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## Adaptation and Implementation of a Trauma-Focused Cognitive Behavioral Intervention for Girls in Child Welfare

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### Abstract

This study describes the process of adapting and implementing *GAIN* (*Girls Aspiring toward Independence*), a trauma-focused, group-based therapy adapted from CBITS (Cognitive Behavioral Intervention for Trauma in Schools) for girls in child welfare. Descriptive data were examined on three outcomes: posttraumatic stress disorder (PTSD), depression, and social problem-solving skills among adolescent girls in the child welfare system. Qualitative and quantitative methods were utilized to inform the adaptation of the CBITS intervention, evaluate feasibility, treatment fidelity, and acceptability, and to test the effects of the intervention. Girls ages 12 to 18 ( $N=27$ ) were randomly assigned to the experimental and usual care conditions. Participants' symptoms of PTSD and depression, and social problem-solving skills were evaluated at pre, post (3 months), and follow-up (6 months) assessments. Adaptations for *GAIN* were primarily related to program structure. Data indicated that the program was receptive to girls in child welfare, and that it was feasible to recruit, randomize, assess outcomes, and implement with adequate fidelity. Retention was more successful among younger girls. Descriptive initial data showed greater reductions in the percentage of girls with PTSD and depression, and modest increases in social problem-solving skills in the experimental versus usual care condition. Despite the growth of knowledge in dissemination and implementation research, the application of trauma-focused empirically supported treatment to child welfare populations lags behind. A large-scale RCT is needed to determine if *GAIN* is effective in reducing mental health problems and social problem-solving in the child welfare population.

### Keywords

adolescent girls; child welfare; trauma treatment; PTSD; depression; social problem solving

Adverse childhood experiences such as childhood abuse and neglect are very common in the U.S.; recent prevalence rates of substantiated or confirmed child maltreatment is 1 in 8 by 18 years of age (Wildeman et al., 2014). Traumatic events in childhood such as abuse and neglect can have devastating lifelong consequences, leading to problems relating to mental health, affect and behavioral regulation, and impaired relationships (Finkelhor, Ormrod, Turner, & Hamby, 2005). Adolescent girls involved in the child welfare system are

particularly vulnerable to mental health problems such as posttraumatic stress disorder (PTSD) and depression (Kolko et al., 2010; McMillen et al., 2005). Research has also found that females are more vulnerable to the development of PTSD than males even when exposed to comparable levels and types of trauma (Breslau, Chilcoat, Kessler, Peterson, & Lucia, 1999; Stein, Walker, & Forde, 2000; Jaycox et al., 2002) and PTSD has been shown to increase risks for revictimization (McCart et al., 2012). A growing body of literature has shown that trauma responses were mediators or pathways between childhood abuse and revictimization (Auslander, Tlapek, Threlfall, Edmond, & Dunn, 2015; Wekerle et al., 2001). Consequently, if trauma symptoms such as PTSD and depression, and maladaptive coping strategies such as poor social problem-solving skills can be lessened, there may be potential to reduce the risk of revictimization. Future empirical research will be needed to determine if trauma treatment can reduce revictimization risk.

Recent reviews recognize individual and group-based trauma-focused, cognitive behavioral therapy (CBT) as the treatment with the strongest evidence of efficacy to reduce PTSD and depression for youth exposed to traumatic events (Task Force on Community Preventive Services, 2008). According to SAMHSA's National Registry of Evidence-based Programs and Practices, Cognitive Behavioral Intervention for Trauma in Schools (CBITS) is an evidence-supported intervention that incorporates established CBT skills in a group format over 10 sessions (SAMSHA, 2015). The intervention is designed to be delivered by mental health professionals in school settings and is intended for children aged 11–15. CBITS has been shown to be effective in reducing PTSD and depression in adolescents of varying ethnicities exposed to a range of trauma types (Kataoka et al., 2003; Stein et al., 2003) and has been adapted for American Indian youth in an uncontrolled pilot implementation study (Goodkind, LaNoe, & Milford, 2010).

Despite mandates to integrate trauma-informed and trauma-focused practice in the child welfare system (Children's Bureau Express, 2012), experimental or quasi-experimental studies of empirically supported treatment in child welfare populations are scarce (Kessler, Gira, & Poertner, 2005). In addition, information on how to implement and evaluate such interventions with youth served by the child welfare system is also limited (Maher et al., 2008). Recently, RAND Corporation developed guidelines and recommendations for implementing CBITS for use with child welfare populations and provided a strong rationale for its appropriateness (Schultz et al., 2010). For example, CBITS was developed and originally tested with minority youth who are over-represented among adolescents involved in child welfare (Jaycox et al., 2009; Kataoka et al., 2003; Schultz et al., 2010). Second, CBITS was primarily focused on the youth and does not require the participation of the non-offending parent, except for 1–2 separate and optional sessions. This is particularly important for adolescents in child welfare who may not have a stable, long-term caregiver. Additionally, because CBITS has been delivered in schools, it has the potential to reduce barriers to access and availability of mental health services that many youth involved in child welfare experience (Schultz et al., 2010). Finally, the intervention was delivered in a group therapy format and therefore is more cost-effective than individual therapy.

Despite the potential of using CBITS to treat youth involved in child welfare, several challenges to implementing the program in *school settings* were identified based on a case

study by Casey Family Programs, RAND, and the Los Angeles Unified School District (Maher et al., 2008). First, child welfare workers were concerned with youth being treated differently if school personnel were made aware of a youth's placement status, making it difficult to potentially identify eligible youth for CBITS groups. Additionally, educators have expressed concern about removing a student with academic problems from class to attend a CBITS group (Maher et al., 2009). Finally, CBITS was not developed to address traumatic events related to histories of complex trauma or sexual abuse. If these types of traumatic experiences were disclosed in a CBITS group, facilitators were instructed to refer the youth to other trauma-related mental health services in the community (Schultz et al., 2010, p. 24). Although initial work has described some of the challenges in implementing CBITS for youth in child welfare (Schultz et al., 2010), the intervention has not yet been tested using rigorous randomized control trial (RCT) methods in this population. As a first step in addressing this gap, the aims of this study were threefold: 1) to describe the process of adapting CBITS for delivery in a non-school setting for adolescent girls involved in child welfare; 2) to report on the feasibility, fidelity, and acceptability of implementing the adapted intervention (*GAIN, Girls Aspiring toward Independence*); and 3) to examine the preliminary effects of *GAIN* on symptoms of PTSD, depression, and social problem-solving skills in two groups of participants compared to a usual care condition.

## Method

### Collaborative Partners and Setting

This study was conducted in collaboration with Children's Advocacy Services (CAS) located in a Midwestern city and the local child welfare agency that serves the urban area. CASs are located throughout the U.S. and provide community-based outpatient mental health services to children and adolescents up to 18 years old who have experienced any kind of trauma, including childhood abuse and neglect. Therapists from CAS, some of whom had prior experience in delivering CBITS, were the group facilitators for the implementation of *GAIN* and were active partners in adapting and implementing the intervention. Case managers and supervisory staff from child protective services were instrumental in identifying appropriate adolescents to refer to the program.

### Adaptation Procedures

Adaptation is considered an important part of the implementation process (Cabassa & Baumann, 2013). In this study, CBITS was adapted for girls involved in child welfare who had *histories of abuse and neglect* and for delivery in a *non-school community setting*. The adaptation of CBITS involved ensuring that the intervention was consistent with the context, values, and experiences of adolescent girls involved in the child welfare system (Bernal, Jimenez-Chafey, & Domenech Rodriguez, 2009) including complex trauma exposure (Greeson et al., 2011). Adaptation processes included: 1) a review of the original CBITS manual and literature, 2) feedback from expert trauma treatment researchers, practitioners, caregivers of the target population, and CBITS experts; 3) ongoing feedback during the initial test from *GAIN* therapists who co-facilitated the two intervention cohorts, and from their supervisors who were experts in CBT and trauma treatment; and 4) telephone

consultation at the completion of the two groups with an expert CBITS trainer, a member of the CBITS developer's team, to discuss further refinements to the intervention.

### Feasibility of Recruitment and Retention Procedures

Feasibility was defined as the extent to which a practice can be successfully used or carried out within a given setting (Karsh, 2004; Proctor et al., 2011). Two important areas of feasibility that were monitored in the study were the extent to which the research team was able to recruit and enroll adolescent girls to *GAIN* and then retain them in the study.

**Recruitment**—The study protocol was first approved by the Human Subjects Institutional Review Boards of the two collaborating universities and the Research Committee of the state office of child protective services. Additionally, a Certificate of Confidentiality was secured from the funding agency. The eligibility inclusion criteria for the study were: 1) girls who had histories of child maltreatment investigated by child protective services, 2) ages 12–18 years old, and 3) reported histories of trauma with corresponding symptoms that were causing emotional, psychological and/or relationship difficulties based on the observations and assessments of their referring caseworker or therapist. Subthreshold PTSD can generate distressing symptoms of arousal, intrusion, and avoidance as well as comorbid depression (Foa, Riggs, & Gershuny, 1995; Riggs, Rothbaum, & Foa, 1995; Yarvis & Schiess, 2008) that may require similar levels of treatment as those with full PTSD (Carlier & Gersons, 1995). Therefore, the inclusion criteria required endorsement of any post traumatic or depressive symptoms, and not necessarily a clinical diagnosis of PTSD. Girls were excluded if they had severe learning problems (i.e., could not read or write), active suicidal or psychotic thoughts, or had severe behavioral disorders that would prohibit their participation in a group or interview. Last, participants who were recently hospitalized for mental health problems were delayed entry into the study (after a 6-month waiting period), allowing them the opportunity to emotionally and behaviorally stabilize sufficiently and to safely participate in the trauma-focused group work.

Because youth in child welfare may have multiple supportive adults in their lives, the consent/permission process involved several steps. After a referral was made to the study team and the adolescent expressed interest in participating, written consent was obtained from the adolescent's legal guardian (e.g., biological parent, child protective services social worker acting on behalf of the state). Additionally, to the fullest extent possible, written consent was secured from members of the youth's Family Support Team (e.g., Guardian ad litem, Deputy Juvenile Officer, current therapist). Also, the adolescent selected a supportive adult who was contacted and engaged to support the youth throughout the program (i.e., involvement in assessment, caregiver sessions). All adolescents under the age of 18 provided written assent prior to participating in the study and were randomly assigned to the experimental or usual care conditions using a computer generated randomization sequence.

**Retention**—Facilitators completed a standardized attendance log after each individual and group session to record attendance. If a youth missed a session, she was given an opportunity to receive an individual make-up session with a facilitator within the following week. Also recorded for each youth was whether their supportive adult attended the

caregiver session. Several strategies were employed to reduce barriers to attending *GAIN* and the pre-test, post-test, and follow-up interviews, such as providing transportation, on-going reminder calls, and mailings of hand-written cards from facilitators and/or study personnel.

### Procedures for Assessing Intervention Receptivity and Acceptability

Receptivity to the intervention was assessed through qualitative and quantitative methods. Two focus groups were conducted before implementing the intervention and consisted of adolescent girls ages 12 to 18 who were involved in the child welfare system but did not participate in the group intervention ( $n=8$ ;  $n=6$ ). Focus groups were approximately one hour in length, facilitated by two mental health clinicians, and held at congregate care facilities through which the adolescents were recruited. The group discussions were audiotaped and then transcribed for analysis. An inductive coding process was used to analyze the transcripts (Krueger & Casey, 2014).

Participants in the experimental condition responded to items from the Client Satisfaction Questionnaire at the post-test assessment (Larsen, Attkisson, Hargreaves, & Nguyen, 1979) to assess their perceptions of acceptability, satisfaction, relevancy, and effectiveness of the *GAIN* program.

### Fidelity Procedures

**Facilitator training**—All *GAIN* group facilitators and research team members reviewed the CBITS manual, conducted the online training through the CBITS website (<https://cbitsprogram.org>), examined the RAND toolkit for adapting the intervention for youth in child welfare, and then participated in a two-day, in-person CBITS training session delivered by a CBITS expert from the CBITS developer's team. Weekly clinical supervision meetings were one-hour in length and provided facilitators the opportunity to review group and individual sessions, address challenges, share lessons learned, and receive feedback on their delivery of program content. Supervision was conducted by two experts in trauma therapy; one was the CAS clinical director, and the other was a senior member of the research team.

**Objective rater and facilitator session checklists**—Because there were no major changes to the active ingredients of the content in CBITS for *GAIN*, the curriculum checklists provided by CBITS were used by the objective raters to monitor the delivery of each session's content. The two objective, independent raters completed a 6-hour online CBITS training, reviewed the intervention manual, and participated in a day-long training with a CBITS trainer in preparation for conducting fidelity checks for the project. A rater codebook was developed consisting of rules for raters based on the coding decisions and consensus of the research team. Each rater listened to four randomly selected audiotapes of sessions (two from the younger cohort, and two from the older cohort) and rated the extent to which the content was delivered. The purpose of the fidelity check was to ensure that the *GAIN* program included the major active ingredients of CBITS, despite the structural and other adaptations made (i.e., language, cultural) to better fit the needs and characteristics of girls in child welfare.

The checklists used by the facilitators included the same active CBITS ingredients found on the objective rater checklists and, for some sessions, included additional details relating to implementing *GAIN*. The purpose of the checklists was to ensure that the program was delivered consistently across the two groups and to guide the facilitator through the curriculum content during each session. After each session the co-facilitators completed a session checklist and submitted it to the research team.

### Procedures for Assessing Preliminary Treatment Effects

To determine if there were improvements in mental health outcomes and social problem-solving among participants in either condition, face-to-face, quantitative interviews were administered at baseline (pretest), three months (posttest), and at a six-month follow-up. Posttraumatic stress symptoms were assessed using the *Child PTSD Symptom Scale* (Foa, Johnson, Feeny, & Treadwell, 2001) and respondents rated their symptoms over the past month on a 4-point scale from 0 (“not at all”) to 3 (“five or more times a week”). Items were summed to yield a total scale score with a possible range of 0 to 51. Participants who scored > 15 were considered in the clinical range for PTSD as described by the International Society for Traumatic Stress Studies (<https://www.istss.org>). The alpha coefficient for the current study participants was  $\alpha = 0.92$ . The *Child Depression Inventory* (Kovacs, 2003) was used to measure depressive symptoms over the previous 2 weeks. The 27 items were rated from 0 to 2 and summed, with a possible range of 0 to 54. Participants who scored > 13, a cut-off score that has been reported for clinically referred samples (Kovacs, 2003), were considered in the clinical range for the current study. The alpha coefficient for the current sample was  $\alpha = 0.88$ . Social problem-solving skills were assessed by the *Social Problem-Solving Inventory-Revised: Short Form* (SPSI-R:S; D’Zurilla, Nezu, & Maydeu-Olivares, 2002) which measured the cognitive behavioral processes used by individuals to adapt, cope, and resolve everyday problems. The scale consisted of 25 items that were rated on a 5-point scale that ranged from 0 (“Not at all true of me”) to 4 (“Extremely true of me”). The SPSI-R:S has been shown to be reliable and valid in various populations (D’Zurilla et al., 2002). The internal consistency reliability for the current sample was  $\alpha = 0.76$ . In addition, nine items (yes/no) relating to mental health service use from the Service Assessment for Children & Adolescents (Stiffman et al., 2000) were administered at all three time periods to describe the types of services that the participants received.

Because the current study was a pilot implementation study with a small sample size ( $N=27$ ), statistical significance testing between conditions over time was problematic and likely to result in incorrect conclusions as discussed by Leon, Davis, & Kraemer (2011). For example, a significant finding given very low power could likely be due to the oversized impact of outliers in a small sample size rather than a true indication of a large intervention effect size. Likewise, a non-significant difference between the treatment and usual care groups over time could be due to low power and could lead to falsely concluding that the *GAIN* condition had no impact on participant outcomes. Therefore, descriptive changes were examined within each condition over time using means (*SD*) of the three key outcome variables and percentages of participants who scored in the clinical range for symptoms of PTSD and depression.

## Results

### Adaptations Based on Expert Consultation and Empirical Literature

The active ingredients of CBITS were not changed, including curricula related to the trauma narrative, psychoeducation, relaxation skills, cognitive therapy, exposure, and social problem-solving. However, there was consensus among the therapists and CBITS experts that structural changes were needed for how and when content was delivered due to the target population of girls in child welfare who have complex trauma histories. Based on the review of the empirical literature, goals of the study, and feedback from our key stakeholders (local child welfare agency, CAS therapists, CBITS trainers), several adaptations to the CBITS intervention were made related to participant inclusion criteria, program structure, and program content. As shown in Table 1, because our target population was comprised of girls involved in child welfare, *GAIN* included participants with histories of sexual abuse. Based on recommendations from our collaborators at child protective services, we expanded the age range to up to 18 years of age. Other program structural adaptations included changing the location where the program was delivered (from schools to a community based mental health agency), and extending the length of time of each session. Sessions were extended to 90 minutes based on feedback from CAS therapists with prior experience delivering CBITS in school settings who found it difficult to deliver the session content in 60 minutes. CBITS recommends one group facilitator for groups of four to six youths (Schultz et al., 2010), but because the current study was implementing *GAIN* with girls who may have had more complex histories than participants in CBITS, and because each of the pilot groups included more participants than CBITS groups, it was decided that two facilitators were ideal for *GAIN*. Additionally, CBITS recommends a teacher education session; in *GAIN*, the teacher session was omitted since the program was not delivered in schools. Based on the recommendations of the RAND toolkit for adapting CBITS for youth in foster care (Schultz et al., 2010), specific language and examples used in the intervention were changed to reflect the experiences relevant to youth in child welfare, such as using the terms “supportive adult” and “caregiver” instead of “parent.” Additionally, examples and role plays relating to common social problems and issues for girls in child welfare such as dating violence, communication styles, and qualities of healthy relationships were adapted for Sessions 8 and 9 (see Table 2).

### Receptivity of the Intervention to Target Population: Focus Group Findings

Focus groups were conducted with girls involved in child welfare but who were not participating in the intervention to determine their receptivity to group-based trauma treatment. Several themes emerged: the importance of confidentiality, preferences about the therapist style, and barriers to participation. Overall, youth reported they would be interested in participating in a group like *GAIN* in order to feel understood and to be able to have a place to discuss past experiences. Confidentiality and activities that built trust and cohesion for the group were of utmost importance. One girl said, *“Don’t expect the kids to automatically just open up like at first or second, or even third, fourth [session]. I mean, it has to be a long process, because I don’t open up to new people when in a situation.”* Second, participants also commented on preferred group facilitator styles. Youth said they did not like therapists who said they knew how a youth felt. *“I hate it when my therapist*

says, *'I know how you feel'*," said one youth, *"You really don't, you really don't."* Overall youth expressed a desire for facilitators who made them feel understood and cared about, not judged. As one said, *"Kids have to think you care before they care what you think."* The focus group participants also discussed potential barriers to participation in a group-based treatment. A major concern expressed was that other members might not take the group seriously and that would ruin participation for all youth present. *"I don't want to come to a group where people are talking, or therapists who don't care what I think. Just being felt like I'm being listened to,"* said one adolescent. Youth also expressed the fear that group members would form cliques. Youth said they disliked being treated younger than they were or doing activities in groups meant for younger kids. Youth mentioned separating groups by age so they were not in a group with someone much younger. Other potential barriers to participating in groups were: jobs, home-visits, extracurricular activities, and court meetings. In response to focus group feedback, confidentiality within the groups was emphasized during the pilot, and facilitators received additional training on techniques to manage adolescent group dynamics, including strategies to engage all members and reduce subgroup alliances.

### Refinement of the Intervention

Several implementation challenges were noted after conducting two intervention groups (ages 12–14 years, 15–18 years) with girls involved in child welfare: engaging adult caregivers was difficult, participants did not complete weekly homework, and girls struggled to identify the trauma they wanted to work on for the trauma exposure exercise, known in CBITS as the "Fear Hierarchy." As shown in Table 2, minor adaptations of CBITS were made to tailor the program for girls with histories of complex trauma.

**Engaging adult caregivers/challenges with homework**—Only one-third of the youth participants had a supportive adult attend the caregiver session. To increase the supportive adult's engagement, youth were required to bring a supportive adult (who did not have to be a primary caregiver) to the initial assessment session prior to the start of the first group session. During the assessment session, the supportive adult was informed about all group dates, including the caregiver sessions, and the expectations for assisting youth with weekly homework. Additionally, the supportive adult was mailed weekly handouts outlining session goals, support tips, and homework assignments after each group session.

**Trauma exposure exercise**—The Fear Hierarchy is an active component of the CBITS intervention that involves identifying trauma reminders in the real world that are actively being avoided. Avoidance can perpetuate trauma symptoms while safe, intentional exposure to the trauma reminders can diminish or eliminate those symptoms. The Fear Hierarchy activity involved creating a list of fears related to the traumatic event, rating them from least to most distressing, and developing a plan for gradual exposure in between group sessions. The complex trauma histories of girls in child welfare and the variance in avoidance levels exhibited by the participants resulted in the need for more individualized assistance during this activity. Therefore, the Fear Hierarchy exercise was introduced in the first individual session and then continued in group Session 5. Additionally, a new title for this exercise was generated based on feedback from the participants. The Fear Hierarchy handout allowed



participants to list their fears on a picture of a stairway moving from their least to most feared trauma reminder. The girls decided to rename the activity “Steps Toward Independence,” which reflects a more empowering approach to doing exposure work.

### Feasibility of Adolescent Recruitment and Retention

Participants were recruited through referrals from state child protective services case managers (35%), from agencies that provide services to adolescents in the child welfare system (54%), and from caregivers (11%). As shown in Figure 1, participant flow through the *GAIN* protocol, participants were 27 girls between the ages of 12–18 who had been involved with the child welfare system for histories of abuse or neglect. After learning more about the *GAIN* group and being randomly assigned to the experimental condition, the girls’ interest in participating in the *GAIN* group was high (18 of 21). Demographics of the participants are shown in Table 3. Girls randomized to the experimental condition ( $n=17$ ) were divided into two therapy groups according to age: younger adolescents ( $n=8$ ; cohort 1, ages 12 to 14) and older adolescents ( $n=9$ ; cohort 2, ages 15 to 18).

Despite the high prevalence of trauma among this population, there were some challenges in recruiting eligible youth. Initially case workers, therapists, and other referring agents were concerned that youths randomized to the usual care condition would not get the treatment that they needed. Subsequently, referring agents were reassured that girls in *both* the usual care and experimental groups could participate in any other services or programs available in the community or through child protective services. Assessment of the mental health services used by the participants in the usual care and experimental conditions indicated that from pre- to follow-up (6-month time interval), the major types of services received were: in-home therapy, outpatient mental health clinic services, and school-based counseling related to behaviors or feelings. In addition, the experimental condition participants received the *GAIN* trauma-focused group treatment. Second, referring agents were concerned that the girls would experience distress as a result of participating in the research interviews, particularly those in the usual care condition who did not receive trauma-focused treatment. To address this concern, findings of research on participation in trauma research were explained to referring agents, i.e., that participation in trauma-related assessments were generally not distressing and, for some, viewed as interesting and valuable (Griffin, Resick, Waldrop, & Mechanic, 2003). Additionally, to decrease the potential for distress during the research interviews, safeguards were in place such as the option to skip any question, extensive training of interviewers to recognize and report distress, and referrals to receive any professional help they may need to deal with their feelings. Additionally, it was explained that the trauma assessment consists of a yes/no response format, and does not include a trauma narrative or open-ended questions. In order to proactively address these issues, a *Common Concerns* handout was developed and discussed with referring agents, both individually and in group staff meetings. This strategy was effective and referrals became more routine.

### Participant retention

**Treatment Fidelity:** Audio recordings of four randomly selected sessions were used to assess treatment fidelity. Facilitators self-rated the extent to which they delivered the content

of these sessions, and results indicated that an overall average of 88% of the content was delivered. Examination of the checklist ratings showed all sessions but one (Session 9) were rated above 90%, for Session 9 only 63% of content was delivered.

Similarly, results from both objective raters agreed that Session 9 (“Practice with Social Problem-Solving”) did not include some content relating to reviewing homework from the previous session. Further examination of notes by the facilitators and objective raters indicated that there was not enough time to deliver all of the content for Session 8, and therefore facilitators moved it to Session 9. This explained why the homework was not reviewed. The objective raters had 100% agreement on the other sessions on content delivered.

### **Preliminary Intervention Effects and Participant Satisfaction**

As shown in Table 4, reductions in the mean levels of PTSD symptoms were found in both the experimental and usual care conditions from pretest to the six-month follow-up assessment, with a greater reduction found in the experimental condition. Likewise, the proportion of girls in the experimental condition who scored in the clinical range for PTSD decreased from 65% at pretest to 36% at the six-month follow-up (a reduction of 44.6%), while the usual care participants remained somewhat stable over time (a reduction of 4.2%). The severity of depression symptoms decreased in the experimental condition from pretest to posttest and was maintained at follow-up. The proportion of girls with depression symptoms in the clinical range decreased from 47% at pretest to 21% at follow-up (a reduction of 55%). Participants in the usual care condition improved slightly from pretest to posttest, but at follow-up their depressive symptoms worsened (an increase of 34%). In terms of social problem-solving skills, the girls in both conditions scored within the normative range at all three time periods. However, modest increases in skills among the *GAIN* girls and modest decreases in skills among those in the usual care condition were observed.

**Participant Satisfaction**—Based on results from the Client Satisfaction Questionnaire, the majority of participants (92%) were “very” or “mostly” satisfied with the program and believed the program to be of “excellent” or “good” quality. All participants (100%) would recommend the program to a friend, and 92% said the program helped them deal more effectively with their problems.

### **Discussion**

Findings from the current pilot implementation study indicate that it is feasible to recruit, randomize, assess outcomes, and implement with adequate fidelity a group-based, trauma-focused, cognitive behavioral intervention with adolescent girls involved in the child welfare system. Promising preliminary effects of the *GAIN* program were found for reducing the percentage of participants meeting criteria for PTSD and depression. However, findings should be considered in light of several limitations of this descriptive study.

First, although a majority of the girls rated the quality of the program highly and were very satisfied with it, it should be noted that four of the initial 17 participants dropped out after

only one or two sessions, and they may have rated *GAIN* less favorably than those who completed the group. Additionally, there was higher dropout among the older group, perhaps due to competing school commitments, lack of interest, or inability to contact girls who ran away from home. CBITS was originally developed and tested with youth ages 11–15, and our initial data suggest that retention may be a problem with older adolescents. A larger effectiveness trial is needed to determine if older adolescents are more likely to drop out and, if so, why, and what strategies may be implemented to increase retention. A larger trial will also determine if there are differential effects of the intervention in older compared to younger adolescents. Additionally, other factors that may influence the intervention outcomes, such as severity of child maltreatment and medication and service use must be considered and controlled for in future analyses. Last, because it was not feasible to withhold or delay the usual services delivered to vulnerable adolescents such as those involved in the child welfare system, participants in both conditions received a variety of mental health services. Although the types of services were assessed, the various modalities of services received were unknown. Future research is needed to better describe the kinds and frequency of therapeutic services that may be received by the usual care condition and to note whether any of the services were trauma-focused treatment.

In the current study, *GAIN* was delivered in a community mental health agency to minimize some of the challenges that the RAND Toolkit (Schultz et al., 2010) identified in delivering CBITS in school-settings for youth involved in foster care. These included problems with identifying eligible participants due to lack of coordination and communications between school personnel and the child welfare system. Additionally, it is likely that the number of girls who are involved in child welfare and who are eligible and interested in the program may be too small in any one school.

The tension between “fit” and fidelity is a major issue of concern in adaptation and dissemination of empirically supported treatment (Castro, Barrera, & Martinez, 2004). Fidelity of *GAIN* to the original CBITS curriculum was high in part because the active components of the intervention were not changed, and because the group facilitators for the program were from our collaborating agency, CAS, who had prior training and “buy-in” to the treatment model. For *GAIN*, the adaptations were primarily related to program structure such as increasing session length and requiring two group facilitators with expertise in childhood abuse and neglect-related traumas and the behavioral problems of the participants. Minor adaptations in session content involved adding child-welfare relevant language and examples for role plays and skill building exercises. One additional recommendation based on the pilot was to introduce the Fear Hierarchy in the first individual session which would allow for a deeper level of individual planning for the trauma exposure exercise in Session 5.

There is a critical need to better understand service delivery processes and implementation challenges of delivering evidence-supported interventions in the child welfare population (Fixsen, Naoom, Blasé, Friedman, & Wallace, 2005; Maher et al., 2008). Despite the growth of knowledge in dissemination and implementation research, application to child welfare populations lag behind. In our implementation study, there were many steps needed to identify and secure consent, permission, and involvement from the legal guardian and/or caregiver. Additional resources (i.e., staff time) were needed for this process between the

time a participant was referred to the program and when she could begin the program. Additionally, the dissemination of *GAIN* to non-school settings may need greater parent or supportive adult involvement to address some challenges related to transportation and to increase support for attending sessions and completing homework.

A strong collaborative relationship with the local and state-level child welfare agencies is necessary to increase the feasibility of recruitment and consent/permission process for this population. Nationally and locally, there has been a call for trauma-informed services for vulnerable adolescents with histories of abuse and neglect (Jaycox et al., 2009). This study adds to the implementation knowledge by describing the feasibility, receptivity, and potential benefits and challenges of a group delivered, trauma-focused treatment for girls in child welfare. A large-scale RCT is needed to determine the effectiveness of *GAIN* on reducing mental health and behavioral problems in this population, and to examine the cost-effectiveness of this intervention compared to other trauma-focused or usual care services.

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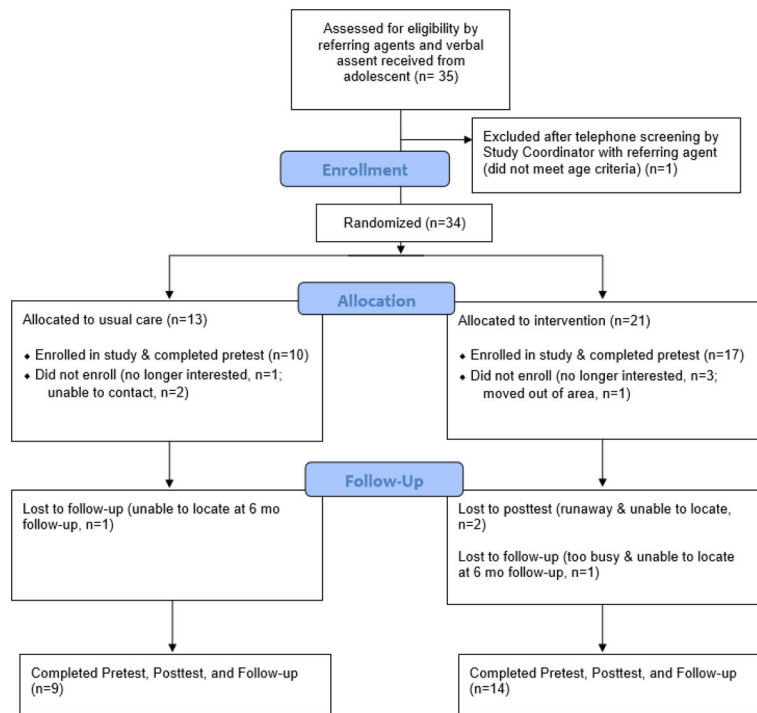
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**Figure 1.**  
Participant Flow through the GAIN Protocol

**Table 1**

Summary of Adaptations of Participant Inclusion Criteria and Program Structure for CBITS and GAIN

	CBITS	GAIN
<b>Participant inclusion criteria</b>		
<b>Age</b>	11–15 years old	12–18 years old
<b>Gender</b>	Male and female	Female only
<b>Previous or current involvement with child welfare system</b>	Not required; involvement in child welfare system typically unknown due to confidentiality and school policy	Required; history of maltreatment investigated by Missouri Children’s Division
<b>Exclusion criteria</b>	Screener excluded sexual abuse (due to school policy and mixed- gender groups)	Girls with histories of sexual abuse were included
<b>Program structure</b>		
<b>Setting</b>	School	Community-based mental health agency
<b>Session length</b>	60 minutes	90 minutes
<b>Number of sessions</b>	10 group sessions	10 group sessions (plus pre- intervention party and graduation party, 12 total meetings)
<b>Number of group facilitators</b>	1 per 4–6 youth	2 for all groups
<b>Attendance and homework prizes</b>	Encouraged	Provided at each group session and at graduation
<b>“Parent” involvement</b>	1–2 parent sessions Parent does not attend “assessment sessions”	2 supportive adult sessions (attends assessment session and 1 parent session); weekly summaries of session content to supportive adult
<b>Participation reminders</b>	None	Weekly telephone reminders and mailings about group meetings



**Table 2**

## Comparisons of CBITS and GAIN by Session Content

	CBITS	GAIN
<b>Group Session 1</b>	<ul style="list-style-type: none"> <li>Introduction of group members, confidentiality, and group procedures</li> </ul>	<ul style="list-style-type: none"> <li>Original content; no adaptations made</li> </ul>
<b>Group Session 2</b>	<ul style="list-style-type: none"> <li>Common reactions to stress or trauma</li> <li>Activity: Progressive Muscle Relaxation</li> </ul>	<ul style="list-style-type: none"> <li>Modified example scenarios relevant and sensitive to child welfare population (removed use of the word "parent," included examples involving stress of placement changes, etc.)</li> <li>Added grounding/relaxation to the end of each session, time permitting</li> </ul>
<b>Supportive Adult Session</b>	<ul style="list-style-type: none"> <li>1–2 sessions</li> <li>Referred to as "Parent Session"</li> </ul>	<ul style="list-style-type: none"> <li>Emphasized how supportive adult can help with homework</li> <li>Referred to as "Supportive Adult Session"</li> </ul>
<b>Group Session 3</b>	<ul style="list-style-type: none"> <li>Thoughts and feelings: Introduction to cognitive therapy</li> <li>"Hot Seat" Activity</li> </ul>	<ul style="list-style-type: none"> <li>Modified "Hot Seat" examples specific to child welfare population particularly around physical, sexual, and emotional abuse</li> </ul>
<b>Individual Session 1</b>	<ul style="list-style-type: none"> <li>Imaginal exposure to stress or trauma</li> <li>Planning for group support</li> <li>Planning for additional individual sessions</li> </ul>	<ul style="list-style-type: none"> <li>Introduced "Fear Hierarchy" activity from Session 5 to allow time for complex or multiple traumas common to child welfare population</li> </ul>
<b>Group Session 4</b>	<ul style="list-style-type: none"> <li>Combating negative thoughts</li> </ul>	<ul style="list-style-type: none"> <li>Original content; no adaptations made</li> </ul>
<b>Individual Session 2</b>	<ul style="list-style-type: none"> <li>Imaginal exposure to stress or trauma</li> <li>Planning for group support</li> <li>Planning for additional individual sessions</li> </ul>	<ul style="list-style-type: none"> <li>Original content; no adaptations made</li> </ul>
<b>Group Session 5</b>	<ul style="list-style-type: none"> <li>Avoidance and coping</li> <li>Intro to Real Life Exposure "Fear Hierarchy"</li> </ul>	<ul style="list-style-type: none"> <li>Original content; no adaptations made</li> </ul>
<b>Phone calls to Supportive Adults</b>	<ul style="list-style-type: none"> <li>None</li> </ul>	<ul style="list-style-type: none"> <li>Called each supportive adult after Group Session 5 to explain fear hierarchy homework</li> </ul>
<b>Group Session 6</b>	<ul style="list-style-type: none"> <li>Exposure to stress or trauma memory through imagination/drawing/ writing as well as sharing trauma stories</li> </ul>	<ul style="list-style-type: none"> <li>Original content; no adaptations made</li> </ul>
<b>Group Session 7</b>	<ul style="list-style-type: none"> <li>Imaginal exposure, continued</li> </ul>	<ul style="list-style-type: none"> <li>Original content; no adaptations made</li> </ul>
<b>Group Session 8</b>	<ul style="list-style-type: none"> <li>Introduction to social problem-solving</li> </ul>	<ul style="list-style-type: none"> <li>Modified scenarios to address communication styles and healthy relationships due to foster care</li> </ul>

CBITS		GAIN	
			youths' increased risk for re-victimization
<b>Group Session 9</b>	<ul style="list-style-type: none"><li>Practice with social problem-solving and Hot Seat</li></ul>	<ul style="list-style-type: none"><li>Modified scenarios to address communication styles and healthy relationships due to foster care youths' increased risk for revictimization and interpersonal violence</li></ul>	
<b>Group Session 10</b>	<ul style="list-style-type: none"><li>Relapse prevention</li></ul>	<ul style="list-style-type: none"><li>Original content; no adaptations made</li></ul>	

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**Table 3**

Demographics for Adolescents in Usual Care and Experimental Conditions at Pretest

Variable	Usual Care ( <i>n</i> =10)		Experimental ( <i>n</i> =17)	
	<i>M</i> or <i>n</i>	<i>SD</i> or %	<i>M</i> or <i>n</i>	<i>SD</i> or %
Age: <i>M</i> ( <i>SD</i> )	14.7	1.3	14.6	1.3
Ethnicity				
White	2	20	4	23.5
Black	5	50	7	41.2
Other/Mixed Ethnicity	3	10	6	35.3
Custody				
State	7	70	7	41
Parent or relative	3	30	10	59

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**Table 4**  
Means, Standard Deviations, and Percentages of Symptoms of Posttraumatic Stress, Depression, and Social Problem-solving

	Usual care					Experimental		
	Pretest (n=10)	Posttest (n=10)	Follow-up (n=9)	Pretest (n=17)	Posttest (n=15)	Follow-up (n=14)		
<b>Total PTSD score</b>	21.5(13.44)	22.30(13.92)	19.89(11.98)	19.35(9.88)	13.67(8.94)	13.07(11.91)		
Re-experiencing	6.30(4.42)	5.30(4.06)	5.44(3.91)	5.12(3.06)	3.47(2.56)	3.07(3.12)		
Avoidance	7.70(5.98)	9.30(6.22)	7.33(5.00)	7.65(4.24)	4.20(4.96)	4.86(4.93)		
Arousal	7.50(5.28)	7.70(4.52)	7.11(4.20)	6.59(3.79)	6.00(3.05)	5.14(4.94)		
Clinical range (%)	70.0	70.0	67.0	65.0	40.0	36.0		
<b>Total Depression score</b>	14.90(9.37)	13.50(8.97)	15.44(10.24)	12.18(7.80)	10.00(6.21)	9.93(7.98)		
Clinical range (%)	50.0	40.0	67.0	47.0	27.0	21.0		
<b>Social Problem-solving</b>	11.42(2.62)	11.52(2.92)	10.67(2.24)	9.96(2.35)	11.31(2.39)	11.34(2.21)		