment, the teen who never tries drugs or alcohol is a pretty rare kid. Although at first many parents who learn about how common it is for teens to try substances feel a little less worried about their own child’s use, the fact that most teens try alcohol and/or other drugs is actually a reason for real concern as all kinds of bad consequences go hand in hand with alcohol and drug experimentation -- consequences like accidents and injuries that can happen the first time someone tries a substance.”

“So, how many kids report using drugs and alcohol? About three out of four --or 75% -- of high school students have tried at least one addictive substance like cigarettes, alcohol, marijuana, or cocaine. About half of high school students are current and repeat users.”
“Teen users are at a much higher risk of developing an addictive disorder in comparison to adults -- and the younger they start using, the greater the risk of developing a problem. Among adults who have a substance use problem, nine out of ten began using before they turned 18. Also, those who begin using addictive substances before the age 15 are six and half times more likely to develop a problem than those who don’t use until after turning 21. This is likely in part because, the regions of the brain that are crucial to decision making, impulsivity, and judgment are not yet developed. This makes teens more prone to risk-taking than adults and addictive substances have the power to alter brain structures and pathways. This ‘rewiring’ happens more quickly in teens than adults, which increases their risk of addiction.”

“Another thing that parents frequently want information about is what are the most common drugs abused by high school students. The most commonly used substances, in order, are alcohol, cigarettes (nicotine), marijuana, and diverted prescription drugs. Among high school students, 72.5% have drunk alcohol, 46.3% have smoked cigarettes, 36.8% have used marijuana, and 14.8% have used diverted prescription drugs. Also, about two-thirds of students have used more than one substance.”

“As you know, many bad consequences are associated with teens using drugs and alcohol. What you might not know is that substance use and addiction are the leading cause of preventable death and disability for teens in the United States. Some consequences can occur the first time a teen uses a substance, while others are the result of repeated, heavy use. Some of the most common consequences of teen substance use that happen with both one-time and repeated use are injuries, car accidents --which can be fatal--, unintended pregnancies, and medical emergencies. Consequences that are frequently associated with chronic, problem use are psychological conditions like depression, anxiety, psychosis; impaired brain function; poor academic performance; criminal involvement, and even death. Teen use also can affect others. Assault, risky sexual practices, and motor vehicles accidents are all ways that a teen’s use can affect others.”

- “I know that I’ve thrown a great deal of information at you in a short period of time. What are your thoughts about the number of kids using substances these days, or the risk of using drugs or alcohol during adolescence?”

Therapist response: Provide a summarization and reflection of the content of the parent response without identifying the emotional components.

Ex: “You hear that most kids are using, and that there are a number of kids who have a problem. Also, it seems that you’ve picked up that taking adolescent use seriously is important because it can lead to life-long problems with substance dependence.”

Transition to Specific Drugs
“Now, I’d like to share some more specific information about alcohol and drug use and some of the health risks that are generally less well known. If you have questions about any drugs I don’t mention, we can provide you with a place to get more information.”

**Alcohol Specific**

“Among all substances, alcohol is the most commonly used. Nearly three-quarters of all high school students report having had at least one drink. 40% of high school students are current drinkers - meaning they drank alcohol in the past month. Also, the number of students who drink alcohol increases between the start of high school and graduation. About two-thirds of students have drank alcohol by 9th grade, whereas by 12th, eight out of ten students have used. One of the more recent trends is “binge drinking” -- this when a teen consumes five or more drinks of alcohol in a row within a couple of hours. One quarter of high school students report “binge drinking” within the previous month. The chances that a student will binge drink effectively doubles between the beginning and end of high school.”

“Bucking previous trends, nowadays girls are actually slightly more likely to drink alcohol than boys. Despite this, boys are more prone to binge drink than girls. There are differences in alcohol consumption across races – fewer African-American/Black high school students drink than Caucasian/White kids. Additionally, African-American/Black students tend to drink less than Caucasian/White kids. Lastly, Hispanic kids are the most likely to have ever used alcohol but Caucasian/White kids are more likely any other ethnicity or race to be a current drinker or a binge drinker.”

☐ “Do any of these facts and figures about adolescent alcohol use surprise you or specifically concern you?”

Therapist response: Provide a summarization and reflection of the content of the parent response without identifying the emotional components.

Ex: “So you hear that Caucasian/White kids are more likely to develop a problem with alcohol than kids of other races and that three quarters of all high school students have had a drink. It’s pretty surprising to hear that nearly all of our children will have experimented with alcohol by the time the graduate high school.”

**Marijuana Specific**

“Marijuana is the most commonly used (generally) illicit substance in the United States. For teens, marijuana ranks just behind alcohol and tobacco as the most commonly used addictive substance. More than a third of high school students have used marijuana at least once, and one in five are current users. By 9th grade, approximately one-fourth of students have tried marijuana and this figure grows to nearly one-half by 12th grade. Looking more closely at all the kids who use marijuana, younger kids, those who use more often, and those who have tried other drugs are more likely to develop a substance use disorder. National data also suggest that students start using marijuana at an average of 14.3 years old.”
“Nearly all kids -- 96.8% -- who use marijuana have used at least one other addictive substance – most often alcohol or nicotine. Specifically, 93% have also used alcohol, 76% have also smoked cigarettes, 37% have also tried prescription drugs, and 34% have used another street drug.”

“Lots of kids experiment with marijuana; however, not all develop a habit or problems. Overall statistics, boys report using more than girls (39% vs. 34.3%). Additionally, African-American (41.2%) and Hispanic (39.9%) students are slightly more likely than Caucasian students (35.7%) to have tried marijuana and are slightly more likely to currently use marijuana. Kids who regularly use marijuana, in general, use it more days each month than kids who regularly use alcohol. In fact, research suggests that on average marijuana users use on 10.5 days per month whereas alcohol users use 4.4 days per month.”

☐ “Do any of these facts and figures about adolescent marijuana use surprise you or specifically concern you?”

Therapist response: Provide a summarization and reflection of the content of the parent response without identifying the emotional components.

Ex.: “Marijuana use is pretty common amongst adolescents. Like you said, some of the most important things to keep in mind are: when did they start using or how many days a month they are using.”

**Diverted Prescription**

“A newer problem that is reaching epidemic status here in the Cincinnati area is diverted prescription medications. Some of the most common prescription drugs that are abused include pain meds or opiates (e.g. Codeine, Oxycontin, Oxycodone, Hydrocodone, Fentanyl, Meperidine); stimulant meds or amphetamines (e.g. Adderall, Dextedrine, Vyvanse, Dextrostat), and anxiety meds or benzodiazepines (e.g. Valium, Xanax, Librium, Klonopin, Ativan). It often surprises parents that diverted prescription drugs are the fourth most commonly abused substances by high school students. In 2009, about 15% of high school students had used prescription drug recreationally at least once in their lives and 4% were current users of a misused prescription drug. The rate of misuse of prescription drugs doubles during high school, from approximately 9.5% of students in the 9th grade to 19.1% in the 12th grade.”

“The most widely abused class of prescription drugs by high school students are prescription opioids – or pain medications. Pain medication accounts for 86.9% of all prescription drug misuse. About one in eight students have used a prescription pain medication recreationally at least once and 3.4% currently misuse them. Misuse of stimulants (amphetamines) is less common than prescription pain medication misuse but still 3.1% of high school students have used them at least once. Less than 1% of students say they have misused stimulants in the previous month. When it comes to tranquillizers, 4.1% of high school students have used them for fun at least once but less than 1% are current misusers.
In contrast to most other drugs, where boys use more than girls, when it comes to prescription medications, girls are more likely to have misused prescription drugs than are boys (15.8% vs. 13.9%) and to be currently misusing them (4.7% vs. 3.4%). White students (15.9%) are the most likely to misuse prescription drugs, followed by Hispanic students (14.1%), students of other races/ethnicities (13.1%), and, finally, African-American/Black students (12.1%). Similar to other drugs of abuse, the earlier a student starts to use prescription drugs for fun, the more likely they are to use other illicit drugs and to develop a substance use disorder.

“Do any of these facts and figures about adolescent prescription misuse surprise you or specifically concern you?”

Therapist response: Provide a summarization and reflection of the content of the parent response without identifying the emotional components.

Ex.: “Like you, it comes as a surprise to many parents that so many kids are using prescription drugs. We commonly think about teens using marijuana, alcohol, and tobacco but don’t often think about other ways teens can get high.”

Other Drugs of Abuse
“The following drugs are less commonly used by teens but still warrant the attention of parents.”

Inhalants
“11.7% of high school students report having used inhalants – these are things like glue, paint-thinner, correction fluid, spray paint and gasoline. They tend to be more popular among younger teens and fall off in popularity by the end of high school.”

Ecstasy (MDMA)
“6.7% of high school students report previous use of Ecstasy or other club drugs.”

Cocaine
“6.4% of students have used cocaine in some form at least once in their life.”

Methamphetamines
“4.1% of high school students report having used methamphetamines (i.e. crystal meth) in their life.”

Over-the-Counter Cold and Cough Medications
“4.0% of all high school students have at least tried misusing non-prescription cold or cough medicine.”

Heroin
“2.5% of students report ever having used heroin. “
“We’ve covered quite a bit of ground today and we will be happy to provide you with some additional resources if you’d like to take a look. Do you have any other questions about adolescent drug use that we haven’t covered?”

Therapist response: Provide a summarization and reflection of the content of the parent response without identifying the emotional components.

Ex: “Yes, it is surprising that so many kids are using prescription drugs or the harder street drugs. We commonly think about teens using marijuana, alcohol, and tobacco products but don’t often think about other ways teens can get high.”
Appendix B

General Drug Information For Parents

Take Home Pamphlet
Thank you for your participation in our study. We wanted to offer you a pamphlet to take home that includes the information we covered during your appointment. In this document you will find basic information about adolescent drug use and general treatment research. If you have any questions regarding the information on this sheet, please contact David Baum at 513.792.1272 ext. 202.

Treatment Research Information

Peers
Research has consistently shown that one of the biggest factors in adolescents’ ability to stay abstinent and commit to recovery is their peer group. Kids who hang around other kids who use drugs and alcohol are much more likely to use themselves. One of the primary efforts of our treatment program is to help adolescents find non-using peer groups that can be supportive of their recovery. Parents can play a positive role in this process by monitoring their child’s activities and encouraging them to engage with other non-using peers. This extends to romantic interests as well. Adolescents who are romantically linked to others who use drugs or alcohol are more likely to use themselves.

Family
Research has shown that parents and families are highly influential on adolescent’s decisions about substances. Adolescents who are in families with significant fighting and tension between family members, with excessive drinking or drug use by others in the family, or have a non-traditional family structure (e.g. single-parent home, death of parent, divorced parents and dual custody) are at increased risk to use alcohol or other drugs. Generally speaking, the better a family gets along, the less likely adolescents are to use drugs. Therefore, parents play a large role in supporting their child’s recovery by actively working on family relationships.

Parent Substance Use
It probably will not surprise you that the more a parent uses alcohol, tobacco, or drugs, the more likely it is that their adolescent will do the same. As part of this treatment program, we encourage parents remove all alcohol, tobacco, and drugs from their home. Additionally, parents are encouraged not to drink or use drugs in the presence of their children. Research also shows that parent’s attitudes toward drugs and alcohol are key. Adolescents who believe that their parents are relaxed about, or don’t strongly disapprove of, alcohol and drug use are more likely to use substances. In keeping with the research, we suggest that parents clearly articulate disapproval of drug and alcohol use by their child and be firm about their position.

Treatment Programs
Research has shown that the best predictor of success in alcohol or drug treatment is completion of the program. Adolescents who enter treatment quickly after initial
assessment and stay for the entire program are most likely to be successful. Research has also shown that parental attitudes about the importance of treatment participation and completion influence outcome. If the adolescent perceives that their parents are not buying into treatment or do not see attending and completing the program as key, they are less likely to be successful.
Appendix C

Motivational Interviewing Experimental Condition (MI) Protocol

*Parenting Intervention Protocol*
Study Participant: ______________________________
Assessment Professional: ______________________________
Intervention Start Time: ___________  Completion Time: ___________

☐ **Script for Giving the Parenting Style Index (both parents)**
  *During my time with your child, we would like for you to answer some questions that will give us a sense of how you and your spouse/partner interact with your child. Please rate both your own and your spouse/partner’s interactions. We ask that you each answer the questions independently without conversing with each other. When you are done answering the questions, please give the forms to the receptionist behind the glass.*

☐ **Script for Giving the Parenting Style Index (1 parent)**
  *During my time with your child, we would like for you to answer some questions that will give us a sense of how you and your spouse/partner interact with your child. Please rate both your own and your spouse/partner’s interactions. When you are done answering the questions, please give the forms to the receptionist behind the glass.*

☐ **Adolescent’s Report of Disciplinarian**
  Who is the primary disciplinarian in the household? In other words, who is in charge? ___________________________

☐ **Parental Concordance**
  Do the parents agree on who is the primary disciplinarian?  ☐ yes  ☐ no

☐ **Court Referral?**
  Is the referral a result of diversion for a legal charge?  ☐ yes  ☐ no

☐ **Likely Appropriate for IOP?**
  Is the child likely appropriate for IOP services?  ☐ yes  ☐ no

**Section I: Motivational Interviewing**

☐ **Q1: How do you feel about your child being here?**

  Therapist response: Provide a summarization and reflection of both the content and emotion of parent response.

**Keys to MI Interview**
1. Expressing Empathy
2. Roll with Resistance
3. Support Self-efficacy
4. Develop Discrepancy
Ex., “You are worried about your son/daughter and are eager to get them the treatment they need. You wish that the arrest hadn’t happened but are relieved that your son/daughter can get help rather than be punished by the courts.”

Clinician Tips:
Focus on expressing empathy and developing rapport with the parents. Cultivating this relationship is critical to foster their openness and willingness to work with the clinician.

☐ Q2: In what ways does your child’s use concern you?

Therapist response: Provide a summarization that highlights the parent’s areas of concern but does not imply judgment or that the parent should be more or less concerned.

Example: “One thing you are worried about is that your son/daughter’s grades will suffer and they will not do well in school. Another thing that concerns you is they might hurt themselves or do something really dangerous, like driving after drinking.”

This question may evoke ambivalence or even resistance from some parents, particularly based on their parenting style. It is important to be flexible and meet the parent where they are. Below are possible responses from parents with different parenting styles and how to respond.

Possible Parent Responses:

☐ High Concern/Low Ambivalence/Low Resistance
“T’m terribly concerned and am willing to do whatever to help my child.”

Clinician Recommendation: Reflect the parents concern and then move to Q3, no additional motivational enhancement is necessary.

☐ Medium to Low Concern/Moderate to High Ambivalence
“I am bit concerned about my child’s drinking, but don’t know if it’s problematic enough to warrant treatment.”

“I’m pretty certain that my child does not have a problem and they only tried the drugs because their friends pressured them to do so.”

Clinician Recommendation: If the parent is not convinced of child AOD problem and need for treatment, use following steps:
1) Summarize parents concern, acknowledging ambivalence but highlighting any areas of concern

Ex: “you are uncertain if your son/daughter needs treatment but you are concerned about his/her drinking”

Ex: “At this point you don’t see your child as having a problem and think that they were pressured into using by their friends, who aren’t making good choices”.

2) Use one of the following to increase concern.

**KEY:** All interventions must be said in a joining, non-sarcastic and non-judgmental voice. It must be a voice of inquiry and curiosity.

**A) Sample Interaction #1:**
Clinician: “On a scale 1-10, how concerned are you?”
Parent: “2”
Clinician: “Oh, you are a two. Why not a one? What part of your child’s use gives you some pause and concern?”

**Sample Interaction #2:**
Clinician: “What would you need to see to know that it was time to get concerned about your child’s use?”

☐ Q3: How would you like for things to be different?

☐ Dissatisfied/Low Ambivalence/Low Resistance
“I’m terribly concerned and am willing to do whatever to help my child.”

**Clinician Recommendation:** Reflect statement. Motivation is likely high: move to Q4.

☐ Moderately Satisfied/Moderate Ambivalence
“Our relationship is alright, though I wish that my child would stop their involvement with drugs and alcohol. I think it would be better if they stopped using.”

**Clinician Recommendation:** If the parent displays moderate ambivalence toward change, use the following steps:

1) Use the MI tactic of reflection and then voice the parent’s argument. Voicing this part of the argument makes the parent innately weigh the significance of the counter argument.

Ex: “So it sounds like things are going pretty well with your child; you’d like her to stop using and yet you don’t feel that her use is
causing real problems. What are some things that do worry you about his/her AOD use, things that you don’t want to see happen?

2) Empathically reflect the concerns of the parent.
   Ex: “If they were to drop out of school, get arrested, or engage in risky activities – like drinking and driving -- that would really make you concerned. Until those things happen, it is hard to see any real reason for concern and it feels better to let him figure things out on his own.

☐ Satisfied/High Ambivalence/High Resistance
   “I think things are really going ok, there doesn’t appear to be any major issues or problems for my child.”

*Clinician Recommendation:* If the parent is not convinced of child’s AOD problem or does not believe the problem affects their relationship with their child, use following steps:

1) Use the MI tactic of reflection and then voice the parent’s argument. Voicing this part of the argument makes the parent innately weigh the significance of the counter argument.

2) Ex: “So it sounds like you feel things are going well with your child; you don’t see any real reasons for concern and are okay with their substance use. Let me ask you a question, what would be an indicator to you that his/her AOD is something to be concerned about?

3) Reflect the concerns of the parent.
   Ex: “If they were to drop out of school, get arrested (again), or engage in risky activities, that would make you concerned and feel that it was time to step in.

☐ Q4: How would you describe the quality of your relationship with your child? How has this changed since you suspected/knew they were using drugs/alcohol.

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☐ Reports Concerns/Low Ambivalence
   “I think that our relationship has suffered recently.”
“Things between all of us used to be better. Since my child has picked up drugs and alcohol, we do not get along very well.”

1) Ask the parents to rate their relationship with their child:
   Example: Clinician: “On a scale 1-10, how would you rate your relationship with your child?”
   Parent: “2”
   Client: “So you would rate it a two. Why not a one? What parts of your relationship still seems to be working?”

2) Explore the ways in which their relationship has suffered as the result of AOD use:
   Ex: ”In what way do you hope that things will change if/when your child stops using?”

☐ No Concerns/Moderate to High Ambivalence/High Resistance
   “I think things are really going ok, there doesn’t appear to be any major changes in our relationship.”

1) Reflect the parent’s lack of concern regarding their relationship with their parents:
   Ex: “So, it sounds as if you are pretty satisfied with your relationship with your child. What are some things that you would suspect might happen if his/her AOD use became enough of a problem to affect your relationship?

☐ Q5: Where do you see your child 5 years from now? Where would you like them to be?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

☐ High Expectations/High Aspirations
   “I expect my child to be successful in the world, and that is what I would like for them as well.”

1) Reflect this positive stance and ask what barriers may prevent their child from achieving these goals:
Ex: “You expect your child to do really well in the future and their success is important to you. Are there things that might get in the way of them achieving their goals?”

□ High Expectations/Low or No Aspirations
“I expect that my child will be doing well in 5 years but once they are 18 that is their own issue. They can do whatever they want.”

1) Reflect the positive expectations they have for their child and take their side by highlighting their apathy toward success after age 18.

Ex: “You think highly of your child’s ability and think they will be successful in the future. That having been said, you’re not planning to continue pushing them once they are out of high school; they will be an adult and it will be up to them.”

If the parent takes a defensive stance against this apathy toward future support, ask about barriers to reaching these future goals:

Parent: “Well I wouldn’t say that exactly; I do care what happens, I just know that once they are 18, I can’t force them to do anything.”

Clinician: “You care about their decisions, you just don’t know what role you will play once he is a legal adult. What do you think your role might look like?”

□ Low Expectations/High Aspirations
“Currently, I don’t know what is going to happen with my child, I don’t have a lot of faith that they are going to do well. My hope is that they will recover from this problem and go on to live a successful and fulfilling life.”

1) Reflect the parents doubts about their child’s future and ask about what the parents can do to contribute to future successes:

Ex: “You have some real worries about what is going to happen with your child going forward. You are hoping that they go on to have a fruitful and satisfying life but are concerned that this might not happen because of their substance use. What are some things that you have thought about doing to promote their success?”
**Low Expectations/Low or No Aspirations**

“I have doubts that my child will succeed in the future, once they are 18 they can do whatever they want. For now, I am trying to do what I can.”

1) Reflect the parents doubts about their child’s future and ask about possible contributions the parents can make:

Ex: “You have some questions about what is going to happen with your child going forward. Despite this, you are hoping that they go on to have a fruitful and satisfying life. You are invested in doing what you can while they are still under your care as once they are an adult, it will be out of your hands. What are some things that you have thought about to promote their success while they are still in the house?”

**No Expectations/High Aspirations**

“My child is their own person, I don’t have any expectations for them. Of course, I’d love for them to get it together and have a successful life.”

1) Reflect the parents doubts about their child’s future and focus on what they see as obstacles in the way of a successful future:

Ex: Your child is in charge of crafting their life. You have some worries right now about how their substance use may affect their future and you hope that they leave this part of their life behind. What are some things that you could see yourself doing to promote their success?”

**No Expectations/Low or No Aspirations**

“I have no expectations for my child. They have repeatedly disappointed me. It is their responsibility to get it together. What I would like for them is irrelevant, they will need to be their own person and make their own decisions in life.”

1) Reflect the ambivalence and anger the parent has about the situation and ask them to rate their investment in the child’s future.

Clinician: “Your child has done a number of things that have made you very angry and upset. You are at the end of your rope with helping them and are unwilling to put yourself out there anymore while they continue to disappoint.”

Parent: “That’s right. I’m just fed up with the situation and I don’t really care what happens long term.”
Clinician: “On a scale of 1-10, with 1 being absolutely not caring at all, no contact with child, and 10 being heavily involved in their life, how would you rate your interest in their young adult life?”

Parent: “4”

Clinician: “So you’re a 4 – not a 1 or even a 3. What makes you a 4 – how do you see yourself involved as they move into adulthood?”

□ Q6: Often times, parents have a hard time understanding how they fit into adolescent substance abuse treatment. What do you consider your role to be in this situation?

□ High Involvement Parents

*Clinician Recommendation*: Reinforce the parent’s investment in the child and use the research as a supplement to increase their motivation for treatment.

“It is clear that you are very invested with doing what you can to make treatment work and are concerned about your child’s future. If I could, I want to share with you some information about what we have learned through drug treatment clinical research…” (MOVE ON TO SECTION II).

□ Moderate Involvement Parents

*Clinician Recommendation*: Increase the parent’s knowledge about involvement in treatment while acknowledging their ambivalence toward participating.

“It seems like you are sort of on the fence with regards to your involvement in treatment. It definitely is a major commitment; there is a lot of driving to the agency, going to meetings, listening to the advice others. On the other hand, you want your child to succeed and have a future that doesn’t involve drugs. At this point, I’d like to share with you some information that we have learned through drug treatment clinical research that you can consider as you think about what to do next…” (MOVE ON TO SECTION II).

□ Low Involvement Parents

*Clinician Recommendation*: Fully acknowledge the large sacrifice that is needed to participate in the treatment program. Ask them to rate on a scale of 1-10 their belief in their child’s ability to recover.
“There is no question that coming to treatment would likely be a sacrifice. When thinking about what it would take to get your child here consistently and complete the program, you see a lot of hurdles. You are also not sure if treatment would even work for your child. To help me get a better idea about how likely you see treatment working for your child, could you rate your belief in treatment working on a scale of 1–10, with 1 being no chance whatsoever and 10 being if they complete the program, they will be drug free.

Respond accordingly (i.e. “so you are at a 4, not a 1 or even a 3. You have some real belief in treatment helping. What are the things that make you that optimistic?” Reflect their reasons for optimism and then move on.

If I could, I would like to share with you some things that we’ve found through research about what increases the chances of an adolescent stopping problem substance use through treatment. This way, you can have as much information as possible as you make the decision about what is best for your child and family …” (MOVE ON TO SECTION II).

Section II: Treatment Research Information

“If it’s alright with you, I’d like to share with you some information that may help your child be more successful in working the IOP program if you decide to move forward. I’m also going to give you a handout with additional specifics for you to reference at home. I’ll go ahead and briefly cover the general points now. Of course, please feel free to ask questions at any time. We will also take a moment afterward to review anything you may want to know more about.“

“The following are some of the major areas in life that have been found to be related to adolescent substance use. Not only are they important to pay attention to in your child’s life, they will be a primary focus in any treatment.

Peers

“One of the major factors for adolescents who use substances is the peers they socialize with. Kids who are around others who use are more likely to use themselves. Also, peers can play an instrumental role in your child’s recovery. If your child hangs out with others who don’t use, they are less likely to be tempted back to using.”

Family

“Another major area is family. Often when a child is using drugs or alcohol, it can feel to their parents that they have no influence or control in the situation. However, research shows the opposite and that parents are actually quite effective in helping their children. In general, the better a family gets along, the more likely a child will succeed in treatment.”

Parent Substance Use
“Kids often copy their parents’ behavior. Parents who use drugs or alcohol, especially in front of their children, are more likely to have children who do the same. We recommend that parents remove all drugs and alcohol in the home to show support for their child’s recovery.”

Program Completion
“In order to maximize your child’s chance of successfully stopping their alcohol/drug use, the most important thing is for them to get all the treatment they need. The single best predictor of success for changing a substance abuse problem is fully completing a treatment program. Kids who enter treatment quickly after being assessed, and stay for the duration of the program--even if they seem to have turned the corner much earlier--are most likely to succeed. Also, how parents feel about treatment and going to all scheduled treatment sessions can influence long-term success. If a child does not believe that their parents see value in treatment, they are less likely to be successful.”

Section III: Parent Didactics

“Before we finish, we want to offer some basic parenting tips that have been shown to help children as they enter into programs like ASAP. Of course, you are the expert on your child and ultimately know which of these pointers may be useful. However, research suggests that practicing the following behaviors is likely to increase your child’s success in treatment. So we encourage to review them all and do as many as possible. Some might make more sense or feel easier than others, but the more you do, the better the chances are that your kid will be successful:

1) Make sure everyone is prompt and attends all required treatment sessions.

2) Encourage and praise your child for trying their best at all times/show your child love and affection.

3) Talk to your child about what your child is doing and talking about in ASAP treatment. Make sure to listen to your child and respond positively to what they are learning.

4) Encourage your child to apply the skills he/she is learning during the ASAP treatment.

5) Be a positive role model.

6) Make clear rules, and be consistent.

7) Spend time with your child.

8) Closely monitor your child.
9) **Try to avoid lecturing, nagging, yelling, and screaming to manage your children’s behavior.**

It’s important to remember that you are not your child’s friend. The most effective parent/child relationships are based on respect, understanding, and love. You are the boss of your home and get to make the decisions and set limits. Make sure your child clearly understands the expectations at home, in school, and during treatment at ASAP.

Also, remember that it takes many tries to learn a new behavior. Be patient. Practice setting expectations regularly, and being patient while waiting for your child to approach/meet your expectations.

**Opportunity for Parent Questions or Processing**

“I know that this process can be extremely overwhelming for parents. At this point I’d like to know if you have any questions or concerns about the assessment today, treatment in general, or anything we’ve covered so far (document any major issues raised for future revisions of this protocol).
Appendix D

Parenting Tips For Parents

Take Home Pamphlet
Thank you for your participation in our study. We wanted to offer you a pamphlet to take home that includes the information we covered during your appointment. In this document you will find some simple parenting tips that have been found to be effective pointers for parents. Remember, you know your child best and are the expert in knowing if and when to apply any of these points. If you have any questions regarding the information on this sheet, please contact David Baum at 513.792.1272 ext. 202.

Parenting Tips
Often, parents are interested in finding out what they can do to increase their child’s likelihood for success in this program. As part of our effort to help your child, we have compiled some pointers for parents that can be put into practice right away and can help to facilitate the long process of recovery. Obviously, not all of these will apply, but we encourage parents to do their best to incorporate as many of these skills as possible into how they parent and interact with their child.

1) **Make sure everyone is prompt and attends all required treatment sessions.**
   As noted above, research has shown that time in treatment is related to positive outcomes. You and your child’s attendance at all required ASAP programming increases the chance that your child will achieve long-term recovery. Making attendance the utmost priority for your family sends the message to your child that treatment is important and should be taken seriously. The way you view the importance of treatment will influence their engagement in the programming. Avoid delaying or missing any treatment sessions.

2) **Encourage and praise your child for trying their best at all times / show your child love and affection.**
   This one can seem hard as often when a child needs treatment for drug use, parents are frustrated and angry and it may be hard to see/acknowledge all the wonderful qualities of your child. However, it is key that the bond between you and your child be as strong as possible. At this time, it is doubly important to allow yourself to “catch” your child doing the right thing and let them know you are proud of them instead of just punishing them when they make mistakes. When you “catch” them doing homework, using coping skills, hanging with non-using friends, doing a household task without prompting, or attending AA/NA meetings praise and reinforce these positive behaviors. The more you praise a behavior, the more likely your child will do it again. When your child runs into difficulties (which is a normal part of the recovery process), avoid being angry or critical; instead work with your child to see these not as failures but as opportunities to learn and grow. Be clear about what is acceptable and unacceptable behavior and then discuss the issue
with your child and help them develop strategies for handling similar situations better in the future.

Try telling your child that you love them and think they are special. Although they may not directly show their appreciation, they are likely to feel better about themselves knowing that despite everything that is going on, you continue to love them. Additionally, when appropriate, try giving your child a spontaneous hug or a high five, and tell them you are proud they are taking the program seriously and trying their best.

3) **Talk to your child about what your child is doing and talking about in ASAP treatment. Make sure to listen to your child and respond to them.**

As part of an overall commitment to treatment, we encourage parents to engage in meaningful conversations with their children about what they are sharing and discussing in group therapy. When bringing up these conversations, parents should stress the importance of maintaining openness and honesty in the process of regaining and cultivating family trust. Again, it is important to always try your best to reinforce positive behaviors and not dwell on the ways your child may be struggling. If they do want to talk with you about their struggles, be supportive and help them figure out ways they can tackle the situation. Recovery is a long process that will require significant support from family and friends. Developing more open communication allows the family to rebuild the trust that is usually lost when children start using drugs and alcohol.

4) **Encourage your child to apply the skills they are learning during the ASAP treatment.**

Part of talking with your child about what they are learning at the ASAP program is to help them incorporate the skills into their daily lives. When you see a discrepancy or feel they are making poor decisions, feel free to bring these issues up with their care manager. Likewise, when you see them doing a good job applying their new skills, praise them and their progress.

5) **Be a positive role model**

A primary way children learn to behave is by watching their parents and other significant adults in their lives. If there are behaviors you don’t want your child to copy (smoking, drinking alcohol, cursing, etc.) don’t do them in front of your child. The phrase “do as I say, not as I do” has been shown to not an effective way to parent.

6) **Make clear rules and be consistent.**

Children are more likely to succeed in substance use treatment when they have routines and their life is predictable. They need to know what is expected of them and what they can expect from their parents. Family rules should be made clear to children and should be consistently enforced. Additionally, if parents disagree about the rules that exist in the house, it
would be beneficial to sit down and create new rules together so that everyone is on the same page. When your child does break a rule, it will be important to enforce the rule in the most matter-of-fact way possible. This typically includes a calm statement of what the child did and the consequence of breaking the rule. Consequences should be proportional to the rule violation; consequences such as temporarily losing a privilege are most effective. The consistency, and not the size, of consequence is most important for change. Yelling, shaming and physical punishment are not effective in creating long term change. If the child knows the punishment in advance, they should not be surprised when it is enforced.

7) **Spend time with your child.**
Parents should try their best to set aside “special time” to be with their children. Try to schedule activities that the family enjoys together. The exact nature of the time spent together is not what is important; rather, knowing that their parents value spending time with them is what is key.

8) **Closely monitor your child.**
Parents should make sure they know where their children are, who they are with, and what they are doing. The more you know about your child’s friends and whereabouts, the less likely they are to be engaging in activities that threaten their recovery.

9) **Try to avoid lecturing, nagging, yelling, and screaming to manage your children’s behavior.**
While difficult to not respond in this manner, these approaches are typically not effective and often make problems worse. Try to show empathy to your child and offer them unconditional love and support within clear rules and guidelines.

It’s important to remember that you are not your child’s friend. The most effective parent/child relationships are based on respect, understanding, and love. You are the boss of your home and get to make the decisions and set limits. Make sure your child clearly understands the expectations at home, in school, and during treatment at ASAP.

Remember also that it takes many efforts to learn a new behavior. Be patient. Practice setting expectations regularly, and being patient while waiting for your child to approach/meet your expectations.
Appendix E

IRB Approval

April 14, 2014

David Baum

Dear Mr. Baum:

The IRB reviewed the revisions to your protocol #13-068, *The Effects of a Brief Motivational Enhancement Targeting Parts of Adolescent Substance Users*. We very much appreciated your attention to the issues raised, and your treatment of them.

Therefore, your study is approved in the Full Board Review category under Federal Regulation 45CFR#46. Approval expires April 14, 2015. A progress report available at [http://www.xavier.edu/irb/formx.cfm](http://www.xavier.edu/irb/formx.cfm) is due by that date. If you wish to modify your study, it will be necessary to obtain IRB approval prior to implementing the modification. If any adverse events occur, please notify the IRB immediately.

If you have any questions, please contact the IRB office at 745-2870. Thank you for your compliance efforts.

Sincerely,

Morell E. Mullins, Jr., Ph.D.
Chair, Xavier University IRB

MEM/db

Enclosure: stamped informed consent
Appendix F

Parenting Styles and Dimensions Questionnaire

(Robinson, Mandleco, Olsen & Hart, 1995)

Please read each item and record a rating (to the left of the question)
Based on the manner in which you parent your child:

**I Exhibit This Behavior:**
1 = Never  
2 = Once in Awhile  
3 = About Half of the Time  
4 = Very Often  
5 = Always

______ 1. I encourage my child to talk about the child’s troubles.
______ 2. I guide my child by punishment more than by reason.
______ 3. I know the names of my child’s friends.
______ 4. I find it difficult to discipline our child.
______ 5. I give praise when our child is good.
______ 6. I spank when my child is disobedient
______ 7. I joke and play with my child.
______ 8. I withhold scolding and/or criticism even when my child acts contrary to my wishes.
______ 9. I show sympathy when my child is hurt of frustrated.
______10. I punish by taking privileges away from my child with little if any explanation.
______11. I spoil my child.
______12. I give comfort and understanding when my child is upset.
______13. I yell or shout when my child misbehaves.
______14. I am easy going and relaxed with my child.
______15. I allow my child to annoy someone else.
______16. I tell my child my expectations regarding behavior before the child engages in an activity.
______17. I scold and criticize to make my child improve.
______18. I show patience with child.
______19. I grab my child when being disobedient.
______20. I state punishments to my child and do not actually do them.
______21. I am responsive to my child’s feelings or needs.
______22. I allow my child to give input into family rules.
______23. I argue with my child.
______25. I give my child reasons why rules should be obeyed.
______26. I appear to be more concerned with my own feelings than with our child’s feelings.
______27. I tell my child that we appreciate what the child tries or accomplishes.
______28. I punish by putting my child off somewhere alone with little if any explanation.
______29. I help my child to understand the impact of behavior by encouraging our child to talk about the consequences of their own actions.
30. I am afraid that disciplining my child for misbehavior will cause the child to not like his/her parents.
31. I take my child's desires into account before asking the child to do something.
32. I explode in anger toward my child.
33. I am aware of problems or concerns about my child in school.
34. I threaten my child with punishment more often than actually giving it.
35. I express affection by hugging, kissing, and holding my child.
36. I ignore my child's misbehavior.
37. I use physical punishment as a way of disciplining my child.
38. I carry out discipline after my child misbehaves.
39. I apologize to my child when making a mistake in parenting.
40. I tell my child what to do.
41. I give into my child when the child causes a commotion about something.
42. I talk it over and reason with my child when the child misbehaves.
43. I slap my child when the child misbehaves.
44. I disagree with my child.
45. I allow my child to interrupt others.
46. I have warm and intimate times together with my child.
47. When two children are fighting, I discipline the children first and ask questions later.
48. I encourage the child to freely express himself/herself even when disagreeing with me.
49. I bribe my child with rewards to bring about compliance.
50. I scold or criticize when my child's behavior doesn't meet my expectations.
51. I show respect for my child's opinions by encouraging my child to express them.
52. I set strict well-established rules for my child.
53. I explain to my child how we feel about the child's good and bad behavior.
54. I use threats as a punishment with little or no justification.
55. I take into account my child's preferences in making plans for the family.
56. When my child asks why he/she has to conform, I state: because I said so, or I am your parent and I want you to.
57. I appear unsure on how to solve my child's misbehavior.
58. I explain the consequences of the child's behavior.
59. I demand that my child does/do things.
60. I channel my child's misbehavior into a more acceptable activity.
61. I shove my child when the child is disobedient.
62. I emphasize the reasons for rules.

If applicable, would you say you have a different approach to parenting than your spouse?
☐ Yes  ☐ No  ☐ N/A
For Staff Use Only:

<table>
<thead>
<tr>
<th>Scale 1</th>
<th>Scale 2</th>
<th>Scale 3</th>
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<tbody>
<tr>
<td>Raw Score:</td>
<td>Raw Score:</td>
<td>Raw Score:</td>
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<tr>
<td>Scale Q’s: /27</td>
<td>Scale Q’s: /20</td>
<td>Scale Q’s: /15</td>
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<tr>
<td>Mean Score:</td>
<td>Mean Score:</td>
<td>Mean Score:</td>
</tr>
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Self-Reported Parenting Style: ________________________________
Appendix G

Adherence Coding Form

Participant Number: ____________________
Date of Rating: ____________________

Which intervention do you believe the clinician was using (circle one)?

Motivational Intervention  Psychoeducation

Adherence to Model

<table>
<thead>
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<th>1</th>
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<th>3</th>
<th>4</th>
<th>5</th>
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<tr>
<td></td>
<td>Not at All</td>
<td>A Little</td>
<td>Sometimes/ Moderately</td>
<td>Much of the Time/Mostly</td>
<td>Always/Fully</td>
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</table>

Please use the above scale to rate how much the therapist displayed the following qualities:

Rating

______1. The clinician worked to establish plans for moving forward.
______2. The clinician appeared to listen to what the client said.
______3. The clinician evaluated the client’s motivation to seek treatment and highlighted how this was related to their wants, desires, and needs.
______4. The clinician demonstrated reflective listening.
______5. The clinician offered advice and/or was directive.
______6. The clinician asserted their authority.
______7. The clinician offered affirmations of strengths and self-efficacy.
______8. The clinician was confrontational.
______9. The clinician asked many close-ended questions.
______10. The clinician asked open-ended questions.
______11. The clinician provided information.
______12. The clinician responded to and reflected emotional content.
Appendix H

Demographic and Outcome Variables Summary Sheet

Demographic and Contact Information

Participant Number: ______________________

Date of Assessment: ______________________

Race: ___________________________________

Age: ____________________________________

Primary D.O.C.: __________________________

Secondary D.O.C.: ________________________

Gender: _________________________________

Year in School: __________________________

Contact Phone Numbers:

Adolescent Cell: _________________________

Home Phone: _____________________________

Parental Cell: ____________________________

IOP Program Track: ☐ Weekend  ☐ Weekday

Received Tx from this Agency Before?: ☐ Yes  ☐ No

Intended Treatment Start Date: ______________

Actual Treatment Start Date: ________________

Family Type (Check all that apply)

☐ Intact  ☐ Blended  ☐ Same-Sex

☐ 1-parent  ☐ 2-parent  ☐ Adopted

Child-Reported Disciplinarian: __________________________

Primary Outcome Variables

Enrollment Follow-up

Did Client Schedule within 24 hours of Assessment?: ☐ Yes  ☐ No
Was Follow-up Necessary?: ☐ Yes ☐ No
If yes, by whom?: ☐ Parents ☐ Agency

Latency
☐ Showed up as Scheduled
☐ Re-Scheduled, but showed
☐ Never Showed

Long-Term Outcome

Treatment Completion

Total Treatment Sessions Attended: ____________________________
☐ Never Came to IOP ☐ Attended, did not complete ☐ Completed in 24 Sessions
☐ Completed in > 24

Did Client Attend Continuing Care?: ☐ Yes ☐ No

Total Continuing Care Sessions Attended: ______________________
Appendix I

Timeline Followback Interview (TLFB; Sobell & Sobell, 1992)

Timeline Follow Back Interview Record Form (T2)

Follow-up Date: ___________________

Did the adolescent re-enter treatment since last follow-up? ☐ Yes ☐ No

“Have there been any new significant events or dates over the last 90 days of your life that are of particular importance or meaning to you? If so, when and what were they?”

<table>
<thead>
<tr>
<th>Significant Event</th>
<th>Date</th>
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**TFLB Administration Instructions**

“We are going to help you to reconstruct your drinking and drug use for the last 90 days. This is not a difficult task, especially when you use a calendar for reference. We have found calendars useful in helping people recall their use. Try your best to be as accurate as possible. However, if you cannot recall when exactly you had a drink or used something, give it your best shot!”

“Some people have found it helpful to use an appointment book or daily diary if you have one available. You can use it to help you recall times or events in which you have used.”

**Research Assistant Instructions:**

- It is important that for *each* day listed on the calendar, there is a number indicating the amount the participant consumed. In reporting the participant’s
total daily consumption, we would like you to report it in STANDARD DRINKS (use the chart below the included calendar.

- On the days that the client did not use at all, mark those days with a "0".
- On the days that the participant did use, write in the total amount (i.e. 2 standard drink units, 3 grams) next to an abbreviation (i.e. etoh, mj; see chart on the following page) for the substance use of that day. This includes days of combined use. For example, if the participant drank a glass of wine with dinner and a drink containing 1-1/2 oz. of hard liquor after dinner, it would count as a total of 2 standard drinks for that day. **The important thing is to make sure that something is filled-in for each day.**

### Last 30 Days

<table>
<thead>
<tr>
<th>Month(s):</th>
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<tbody>
<tr>
<td>Sunday</td>
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</table>
What is a standard drink?

Standard drinks measure the amount of pure alcohol you are drinking. One standard drink equals 10 grams of pure alcohol.

<table>
<thead>
<tr>
<th>330ml CAN OF BEER</th>
<th>10oz. GLASS OF TABLE WINE</th>
<th>12oz. BOTTLE OF 5% ALC WINE</th>
<th>12oz. BOTTLE OF 7% ALC WINE</th>
<th>13.5oz. BOTTLE OF 8% ALC WINE</th>
<th>12oz. BOTTLE OF 9.5% ALC WINE</th>
<th>12oz. BOTTLE OF 10% ALC WINE</th>
<th>12oz. BOTTLE OF 12% ALC WINE</th>
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<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>2.1</td>
<td>7.7</td>
<td>37</td>
<td>30</td>
<td>30</td>
<td>30</td>
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</table>

Alcohol – etoh  Marijuana – mj  
Amphetamines - am  Opiates – op  
Inhalants/Huffing – in  Club Drugs/Molly - mdma  
Cocaine – co  Over-the-counter cold - otc
## Previous 30 Days

### Month(s):

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<th>Sunday</th>
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### What is a standard drink?

Standard drinks measure the amount of pure alcohol you are drinking. One standard drink equals 10 grams of pure alcohol.

- **1.0 Standard Drinks**
- 200ml CAN OR BOTTLE OF 4% ALC
- 250ml GLASS OF 11.5% ALC
- 125ml BOTTLE OF 8% ALC
- 750ml BOTTLE OR 1% ALC
- 100ml BOTTLE OF 4% ALC

<table>
<thead>
<tr>
<th>Standard Drink</th>
<th>1</th>
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<th>2.1</th>
<th>7.7</th>
<th>37</th>
<th>30</th>
</tr>
</thead>
</table>

*RTD (READY TO DRINK)
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<tr>
<th>Month(s):</th>
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<tbody>
<tr>
<td>Sunday</td>
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</tbody>
</table>

Alcohol – *etoh*   Marijuana – *mj*
Amphetamines - *am*   Opiates – *op*
Inhalants/Huffing – *in*   Club Drugs/Molly - *mdma*
Cocaine – *co*   Over-the-counter cold - *otc*
Alcohol – etoh  Marijuana – mj
Amphetamines - am  Opiates – op
Inhalants/Huffing – in  Club Drugs/Molly - mdma
Cocaine – co  Over-the-counter cold - otc

Total number of using days: ______________________________________

Most days of continuous abstinence: _______________________________

Average number of days used per week: ___________________________

Amount of D.O.C. used per week: _________________________________
Appendix J

TLFB/OCC Limitations

Post-treatment follow-up data continues to be collected via TLFB interviews and OCC attendance. As of this writing, 28.2% \((n = 20)\) of study adolescents who completed intensive outpatient (IOP) treatment were in the earliest interval of TLFB data collection (treatment completion, three-months, six months). The last participant to complete treatment finished on 5/29/2016. As such, TLFB interviews will be conducted until 11/25/2016 while continuing care attendance may extend to 12/23/2016. Due to the reduced power associated with incomplete data, a decision was made to defer these analyses until January, 2017.

For the present study, TLFB interviews have been conducted at three time points: treatment completion (TC); 90 (+7) days post-treatment (T1), and 180 (+7) days post-treatment (T2). Follow-up interviews occur by telephone. In order to maintain confidentiality during the telephone follow-up, only first names and telephone numbers were provided. The TLFB record form was a separate sheet containing only the study number. After collection of the TLFB data, the sheet containing name and phone numbers was/will be destroyed. The sole key linking study participant names and study numbers is stored on site at the partner agency in a secure location that meets HIPAA regulations to ensure protection of personal health information.
Summary

Title: The Effects of a Brief Motivational Enhancement Targeting Parents of Adolescent Substance Users

Problem: National data indicates more than 75% of high school students have used an addictive substance at least once, with nearly half using over the past thirty days (National Center on Addiction and Substance Abuse [CASA], 2011). The scope and nature of adolescent substance misuse results in serious social cost and is associated with increased risk for the leading causes of death amongst the age group (Eaton et al., 2011). Although an estimated 20% of all high school students meet criterion for a substance use disorder, only 6.4% who meet this threshold receive formal treatment (CASA, 2011). Even when adolescents do receive treatment, estimates of success are fairly low, with only about 50% completing treatment (Ravndal, Vaglum, & Lauritzen, 2005, Szapocznik et al., 1983), and only 30% achieving sustained abstinence (Williams & Change, 2000). As treatment duration remains one of the most consistent predictors of treatment success (Hubbard, Craddock, Flynn, Anderson, & Etheridge, 1997; Simpson, Joe, & Rowan-Szal, 1997), efforts are needed to strengthen commitment to the treatment process.

With adolescents, parents/guardians offer a unique opportunity to build motivation and influence retention. Previous research has shown promise in this area (Day & Reznikoff, 1980; Prinz & Miller, 1994; Szapocznik et al., 1988) but few have developed structured protocols to charge parental motivation. Despite the success seen in using motivational interviewing (MI) with pediatric medical problems (Barnett, Monti, & Wood, 2001; Borrelli et al., 2002; Colby et al., 1998; Erickson, Gerstle, & Feldstein, 2005; Weinstein, Harrison, & Benton, 2004), only one known study has evaluated parent-focused motivational enhancement for a mental health problem. Nock and Kazdin (2005) found success using a MI-based intervention with parents of children with antisocial behaviors; however, the method has yet to be tested with an adolescent substance use population. As such, a brief parent-focused motivational enhancement intervention was tested with parents of adolescent substance abusers to gauge possible improvements in initiation, retention, and completion of treatment.

Method: One hundred and fifty-seven adolescent participants (73.2% male; 82.3% White/Caucasian; average age 16.98 years) and their parents undergoing substance abuse assessment at a private pay adolescent substance abuse treatment agency elected to participate in the study. Parents were asked to complete a self-report measure – the Parenting Styles and Dimensions Questionnaire (PSDQ). Participants were randomly assigned to one of three study arms – standard care control (SCC), psychoeducation (PE), or motivational enhancement (ME). The PE and ME were time matched and about 15 minutes in duration. Parents in the active conditions received the intervention at the end of the agency’s assessment protocol. All demographic and outcome variables were drawn from treatment center files.
Findings: Multinomial logistic regression was used to test whether those who received the ME would be 1) more likely to initiate intensive outpatient (IOP) treatment and 2) complete IOP in comparison to PE and SCC participants. Receiving the ME was not related to initiating ($b = -0.82, p = 0.101$) or completing treatment ($b = -0.53, p = 0.326$). Within the subset of participants who initiated treatment and attended at least one day, a one-way univariate analysis of variance was used to test whether participants in the ME attended more treatment days than participants in the comparison groups. The hypothesis was not supported ($F(2, 124) = 2.32, p = 0.102$). Last, a chi-square test of equal proportions was conducted to determine if the ME would increase program completion rates. The hypothesis was not supported ($X^2(2, N = 157), 1.36, p = 0.506$) and completion was not associated with intervention condition. Taken as whole, the results suggest that the ME intervention did not provide added value to the existing assessment protocol as it did not result in improvements in treatment initiation, engagement, or completion.

Implications: Overall, findings from this study indicate that the ME intervention did not improve adherence, engagement, or completion. However, these findings need to be viewed in the context of the sample. First, these results may not generalize to less privileged populations. The present study was conducted at a private pay facility that does not accept state-funded healthcare plans. As such, participants in the study generally skewed toward a higher socioeconomic status. Second, the program’s rate of initiation (over 80.3% attended at least one day) and retention (56.3% completed the program) outperformed comparable community-based samples (Coatsworth, Santisteban, McBride, & Szapocznik, 2001). This suggests that participants may have been sufficiently motivated prior to arrival. Third, only 65.1% of those recruited chose to enroll in the study, far less than what was expected. It is possible that those who would have benefited most from the ME, those with mistrust of treatment professionals, resentment toward children, and denial of problem severity, declined participation.

The present study adds to a growing literature on using MI-based interventions to improve treatment engagement. The current null findings join other recent results (see Catley et al., 2016) that have underscored the need for caution in generalizing past positive MI findings to contexts in which the approach has not been formally tested. Future studies are needed to address specific populations and contexts in which MI provides added value and improves clinical outcomes.
Press Release

A recent study looked at different ways to help parents consider their teen’s drug and alcohol use while working to change perceptions about substance use treatment. Lead researcher, David Baum, discussed the many problems that can result from teens using drugs and how difficult it can be to get youth and parents to understand the seriousness of addiction. He highlighted that often the biggest barrier to effective adolescent treatment is parents’ difficulty viewing their child’s use as serious and requiring intervention.

Results from the study indicated helping parents reflect on their child’s substance use and their hopes for treatment increased parents’ decision to enter treatment but did not improve actually starting or completing the program. Mr. Baum explained that future studies will need to find other avenues for improving adolescent substance use treatment.