

Structured Sensory Therapy (SITCAP-ART) for Traumatized Adjudicated Adolescents in Residential Treatment

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SUMMARY. This randomized controlled study assessed the efficacy of a structured group therapy for traumatized, adjudicated adolescents in residential treatment. Youth were randomly assigned to a trauma intervention (SITCAP-ART) or to a waitlist/comparison group. The intervention included both sensory and cognitive/behavioral components. Standardized trauma and mental health measures were used. Study participants demonstrated statistically significant reductions in trauma symptoms, depression, rule-breaking behaviors, aggressive behaviors, and other mental health problems.

KEYWORDS. Trauma, posttraumatic stress disorder, adjudicated youth, adolescents, sensory based intervention

In recent years descriptive research evidence has suggested that trauma and posttraumatic stress disorder (PTSD) is a psychological and emotional dysfunction manifest to a significant extent among populations of

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residential treatment organizations. Between 24% and 51% of male juvenile offenders exhibited symptoms of posttraumatic stress (Berton & Stabb, 1996; Burton, Foy, Bwanausi, Johnson, & Moore, 1994). Similarly, 49% of female juvenile offenders demonstrated symptoms of PTSD (Cauffman, Feldman, Waterman, & Steiner, 1998). Foy, Madvig, Pynoos, and Camilleri (1996) indicate that the prevalence of posttraumatic stress disorder among adolescents is a function of the maltreatment, abuse, neglect, and violence to which they are exposed. In 2001 the National Clearinghouse on Child Abuse and Neglect documented that almost one million children were identified by state child protective service agencies to be victims of child abuse and neglect. "More than half of child victims (57 percent) suffered neglect; 2 percent suffered medical neglect; 19 percent were physically abused; 10 percent were sexually abused; and 7 percent were psychologically maltreated" (National Clearinghouse on Child Abuse and Neglect Information NCANDS, 2001, p. 2). For many of these maltreated children and adolescents the trauma that maltreatment produces has a significant impact on their emotional, behavioral, and cognitive functioning (Massachusetts Citizens for Children, 2001). As a result of the emotional, behavioral, and cognitive deficits influenced by trauma, many children and adolescents develop dysfunctional coping mechanisms that may take the form of oppositional, defiant, and aggressive behavior (S. Jacobs, 2005). Van Dalen (2001) suggests that many untreated traumatized children and adolescents demonstrate drug and alcoholic dependency as well as repeated delinquent behavior leading to adult criminal behavior.

Cognitive/behavioral therapies have been in widespread use to treat children and adolescents who have been traumatized. In fact, cognitive/behavioral therapy has been recommended as the "best practice" approach by the Society for Traumatic Stress (Ovaert, Cashel, & Sewell, 2003) and the American Academy of Child and Adolescent Psychiatry (AACAP, 1998). However, because of the cognitive distortions and deficits produced by traumatic events it may be more difficult and potentially less effective to treat children and adolescents using only cognitive/behavioral therapy. It may be hypothesized that the effectiveness of cognitive/behavioral therapy may be enhanced with the inclusion of sensory-based activities.

Therapeutic events and terror produce arousal that is the neurophysiological response to trauma. Therefore, a traumatized child's predominant processing of the trauma will be in the subcortical and limbic areas of the brain that deal with nonverbal information (Perry, 2000). Trauma is processed to a lesser extent in the neocortex area of the brain that involves

reasoning, linear thinking, analysis, the ability to make sense of the experience. The child who is lingering or frozen in a state of arousal due to past or current trauma has difficulty reassigning or thinking things through. These cognitive deficiencies, therefore, suggest the need for noncognitive approaches to help children overcome or minimize the learning, emotional, and behavioral problems deriving from the traumatic arousal.

Memory has two functions—implicit and explicit. Explicit memory sometimes referred to as declarative memory refers to primary cognitive processes. In explicit memory children and adolescents have access to language. They can use words to describe what they are thinking and feeling. Explicit memory allows children and adolescents to process information, to reason, to make sense of their experience. These cognitive processes facilitate coping with traumatic arousal.

What may be needed to supplement cognitive/behavioral therapy are sensory-based therapeutic activities to assist with the processing of the implicit memories of trauma and to restore more effective emotional functioning. Once more effective emotional functioning is restored, cognitive behavioral therapeutic activities can more easily develop clearer thinking and positive coping strategies. The Trauma Intervention Program for Adjudicated and At-Risk Youth (SITCAP-ART) structured trauma treatment approach, which is the focus of this article, utilizes a series of drawing tasks and treatment specific questions that target the major sensations that are experienced in a traumatic event (e.g., terror, fear, worry, powerlessness). The premise of SITCAP-ART is that traumatic memories are experienced at a sensory level and must be reactivated in a safe environment in order to be moderated and tolerated with a sense of power and feeling of safety.

There has been limited research on posttraumatic stress disorder treatment in residential settings. Ovaert, Cashel, and Sewell (2003) conducted a controlled study to assess the efficacy of structured cognitive behavioral group therapy for PTSD in incarcerated male juveniles. Self-reported PTSD symptoms were significantly reduced ($p = .01$). However, measures of symptoms of anxiety, anger, and depression did not demonstrate statistically significant reductions.

The purpose of this article is to report on a controlled research study to demonstrate the efficacy of a structured group therapy for adjudicated youth in residential treatment (*Structured Sensory Intervention for Traumatized Children, Adolescents and Parents – Adjudicated and at Risk Youth* [SITCAP-ART]). The facility that participated in the study was the Multi-County Juvenile Attention Center, Ohio in collaboration with Northeast Ohio Behavioral Health, North Canton and Cuyahoga Falls, Ohio.

TRAUMA INTERVENTION PROGRAM

The Trauma Intervention Program for Adjudicated and At-Risk Youth (SITCAP-ART) is a modification of *Structured Sensory Intervention for Traumatized Children, Adolescents and Parents* (SITCAP; J. Jacobs & Steele, 2003). The SITCAP-ART model is a comprehensive treatment approach designed to diminish the terror that exposed individuals experience and facilitate feelings of safety. When trauma reactions are normalized, the distinction between trauma and grief is emphasized. This structured protocol provides a session-by-session, situation specific (e.g., school vs. agency) guide to intervention. It is appropriate for individuals who have experienced violent or nonviolent trauma and is age-specific (preschoolers, 6- to 12-year-olds, adolescents, adults). Focusing on themes such as “hurt” and “worry” that accompany both violent and nonviolent types of trauma enhances the generalizability of the model. The parent component encourages a supportive caretaker response and addresses past and present traumas in the parent’s life (Steele & Raider, 2001). SITCAP-ART designed specifically for adjudicated youth integrates cognitive strategies with “sensory,” “implicit” strategies. SITCAP-ART is designed to achieve the successful cognitive reordering of traumatic experiences in ways that move adjudicated adolescents from victim to survivor thinking and in ways that allow them to become more resilient to future traumas. With increased cognitive functioning resulting from sensory-based processing, the adolescent has a greater chance of benefiting from intervention that addresses the maladaptive coping behaviors characteristic of adolescents who have experienced long-term trauma reactions.

The Program: Sessions

The program consists of 10–11 sessions depending upon the progress made with each session. Seven of the sessions are group sessions with each group comprised of six participants. In addition, there is one individual debriefing session, one individual processing session, and one parent/adolescent session. Each group session is scheduled for one hour and fifteen minutes.

The goals of SITCAP-ART are:

- Stabilization (return to previous level of functioning or prevention of further dysfunction);
- Identification of PTSD reactions;

- The opportunity to revisit the trauma in the supportive, reassuring presence of an adult (professional) who understands the value of providing this opportunity;
- An opportunity to find relief from trauma-induced terror, worry, hurt, anger, revenge, accountability, powerlessness, and the need for safety;
- An opportunity to reestablish a positive “connectedness” to the adult world;
- Normalization of current and future reactions;
- Support of the heroic efforts to become a survivor rather than a victim of their experience;
- When appropriate, assistance for parents in resolving those reactions triggered by their child’s traumatization;
- Replacement of the traumatic sensory experience with positive sensory experiences;
- Identification of additional needs and recognition of the role parents can take to help meet those needs;
- The provisioning of parents with ways to respond to their traumatized child’s reactions.

The Initial Session: Education

In this program education is critical to healing and it is also the first step in creating a sense of empowerment and safety for participants. Structuring statements at intake clearly identify how the process works, what will be expected, and what outcome can be anticipated. The time devoted to “structuring” the process helps to reduce anxiety. It also helps victims to make an informed consent. All too often interveners simply move directly into treatment without addressing the implications for the client. The client is not prepared to really confirm, “Yes this is what I want.” SITCAP-ART uses specific resource materials for this educational component to ensure the adolescent has some sense of what he or she is about to experience as well as learn.

It is also of value to mention that participants consistently report that the trauma educational component, which is designed into all TLC trauma programs, has been extremely helpful and encouraging to them. A key reason for this is that many of the adjudicated youth come to the SITCAP-ART program with a belief that they lack intelligence because of the historical difficulty they tend to have with their academic progress. Many of these juvenile offenders also have a belief, because of the long-term

nature of their trauma reactions, that they have a mental illness, which they have no chance of escaping. Without the understanding of the role that trauma has played in their learning and cognitive abilities, these children are left to adopt these negative beliefs that can have a devastating impact on their self-esteem and sense of motivation.

Therefore, because of the importance of both the child and parent understanding the connection between their trauma experience and learning and cognitive abilities, the SITCAP-ART program contains, in addition to the trauma education provided as part of the program, a simple and brief presentation that educates both the child and the parents on the psychophysiology of trauma, i.e., brain and the survival response, and how it relates to the symptoms experienced as a result of the traumatic exposure. Once the participants understand the link between the trauma experience and the difficulty they are experiencing with concentration, memory, and learning, as well as other symptoms such as insomnia, fear, and anger, they tend to feel more hopeful about their abilities and more confident that they can overcome their trauma reactions and regain a sense of well-being.

Participants also come away from the program with an understanding of the link between their trauma experience/s and their delinquent behavior, such as aggression, defiance, substance abuse, and truancy. In addition, during this short, 8- to 10-week program, most participants learn, through experience, that they can begin to feel better with proper intervention. This knowledge and understanding seems to play a role, with many of the adjudicated participants, in improving the individual's sense of hope, sense of self, and the willingness of many participants to be more cooperative and open to additional therapeutic interventions that are often needed to assist with the relearning of more appropriate and healthy behavior patterns.

The Second Session: Debriefing

Debriefing is the second session. Each adolescent is scheduled for one-hour trauma debriefing session prior to beginning the group sessions. Debriefing is not recommended in a group setting so adolescents can identify those experiences they do not want others to know about, yet they learn how these can be dealt with "anonymously" in a group setting. The debriefing session is a critical first step in helping to reduce the adolescent's trauma reactions as well as anxiety about the group process. It is, therefore, important that the adolescent has your undivided attention.

Sessions Three – Eight: Focus on Themes, Not Behavior

SITCAP-ART focuses on major experiences, sensations, or themes of trauma throughout the process shifting the adolescent from victim thinking to survivor thinking. This process, therefore, does not direct itself to attempting to treat behavior but rather the sensory experiences of trauma that fuel and drive the adolescent's behavior. To accomplish this, the intervener must remain in a role of the witness versus clinician. To be a witness, the intervener must be involved in the child's telling of their experience by being curious about all that happened. To engage this "witness" role, the intervener must be very concrete and literal in response to all the elements of the experience, its details, and the visual representations provided by the adolescent. If the intervener attempts to make sense of the child's emotional status by analyzing "why," the intervener will not be able to experience the trauma as the adolescent is experiencing it. The intervener will not "know it" as the adolescent knows it, and the adolescent will not experience the intervener as a witness, as someone who is with the adolescent in the experience. He will sense he is alone and shut down to protect himself.

Part of becoming a witness is seeing how the victim now views oneself and the world around the victim following the trauma. To see what the victim sees is to understand and to know what will be helpful. Because trauma is a sensory experience the memory is often stored symbolically. Images—how one looks at oneself and the world around—defines what the trauma was like. A brief example might be the traditional therapeutic role of a therapist analyzing how a youngster is thinking or feeling instead of simply asking, "Of all the things that are going on in your life right now what is your biggest worry?" For some adolescents what the therapist might think may be a major concern related to the incidents the adolescent has been exposed to may be completely different from what the adolescent is experiencing as a result of the exposure.

Drawing

Drawing is a major component of SITCAP-ART. The experience of trauma is stored in implicit memory and is transcribed into iconic representations/visualizations. Drawing becomes a vehicle for communicating and externalizing what that experience was like.

- Drawing is a psychomotor activity. Because trauma is a sensory experience, not a cognitive experience, intervention is necessary to trigger those sensory memories. Drawing triggers those sensory

memories when it is trauma focused. It provides a safe vehicle to communicate what children, even adults, often have few words to describe.

- Drawing engages the adolescents in the active involvement with their own healing. It takes them from passive to an active, directed, controlled externalization of that trauma and its reactions.
- Drawing provides a symbolic representation of the trauma experience in a format that is now external, concrete, and therefore manageable. The paper acts as a container of that trauma.
- Drawing provides a visual focus on details that encourage the client via trauma-specific questions, to tell his or her story, to give it a language so it can be reordered in a way that is manageable.
- Drawing also provides for the diminishing of reactivity (anxiety) to trauma memories through repeated visual reexposure in a medium that is perceived and felt by the client to be safe.

Details

Obtaining details is another very important component of the SITCAP-ART process as it helps to make sense of the experience. Trauma-specific questions have been designed to help in the telling of the story and the provision of those details that allow intervener witnesses to better understand what the experience has been like for the adolescent. For the victim, details can provide a sense of control as well as sense of relief. For the intervener, details can point the way to helping the adolescent find relief. The structure of SITCAP-ART keeps the intervener and adolescent focused on details as a way of being able to later “see” the experience differently, to cognitively reframe it in a way that is manageable. Details also can provide information that helps to make sense out of what happened and may still be happening with the adolescent.

Trauma-Specific Questions

Questions are directed to trauma themes and focused on trauma sensations and are also directed to the details of the trauma incident itself. Following are some examples:

- “What do you remember seeing or hearing?” relates to the overall sensory imploding of detailed components of the trauma.
- “Do you sometimes think about what happened even when you don’t want to?” deals with intrusive thoughts.

- “Do certain sounds, sights, smells, etc., sometimes suddenly remind you of what happened?” refers to startle reactions.
- “What would you like to see happen to the person (or thing) that caused this to happen?” deals with anger and revenge.
- “Do you sometimes think it should have been you instead?” is an accountability (survivor guilt) question.

Multiple questions are asked because the specific trauma reference may be worry, not anger or revenge. The child’s trauma reference may be about the hurt experienced at a sensory level not the physical level. It may be accountability for some, fear for others. SITCAP-ART encourages the systematic presentation of all questions and attention to all themes to give the victim the opportunity to make the intervener a witness to his or her specific trauma reference.

Cognitive Reframing

Cognitive reframing is scripted in SITCAP-ART to insure that the victim is provided a “survivor’s” way of making sense of their trauma experiences. The goal is to help move participants from “victim thinking” to “survivor thinking” that leads to empowerment, choice, active involvement in their own healing process and a renewed sense of safety and hope. Activities also assist in supporting the reframing of the experience in ways that are more manageable for them.

Parent, Foster Parent, Guardian, Primary Caregiver, and Therapist Involvement

Parents, foster parents, guardians, primary caregivers, and therapists generally underestimate the impact trauma has on adolescents. Learning about trauma helps them to more adequately respond to the adolescent. Education is also helpful for primary caregivers who themselves have been traumatized. Education is an essential, necessary component to help them become aware of how their own unresolved traumas block their abilities to allow the child to feel safe with them. Primary caregivers with their own history often discover that the adolescent’s experience threatens to bring all the terror of their own experience back to life. Unknowingly, they reject their adolescent’s cry for help or minimize the adolescent’s terror in hopes of avoiding their own fears and anxieties. It is important for the primary youth workers/clinicians in these settings to also have the same education and an understanding of trauma to avoid the same issues

facing primary caregivers. This is a primary reason why the SITCAP-ART program is as structured for the intervener/therapist/clinician as it is for the adolescent.

SAMPLE

The Multi-County Attention Center clinical staff-identified 23 youth with documented multiple trauma exposure were recruited to participate in the research study. Of the 23 research participants, 13 were randomly assigned to the treatment group and 10 assigned to the waitlist (control group). Three dropouts occurred during the treatment process. There were no dropouts from the waitlist group. Table 1 presents a demographic profile of research participants and the demographic characteristics of the three groups.

Two-thirds of research participants were between 16 and 17 years of age. Eleven were male and nine were female. Most were white (85%). There was one Hispanic participant. The most frequently reported problems that contributed to placement in the residential facility were behavior problems at home, criminal behavior, alcohol/substance abuse, behavior

TABLE 1. Demographic Characteristics of Groups

	Waitlist		Treatment		Dropouts	
	Number	Percent	Number	Percent	Number	Percent
Age						
15	2	20	1	10	0	
16	4	40	2	20	0	
17	4	40	3	30	1	33.3
18	0		4	40	2	66.7
Total	10	100	10	100	3	100.0
Gender						
Male	5	50	6	60	3	100.0
Female	5	50	4	40	0	
Total	10	100	10	100	3	100.0
Race						
Black	1	10	1	10	1	33.3
White	8	80	9	90	2	66.7
Unknown	1	10				
Total	10	100	10	100	3	100.0

problems at school, and attachment problems. The most frequently documented trauma exposure was psychological maltreatment, physical maltreatment, sexual maltreatment, domestic violence, neglect, traumatic loss, or separation. Three-quarters of research participants experienced multiple trauma. Fifty-five percent of the research participants have been assessed with grief.

METHOD

The research was conducted at the Multi-County Attention Center in Ohio. The therapist was Margaret De Lillo-Storey, a staff member of Northeast Ohio Behavioral Health Center. Ms. Storey was trained in SITCAP-ART and certified by the Trauma and Loss Institute that was the developer of the treatment model. To assure that each therapy session was conducted in compliance with the SITCAP-ART Model, Ms. Storey completed a Fidelity of Treatment Checklist (FTC). Analysis of the checklists indicated 98.5% Fidelity with the manualized treatment model. Youth and parents/guardians participated in an educational session in order to provide complete information about the SITCAP-ART trauma treatment program. Participation was voluntary requiring approval of both youth and parent/guardians. Both youth and their parents/guardians signed informed consent forms approved by Wayne State University Human Investigation Committee.

The group of research participants completed three instruments. The instruments were the Trauma Symptom Checklist (TSCC; Briere, 1996), the Youth Self Report (YSR; Achenbach & Rescoria, 2001), and the Child and Adolescent Questionnaire (CAQ) developed by the authors (Steele & Raider, 2001). In addition, the youth therapist, utilizing the youth's clinical case record completed a clinical data form that gathered information on demographics, trauma exposure, severity of symptoms, services utilization, and limited information about domestic environment.

Research participants were randomly assigned to two groups. The first group began immediate group treatment utilizing the SITCAP-ART program. The second group was the comparison/control group that remained on the waitlist for treatment and received the SITCAP-ART program identical to the treatment group when the treatment group had completed treatment (approximately 10 weeks). Youth assigned to the comparison/control waitlist group were contacted biweekly by the group therapist,

Ms. De Lillo-Storey, in order to monitor any changes, escalations, and/or life events that required immediate intervention. Upon completion of the SITCAP-ART program, the treatment group completed the CAQ, TSCC, and the YSR. The waitlist group completed these instruments as well at that time. After the waitlist group completed the SITCAP-ART program, they completed the CAQ, TSCC, and YSR.

MEASURES

The Trauma Symptom Checklist for Children (TSCC-A) is a standardized self-report measure of posttraumatic and related symptoms for children 8–16 years of age. The instrument can be used with children as young as 7 and adolescent as old as 17 (Briere, 1996). The instrument was developed to assess symptoms of children who have experienced traumatic events, not to assess the *Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV*; American Psychiatric Association [APA], 1994) construct of PTSD specifically (National Child Traumatic Stress Network, 2007). The version of the instrument utilized in this study evaluates children's responses in five symptom domains: anxiety, depression, anger, posttraumatic stress, and dissociation. Dissociation has two subscales overt dissociation and fantasy. The five scales all demonstrate high internal consistency reliability ($\alpha = .82-.87$). A convergent validity study (Evans, Briere, Boggiano, & Barrett, 1994) correlating the TSCC and the Child Depression Inventory (CDI; Kovacs, 1992) demonstrated a moderate correlation of .68 with the TSCC depression scale. The TSCC was also correlated with the revised Children's Manifest Anxiety Scale (RCMAS; Reynolds, & Richmond, 1985) correlations were moderate range from .51–.63.

The Youth Self Report (YSR) is a standardized self-report measure that assesses problem behaviors in two summary domains: internalizing and externalizing (Achenbach & Rescoria, 2001). These summary domains are comprised of eight symptom scales: anxious/depressed, withdrawal/depressed, somatic complaints, social problems, thought problems, attention problems, rule-breaking behavior, and aggressive behavior. The YSR is designed to assess problem behaviors of children and adolescents 11–18 years of age. The YSR is a parallel instrument to the Child Behavior Checklist (CBCL; Achenbach, & Rescoria, 2001). The YSR is one of the most widely used instruments in research that measures child and adolescent problem behaviors. Test/retest reliability is

high ($\alpha = .87$), internal consistency is very high ($\alpha = .95$). Construct validity when used in conjunction with the CBCL is high ($\alpha = .85-.89$).

The Child and Adolescent Questionnaire (CAQ; Steele & Raider, 2001) is a self-report measure of posttraumatic stress symptoms as specified in the *DSM-IV* (APA, 1994). The CAQ was developed by Steele and Raider and is a modification of the Child PTSD Reaction Index (Frederick, Pynoos, & Nader, 1992). The CAQ consists of 35 Likert-type questions comprising three scales. Scale I is the reexperiencing of the traumatic event, Scale II is avoidance of stimuli associated with the traumatic event, and Scale III is symptoms of increased arousal due to the traumatic event. In previous research (Steele & Raider, 2001), internal consistency reliability was assessed at intake, termination and 3-month follow-up utilizing Cronbach's alpha. Reliability of the reexperience traumatic event scale of the CAQ was high $\alpha = .82$ at intake, $\alpha = .86$ upon completion of intervention and $\alpha = .87$ at 3-month follow-up. Reliability of the avoidance scale of the CAQ was high at $\alpha = .78$ at intake, $\alpha = .80$ upon completion of the intervention, and $\alpha = .82$ at 3-month follow-up. Reliability of the arousal scale of the CAQ was moderate at $\alpha = .73$ at intake, $\alpha = .75$ upon completion of the intervention, and $\alpha = .76$ at 3-month follow-up.

Steele and Raider (2001) utilizing data from the study under discussion as well as data from another controlled study assessing the efficacy of SITCAP-ART with adjudicated youth in a community setting in Georgia correlated TSCC-A scores with CAQ (see Table 2).

Correlation of the CAQ total score with TSCC-A total score was moderate ($r = .671$, $p < .1$) and demonstrated statistical significance. Similarly the CAQ total score correlated with the TSCC individual scales produced correlations that were moderate and all statistically significant except for anxiety that had a low correlation ($r = .404$, $p < .01$). CAQ scales scores were also correlated with the TSCC scale scores. Correlations were moderate and statistically significant ($p < .01$). However, the reexperiencing scale of the CAQ demonstrated a low correlation with the TSCC anger scale ($r = .275$, $p = < .05$). The strongest correlations were achieved in comparing the reexperiencing of traumatic events scale of the CAQ and the TSCC anxiety scale ($r = .654$, $p < .01$), depression scale ($r = .600$, $p < .01$), and the posttraumatic stress scale ($r = .659$, $p < .01$). Generally, it may be concluded that the Child and Adolescent Questionnaire (CAQ) demonstrated moderate convergent validity with the Trauma Symptom Checklist for Children-A (TSCC-A).

TABLE 2. Correlation of Child and Adolescent Questionnaire (CAQ) Trauma Symptom Checklist for Children-A (TSCC-A) Clinical Scales (N = 44)

	TSCC Total	Anxiety	Depression	Anger	Post traumatic Stress	Dissociation	Dissociation Overt	Dissociation Fantasy
Reexperiencing								
Pearson <i>r</i>	0.650**	0.654**	0.600**	0.275	0.659**	0.572**	0.524**	0.535**
Avoidance								
Pearson <i>r</i>	0.634**	0.595**	0.577**	0.408**	0.520**	0.591**	0.578**	0.465**
Arousal								
Pearson <i>r</i>	0.677**	0.593**	0.880**	0.534**	0.572**	0.593**	0.571**	0.490**
CAQ Total								
Pearson <i>r</i>	0.671**	0.595**	0.633**	0.404**	0.594**	0.602**	0.589**	0.474**

***p* < .01.

DROPOUTS

There were five study participants who dropped out of the research study in the early sessions of the group therapy. Dropouts were similar in demographics to those who completed the program. Pretest scores on the CAQ and the TSCC were lower on average than the pretest scores of those who completed the program. It may be hypothesized that dropouts may have been experiencing fewer trauma symptoms than those who completed the SITCAP-ART program.

A one-way between-subjects ANOVA was calculated to examine the effect of subscales on TSCC, CAQ, and YSR (dependent variables) on the treatment group, covarying out the effect of the control group. The control group was very small, $n = 9$, in relation to the treatment group, $n = 29$. Significant results were attained for the *Avoidance of Stimuli of Traumatic Event* subscale of the CAQ and the *Anxious/Depressed Internalizing Behavior* subscale of the YSR.

For the *Avoidance of Stimuli* subscale of the CAQ the pretest group was significantly related to the posttest group, $F = 6.816$, $p = .015$. The main effect for the posttest group was significant, $F = 5.087$, $p = .033$, with the posttest group demonstrating significantly less avoidance symptoms (Mean = 22.05) than the pretest group (Mean = 39.22).

For the *Anxious/Depressed* subscale of the YSR, the pretest group was significantly related to the posttest group, $F = 6.462$, $p = .018$. The main effect for the posttest group was significant, $F = 5.250$, $p = .031$, with the posttest group demonstrating significantly less anxious/depressed symptoms (Mean = 7.26) than the pretest group (Mean = 12.33).

For the *Internalizing Behavior* subscale that is a composite scale comprised of the *Anxious/Depressed*, *Withdrawn/Depressed*, *Somatic Complaints* subscales, the pretest group was significantly related to the posttest group, $F = 5.170$, $p = .032$. The main effect for the posttest group was significant, $F = 5.024$, $p = .034$, with the posttest group demonstrating significantly fewer internalizing behavior problems (Mean = 17.63) than the pretest group (Mean = 28.11).

DISCUSSION

The first hypothesis that the treatment group would demonstrate statistically significant reductions in trauma symptoms at the conclusion of treatment was supported. (The comparison/control group did not demonstrate

statistically significant reductions in trauma at that time.) The CAQ demonstrated statistically significant reductions in the *Avoidance of Stimuli Scale*.

These results are consistent with the findings of Ovaert et al. (2003) that the authors assert was the first controlled study to evaluate the efficacy of a structured cognitive behavioral therapy program for traumatized incarcerated youth. The researchers used a measure of posttraumatic stress, Post Traumatic Stress Disorder-Reaction Index (PTSD-RI; Pynoos et al., 1987), that is somewhat similar to the CAQ.

The second hypothesis that the treatment group would demonstrate statistically significant reductions in mental health symptoms was supported (The Waitlist/Control Group did not demonstrate statistically significant reductions in mental health symptoms at that time). The Youth Self Report demonstrated statistically significant reductions in the anxious/depressed behavior scales (a summary scale consisting of anxious/depressed, withdrawn/depressed, and somatic complaints).

The Ovaert et al. study (2003) discussed earlier did not demonstrate reductions in symptoms of anxiety, anger, or depression. Goenjian et al. (1997) in a study of the outcome of psychotherapy among early adolescents after trauma (Goenjian et al.) similarly did not report reductions in depression after trauma treatment.

Reductions of mental health symptoms as an outcome of the SITCAP-ART Program suggests the hypothesis that sensory-based therapeutic activities in combination with cognitive/behavioral therapy is more likely to reduce mental health symptoms among traumatized youth than cognitive/behavioral therapy alone. SITCAP-ART uses sensory-based activities that are then followed by cognitive reframing and processing. From a neurological standpoint ART initiates intervention that address the implicit (sensory) memories of trauma and only thereafter address the explicit (cognitive) responses to traumatic exposure. For most youth trauma is initially an implicit experience (Michaescu & Baettig, 1996; Perry, 1999; Rothschild, 2000; Saigh & Bremner, 1999; Jacobs & Steele, 2007; Steele & Raider, 2001; Van Dalen, 2001; van der Kolk, McFarlane, & Weisaeth, 1996), SITCAP-ART leads to emotional regulation and clearer thinking that allow the youth to better understand how their traumatic experiences have activated their thoughts and emotions to avoid further victimization by engaging in those behaviors associated with delinquency.

Following implicit processing SITCAP-ART may influence the reintegration of implicit memories with the cognitive reframing of the implicit trauma memories; a “rewriting” or “reordering” of the experiences in

ways the child/adolescent can now best manage. It may be hypothesized that the significant gains reported by the TSCC, YSR, and CAQ are the result of the sensory/cognitive integration process of the SITCAP-ART program.

Since completion of the SITCAP-ART group therapy program, therapists and staff members have observed positive attitude and behavioral changes in the youth. They are not as negative, less aggressive, and less resistant. There have been no “repeat lock ups” reported for youth who participated in the program. The Superintendent felt so positively with regard to the outcomes of the SITCAP-ART program as to suggest providing the program for all youth in residential placement. Prior to the use of SITCAP-ART in this controlled research study the therapy was field tested in 2005. Eighty-five at-risk adjudicated adolescents in Gainesville and Jasper, Georgia, participated in the field test under the supervision of the juvenile court. Following SITCAP-ART group therapy field test, in a descriptive satisfaction survey, 100% of the 85 participants reported a reduction in trauma symptoms as indicated by a comparison of pre-trauma and posttrauma PTSD scores on a scale of 1 to 10, ninety percent indicated they definitely felt better following intervention using “9” and “10” to rate that difference. One year following this field test, 85% of the youth had no additional “criminal” contact with the court.

The results of this study must be viewed as preliminary. The control group was small and the treatment group was of modest size. Further research in additional residential settings is necessary. However, it is clear that SITCAP-ART has demonstrated value for assisting traumatized adjudicated youth in residential settings with both trauma symptoms and mental health symptoms. “Williams and Socker, et. al. stated that delinquent youths who experienced dysregulated emotions and survival or victim based information processing will be able to become responsible citizens if they are assisted in gaining the capacity to manage their emotions and think clearly” (Ford, Chapman, Mack, & Pearson, 2006, p. 18). The ART program demonstrated significant gains in these two critical areas.

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