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Feasibility of *Connecting*, a Substance-Abuse Prevention Program for Foster Teens and their Caregivers

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Abstract

Objective—To test the feasibility, usability, and proximal outcomes of *Connecting*, an adaptation of a low-cost, self-directed, family-based substance use prevention program, *Staying Connected with Your Teen*, with foster families in a randomized, waitlist control pilot study.

Method—Families (n = 60) fostering teens between 11 and 15 years of age were recruited into the study and randomly assigned into the self-administered program with telephone support from a family consultant (n = 32) or a waitlist control condition (n = 28).

Results—Overall satisfaction with the program was high, with 100% of parents reporting they would recommend the program to other caregivers and reporting being “very satisfied” or “satisfied with the program. Program completion was good, with 62% of families completing all 91 specified tasks. Analyses of proximal outcomes revealed increased communication about sex and substance use (posttest1 OR = 1.97, and 2.03, respectively). Teens in the intervention vs. the waitlist condition reported lower family conflict (OR=.48), and more family rules related to monitoring (OR = 4.02) and media use (OR = 3.24). Caregivers in the waitlist group reported significant increases in the teen’s positive involvements (partial eta sq = 17% increase) after receiving the intervention.

Conclusions—Overall, program participation appeared to lead to stronger family management, better communication between teens and caregivers around monitoring and media use, teen participation in setting family rules, and decreased teen attitudes favorable to antisocial behavior. This small pilot study shows promising results for this adapted program.

Keywords

foster care; substance use; adolescence; prevention

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Introduction

In the United States, the number of children placed in out-of-home foster care has reached more than 400,000; in 2014, over 21% were ages 11 – 15, and nearly half were placed in non-relative foster homes (U.S. Department of Health and Human Services, 2015). Compared to teens in the general population, foster youth face significant challenges and barriers both in care and after exiting care. Research shows that foster teens and young adults who have aged out of foster care are significantly more likely to struggle with a range of physical health, educational, and economic difficulties (Ahrens, Richardson, Lozano, Fan, & DuBois, 2008; Carpenter, Clyman, Davidson, & Steiner, 2001; Courtney, Dworsky, Lee, & Raap, 2010; Courtney et al., 2005; Keller, Salazar, & Courtney, 2010; Merikangas et al., 2010; Narendorf & McMillen, 2010; Pecora, White, Jackson, & Wiggins, 2009). In addition, foster teens are known to exhibit many behavioral challenges, including higher substance use, smoking, early sexual activity, violence, and depression (Pilowsky & Wu, 2006).

It is not surprising that foster youth would face many challenges during and after care given the reasons they enter the system: physical abuse, sexual abuse, neglect, parental incarceration, abandonment, and caregiver death. The initial removal and placement into a foster home is traumatic for youth, causing foster youth to resist forming attachments to their new placements due to feelings of rejection from removal, as well as fear of future placement change (Kerker & Dore, 2006; Pecora et al., 2006). Having been let down by caregivers in the past, many foster youth struggle to adjust to a new family at a time when healthy and supportive relationships with a caregiver could prove critical to developing resilience against these traumatic experiences as well as future behavior problems.

Adolescents entering foster care have substantial and exacerbated needs because of their histories of abuse, neglect, and consequential emotional and behavioral issues. Foster caregivers are regularly unready or unable to meet the parenting needs of these teens (Storer et al., 2014). Unfortunately, state systems are continually short of foster placements, with foster parents asked to offer care above and beyond their perceived abilities, training, and expectations (Whenan, Oxlad, & Lushington, 2009). A foster parent must regularly address and cope with stressful issues that include foster children's relationships with their biological parents; family tensions; disruptions in placements; allegations about their treatment of the foster child; and problems with social workers and agencies (Coakley, Cuddeback, Buehler, & Cox, 2007; Leber & LeCroy, 2012; Wilson, Sinclair, & Gibbs, 2000). It is hardly surprising that foster parents experience stress, anxiety, and depression, which are associated with problems such as increased rates of placement disruption and poorer quality parenting (Cole & Eamon, 2007; Farmer, Lipscombe, & Moyers, 2005; Whenan et al., 2009; Wilson et al., 2000). Even though effective foster parent training is associated with improved placement stability and better outcomes (Cooley & Petren, 2011; Denby & Rindfleisch, 1996; Whenan et al., 2009), such training is usually insufficient or unavailable for foster parents caring for teens (Dorsey et al., 2008; Linares, Montalto, Rosbruch, & Li, 2006).

While there is growing recognition of the importance of children's wellbeing in foster care, with emphasis on improving the relationships between young people and their foster parents

(State Policy Advocacy and Reform Center, 2013), research primarily focuses on younger aged youth (Cole, 2006; Harden, 2007; Harden & Klein, 2011; Spieker, Oxford, Kelly, Nelson, & Fleming, 2012). A caregiver's positive relationship with the young person in their care is key for meeting favorable emotional and behavioral outcomes in foster care (Bickman et al., 2004; Chamberlain, 2003; Kazdin, Marciano, & Whitley, 2005; Rauktis, Vides de Andrade, Doucette, McDonough, & Reinhart, 2005; Shirk & Karver, 2003; Southerland, Mustillo, Farmer, Stambaugh, & Murray, 2009). While several studies have concluded that a positive relationship between a foster parent and a foster child is critical for child wellbeing and healthy development (Ahrens et al., 2008; Fox & Berrick, 2007; Osgood, Foster, & Courtney, 2010), how to develop and strengthen these relationships between foster parents and youth is still not well understood.

Despite the clear need for tools and supports for the caregivers of teens, and interventions to support future health and prevent behavior problems among teens in care, little has been done to adopt and implement evidence-based parenting programs within the child welfare system (Barth et al., 2005; Chamberlain et al., 2008). The dearth of evidence-based tools and supports for teens and caregivers in the system is recognized as a major problem by a variety of stakeholders. While many models of parenting programs exist for biological parents and their children (see, for example, Van Ryzin, Kumpfer, Fosco, & Greenberg, 2016), few evidence-based programs exist to help teens and their new caregivers with the transition. While some programs have been found to be effective with foster families (Alexander et al., 1998; Chamberlain & Mihalic, 1998; Henggeler, Mihalic, Rone, Thomas, & Timmons-Mitchell, 1998; Smith, Leve, & Chamberlain, 2011), they typically target the highest need subsets of the child welfare population, are expensive, are burdensome to families, and require significant coordination by caseworkers. For example, project KEEP (Chamberlain et al., 2008) requires foster parents to attend 16 90-minute sessions with their 5- to 12-year-old children. While KEEP has demonstrated positive effects in increasing parenting skills among foster parents and reducing problem behaviors among foster youth, the program is resource intensive, and barriers such as time and cost make implementation difficult. Program implementation can be difficult at child welfare agencies, as they typically operate with a constant shortage of financial and human resources. Program managers are usually hesitant and unwilling to implement new evidence-based programs (EBPs) because of the high monetary costs and the time needed to coordinate, train, and supervise workers for quality implementation and to ensure fidelity (Webster-Stratton & Reid, 2010). This suggests the need for programs that are useable, affordable, and evidence based for this important population.

Connecting is a program that helps fill this gap. It is a low-cost, self-directed, theoretically supported program that has been adapted from an evidence-based universal parenting program, *Staying Connected with Your Teen* (formerly called *Parents Who Care*) (Haggerty, Skinner, MacKenzie, & Catalano, 2007). The program has been adapted to address the specific challenges facing foster parents and the teens in their care. *Connecting* is designed to strengthen relationships between foster parents and the teens in their care while seeking to reduce the negative effects of stressors that increase the risks of behavioral health problems. This paper analyzes the feasibility, usability, and proximal outcomes of *Connecting*. We expect that the self-directed, DVD-assisted program with phone follow-up will have high

acceptability to foster caregivers of teens. Further, we hypothesize that foster families participating in the *Connecting* pilot will demonstrate stronger proximal outcomes of improved family management practices, less family conflict, stronger foster family bonding, and more positive teen involvements and social skills compared to waitlisted controls.

Background of *Connecting*

Staying Connected with Your Teen (SCT) is an evidence-based prevention program designed to improve family functioning by focusing on parenting. The *Connecting* program was systematically adapted from SCT for teens in foster care and their caregivers (Barkan et al., 2014). The program is theoretically guided by the social development model (Hawkins et al., 2008) and focuses on reducing risk factors and promoting protective factors in universal populations. SCT began as a substance abuse prevention program for families with teenagers between 12 and 17 years of age. Originally designed to be delivered in small groups of parents and teens facilitated by trained group leaders, a self-directed version of the program was also developed using the same materials. Self-directed SCT requires families to spend approximately one hour per week for 8 – 11 weeks in order to complete the program. The program includes a 108-page family workbook written at an eighth-grade reading level, and 117 minutes of step-by-step video with interactive activities featuring Latino, African American, and European American families. Families are contacted each week by a family consultant to support use of the program.

The workbook and video topics focus on 1) the changing role of parents as teens develop into emerging adults, 2) identifying and reducing risks for problem behaviors, 3) building bonds between parents and teens to strengthen protection against risks, 4) learning skills for how to function well as a family and find solutions to problems, 5) supporting active engagement by each person in the family, 6) establishing family rules on health and safety concerns, and 7) supervising without invading. Videos show and explain problem-solving skills, and family meetings are used as frameworks for dialogue.

A pilot version of the program was developed and tested under a NIDA Small Business Innovation Research grant (Pollard, 1998). The program was field tested using the group-administered format and a randomized waitlist design. Families with eighth-grade students were randomly assigned to either the experimental (n = 35) or waitlist (n = 31) condition. Immediate posttest effects were found, including improved family bonding, reduced family discipline, improved parental support of school, and differences in family attitudes favorable to antisocial behavior compared to the waitlist control participants (Pollard, 1998). A follow-up randomized controlled trial was conducted with eighth-grade students and their parents in a large urban city. Families were randomly assigned to one of three conditions, group-administered (n = 118), self-directed (n = 107), or a no program control condition (n = 106). The sample was selected to be balanced by gender and race (White and African American). Both administration modalities offered families tools to strengthen family relationships and teach skills to resist initiation of high-risk behaviors, including substance use, risky sexual behavior, and violence (Haggerty et al., 2007). Both program conditions were effective in reducing favorable attitudes toward drug use (Cohen's $d = .39$) 2 years after the intervention compared to controls. Interestingly, the self-directed program had stronger participation,

especially among the African American families. African American youth in the self-directed SCT condition reported significantly less violent behavior (Cohen's $d = .45$), and a 70% reduction in initiation of substance use and sex compared to their control counterparts (Haggerty et al., 2007).

Given SCT's effectiveness with youth from urban, low-income backgrounds, the higher take-up rates in the efficacy trial of the self-directed format (Haggerty, MacKenzie, Skinner, Harachi, & Catalano, 2006), and the need for low-cost, high-impact programs for foster caregivers, we selected the self-administered mode of SCT for this adaptation. Cost of materials and training is frequently cited as a significant barrier to adoption of evidence-based practices (Embry & Biglan, 2008; Philliber & Nolte, 2008). However, self-directed programs are relatively inexpensive. In the randomized trial of SCT, the implementation cost was nearly 3 times the cost of the self-directed format (\$809 vs. \$275 per family).

Staying Connected with Your Teen (SCT) was adapted for families with child welfare involvement using the ADAPT-ITT framework (Wingood & DiClemente, 2008), a method typically used for adapting evidence-based HIV prevention programs for differing at-risk groups (previously described in Barkan et al., 2014; Storer, Barkan, Sherman, Haggerty, & Mattos, 2012). The eight phases of the ADAPT-ITT model include 1) assessments about what to adapt, 2) decisions about what to adapt, 3) making the adaptations, 4) production, 5) topical expert review, 6) integration, 7) training, and 8) testing. The adaption process included conducting nine focus groups during the assessment phase with former foster youth, foster and relative caregivers, and caseworkers, and revealed a need to augment the SCT curriculum before the activities of the original program would be beneficial to foster teens and caregivers. Teens and caregivers both expressed that support was needed in establishing and strengthening the connections between teens in out-of-home care and their caregivers. A new chapter was added to the beginning of the workbook containing activities that focus on promoting a connection between caregivers and teens, as well as an opportunity for teens, if they choose, to acknowledge and share aspects of their history and experiences (Barkan et al., 2014; Storer et al., 2012). Included in this new chapter were "digital stories"—videos created by foster youth as a way to share their stories and experiences—that were part of an activity designed to increase empathy and understanding among caregivers. The newly developed and modified activities were evaluated by nine foster youth/caregiver dyads in a "theater test" to collect feedback on these activities. We learned that the connection-building activities, in particular, were very welcome and critically important to opening up dialogue between youth and their caregivers. Using the results of the theater test and the topical expert feedback, final revisions were made to the curriculum before launching the test described in this paper. In addition to the original program content, the final *Connecting* adaptations included connection activities, more specific resources for foster parents, and attention to the development of foster teens' independent living skills.

Methods

Teens and their foster caregivers were recruited from June 2012 through February 2013 from three counties in Department of Social and Health Services (DSHS) Regions 2 or 3 in the

western half of Washington State. The research team collaborated with a regional Washington State DSHS Children's Administration (CA) data manager and CA social workers to select families for recruitment. All study procedures were approved by the Washington State Institutional Review Board.

Teens between the ages of 11 and 15 years were eligible. Their placement in foster care had to be 30 days or longer, and could be with a licensed or unlicensed relative caregiver, or a licensed foster caregiver. Teens in dependency guardianships were also eligible. Teens in group-home and behavioral rehabilitation services placements were excluded. Teens and caregivers needed to speak and be literate in English to use the pilot *Connecting* manual and respond to survey questions. Teens included in the study were not known to be regularly using drugs or alcohol in the last 30 days or have any past involvement in the criminal justice system. Finally, teens selected for involvement were considered to be in stable placements that were expected to last for at least 6 months.

Two hundred and two families were initially selected, both foster caregivers and biological parents were mailed opt-out letters, and 55 (27%) opted out. Families who did not request to opt out and whose letters were not returned as undeliverable were sent a recruitment letter, fact sheet, and consent/assent forms. A follow-up phone call was made in the next 2 weeks. When a family expressed interest in participating in the study, their social worker was contacted and provided written consent for the youth to participate. Sixteen families (11%) were deemed ineligible, usually because the placement was not considered long enough to complete the program (about 12 weeks). See Figure 1 for a consort diagram of this pilot study.

Of the 131 families who did not opt out, 60 families (46%) were enrolled, 35 (27%) refused, 26 (20%) refused passively, and 10 (8%) could not be reached. Of enrolled families, 28 (47%) were licensed foster homes, 24 (40%) were relative placements, and 8 (13%) were suitable adult placements. These proportions were similar among families who were not enrolled: 43 (49%) were foster homes, 38 (44%) were relative placements, and 6 (7%) were suitable adult placements (i.e. friends). Among the 35 families who gave explicit refusals, 15 (43%) said they did not have time to participate or were too busy, 9 (26%) were not interested, 4 (11%) said the caregiver was interested but the youth refused, 3 (9%) of the caregivers felt it was inappropriate for the youth in their care, 3 (9%) gave no reason, and 1 (3%) reported a future placement change.

During enrollment, caregivers gave informed consent and teens gave oral assent to participate. Both then completed separate online baseline surveys (paper versions were mailed if they did not have access to an online system). After the baseline survey was completed, families were randomly assigned to either the treatment (TR) (n = 32) or waitlist control (WC) (n = 28) group. Families in the treatment group received a letter, the *Connecting* workbook and DVD, and were notified of their assignment by phone. Families received written instructions about how to use the workbook and DVD and a checklist of 91 key activities to complete as a family. A family consultant contacted the family once a week by phone to record completed activities, motivate families to use the materials with their teen, and help them problem solve implementation of the program into their daily lives. At

the end of 3 months, both groups completed another survey (POST1). Families in the waitlist control group then received the *Connecting* workbook and DVD, and were called by a family consultant on a weekly basis. All Family consultants had prior experience working with families or adolescents. They received 3 hours of training in the phone call protocols by the principal investigator.

Three months later, both groups completed a third and final survey (POST2). Caregivers and youth each received a \$25 incentive for every completed survey and all study participants were entered into a raffle to provide an incentive for completing the final survey (four teens and four caregivers received \$50).

During the study, 11 enrolled youth changed placements. Each case was addressed on an individual basis. When possible, follow-up was conducted with youth in their new placements through their social worker. In some cases, the youth agreed to complete follow-up surveys 2 and 3. Follow-up was not done with new caregivers.

Sample

The foster teen sample was primarily female (63%), and racially diverse (48% White, 15% Black, 30% Native American, 7% Hispanic, and 3% Asian/Pacific Islander). The average age of foster teens was 13.5 years. The caregivers were primarily female (83%), with an average age of 47 years, and they were predominantly White (74%) (12% Black, 9% Native American, and 5% Asian/Pacific Islander). There were no significant differences between the two conditions on these demographic variables. Complete data are available on 31 TR and 27 WC teen and caregiver pairs at baseline. Data were obtained from 24 TR and 26 WC pairs at POST1 and 21 TR and 24 WC pairs at POST2.

Implementation Outcome Measures

Implementation outcomes were measured in three categories: feasibility, program completion (usability), and participant satisfaction. **Feasibility** measures focused on assessing the burden on foster parents to complete the intervention, and time spent by family consultants to assist in the administration of the intervention. These items included the number of family contact attempts, the number of times families spoke to family consultants, the number of completed intervention check-ins, the length of time family consultants spoke to families, and the amount of time families spent completing the intervention. **Program completion** was measured by completion of the weekly task list described above indicating completion of the intervention materials by foster caregivers. During their weekly check-in calls, family consultants would check with participants to ensure they had completed the required tasks. Family consultants would ask specific questions about the completed tasks to ensure they were completed. **Participant satisfaction** was measured through their overall satisfaction with the intervention materials (including satisfaction related to specific intervention components), a family's willingness to recommend the program to others, and whether or not the families continued to use the intervention materials after completing the program. Participants were also asked during follow-up posttests about their satisfaction with their family consultant.

Proximal Outcome Measures

This study used measures of proximal outcomes that have been used in previous studies and had acceptable internal consistency (noted for each assessment in parentheses for the baseline survey).

Family management—Teens reported *discipline consistency* via a single item (My caregivers disagree a lot about the rules in our house). Responses ranged from 1 = *almost always* to 5 = *almost never*. *Caregiver/teen communication* was assessed using a series of questions on the teen and caregiver surveys asking how often they communicate with the other about substance use and sex. Scores were calculated as means of appropriate items (described below) separately for T1, T2, and T3. For teens, response options were 1 = *never*, 2 = *once or twice*, 3 = *a few times*, and 4 = *more than a few times*. Teen report of *communication about substance use* is the mean of three items assessing frequency of talking with their caregiver about (a) drinking alcohol, (b) using drugs, and (c) smoking cigarettes (Cronbach's alpha = .95). Teen report of *communication about sex* is the mean of three items assessing frequency of talking with the caregiver about (a) having sex, (b) using condoms, and (c) sexually transmitted diseases (Cronbach's alpha = .91). Caregivers answered the same questions; however, their response options ranged from 1 = *never* to 5 = *very often*. Cronbach's alpha for substance use = .95, and for sex = .98. *Family rules* were measured using teen responses (yes/no) to questions about whether their foster family has rules about a variety of behaviors. There were three items relating to monitoring (being home on time, doing homework, dating), three items relating to media use (using the phone, using the internet, watching TV), and two items relating to substances (smoking, drinking). In each case an index was formed by counting the number of rules reported ('yes' responses). The *monitoring* and *media* indices ranged from 0 to 3, and the substance use index ranged from 0 to 2. Opportunities for involvement in *making family rules* was assessed using teen report on three items: "In general, how much say do you have in making your family's rules?" "In general, how fair are your family's rules for you?" "How are most decisions about you usually made in your family?" Response options ranged from 1 to 4 and were coded such that high scores indicated a greater degree of teen involvement in family rule making. Internal consistency was moderate (Cronbach's alpha = .64).

Family conflict was assessed using a modified version of the Moos Family Environment Scale (Moos & Moos, 1994) on the teen and caregiver surveys. Responses were recorded as 0 = *false*, 1 = *true*, and were averaged. Items include "We fight a lot in our family," "Family members rarely lose their tempers" (reversed), "Family members often criticize each other," and "Family members rarely become openly angry" (reversed). Four items achieved moderate internal consistency for teens (Cronbach's alpha = .64) and caregivers (Cronbach's alpha = .77).

Teen deviant attitudes were assessed with a series of questions asking if the teen thinks it is OK for someone their age to engage in 11 different inappropriate behaviors (e.g. have sex, smoke marijuana, get into a fight, cut school, etc.). Responses were on a 4-point scale (NO! = 1, no = 2, yes = 3, YES! = 4) such that high scores indicated a stronger endorsement of the behavior. Items were averaged (Cronbach's alpha = .91).

Caregivers also reported on teen's **positive involvement** across 17 items (Cronbach's alpha = .88). Response options varied so the item scores were standardized to a mean of 0 and standard deviation of 1.0 and then averaged. Examples of items include, "In the past month, how often did you and the teen do something active together?" and "In general, how many evenings a week does your family usually eat meals together?"

Teen report of **problem solving** was assessed by computing the mean of nine questions. Examples include: "When I have a problem I blame or say bad things about others." and "When I have a problem I think about what I can do about it before I do something." Responses were on a 4-point scale (NO! = 1, no = 2, yes = 3, YES! = 4) with each item coded such that high scores reflect better problem-solving skills (Cronbach's alpha = .70).

Bonding/attachment was assessed using a modified version of Greenberg and Armsden's Inventory of Parent and Peer Attachment (2009) in which the word parent(s) was replaced with the word caregiver(s) and the instructions to the teen said the questions were about the caregiver with whom they were currently living. Examples include "I trust my caregiver", "My caregiver(s) encourage me to talk about my difficulties" and "Talking over my problems with my caregiver(s) makes me feel ashamed or foolish." Response options ranged from 1 to 5 and were coded so that high scores indicated high bonding, and the internal consistency was high (Cronbach's alpha = .94). A mean score was calculated from all 28 items.

Teens were asked how they would handle the offer of alcohol at a party as a measure of **alcohol refusal skills**. Responses were coded 0 if they said they would drink and 1 if they reported any of the following responses: "No thank you, I don't drink," "No thank you," made up an excuse not to drink, or left the party.

Analyses

Descriptive analyses were conducted for the feasibility and usability measures. Analyses were also conducted to determine whether *Connecting* has short-term effects on proximal outcomes. First we confirmed random assignment by comparing baseline means between the treatment (TR) vs. waitlist control (WC) groups. Descriptive data are reported for baseline (prior to either group receiving the intervention) and POST1 after the treatment group received the intervention. The expected pattern is equivalence between groups at baseline, group differences at POST1 consistent with improvement in the TR group relative to the WC, and equivalence at POST2 consistent with improvement in WC and maintained effects for TR.

Given the small sample in this pilot study and attrition by POST2, the results focus on mean differences and effect sizes. We compared means or proportions between groups at POST1, controlling for baseline scores, age, and gender of the teen. We also conducted repeated measures analyses across all three assessments. The power for an Odds Ratio of 2.0 with a sample size of 20 in each group indicates power of less than .40. Statistical tests with this sample are underpowered to detect significance even with generous effect sizes. Many of the outcomes fell into ordered categories because of low frequencies or very skewed distributions; therefore, logit models were estimated and proportional odds ratios (OR

calculated as the exponentiation of the unstandardized parameter estimate) are reported. Eta squared is reported for continuously measured outcomes.

Results

Feasibility and Usability

Table 1 summarizes implementation outcomes. Based on data collected from the family consultants, they made an average of 23 contact attempts, and completed an average of seven intervention check-ins with each family. Family consultants spent a total average of 76 minutes on the phone with each caregiver. On average, participants spent approximately 9 hours completing the *Connecting* program.

Twenty-eight (88%) TR group caregivers and 21 (75%) WC caregivers completed a survey after exposure to the intervention. About 80% (40) of those reported completing the program. Among TR group caregivers, 75% reported having read most or quite a bit of the *Connecting* workbook, 15% reported reading “some – about half,” and 11% reported not having read much of the workbook. The average program completion was 62% of all 91 activities (which includes 19 video segments and 72 activities). On average, participants viewed 12 videos and completed 33 activities. Results for the WC caregivers were similar, although more (86%) reported reading most or quite a bit of the *Connecting* workbook. Forty-six percent of respondents reported speaking with the family consultants 10 or more times during the 10- to 12-week intervention, 35% spoke 6 to 9 times, and 19% spoke with a researcher 5 or fewer times. Reasons reported by participants that did not complete the program included a death in the family, not having enough time, lost program materials, or having too many competing demands (homework, holidays, family changes or disruptions).

Caregivers responded enthusiastically to the program, with 100% saying on post surveys that they would recommend the *Connecting* program to other caregivers. When asked about their overall level of satisfaction with the program, 100% of respondents said they were either “very satisfied” (69%) or “somewhat satisfied” (31%). When asked about their level of satisfaction with specific components of the program, 86% were satisfied with the workbook and DVD, 89.3% were satisfied with the youth digital stories, and 95% were “very” (89.3%) or “somewhat” (7.1%) satisfied with the family consultant they spoke to for weekly intervention check-ins. Sixty-one percent of caregivers reported that they were continuing to use the program materials even after completing the intervention. When asked for commentary on their experience with the program, caregivers and teens reported: “I was really apprehensive at first... Now, it’s awesome!” (teen); “[My teen] opened up about things she had never talked about before” (caregiver); and that the program “addresses real and relevant issues and facilitates openings for families to talk about the topics that can be hard to approach” (caregiver).

Proximal Outcomes

Comparison of means or proportions of measures of proximal outcomes at baseline were not significant, indicating successful random assignment with one exception. Teen report of

attachment to caregiver was significantly higher in the TR group compared to the WC group at baseline. Descriptive data on measures of proximal outcomes are provided in Table 2.

Promising effects were observed for teen report of caregiver communication about substance use and sex (POST1 OR = 1.97, and 2.03, respectively). Caregivers in the WC group reported increases in communication with teens about relationships with friends (partial eta sq = 22% increase from POST1 to POST2). However, not all effects were in the expected direction; in repeated measures analyses controlling for teen age and gender, teen report of caregiver discipline consistency decreased from baseline to POST1 for TR (OR = .68). Teens in the intervention vs. the control condition reported more family rules related to monitoring (OR = 4.02) and media use (OR = 3.24). Teens in the TR group reported a 5% increase in participating in making family rules between baseline and POST1. The WC teens reported a 15% increase in making rules between POST1 and POST2 (pre to post for that group). The means over time by intervention groups for teen report of family conflict indicated lower levels for those in TR compared to WC at POST1 (OR = .48). However, caregiver report of family conflict was higher at POST1 for TR vs. WC (OR = 2.69). Caregivers in the WC group reported significant increases in the teen's positive involvement (partial eta sq = 17% increase) from POST1 to POST2 (pre to post for that group). The teens in the TR group reported slightly better problem-solving skills and lower deviant attitudes compared to WC at POST1 (partial eta sq = 1% to 3% better).

Discussion

This paper sought to gauge the implementation success of the *Connecting* program by assessing both implementation outcomes (feasibility, program completion, and participant satisfaction) and intervention effects on proximal outcomes. This pilot study revealed many positive findings. Eighty percent of the families enrolled in the study completed the program. The self-directed program was efficient. It took foster families on average about 9 hours to complete. Importantly, family consultants were able to motivate completion of the program, with about seven completed phone check-ins that averaged about 11 minutes per call. Further, caregivers responded positively to the program and 100% of those exposed to the program reported that they would recommend *Connecting* to other foster families. Interestingly, compared to the trial of *Parents Who Care* (Haggerty et al., 2007), more of the caregivers reported continuing to use the program materials even after completing the intervention. This is important because caregivers may view the materials as a “reference tool” for parenting foster teens. This suggests that *Connecting* is seen as useful and may be less burdensome for families to complete, and more feasible for child welfare agencies to implement than other, more intensive programs.

While it is important to assess the level of feasibility and usability of the program, we also wanted to know whether *Connecting* had an impact on hypothesized proximal outcomes related to family management, family conflict, family bonding, and favorable attitudes toward drug use and other risky behaviors. Overall, program participation appeared to provide some evidence of positive impact on these proximal outcomes, with stronger impacts on family management, better communication between teens and caregivers around monitoring and media use, teen participation in setting family rules, and decreased teen

attitudes favorable to antisocial behavior. It is not surprising that we were able to detect stronger effect sizes for these areas, as the *Connecting* program offered specific structured opportunities for conversations about family rules. Further, the program provided opportunities to practice problem-solving, emotion management, and refusal skills. Positive effects on other proximal outcomes were not supported. These include teens' report of consistency of caregiver discipline and bonding/attachment to caregivers. The lack of observed effects on bonding or attachment to caregivers might be due to the short timeframe of the study and the developmental period of adolescence. For this population, rebuilding trust may take longer than 3 or 6 months. This study was only a test of implementation and proximal measures; testing the program on more distal outcomes is currently underway.

While some favorable outcomes were detected in this pilot, there are some obvious limitations to these findings. First, the sample size is small and underpowered to detect significant differences, and effect sizes should be interpreted with caution. Second, the overall consent rate was lower than expected, and placement changes resulted in losing some of the most vulnerable youth in the study. Both of these issues introduce a potential threat due to sample bias. Third, the program was self-directed with phone follow-up from a family consultant. Although participants reported high rates of program completion, this information was self-reported and there was no way to verify actual completion of the program. Finally, due to the short duration of follow-up we are unable to determine the impact of the program on distal outcomes such as substance use and delinquency.

There is a demonstrated relationship between foster parenting interventions, placement stability, and decreased risk factors for youth (Chamberlain, 2003). As previously noted, there are few programs focused on helping foster caregivers with foster teens. Thus, this self-directed family program holds promise; however, more rigorous outcome testing is needed. Close attention should be paid to program components specific to self-administration (e.g., staff monitoring, ease of use of materials), which may prove critical to the success or failure of such programs. In addition, self-directed programs may not be suitable for all settings and populations; therefore, careful and systematic assessment is necessary, qualifying where and with whom such programs are best implemented. For example, earlier analysis by Haggerty et al. (2006) found that parents with a history of crime and alcohol use were less likely to complete the self-directed program. Finally, the self-directed format can take advantage of new technologies in order to most flexibly and efficiently work with families. Little work has been conducted using, for instance, smart phones and mobile applications in this arena, but interventions in public health (e.g., Eng & Lee, 2013; Tomlinson, Rotheram-Borus, Swartz, & Tsai, 2013) suggest that this may be worthy of exploration.

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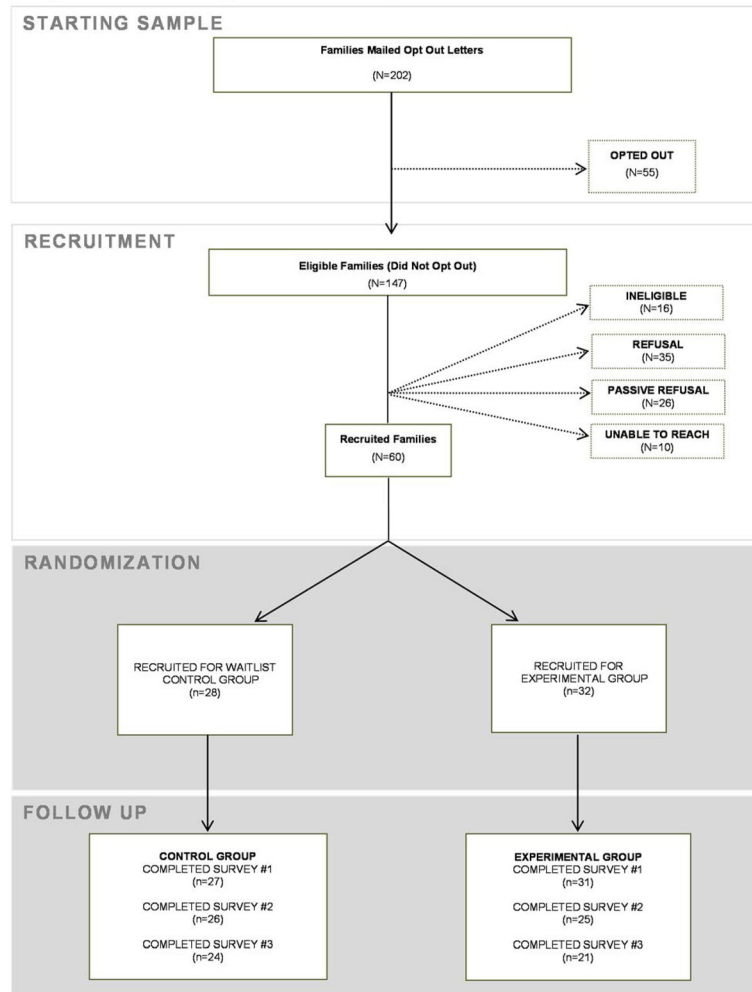


Figure 1.
Consort Diagram for Pilot Study

Table 1

Implementation Outcomes Completion, Dosage, and Exposure by Group

Measure	Treatment (TR)		Waitlist Control (WC)	
	n	Mean (s.d.)	n	Mean
Contact attempts	32	24.0 (12)	28	22.0 (14)
Completed contacts	32	7.0 (4)	28	7.0 (5)
Time on phone	32	74.0 (49) min	28	79.0 (81) min
Total number of activities completed	30	64.0 (42)	26	58.0 (43)
Number of videos	29	12.0 (8)	25	12.0 (9)
Number of activities	29	46.0 (32)	26	41.0 (31)
Time doing program	26	9.0 (7) hrs.	26	9.0 (7) hrs.
Interest rating (1 = very interested; 4 = not at all)	28	1.81 (.46)	24	1.94 (.8)

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Table 2

Mean Scores with Standard Deviation (sd) for Treatment and Waitlist Control Group at Three Time Points for Outcomes

Measure	Treatment (TR) n=32	Waitlist (WC) n=28
Family management	Mean (s.d.)	Mean (s.d.)
Discipline consistency (teen) (baseline)	3.42 (.81)	3.30 (.77)
Post1	3.17 (.82)	2.96 (.87)
Post2	3.10 (.89)	3.12 (.90)
Caregiver/teen communication (teen) about:		
Substance use (baseline)	2.28 (.83)	2.18 (.73)
Post1	2.60 (.75)	2.24 (.78)
Post2	2.59 (.77)	2.56 (.78)
Sex (baseline)	1.69 (.70)	1.67 (.74)
Post1	2.17 (.81)	1.79 (.71)
Post2	2.05 (.86)	1.82 (.70)
Caregiver/teen communication (caregiver) about:		
Substance use (baseline)	3.33 (1.40)	3.43 (1.36)
Post1	3.50 (1.34)	3.75 (1.38)
Post2	3.46 (1.10)	3.41 (1.20)
Sex (baseline)	3.49 (1.44)	3.60 (1.48)
Post1	3.77 (1.34)	3.97 (1.10)
Post2	3.84 (1.22)	3.61 (1.28)
Family rules (teen) about:		
Monitoring (baseline)	2.39 (.84)	2.48 (.85)
Post1	2.76 (.72)	2.46 (.90)
Post2	2.81 (.40)	2.58 (.83)
Media (baseline)	2.13 (1.26)	2.11 (.97)
Post1	2.60 (.91)	2.31 (1.09)
Post2	2.52 (.93)	2.04 (1.27)
Substance use (baseline)	1.81 (.61)	1.85 (.53)
Post1	1.76 (.66)	1.88 (.43)
Post2	1.90 (.44)	1.87 (.49)
Involvement in rule making (teen) (baseline)	2.58 (.71)	2.41 (.75)
Post1	2.80 (.46)	2.49 (.73)
Post2	2.70 (.69)	2.71 (.65)
Family conflict (caregiver) (baseline)	0.31 (.35)	0.35 (.35)
Post1	0.32 (.30)	0.24 (.27)
Post2	0.25 (.24)	0.29 (.31)
Family conflict (teen) (baseline)	0.29 (.31)	0.33 (.37)
Post1	0.26 (.24)	0.36 (.33)
Post2	0.27 (.28)	0.34 (.34)
Deviant attitudes (teen) (baseline)	1.40 (.56)	1.44 (.57)

Measure	Treatment (TR) n=32	Waitlist (WC) n=28
Post1	1.26 (.41)	1.41 (.48)
Post2	1.46 (.51)	1.48 (.55)
Positive involvements (caregiver) (baseline)	0.08 (.55)	-0.14 (.63)
Post1	0.04 (.61)	-0.13 (.65)
Post2	0.02 (.55)	-0.08 (.52)
Problem solving (teen) (baseline)	3.88 (.56)	3.70 (.61)
Post1	3.92 (.64)	3.80 (.70)
Post2	4.03 (.64)	3.77 (.67)
Bonding/attachment to caregiver (teen) (baseline)	4.02 (.64) ^l	3.62 (.79)
Post1	4.03 (.73)	3.63 (.80)
Post2	3.77 (.76)	3.77 (.78)
Alcohol refusal skills (teen) (baseline)	0.87 (.34)	0.81 (.40)
Post1	0.92 (.28)	0.88 (.33)
Post2	0.90 (.30)	0.92 (.28)

^lBaseline equivalence was not supported ($p < .05$).