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Improving parenting and parent-teen communication to delay or prevent the onset of alcohol and drug use in young adolescents with emotional/behavioral disorders: A pilot trial

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Mental health disorders in early adolescence have been shown to predict higher levels of alcohol and other drug (AOD) use later on during adolescence (White, Xie, Thompson, Loeber, & Stouthamer-Loeber, 2001). With respect to the externalizing spectrum, Molina and Pelham (2003), for example, found that children with severe inattention problems were more likely than their peers to develop alcohol-related problems in adolescence. Similarly, early aggression (Lochman & Wayland, 1994; Miller-Johnson, Lochman, Coie, Terry, & Hyman, 1998; Nye, Zucker, & Fitzgerald, 1995), conduct problems (Costello, Erkanli, Federman, & Angold, 1999; Hussong, Curran, & Chassin, 1998), and hyperactivity-impulsivity (Kaplow, Curran, & Dodge, 2002; Molina, Smith, & Pelham, 1999) have all been related to adolescent AOD use.

Internalizing behaviors, such as depressive and anxiety symptoms, have also been shown to be related to adolescent AOD use (Hussong & Chassin, 1994; Kaplow, Curran, Angold, & Costello, 2001; Kelder et al., 2001; Labouvie, 1986; Labouvie, Pandina, White, & Johnson, 1990). The National Survey on Drug Use and Health data found that teens who reported a major depressive episode (29.2%) were two times as likely as non-depressed teens (14.5%) to report lifetime AOD use (Substance Abuse and Mental Health Services Administration, 2007). Leech, Day, Richardson, and Goldschmidt (2003) found that 10-year-old children who were depressed, anxious, and male had higher rates of adolescent AOD use than their counterparts. A community study also found that early depressive disorders doubled the risk of initiating alcohol use during adolescence (Kaplow et al., 2001).

The most dramatic increase in AOD use appears to occur in relatively young adolescents, typically between 7th and 9th grade (Centers for Disease Control and Prevention, 2010). Evidence suggests that the earlier one initiates alcohol use, the higher the likelihood of alcohol related problems and disorders later in life (Dawson, Goldstein, Chou, Ruan, & Grant, 2008; Gruber, DiClemente, Anderson, & Lodico, 1996; Hawkins, Catalano, Kosterman, Abbott, & Hill, 1999). These data suggest that efforts to prevent or delay the onset of AOD use in young adolescents with emotional/behavioral disorders are indicated. This paper provides preliminary data on one such prevention program that addresses both parent and adolescent factors related to the onset of AOD use.

Parental and Peer Influences on Adolescent AOD Use

Research has consistently shown that a lack of parental involvement in the activities of their children predicts initiation of AOD use. Parental monitoring, as well as child disclosure about their whereabouts (Stattin & Kerr, 2000), is related to lower rates of AOD use (Leventhal & Brooks-Gunn, 2000; Li, Stanton, & Feigelman, 2000). There is also support for parent-child communication about AOD use reducing risk of early onset AOD use (Jackson & Henriksen, 1997). Other parenting variables that decrease the risk of AOD involvement include positive parenting and family management strategies (e.g., consistent limit setting; Barnes & Farrell, 1992; Ellickson & Morton, 1999; Peterson, Hawkins, Abbott, & Catalano, 1994), family support (Henrich, Brookmeyer, Shrier, & Shahar, 2006), and communication regarding parent's disapproval of AOD use (Ary, Tildesley, Hops, & Andrews, 1993; Ellickson & Hays, 1992).

Affiliation with AOD using peers is also directly related to adolescent AOD use (Clark, Parker, & Lynch, 1999; Dishion & Medici Skaggs, 2000; Farrell, Kung, White, & Valois, 2000; Wills, Resko, Ainette, & Mendoza, 2004). In studies where peer-related variables and family factors were both evaluated, some research has shown that peer associations (e.g., association with deviant peers, perceptions of peer use of AODs) have a more profound impact on AOD use than parent-child relationships (Beal, Ausiello, & Perrin, 2001; DeWit & Silverman, 1995; Olds & Thoms, 2001). Others, in contrast, have found that parents either exert more influence over child AOD initiation (Johnson & Johnson, 2000; Wills et al., 2004) or, when examined in the same model, peer and parental influences on child AOD use are inextricably linked (Barnes & Farrell, 1992; Dishion, Capaldi, & Yoerger, 1999). Thus, it is essential that both parent and peer factors be evaluated in studies of adolescent AOD use and addressed in prevention studies.

Parent-Centered Approaches to Preventing and Reducing AOD Use

Programs that promote behavior management skills and strong parent-child relationships, and work directly with parents by strengthening their sense of responsibility and control over their adolescents' lives have been shown to be efficacious at reducing risk for AOD use in early adolescence (Dishion, Andrews, Kavanagh, & Soberman, 1996; Henggeler, Melton, & Smith, 1992). The Family Check-Up (FCU) is one such parent-based preventative intervention. The FCU is an assessment and feedback intervention, based on motivational interviewing principles (Miller & Rollnick, 2002), and designed to enhance parental recognition of child risk behaviors and engender motivation for reducing these problem behaviors and associated risk factors. The intervention targets specific family risk and protective factors linked to AOD use, including parental supervision and monitoring (Dishion & McMahon, 1998) and parent-child relationship quality (Haapasalo & Tremblay, 1994; Moffitt, Caspi, Dickson, Silva, & Stanton, 1996; Sampson & Laub, 1994; Thornberry, Huizinga, & Loeber, 1995). The FCU helps parents identify their individual child's needs, as well as specific parent and family strengths and weaknesses. Furthermore, the FCU is designed to motivate families to take action to change current practices when necessary. Dishion, Nelson, and Kavanagh (2003) found that the FCU reduced the risk for future AOD use among sixth grade students. In that study, parents assigned to the FCU maintained

monitoring practices in the first year of high school and had teens who reported lower rates of AOD use. Further, the effects of the FCU on adolescent AOD use outcomes were mediated by changes in parental monitoring.

The purpose of this study was to examine the feasibility and preliminary efficacy of implementing a brief parent-based prevention intervention to delay or prevent the initiation of AOD use in a population of young adolescents with emotional/behavioral disorders, at high risk for substance use problems. We describe the preventive intervention's approach and content, and present findings from a pilot randomized clinical trial (RCT) comparing the individualized family substance use preventive intervention based on the Family Check-up model (FCU condition) to a Psychoeducation (PE) session.

Method

Participants

A total of 72 families ($n = 5$, open trial; $n = 67$, RCT) participated in the study. They were either referred to the study by counselors in mental health clinics and school-based truancy courts or recruited from the community health fairs or via ads. To be eligible to participate in the study, the target child had to be living at home with at least one parent/guardian, be between 11 and 17 years old, currently receiving or recently received services at a mental health clinic or by a school counselor for any emotional or behavioral disorder, with the exception of autism or psychosis, and parents had to report no prior AOD use by their children.

Baseline demographics by condition are presented in Table 1. Follow-up data were available for 31 families in the FCU (97%) and 35 in PE (100%) at 3 months, and 26 families in the FCU (81%) and 33 in PE (94%) at 6 months.

Procedures

Interested parents contacted study staff and after receiving a brief description of the study procedures, completed a brief, non-identifiable eligibility screening form. If deemed eligible, adolescent/parent pairs were then scheduled for a baseline assessment. At this meeting, they were presented with an oral and written description of the study, including a description of the project procedures, number of appointments and compensation for participation, potential risks and benefits, and procedures to protect confidentiality. Once both written parental consent and adolescent assent were obtained, eligible families completed a baseline assessment. All procedures were approved by the university Human Subjects Protection Office and a Certificate of Confidentiality was obtained from the National Institutes of Health. A total of 383 families were contacted to participate in the study but 245 did not meet eligibility criteria and were immediately screened out. Of the remaining 138, 40 were eligible at phone screening but then did not follow through for an appointment to be consented, leaving a total of 98 eligible families. Of these, 72 consented/assented (73.4%; $n = 5$, open trial; $n = 67$, RCT).

After completing the baseline assessment, families were randomized to either the FCU condition or the PE condition. Once randomized, parents and children in both conditions

completed the videotaped Family Assessment Task (FAsTask; see below) after which parents in both conditions were scheduled to return for a counseling session, either the FCU or PE. Four of the PE and three of the FCU sessions were conducted in Spanish.

At the end the counseling session, parents were asked to complete acceptability and session adherence measures. Parents were compensated \$90 for completing the two baseline appointments and adolescents received \$40 for the one baseline visit. Parents were contacted 3 months after completing their baseline assessments and asked to complete follow-up measures over the phone. Parents were compensated \$25 for completing the 3-month follow-up assessment. Both parents and adolescents were contacted at 6 months to complete their 6-month in-person follow-up assessments. Parents received \$50 and adolescents received \$40 for completing this final follow-up assessment. The consort diagram (Fig. 1) provides an outline of the procedures as well as participant enrollment and retention data.

Prevention Intervention Conditions

In order to ensure that the conditions were balanced for child gender, age (younger, 11–14 years versus older, 15–17 years) and externalizing problems (Child Behavior Checklist; Achenbach & Rescorla, 2001; score greater than or equal to 64), families were assigned to their condition using an urn randomization procedure (Stout, Wirtz, Carbonari, & Del Boca, 1994).

Family Check-Up condition—Families in the FCU condition completed a one-hour video-taped family assessment task (FAsTask; see Measures section) during their baseline visit. All FAsTask videos were coded by a treatment provider in order to develop a parent feedback report to be presented during the FCU session.

Two weeks after the family completed the baseline assessment and FAsTask, parents met with a counselor and received feedback derived from the FAsTask as well as from self-report measures that assessed family stress, parent substance use, and beliefs about substance use. The primary goal of the 90 to 120 minute feedback session was to first educate parents of children with emotional problems regarding their child's heightened risk for AOD use relative to children without emotional problems. The session was also used to support appropriate parenting and provide motivation to change ineffective parenting. The counselor assumed the role of a collaborator in this change process (Miller, 2002) and reviewed important components of successful parenting using a Motivational Interviewing (MI; (Miller, 2002) style including placing an emphasis on the parent's own responsibility and choice; providing advice on how to change when asked for such advice; and attempting to increase self-efficacy with regard to parents ability to change (Miller, 1985; Miller & Sovereign, 1989). Critical elements in conducting the session include an emphasis on the importance of parenting to the child's success, tailoring feedback to balance strengths and challenges evident in the parents and family, and supporting motivation to change. The principles and techniques utilized in the parent session were based on techniques with demonstrated effectiveness in engaging families and motivating them to change. These include: approaching the change process collaboratively (Patterson & Chamberlain, 1994; Patterson & Forgatch, 1985) sharing assessment results with parents to build collaboration

and focus the change effort (Sanders & Lawton, 1993), and providing a flexible intervention menu of resources in the community (Dishion & Owen, 2002).

In this adaptation of the FCU for parents of children with emotional/behavioral problems, the session began with an open discussion about the heightened risk for substance use problems in this population as they transitioned into adolescence. Next, a summary of the assessment findings was reviewed with parents. This information was summarized into categories including family context (e.g., parent AOD use, life stress), parenting practices (e.g., communication, monitoring, and supervision; alcohol and drug expectations for children), and peer and sibling relationships (e.g., AOD use and pressure to use). In each section, after giving personalized feedback, the counselor provided guidance on each topic. For example, tips on communicating with children about drugs and alcohol were reviewed as well as the 5 W's of monitoring (Who, What, Where, When, Why). A section on encouraging teen strengths, e.g. school involvement, concluded the feedback portion. In this adaptation, we also added normative information regarding escalation in AOD use rates from 6th through 10th grades. In addition, we discussed differences in presentation of AOD use for children who have a primarily internalizing or primarily externalizing disorder. At the conclusion of the session, parent motivation for change, change options, and specific steps for making positive changes in family relationships and parenting were discussed, including potential barriers to change and foreseeable benefits of change to parents and the family. The FCU session took approximately 90 minutes to complete.

Training and Supervision of Counselors: Counselor training started with an 8 hour-long MI workshop and was followed with instruction specific to the FCU protocol. The FCU instruction consisted of 14 hours of training that included a supervisor led review and discussion of the project specific manualized FCU protocol, review of 5 recorded FCU sessions, and practice conducting the protocol in 2 mock FCU sessions with doctoral level supervisors. Once counselors were trained, weekly supervision and audiotape reviews were conducted.

Adherence and Competency: A total of 22 out of 25 English-speaking FCU tapes were rated on 50 protocol-based components using a "no/yes" scale. Two coders rated all 22 tapes; inter-rater agreement (92%) was calculated for adherence on all 22 tapes. With regard to competence, inter-rater reliability was very high, with an intraclass correlation of .88. Adherence to the protocol components was high, with 87% of the expected elements of the intervention being administered. On average, all scores were above the expected score of 3 on a 1 to 5 scale, with the exception of "roll with resistance" which was slightly lower ($M=2.50$; $SD=.91$). Using the MITI-3 five-point scale rating system (Moyers, Martin, Manuel, Miller, & Ernst, 2010), which ranges from 1 "Poor" to 5 "Excellent," competence ratings for MI principles and methods were as follows: Evocation, Mean = 4.20 ($SD = .50$); Collaboration, 4.25 (.48); Autonomy/Support, 4.14 (.49); Direction, 4.09 (.72); Empathy, 4.20 (.68).

Psychoeducation (PE) condition—In the PE condition, participants completed the baseline assessment (including a shortened version of the FAsTask), and then returned for a second visit (corresponding to the visit for the parent feedback that parents in the FCU

attended). At the second visit, a counselor reviewed a set of informational material on AOD use as well as marijuana and tobacco. Information included prevalence of alcohol, marijuana, and tobacco use among teens; negative consequences of AOD use on health, safety and school performance; facts about abuse and dependence; and high-risk situations for use and abuse. Parents received a number of handouts on these topics. This session took approximately 60 to 90 minutes to complete.

Booster Mailings—Parents in the FCU and PE conditions received 8 booster brochures prior to their 6-month follow-up assessment. These brochures focused on topics such as parental monitoring, communication, limit setting, and adolescent substance use and were mailed in three week intervals from baseline. To minimize attrition, contact information sheets were also mailed along with the booster brochures. Parents who updated the contact information sheets received an additional \$10 bonus for each returned sheet.

Measures

Feasibility—Feasibility was assessed based on the number of families enrolled in the study and number who completed the prevention intervention.

Acceptability—Acceptability was assessed using the *Session Evaluation Form* (Harper, Contreras, Bangi, & Pedraza, 2003). The SEF was completed by parents after the FCU sessions. It consists of 10 items on a 4-point response scale about the participant's experience (i.e., was it helpful, were they happy with the meeting). Further, to examine acceptability of the research protocol, an exit interview was administered to both parents and adolescents at their 6-month follow-up visit. Three questions on the exit interview asked parents and adolescents to rate on a how much they liked talking to interviewers, answering questions and helping out with research on a 5-point Likert scale. Eight questions asked parents and adolescents how difficult or easy research related factors (i.e., time commitment, location and length of interviews, relationship with interviewers, etc.) made it to participate in the research study.

Adolescent Outcomes—Adolescent outcomes were measured using the *Youth Alcohol and Drug Survey* (YADS; Werch, Carlson, Pappas, Dunn, & Williams, 1997), a 91-item child self-report measure with subscales examining alcohol, marijuana and cigarette use and intentions to use, alcohol refusal skills and self-efficacy, positive expectancies about alcohol, perceived harmfulness of alcohol, and parenting practices and communication related to alcohol use.

Adolescent Alcohol, Marijuana and Cigarette Use: At baseline and 6-months, adolescents were asked whether they used any alcohol and/or marijuana in the prior 3 months, how long they had been using alcohol and/or marijuana, whether they had at least one drink in the past 7 days and past 30 days, total number of drinks they consumed in the past 7 days and past 30 days, whether they had consumed 5 or more drinks in a row in the past 2 weeks and past 30 days, and total number of days and times per day they used marijuana in the past 7 and 30 days. Adolescents were asked whether they had started using cigarettes in the prior 3 months and the total number of days they had smoked cigarettes in the past 30 days. Alpha

coefficients generated for this sample at baseline and 6 months follow-up were .83 and .85 for the alcohol use subscale and .85 and .89 for the marijuana use subscale. Given the low number of adolescents in our sample reporting cigarette use at both time points, it was not possible to generate alpha coefficients for the cigarette use items.

Intentions to Use Alcohol, Marijuana and Cigarettes: Eighteen items from the YADS measured whether the teen planned to drink (six items; $\alpha = .84$ at baseline and $\alpha = .81$ at 6-months), use marijuana (six items; $\alpha = .85$ at baseline and $\alpha = .88$ at 6-months) or smoke cigarettes (six items; $\alpha = .87$ at baseline and $\alpha = .89$ at 6 months).

Alcohol Refusal and Self-Efficacy: Five items from the YADS were used to examine alcohol refusal in the past 3 months ($\alpha = .82$; $\alpha = .88$) and self-efficacy to refuse alcohol ($\alpha = .73$; $\alpha = .71$). Items included, “How often did you say NO to someone who tried to get you to drink in the past 3 months?” and, “How sure are you that you can stay away from using alcohol, even if asked to use it by friends?”

Positive Expectancies about Alcohol: Adolescents were asked to answer 11 yes or no questions from the YADS regarding their beliefs about positive effects of alcohol. Questions included, “I thinking using alcohol makes people relax, makes parties more fun, makes people more friendly, makes people feel good and happy, etc.”

Parenting and Family Management Outcomes—Parent reports of alcohol and drug communication, limit setting and rules, and monitoring and supervision were collected at baseline, 3-month and 6-month follow-ups. Adolescent reports of parent and child alcohol, drug and general communication, parenting practices, and monitoring and supervision were collected at baseline and 6-month follow-up. Further, videotaped assessments of parent and child interactions were administered at baseline and 6-month follow-up.

Parent-Adolescent Communication: Parent-child communication about alcohol and drug use was measured using the *Alcohol and Drug Communication Scale*, a 34-item, self-report measure adapted from the *Parent-Adolescent Sexual Communication Scale* (Miller, Kotchick, Dorsey, Forehand, & Ham, 1998). The adapted measure assesses frequency of communication regarding alcohol, marijuana, and other drugs, as well as overall communication on substances and peer influences. In this study, the overall substance use and peer influence communication subscales yielded alpha coefficients of .65 and .72 for parent report, and .78 and .82 for adolescent reports. The *General Parent-Adolescent Communication Scale* (Barnes & Olson, 1985) was used to obtain parent and adolescent reports of positive and negative aspects of general parent-adolescent communication and the content and process of parent-teen interactions. For this sample, internal consistency for the Open Family Communication subscale was $\alpha = .76$ for parent and $\alpha = .91$ for adolescent, and for the Problems in Family Communication subscale, $\alpha = .70$ parent and $\alpha = .75$ for adolescent.

Parental Monitoring and Supervision: Parent monitoring and supervision was assessed using the *Parental Monitoring Questionnaire* (PMQ; Kerr & Stattin, 2000), a 24-item youth and parent report measure designed to assess parental monitoring and sources of parental

knowledge (child disclosure, parental solicitation, parental control). The monitoring subscale has demonstrated good reliability and correlates with adolescent internalizing and externalizing maladjustment, deviant peer relationships, and family discord (Kerr & Stattin, 2000). Internal consistency for this study for all data collection time points ranged from $\alpha = .80$ to $.90$ for parents and $\alpha = .85$ to $.90$ for adolescents on the monitoring subscale; $\alpha = .64$ to $.80$ for parents and $\alpha = .63$ to $.80$ for adolescents on the parental solicitation subscale; $\alpha = .67$ to $.85$ for parents and $\alpha = .79$ to $.87$ for adolescents on the parental control subscale; and, $\alpha = .67$ to $.76$ for parents and $\alpha = .75$ to $.76$ for adolescents on the child disclosure subscale.

Ecological Assessment of Family Interactions: The videotaped Family Assessment Task (FAsTask; Forgatch, 1989; Robin & Foster, 1989; adapted by Dishion et al., 1996) was used at baseline and 6-month follow-up to assess in vivo parent-child interactions. Three FAsTask scenarios, 5 minutes each, were completed by participants in both conditions at baseline and 6 month follow-up. In the Monitoring and Listening task, the teen was instructed by research staff to lead a discussion about a time spent without supervision and parent(s) were instructed to seek additional information about the situation the teen presented. Separate scores for monitoring and listening are calculated. On the Substance Use Beliefs task, parents and adolescents were instructed to discuss beliefs about alcohol, tobacco, and marijuana. One score is derived from the task. In the Limit Setting task, parents and teens were instructed to talk about a limit that had to be set within the last week and discuss how it was resolved and how it would be resolved if it were to occur again in the future. This task has one score; it was added to the assessment battery about one-third of the way into the study so data was only available on 37 families. A clinical coding procedure was completed by a two independent raters blind to condition. Norms were derived from 120 multi-ethnic families whose children had good school attendance and no disruptive problems in school (Dishion & Kavanagh, 2003). All raters watched each segment of the videotape together and completed separate coding sheets. Ratings assigned to the family were then discussed and consensus was reached. Ratings for each task item range from 1 to 9. Internal consistency for the monitoring task was $\alpha = .90$ for the family as a whole, $\alpha = .93$ for father ratings, and $\alpha = .91$ for mother ratings. Ratings for the listening task yielded $\alpha = .90$ for fathers and $.70$ for mothers. The substance use beliefs task yielded alpha coefficients of $\alpha = .43$ for father ratings and $\alpha = .71$ for mother ratings.

Child Services Screen: To examine whether parents sought additional resources during the follow-up period, the *Child and Adolescent Services Assessment* (CASA; Farmer, Angold, Burns, & Costello, 1994) was administered to parents during the 6-month follow-up assessment. The CASA is a 36-item frequency measure assessing any type of service the children received during the follow-up period, including mental health, substance abuse, school, and social services.

Data analyses

Descriptive statistics were used to describe the entire sample. To examine baseline differences, demographic characteristics and baseline assessment scores of the two intervention conditions were compared using chi square statistics for categorical variables and analysis of variance (ANOVA) for continuous variables. For adolescent outcomes, a

two (intervention condition) by two (time: baseline and 6-month follow-up) repeated measures analysis of variance (ANOVA) was used to examine the effects of the FCU on the adolescent outcome measures. For parent outcomes, a two (intervention condition) by three (time: baseline, 3-month and 6-month follow-up) repeated measures ANOVA was used to examine the effects of the FCU on parenting outcome variables. For each analysis, corrections were applied when appropriate (e.g., Greenhouse-Geisser). Further, prior teen substance use was, assessed by parent report at screening, was an exclusion criterion but several adolescents in both conditions reported experimenting with substances in the confidential baseline assessment ($n = 9$, FCU; $n=11$, PE). Therefore, all analyses controlled for reported baseline adolescent substance use. Because this was a pilot study with a small sample size, we did not adjust the significance level for number of statistical comparisons conducted but did include effect size estimates for each comparison.

Results

Feasibility

A total of 383 families were screened between November 2008 and September 2010. Of these, 245 did not meet eligibility criteria, 26 refused to participate, and 40 were eligible at a phone screening but then never followed through with an appointment to consent leaving a final sample of 72 (5 in an open pilot trial of the intervention). Thus, 72/138 (52%) of eligible families actually participated in the study. The FCU was considered feasible in this population because of those randomized to this group, all but one finished the intervention in its entirety. Feasibility of the research protocol was also demonstrated with 98.5% of families completing the 3-month follow-up and 88.1% completing the six-month follow-up.

Acceptability

Overall acceptability was evaluated with the items on the SEF. The percentage of parents rating the items as “strongly agree” or “agree” can be seen in Table 2, along with the mean and median for each item. Parents were also asked to complete some additional questions about the counselor and the content of the session. With respect to the latter, 82.7% of the parents rated the item, “the counselor made me feel it was up to me to make choices about my parenting” as “agree a lot” or “agree a little.” Also, 100% of parents rated, “the counselor gave me some helpful ideas for helping my teen avoid alcohol, tobacco, and marijuana” as “agree” or “strongly agree.” Twenty-eight out of the 29 parents who completed the FCU rated the item, “How happy were you with this meeting overall?” as “very happy” or “pretty happy”, and one rated it as “somewhat happy.”

Preliminary Analyses

Preliminary analyses were conducted to compare the two conditions on demographics and baseline outcome measures. There were no differences on the demographic variables and only one difference on the baseline outcome measures: adolescents randomized to the FCU condition reported a greater level of communication with their parents regarding negative peer influences at baseline, $F(1,66) = 9.12$, $p < .01$, than the PE group.

Prevention intervention differential outcome effects

With respect to the differential effects of the interventions on adolescent outcomes, as seen in Table 3, there was a trend in time by condition, $F(1,56) = 3.79$, $p = .06$, partial $\eta^2 = .06$, indicating that the FCU condition showed a slightly higher level of positive alcohol expectancies on the YADS than the PE group over time. There was also a significant time by condition interaction on adolescent report of refusal to drink alcohol on the YADS, $F(1,56) = 7.05$, $p < .05$, partial $\eta^2 = .11$, such that adolescents in the FCU condition reported significant increases in alcohol refusal from baseline to 6-months when compared to adolescents in the PE condition, who reported significant decreases in alcohol refusal (See Table 3).

With respect to substance use communication, there was a significant time by condition effect, $F(1,56) = 5.20$, $p < .05$, partial $\eta^2 = .09$, on parent reported drug-related communication on the AODC from baseline to 6 months (See Table 3). Simple effects tests of the means demonstrated that while both conditions increased on other drug use-related communication when comparing baseline to 6-month follow-up scores, the FCU group had a significant greater increase at 6 months by 1.06 points, $p < .05$ (See Table 3). Further, the change pattern for these two conditions was slightly different, with the FCU group continuing to increase between 3 and 6 months and the PE condition decreasing from 3 to 6 months. There was also a time by condition interaction, $F(1,56) = 4.48$, $p < .05$, partial $\eta^2 = .07$, on parent report of overall substance-related communication on the AODC (See Table 3). Simple effects tests of the means demonstrated significant differences between parents in the FCU condition and parents in the PE condition, such that parents in the FCU condition increased their substance-related communication by 1.17 points, $p < .05$ from baseline to 6-months follow-up. Further, the pattern of change for these two conditions was slightly different, with the FCU condition increasing their communication from baseline to 3-months and continuing to do so at 6-months, while parents in the PE condition decreased at 3-months and then slightly increased at 6-months.

In terms of general family communication, there was also a time by condition interaction on parent report of problem communication on the GPAC, $F(1,56) = 4.18$, $p < .05$, partial $\eta^2 = .07$, indicating that parents in the FCU condition perceived decreases in problematic family communication from baseline to 6-months, and parents in the PE condition perceived slight increases in problematic family communication from baseline to 6-month (See Table 3). There was also a time by condition interaction on adolescent reports of disclosure, $F(1,56) = 4.19$, $p < .05$, partial $\eta^2 = .07$. Inspection of means suggest that while adolescents in the PE condition reported significant increased levels of disclosure on the PMQ; adolescents in the FCU reported significant decreased levels of disclosure from baseline to 6-month follow-up (See Table 4). Finally, on the observational FasTask measure, there was a time by condition trend, $F(1, 34) = 4.09$, $p = .05$, partial $\eta^2 = .11$, on parent limit setting, such that the FCU condition increased and the PE condition decreased from baseline to 6-months (See Table 5).

Given that one of the goals of the FCU is to encourage parents to increase their help seeking behaviors if necessary, we examined parent responses to the CASA survey as an outcome measure. There was one significant difference indicating that families in the FCU ($M = 5.8$,

S.D. = 3.3) condition sought more help from non-professionals (i.e., self-help groups, crisis hotlines, family members), than did families in the PE ($M = 4.1$, S.D. = 4.8) condition, $F(1,58) = 4.35$, $p < .05$.

Time effects

In addition to the differential effects of the prevention intervention described above, both interventions also had similar positive effects on a number of outcome variables. These results are described below.

Adolescent alcohol and drug use—Analysis of the YADS substance use subscales revealed only one significant difference on adolescent substance use: a time effect on alcohol use, $F(1,56) = 5.43$, $p < .05$, partial $\eta^2 = .09$. Both conditions significantly increase from baseline to 6 months. No significant differences were found for marijuana or cigarette use between baseline and 6-months.

Adolescent intentions and attitudes toward alcohol, marijuana and cigarettes—There were no significant differences between baseline and 6-month follow-up on intentions to use alcohol and cigarettes. There was a trend on the effect of time on intentions to use marijuana, $F(1,56) = 3.86$, $p = .05$, partial $\eta^2 = .07$, such that both the FCU and PE groups slightly increase their intentions to use marijuana across time. There was a significant time effect for perceived negative views on alcohol use, $F(1,56) = 5.72$, $p < .05$, partial $\eta^2 = .09$, where both conditions decrease their negative views on alcohol use from baseline to 6 months. There was also a significant time effect on positive expectancies regarding alcohol, $F(1,56) = 5.77$, $p < .05$, partial $\eta^2 = .09$; adolescents in both the FCU and PE conditions demonstrated an increase in positive expectancies about alcohol from baseline to 6-month follow-up. No significant differences over time were found on self-efficacy to resist alcohol.

Parent-Adolescent Communication Outcomes—With respect to parent and adolescent communication regarding alcohol and drugs, results from the parent reports on the *Alcohol and Drug Communication Scale* revealed several significant outcomes. There was a significant time effect between baseline and 3 months, $F(1,56) = 19.61$, $p < .001$, partial $\eta^2 = .26$, and baseline and 6 months, $F(1,56) = 25.90$, $p < .001$, partial $\eta^2 = .32$, for both conditions, such that parents in both the FCU and PE conditions demonstrated significant increases in alcohol-related communication at 3-month follow-up and 6-month follow-up when compared to scores on the baseline assessment. Means for each time point can be seen in Table 4. There was also significant time effect between baseline and 3 months, $F(1,56) = 41.36$, $p < .001$, partial $\eta^2 = .07$, and between 3 months and 6 months, $F(1,55) = 4.10$, $p < .05$, partial $\eta^2 = .43$, for marijuana-related communication. Inspection of means demonstrates that both groups exhibited a significant increase in marijuana-related communication at 3-month follow-up and then a significant decrease in marijuana-related communication at 6-months. There was also a significant time effect for other drug use-related communication, $F(1,56) = 4.14$, $p < .05$, partial $\eta^2 = .07$, such that parents in both conditions report increasing other drug use-related communication across all three time points.

A significant time effect for both conditions, $F(1,56) = 16.38$, $p < .001$, partial $\eta^2 = .23$, on parent report of communication regarding peer influences, demonstrates that both conditions report significantly decreasing their communication on peer influences from baseline to 6 months.

Several significant differences also emerged for adolescent reports of alcohol and drug communication. Specifically, there was a significant time effect, $F(1,56) = 9.59$, $p < .01$, partial $\eta^2 = .15$, on alcohol-related communication, such that both conditions report experiencing increased levels of alcohol-related communication at 6-month follow-up. There was a similar time effect for marijuana-related communication, $F(1,56) = 11.19$, $p < .01$, partial $\eta^2 = .17$, where both conditions also report increases in marijuana-related communication at 6-month follow-up. There was also a time effect for other drug-related communication, $F(1,56) = 5.97$, $p < .05$, partial $\eta^2 = .10$, demonstrating that both conditions increased their other drug-related communication over time. However, there was also a between condition difference, $F(1,56) = 5.47$, $p < .05$, partial $\eta^2 = .10$, demonstrating that, despite there being no significant differences at baseline between the two conditions, the FCU condition demonstrated higher means on both baseline and 6-month follow-up (see Table 3). Means for all time points can be seen in Table 3.

Finally, there was a significant time effect on communication related to peer influences, $F(1,56) = 5.31$, $p < .05$, partial $\eta^2 = .09$, as well as a time by condition interaction, $F(1,56) = 7.37$, $p < .01$, partial $\eta^2 = .12$. Further, there was a trend for the main effect of condition, $F(1,56) = 3.94$, $p = .05$, partial $\eta^2 = .07$. Closer inspection of the means suggest that while both conditions demonstrated change across time, the adolescents in the PE condition experienced increasing levels of communication regarding peer influences from baseline to 6-month. Adolescents in the FCU condition reported engaging in significantly higher levels of communication regarding peer influences at baseline when compared to baseline reports of adolescents in the PE condition, and they continued to experience these higher levels of communication with only a slight decrease occurring between baseline to 6-month follow-up.

Regarding general family communication, significant time effects on both parent, $F(1,56) = 31.75$, $p < .001$, partial $\eta^2 = .36$, and adolescent, $F(1,56) = 10.12$, $p < .01$, partial $\eta^2 = .15$, reports on the *General Parent-Adolescent Communication Scale* suggest that open family communication increased for both conditions from baseline to 6-month follow-up. There were no significant differences detected in time or time by condition on adolescent report of problematic family communication. Means for each time point can be seen in Tables 3 and 4.

With respect to parent monitoring as measured by parent and adolescent reports on the PMQ, a significant time effect, $F(1,56) = 5.93$, $p < .05$, partial $\eta^2 = .10$, between 3 months and 6 months on parent report of monitoring suggests that after slightly increasing, both groups significantly decreased between 3- and 6-month follow-up on parental monitoring. However, there was also a between group difference, $F(1,56) = 4.80$, $p < .05$, partial $\eta^2 = .08$, on parent monitoring, which suggests that the PE condition had larger overall mean scores on monitoring across time than the FCU condition. There were no significant

differences by time or time by condition on parent reports of parental control and solicitation and teen disclosure

There were no significant changes in adolescent report of parent monitoring and solicitation on the PMQ from baseline to 6-month follow-up. However, there was a significant time effect on adolescent report of parental control, $F(1,56) = 4.16$, $p < .05$, partial $\eta^2 = .07$, suggesting that adolescents in both conditions perceived a decrease in parental control from baseline to 6-month follow-up.

Family Interaction Tasks—While comparison of means across all time points suggest increases on monitoring and listening FasTasks for the FCU condition and decreases for the PE condition (see Table 6), there were no time, time by condition or between condition differences on any of the interaction tasks.

Discussion

The purpose of this study was to examine the feasibility and preliminary efficacy of implementing a brief parent-based prevention intervention to delay or prevent the initiation of AOD use in young adolescents with emotional/behavioral disorders. The current study provides preliminary evidence that a brief parent-based preventative intervention for parents of young adolescents with emotional/behavioral problems can be successfully implemented with high retention rates. The FCU described here is individually-tailored to the parent rather than being a generic psychoeducation program that is identical for all participants. Individually-tailored approaches, while common in intervention protocols, are uncommon in prevention intervention programs, at least in part because of the added time involved in implementation. Thus, the fact that this prevention intervention for substance use was feasible and highly acceptable to parents of young adolescents receiving mental health care is encouraging. Only one family did not complete the FCU. Further, comments about the FCU feedback session indicated that nearly all of the parents felt it was useful, relevant, and enjoyable. Parents in the PE condition had similar positive comments suggesting that we provided a credible, engaging condition against which to compare the FCU. Indeed, both conditions resulted in improvements in a number of areas.

Parents receiving the FCU and the PE preventive interventions reported an increase in alcohol related communication at three and six months as well as an increase in general family communication. Marijuana communication also increased at three months with a slight decrease from three months to six months. Adolescents indicated an increase in alcohol and marijuana communication in both conditions at six months. Although a design with a no treatment control group is needed to draw definitive conclusions, it appears that parents respond positively, regardless of condition, to the need to improve communication about substance use. However, parents in both groups reported a decrease in their communication about peer influences on substance use at six months suggesting that greater attention be paid to this area in both intervention conditions. Alternatively, it may be that the young age of the peers in the sample did not raise concerns for the parents and therefore they did not feel it was as necessary to communicate about peers increasing their child's risk for substance use as much as generally communicating about substance use.

The FCU was found to be superior to PE in several areas. Parents in the FCU and PE conditions reported a significant increase in communication about other drugs besides alcohol and marijuana at three months. This finding is not surprising given that both conditions reviewed information regarding the use of alcohol, marijuana and other drugs and provided parents with educational materials regarding each of these drugs. However, the FCU group continued to increase in such communication at six months whereas the PE group decreased in such communication between three and six months. Therefore, the FCU apparently had stronger effects on overall drug communication than psychoeducation. Parents in the FCU condition also reported an increase on overall substance-related communication, and reported experiencing less problematic family communication as well. These findings suggest that the FCU may be more useful in changing communication patterns than psychoeducation, which is consistent with the greater emphasis on engaging parents in examining their current parenting strategies in the FCU and encouraging them to communicate their substance-related beliefs and expectations with their adolescents in addition to providing them with drug information. Parents' increased communication on substance use-related expectations and beliefs may also be reflected in the fact that adolescents in the FCU condition demonstrated greater ability to refuse alcohol at 6-months.

The finding that some parenting behavior changed in both groups at 3 months but decreased at six months suggests that booster sessions might be warranted to increase the strength of the preventive intervention. Booster brochures reviewing the information covered in both conditions were mailed to parents in both the FCU and PE conditions, however it may be necessary to implement more powerful boosters, such as in-person or phone contacts, or more engaging technology, such as text messaging and web-based programs.

The majority of studies examining parenting outcomes rely solely on parent and adolescent self-reports. To address this gap, we included observational assessment of parenting and parent-adolescent interactions in this study in an attempt to obtain a more sensitive measure of parent-child relationships than is typically collected in prevention studies. We did not find statistically significant differences between groups on our observational variables but the means at follow-up increased in the FCU condition while they decreased in the PE condition. These findings suggest that with a larger sample we might be able to detect a significant difference. Indeed there was a statistical trend in this pattern on one of these observational variables i.e., parent limit setting, with the FCU group having higher scores on parental limit setting than the PE group.

Over the course of the six-month follow-up, adolescents themselves, regardless of condition, reported a decrease in parental control, an increase in their intentions to use marijuana, higher positive expectancies about alcohol use, lower negative views about alcohol, and an increase in alcohol use. These consistent increasing positive cognitions regarding alcohol suggest a normal developmental trajectory for adolescents (Windle, Spear, Fuligni, Angold, Brown, Pine et al. 2008). There was no indication that the FCU had any dampening effect on this trajectory compared to the PE condition. These findings suggest that future intervention research should place more emphasis on addressing adolescent cognitions in the parent interventions. Alternatively, or in addition to this added emphasis with parents, working directly with the adolescent to address expectancies and intentions to use in the prevention

program might lead to greater effects on these cognitions. A program that incorporates both parent and adolescent preventive intervention might result in better behavioral results (e.g., Spirito et al., 2011). Further, results demonstrating that parental control also decreased between baseline and 6 months for both conditions are consistent with findings indicating that adolescents seek greater autonomy from their parents as they transition from childhood to adolescence (Steinberg, 1999). These results suggest that prevention programs addressing parenting behaviors would benefit from helping parents develop monitoring and supervision strategies that are congruent with an adolescent's developmental stage.

There were a few instances in which the PE condition outperformed the FCU. Specifically, although both conditions showed increases in adolescents' positive beliefs regarding alcohol, this increase was less pronounced in the PE condition than the FCU condition. Adolescents in PE reported higher levels of disclosure to their parents than the FCU at follow-up. The PE condition also improved more on parental communication about peer influences. However, the FCU group had a higher, i.e. better, scores at baseline which limited the opportunity to improve over time. Most interestingly, parents in the PE condition reported greater increases in parental monitoring than parents in the FCU condition. One explanation for this finding is that there was an emphasis on monitoring for all participants in the PE group, whereas parents in the FCU group had a more variable degree of emphasis on monitoring depending on their feedback results and the focus of the individually tailored FCU session. It is also possible that psychoeducation may be superior to counseling with respect to both educating and transmitting the importance of parental monitoring, particularly among parents whose adolescents have not begun experimenting with substances, whereas interactive motivational counseling may be superior to psychoeducation with respect to improving communication or among parents whose adolescents have already begun experimenting with substances. Nevertheless, these positive findings for the PE condition also may reflect the fact that certain parents do just as well if not better with psychoeducation than an individualized intervention. Or alternatively, that there is a maturation of parenting skills over time regardless of interventions conducted. Future studies with larger samples should examine what factors, such as parent alcohol use or race/ethnicity, moderate differential effectiveness of these preventive interventions. Alternatively, a stepped care approach (Borsari et al., 2012) may be most cost effective, i.e., parents start with psychoeducation and then are followed for 3 or 6 months at which point in time they receive the FCU if their parenting behavior and communication has not sufficiently changed to be protective against adolescent substance use onset.

It is interesting to note that FCU parents did seek out more nonprofessional help over the course of the study than the PE parents. Since identifying persons that can offer support and seeking support from such is often a goal of a change plan in the FCU, whereas it is not mentioned in the PE condition, this finding is not unexpected. Nonetheless, given that parents in the FCU condition sought further support, they may be also open for continued contact with respect to prevention strategies with a professional. Indeed, parents of children with emotional/behavioral disorders tend to have considerable contact with mental health professionals, thus booster sessions may be feasible option for this population.

Findings from this study should be interpreted in light of several important limitations. First, given that this was a pilot study, there were a relatively small number of families in each condition which may affect the stability of these findings and or the ability to detect differences when consistent trends seem evident, such as on the observational assessment. In addition, controlling for attentional factors was imperfect because the FCU was typically 30 to 45 minutes longer than PE. Although unlikely due to the structured nature of the PE sessions, it is also possible that elements of the FCU were present in the PE condition which might have further limited our ability to detect differences across groups. Further, the short-term follow-up period in this pilot trial also may have affected findings. Positive effects of a preventative intervention may be more likely detected at a longer follow-up period, especially as teens transition from middle school into high school and have more exposure to substance use. Prevention studies are typically conducted with much larger samples. In order to find an improvement on parenting behaviors in, for example, 20% of the experimental group versus 10% of the control group, we would need 200 subjects per group. Therefore, future fully powered studies are necessary to determine the effectiveness of targeted parent-based prevention interventions among this population.

Alternatively, selecting adolescents who were at higher risk to start drinking might also have increased the likelihood of being able to detect an effect on initiation of alcohol use. For example, a family history of alcoholism has been suggested as leading to increased adolescent alcohol use through negative pathways such as decreased parental monitoring (Chassin, Pillow, Curran, Molina, & Barrera, 1993). Thus, a group with such family history risk factors might have been a higher risk group to target with respect to subsequent short-term risk for alcohol initiation. Also, adolescent drug use was measured using self-report only. Although this is common in prevention studies, combining self-report with urinalysis-verified drug tests would have strengthened our conclusions.

Due to the preliminary nature of this work and the limitations in the small sample size, further research is warranted. Further examination of the FCU's efficacy in preventing or delaying the onset of substance use among an at-risk adolescent population by addressing parenting-related mediators in a larger trial is necessary, and examination of potential moderators (e.g., parent substance use, culture-related factors) would be beneficial in helping researchers tailor preventative interventions, such as the FCU, further. However, notwithstanding the need for further examination, this study's findings suggest preliminary support, especially in the area of parent-adolescent communication, for brief parent-based preventive intervention for young adolescents at high risk for alcohol and drug use.

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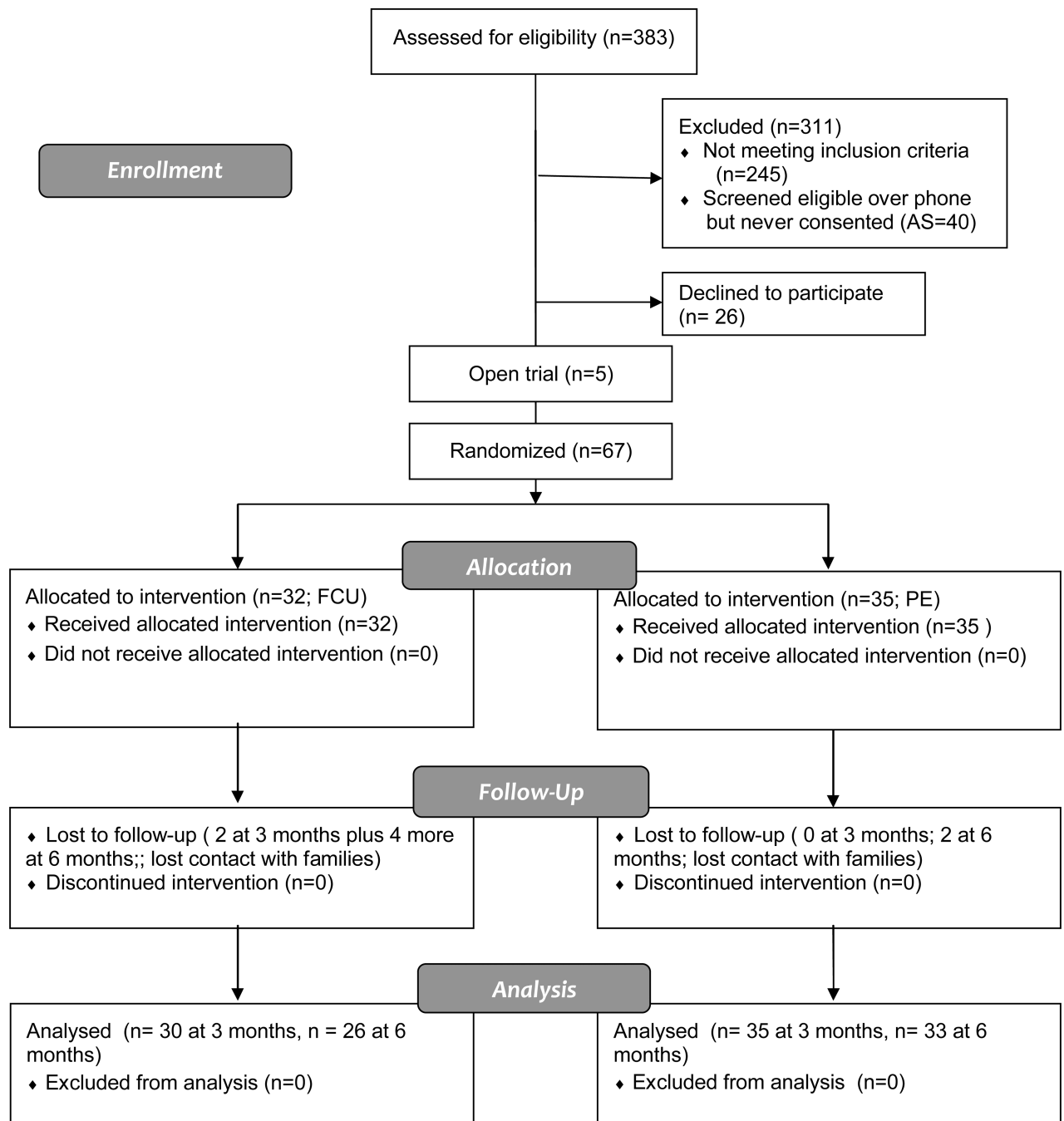


Figure 1.
Flowchart of Participant Enrollment

Table 1

Demographic Characteristics of Adolescents

Variables	FCU		PE	
	n	%	n	%
<i>Gender</i>				
Male	18	56.3	19	54.3
Female	14	43.8	16	45.7
<i>Age</i>				
11 – 12	8	25.0	9	25.8
13 – 14	15	46.9	15	42.8
15 – 17	9	28.1	11	31.5
<i>Grade</i>				
6	2	3	3	8.6
7	8	7	7	20.0
8	11	10	10	28.6
9	5	9	9	25.7
10	3	5	5	14.3
11	3	1	1	2.9
<i>Ethnicity</i>				
White non-Hispanic	12	37.5	13	37.1
Hispanic/Latino White	12	37.5	11	31.4
Hispanic/Latino Black	7	21.9	7	20.0
African American	4	12.5	2	5.7
American Indian/Alaskan Native	0	0.0	1	2.9
Native Hawaiian/Pacific Islander	0	0.0	1	2.9
Other	2	6.3	3	8.6
<i>Place of Birth</i>				
United States	26	81.3	32	91.4
Other Country different than U.S.	6	18.8	3	8.6
<i>Parent Income Level</i>				
Below \$25,999	15	53.6	18	58.1
\$26,000 to \$49,999	7	25	7	22.6
\$50,000 or more	6	21.4	6	19.3
<i>Highest Parent Education level</i>				
Some high school/HS/GED	14	45.1	17	50
Some college	6	19.4	9	26.5
2, 4 yr. college degree	11	35.5	8	23.5
<i>Marital status</i>				
Single, never married	8	25	8	22.9
Living with partner	10	31.3	18	51.4
Separated/divorced/widowed	14	43.7	9	25.7

Table 2

Parent Acceptability Ratings

FCU Characteristics	Mean	Median	Range	Response (%)
<i>Therapist Characteristics</i>				<i>Agree a lot</i>
Was easy to talk to	4.00	4.00	4	100
Was concerned about me	3.83	4.00	1–4	89.7
Understood me	3.90	4.00	3–4	89.7
Helped me believe that I can help my teen	3.97	4.00	3–4	96.6
Made me feel parenting choices were up to me	3.31	4.00	1–4	51.7
Gave me some helpful ideas for helping my teen to avoid drinking and related problems	3.93	4.00	3–4	93.1
<i>Intervention Characteristics</i>				<i>Very useful</i>
Helped me understand how making changes could make life easier/better as a parent	2.83	3.00	1–4	89.7
Shared ideas about things we could change in our family	2.93	3.00	3–4	93.1
Helped me understand parent behavior can have a strong influence on teens	2.93	3.00	3–4	93.1
				<i>Very Relevant</i>
Relevance of the information received	4.66	5.00	2–5	72.4
<i>Overall Satisfaction</i>				<i>Very happy</i>
Overall happiness with the meeting	4.76	5.00	2–5	79.3

Table 3

Means, Standard Deviations, and Effect Sizes for Adolescent Report Measures

Measures	FCU						PE						Time × Condition	F	η ²
	BL			6M			BL			6M					
	M	SD		M	SD		M	SD		M	SD				
Youth Alcohol and Drug Survey(YADS)															
Alcohol Use	.40	.77		.58	1.09		.49	.89		.66	1.13		.02	.00	
Marijuana Use	.00	.00		.31	.93		.38	.81		.55	1.11		.36	.01	
Cigarette Use	1.19	.80		1.46	1.30		1.33	1.08		1.36	1.17		.69	.01	
Intentions to Use Alcohol	.33	.60		.37	.61		.37	.54		.40	.51		.01	.00	
Intentions to Use Marijuana	.05	.18		.17	.42		.26	.53		.38	.64		.00	.00	
Intentions to Use Cigarettes	.11	.27		.16	.47		.19	.47		.15	.50		.44	.01	
Alcohol Expectancies	2.23	2.27		3.42	2.32		2.48	2.25		2.64	2.19		3.79	.06	
Alcohol Use Refusal	1.63	.89		2.19	1.36		2.08	1.32		1.73	1.10		7.05*	.11	
Self-Efficacy to Refuse	3.90	.25		3.76	.46		3.72	.62		3.80	.45		2.86	.05	
Negative Views on Alcohol	3.86	.30		3.65	.67		3.79	.37		3.75	.32		1.59	.03	
Parental Monitoring Questionnaire(PMQ)															
Parental Monitoring	4.07	.66		3.80	.85		3.94	.90		3.99	.85		2.81	.05	
Parental Solicitation	3.08	.92		2.87	.99		2.88	.76		2.94	1.00		1.72	.03	
Parental Control	4.34	.79		4.02	1.11		4.33	.75		4.15	.87		.26	.01	
Teenager Disclosure	3.78	.62		3.59	.82		3.61	1.12		3.78	.96		4.19*	.07	
Alcohol and Other Drug Communication (AODC)															
Alcohol Communication	4.23	3.86		5.92	2.51		4.21	3.42		5.18	2.39		.67	.01	
Marijuana Communication	3.38	3.52		5.08	3.46		4.00	3.71		5.45	3.43		.05	.00	
Other Drug Communication	4.65	3.92		4.92	3.91		2.39	3.41		3.36	3.71		.85	.02	
Peer Influence Communication	1.73	.53		1.69	.62		1.24	.75		1.55	.67		7.37**	.12	
Overall Substance Communication	29.92	5.88		31.00	4.96		31.18	4.10		30.67	5.09		1.69	.03	
General Parent-Adolescent Communication (GPAC)															
Family Communication	40.12	8.49		42.12	9.28		38.03	8.76		42.46	9.19		2.18	.03	

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Measures	Time × Condition																
	FCU						PE										
	BL		6M		BL		6M		BL		6M						
Problem Communication	M	SD	8.58	31.35	M	SD	8.32	31.36	M	SD	7.42	33.21	M	SD	7.92	1.55	.03

Note. FCU = Family Check-Up; PE = Psychoeducation;

* $p < .05$.

** $p < .01$

Table 4

Means, Standard Deviations, and Effect Sizes for Parent Report Measures

Measures	FCU						PE						Time × Condition	F	η ²
	BL			6M			BL			6M					
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD			
Alcohol and other drug Communication(AOD)															
Alcohol Communication	6.85	2.36	8.31	1.57	8.15	1.83	7.00	2.37	8.73	1.01	8.76	.94	.74	.01	
Marijuana Communication	6.08	2.73	7.46	2.35	5.08	3.46	5.75	2.88	7.38	2.62	5.44	3.48	.34	.01	
Other Drug Communication	6.00	2.90	6.15	2.59	7.08	2.71	5.88	3.14	7.45	2.48	6.91	2.94	.02	.01	
Peer InfluenceComm	2.50	.76	2.19	.57	2.03	.20	2.36	.65	2.09	.46	2.00	.00	.28	.01	
Overall AOD Communication	31.88	4.41	33.81	4.15	34.00	4.20	33.33	3.49	32.91	3.48	33.55	3.14	1.89*	.03	
Parental Monitoring Questionnaire (PMQ)															
Parent Monitoring	4.00	.60	4.06	.73	3.89	.86	4.27	.67	4.49	.51	4.25	.76	.37	.01	
Parent Control	4.69	.86	4.82	.45	4.76	.72	4.74	.74	4.93	.29	4.93	.17	.36	.01	
Parent Solicitation	3.63	.82	3.80	.83	3.73	.96	3.64	.88	3.93	.64	3.91	.70	.69	.01	
Child Disclosure	3.69	.82	3.75	.90	3.92	.72	3.67	.90	3.93	.80	3.77	.97	.33	.01	
General Parent Adolescent Communication Scale (GPAC) ^a															
Family Communication	39.35	6.42			46.31	5.18	39.61	5.98			45.09	8.70	.68	.01	
Problem Communication	33.88	6.59			36.96	8.34	33.52	7.55			33.36	7.93	4.18*	.07	

Note. FCU = Family Check-Up; PE = Psychoeducation; AOD = Alcohol and Other Drug

^a Measure administered at baseline and 6-month follow-up* $p < .05$.** $p < .01$

Table 5

Family Assessment Tasks (FasTask) codes

Tasks	FCU						PE						Time × Condition	F	η ²
	BL			6M			BL			6M					
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD			
Parent Monitoring	5.77	1.61	6.10	1.49	5.71	1.31	5.43	1.49	2.73	.05					
Parent Listening	6.86	1.07	7.08	.98	6.75	1.21	6.73	1.06	.68	.01					
Parent Limit Setting	6.60	1.30	7.06	1.20	7.22	1.08	6.85	.89	4.09	.11					
Substance Communication	5.63	0.84	5.06	1.06	5.31	1.24	5.65	1.00	2.17	.04					

Note. FCU = Family Check-Up; PE = Psychoeducation