Enhancing Social-Emotional Skills in At-Risk Preschool Students Through Theraplay Based Groups: The Sunshine Circle Model

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Sunshine Circles is a teacher-led group process using social-relationship principles from Theraplay®. This study, conducted across 6 preschool sites in the midwestern United States, was the first to examine empirical outcomes against a control group for this program. Students in these teacher-led, play-based groups improved significantly compared with controls in social-emotional skills, behavioral regulation, problem-solving, and fine motor control. Specific improvements occurred in domains of managing feelings, cooperation, accepting limits, peer interactions and friendships, and solving social problems. Furthermore, structured teacher observation measurements yielded data indicating improvement in teacher classroom performance. Interviews with teachers confirmed that the intervention subjectively increased classroom cohesion, improved teacher–student relationships, and improved overall classroom behavior. These findings have implications for both classroom best practice and teacher education.

Keywords: early childhood intervention, play therapy, trauma, self-regulation

Decades of research on adverse childhood events (ACEs) has demonstrated that common negative early experiences, such as witnessing domestic violence, having an incarcerated parent, or experiencing physical or sexual abuse or neglect, produce social and developmental pathology across multiple domains, and the impacts cut across racial, gender, and ethnic groups (Dube, Felitti, Dong, Giles, & Anda, 2003; Felitti et al., 1998; Mersky, Topitzes, & Reynolds, 2013). The findings of large studies estimate that two thirds of middle-class Americans has experienced at least one ACE, with one in six reporting four or more such events (Felitti et al., 1998). In urban areas of high poverty, those numbers may be nearly doubled (Institute for Safe Families, 2013; Mersky et al., 2013). The effects of ACEs may be mitigated by effective early interventions that boost resiliency factors (Manning, Homel, & Smith, 2010; Niles, Reynolds, & Roe-Sepowitz, 2008). Thus, identifying programs that effectively increase social-emotional resiliency and disseminating these interventions is of crucial importance.

In the United States in 2013, 48% of children under the age of 6 years lived in a low-income family, defined as at or below 200% of the federal poverty threshold, and 25% lived in a poor family, defined as less than 100% of the federal poverty threshold. (Jiang, Enkono, & Skinner, 2015). The inverse relationship between ACE scores and family income level are

well documented (Case, Lubotsky, & Paxson, 2002; Felitti et al., 1998; Institute for Safe Families, 2013; Manning et al., 2010; Mersky et al., 2013). With nearly one quarter of the United States' child population living in low-income or poor families, the actual number of children currently in need of preventative and remedial services for high ACE scores is likely to be in the tens of millions.

Recent research using imaging technology has documented the deleterious impact of poverty, violence, and family instability on the physical structures of the developing brain, further magnifying the importance of both prevention and early remediation to minimize the negative outcomes associated with changes seen on the images (Carrion & Wong, 2012; Hair, Hanson, Wolfe, & Pollak, 2015; Luby et al., 2013). Particularly relevant to early childhood education are the findings of Hair et al., 2015, which indicate that the parts of the brain most closely associated with learning are the most sensitive to poverty. Furthermore, Luby et al., 2013 demonstrated that the hippocampus, critical for memory consolidation, is particularly vulnerable to damage in the face of aggressive or abusive parenting. This amplifies the need for effective classroom strategies for teachers working with children who have high adverse event experiences.

Sunshine Circles Model

Sunshine Circles (SC) is a product of The Theraplay® Institute of Evanston, Illinois. Theraplay was formulated in 1967 by Ann Jernberg, a psychologist working in the Chicago-area Head Start program (Booth & Jernberg, 2010). Jernberg and Booth were assigned to develop a program of behavioral health-care service appropriate for preschool-aged children that could be delivered in a school setting. Drawing on principles of attachment theory (Bowlby, 1982), developmental play (Brody, 1993), good-enough-parenting (Winnicott, 1958), and social skills training for autistic youth (DesLauriers & Carlson, 1969), a program of individualized intervention was developed and delivered in Head Start programs. The program emphasized adult-led play, gentle touch, eye contact, and movement. Through the efforts of Rubin and Tregay (1989), the model was expanded to include therapeutic classroom groups in which larger groups of children could participate. Over time, this model evolved into what is now known interchangeably as Group Theraplay or SC. In most instances, the groups are delivered once or more per week in sessions lasting approximately 20–30 min. The sessions may be led by trained mental health therapists, teachers, or other human services personnel.

The current study compared preschool students receiving the SC program to students receiving education as usual. All of the classrooms affiliated with Head Start used educational programming approved by the Head Start program. Youth were compared on standardized measures of social-emotional functioning administered across the school year. It was expected that participants in SC would demonstrate improvements in behavior and socialization above that demonstrated by the control group.

Method

Participants and Setting

Participants included 206 preschool students and 12 teachers in one school district in a midwestern U.S. state. Ninety-nine children were in the control classes and 107 were in intervention classes. During the academic year, an additional 19 children were enrolled in the treatment or control classrooms but attended for too short a period of time to be included in the study. All of the preschools are either affiliated with the federal Head Start program or with local neighborhood centers with admissions standards similar to those of Head Start. All children met guidelines for free or reduced lunch programs. Participants in the study were representative of racially diverse backgrounds: African or African American, 40%; Caucasian, 13%; Asian, 5%; North African/Middle Eastern, 22%; and Hispanic/Latino, 20%. Nine children were identified as qualifying for special education services before the start of the study period. Fifty-two percent of the children were English Language Learners. All child participants were in mixed 3- and 4-year-old classes or 4-year-old classes.

Procedures

All research personnel involved in the informed consent, data gathering, or transcription

process were trained in ethical procedures before beginning the study. During the spring of the school year preceding the study, teachers were offered training in the SC intervention. Half of the identified teachers chose to participate, making them the study group. Teachers who chose not to participate led the control classes and were offered training at a later date. To reduce the likelihood of bias in results due to teacher's self-selection into control or treatment groups, results on the Creative Curriculum GOLD (GOLD) and Ages and Stages Questionnaire Third Edition (ASQ) were compared from the same teacher's classes during a school year when this intervention was not used in the district. Unpaired *t* tests revealed that there was no significant difference between control and treatment classrooms when the intervention was not in place.

Children were recruited for participation at the beginning of the school year, during August 2014. Children were randomly placed in classrooms by site administrators without consideration for any perceived need for the intervention. Truly randomized assignment into control or treatment groups is not possible in most school settings, including the ones in this study. However, the students were placed into control or treatment classrooms based on Head Start criteria for filling slots on a first-come, first-served basis.

During the first week of school, all students' parents were given the opportunity to join or decline participation in the study. Participation was also offered to parents of children who joined the class later in the year. Consent was discussed in person with parents or legal guardians by teachers, teacher's assistants, and/or site administrators. All staff members at the sites were trained in ethical data collection by the principal investigator before beginning the study. Consent forms were translated from English to Spanish, French, and Arabic to accommodate parents who have recently emigrated from other countries. No parents refused to allow their children to participate.

Assessments and Measures

At each site, data are typically gathered for each child 3 times a year (October, February, and May) through the GOLD (Lambert, Kim,

Taylor, & McGee, 2010) and the ASQ–third edition (ASQ-3; Squires, Twombly, Bricker, & Potter, 2009) and the ASQ-3 Social Emotional section (ASQ-3-SE; Squires, Bricker, & Twombly, 2009). All of these are in common use in Head Start and measure growth over the school year. These achievement scales were administered and scored by teachers to each student per the normal operating procedures of the facility. The social-emotional sections of these two standardized measured were used for the study. For additional refinement about changes in behavior, the Preschool Behavior Questionnaire (PBQ; Behar & Stringfield, 1974) was added to each assessment period for each child in the study.

All participating teachers were visited in the spring by a trained observer who used the Teaching Pyramid Observation Tool for Preschool Classrooms (TPOT; Fox et al., 2008) instrument to rate their behavior during the observation period. The TPOT is a normal part of teacher evaluation for Head Start. The observer was not told which teachers were in the control versus the treatment conditions. The purpose of the TPOT is to discern how well teachers communicate with students; manage the classroom; and maintain a calm, active classroom environment for learning. Teacher data are additionally used to assist teachers in the development of stronger pedagogical skills through providing them with feedback for improvement if needed.

Interviews with teachers were conducted near the end of the academic year by the principal investigator. Two of the teachers were not able to attend interviews, one from the control and one from the intervention groups. All teachers were female, held a bachelor's degree in early childhood education or a closely related field, and had been teaching for a minimum of 2.5 years. The mean years of experience for the teachers overall was 7.87 years. The teachers in the control group averaged 9 years of experience, and the intervention teachers averaged 6.5 years of experience. Only one teacher was non-White. Teacher interviews were conducted in person and were scheduled in advance. Semistructured teacher interviews took between 30 min and 1 h to complete. Interviews were recorded and transcribed by the principal investigator or research assistants trained by the principal investigator. The interview questions are included in the Appendix.

The transcripts were analyzed by the principal investigator using a thematic analysis approach (Boyatzis, 1998). Each unit of meaning was given a code; the codes were then listed and divided into thematic groups. The themes of each interview were compared with those of the other interviews and a list of general themes was identified.

Intervention

Similar to the family therapy Theraplay model, SC was designed to be consistent with neuroscience research on children's brain development and new understandings of attachment, emotional regulation, and social learning (Perry, 2014; Porges, 2011; Schore, 2012). SC's focus on nurturing, gentle touch, and nonverbal play match recent neuroscience models for improving self-regulation and reducing symptoms of complex trauma in young children by triggering the child's brain to perceive safety, reducing hypervigilance and reactivity, and promoting learning (Perry, 2014; Porges, 2011).

The SC groups are led by teachers who have received training from a certified trainer. Teaching assistants also ideally attend the formal training, but turnover is very high in these positions, and some assistants are trained "on the job" by the lead teachers. Teachers are also coached in the implementation of the intervention and ideally have access to a trainer during their first year of the intervention. In this study, the coach was a special education interventionist. The special education interventionist holds a master's degree in education and psychology and is a senior trainer for SC. Coaching after the initial training appears to be a crucial aspect of the intervention to help teachers become comfortable with the group process and structure and address problem behaviors as they arise.

Groups are generally conducted weekly and last approximately 20–30 min depending on the ages and attention spans of the children. The group is always opened with a song, which is only sung at the start of the SC groups, to signal a special activity is about to begin. Once the children are seated in a circle, the song is sung, preferably with large motoric motions, and the group begins, followed by using words and motions to remind each other of the three SC rules. The rules are stick together, no hurts, and have fun. The first activity each week is "check-ups."

The group is subdivided into groups of three to four children to each adult in the group. The children are then asked to show or tell the adult about any "hurts" or "boo-boos" they have. The adults may then either sing to the child's hurt place, rub lotion near it, or gently massage the general area of the injury with a cotton ball. The "check-in" activity helps children develop a neuroception of safety (Porges, 2011), promotes empathy among the children, and increases positive child–teacher relationships.

After the check-up is complete, the teacher announces a new, fun, large-motor activity. The SC manual lists many activities that might be chosen, including blowing a feather to your partner (self-control, diaphragmatic breathing, mindfulness), passing a smile around the circle (waiting for your turn, emotion education, team-building), or a version of Simon Says in which no one is asked to be "out" after missing a step (self-control, listening, cooperation). Depending on the tolerance of the class for group time, the teacher may choose three to five different games for the day's intervention.

SC groups always end with a snack and then a song. The snack, which is a key part of building the emotional bonds between teacher and child, consists of the group again breaking into small subgroups of three or four children per adult. The adult then either hands the children each a small cracker, piece of fruit, or other approved food or places it directly in the child's mouth. In the therapeutic version of Theraplay, the therapist or parent builds trust and secure attachment feelings with the child by using the direct feeding method. Snack time is then followed by a specific song used to signal the end of the group time, and the teacher instructs the children to move to their next activity.

Initial qualitative outcomes with the SC process were very positive, with teachers reporting improved social interaction among students, fewer disciplinary problems, and more cohesive teacher–student relationships (Schieffer, 2013). Tracking of youth behaviors found improvements in self-regulation, relationships among peers, and communication skills. However, no previous research has been completed with this program using a control group or fidelity checking process.

Statistical Analysis

All data were evaluated using SPSS 17.0 (SPSS, Inc., 2008). Raw scores from each measure were used for all analyses of rating scales. An omnibus multivariate analysis of variance was used to determine differences between and among groups.

Results

Quantitative Results

Quantitative data revealed significant findings across measures. Beginning with the PBQ, detailed results of analysis are reported here. The PBQ provides information in the form of a total score and three subscale scores. The three subscales are anxious, hostile/aggressive, and hyperactive/distracted. The PBQ total scale scores were significant with a large ($r = .59$) effect size. Figure 1 shows a graphic representation of the mean pre- and postscores for the control versus intervention groups.

In addition, split-plot analyses of variance revealed a significant interaction ($\alpha = .05$) between treatment group and pre- and posttest across the three constituent subscales of the PBQ. Results were significant for the anxious subscale and had a medium effect size ($F(1, 204) = 44.4$, $p < .001$, two-tailed, $r = .42$), a medium effect size for the hostile/aggressive subscale ($F(1, 204) = 55.03$, $p < .001$, two-tailed, $r = .46$), and for the hyperactive/

distracted subscale ($F(1, 204) = 41.99$, $p < .001$, two-tailed, $r = .41$).

The AGS-3 also reflected significant gains in the intervention group when compared with the control group. Split-plot analyses of variance revealed a significant interaction ($\alpha = .05$) between treatment group and pre- and posttest across the Fine Motor and Problem-Solving scales of the ASQ-3. The Fine Motor scale results indicated a small effect size ($F(1, 203) = 16.810$, $p < .001$, two-tailed, $r = .28$). Analysis of the Problem-Solving scale indicated a small effect size ($F(1, 203) = 12.812$, $p < .001$, two-tailed, $r = .24$). Conversely, split-plot analyses of variance failed to reveal significant interaction between treatment group and pre- and posttest on communication scores, gross-motor skills, and personal-social scores scales of the ASQ-3. Figure 2 illustrates these findings.

Significant interactions were also found on the ASQ-3-SE. A split-plot analysis of variance revealed a significant interaction between treatment group and pre- and posttest of ASQ-3-SE scores $F(1, 203) = 12.10$, $p = .001$, two-tailed, $r = .24$. Split-plot analyses of variance revealed a significant interaction ($\alpha = .05$) between treatment group and pre- and posttest across the ASQ-3-SE with a small effect size ($F(1, 203) = 12.10$, $p < .01$, two-tailed, $r = .24$). Pre- and posttest scores are illustrated in Figure 3.

The GOLD assessment revealed mixed findings. Areas measured that demonstrate a significant difference between intervention and control
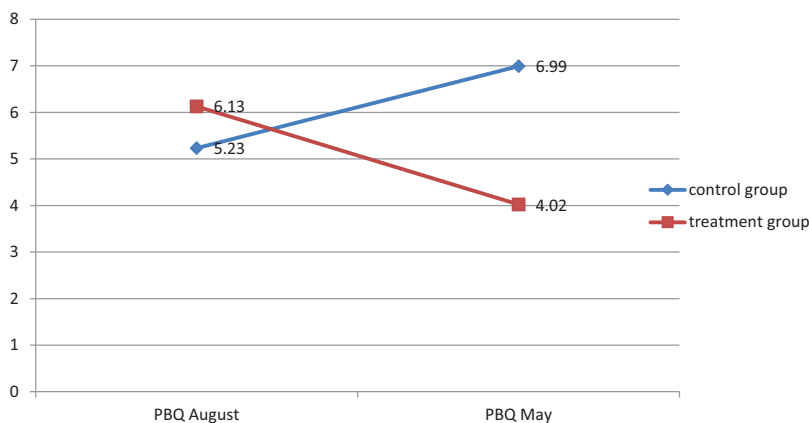

Figure 1. Analysis of variance for the PBQ, comparing treatment and control groups pre- and postintervention by mean score. See the online article for the color version of this figure.
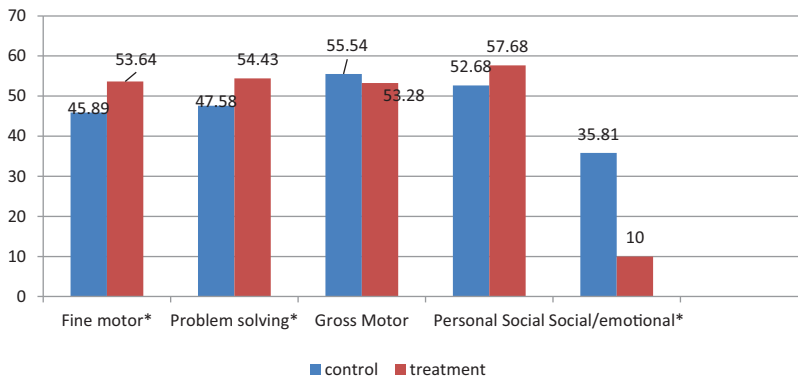
Figure 2. Analysis of variance for the ASQ-3 control versus treatment differences in pre- and posttest scores. *Note:* Social-emotional is reverse-scored; lower numbers indicate better outcomes. See the online article for the color version of this figure.

groups were as follows: 1a, manages feelings; 1b, cooperates with limit-setting; 1c, cares for own needs; 2c, peer interactions; 2d, makes friends; 3a, balances needs and rights of self and others; and 3b, solves social problems. The two areas that did not show significant difference between intervention and control groups were 2a (positive relationships with adults) and 2b (responds to emotional cues). Findings on the GOLD assessment are illustrated in Figure 4.

In the spring, each of the teachers in both intervention and control classrooms were evaluated by trained observers using the TPOT (Fox et al., 2008). The TPOT is designed to help teachers in

early childhood classrooms develop more effective pedagogical practices. The differences between the control and intervention teachers were highly significant on the second and third sets of questions for the observers. The effect sizes of both were large, at $r = .71$ and $.80$, respectively. These findings are illustrated in Figure 5.

Qualitative Results

Teachers' responses to questions about the ideal relationship between teachers and students, the best and most stressful aspects of teaching, and how they generally teach social/
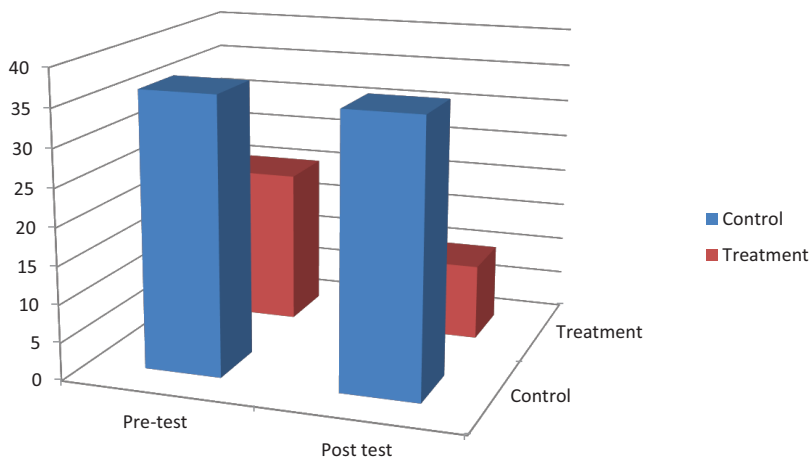

Figure 3. Analysis of variance for the Ages and Stages Questionnaire-3 Social-Emotional scales, control vs. treatment differences in pre-and post-test scores. See the online article for the color version of this figure.

GOLD Scores

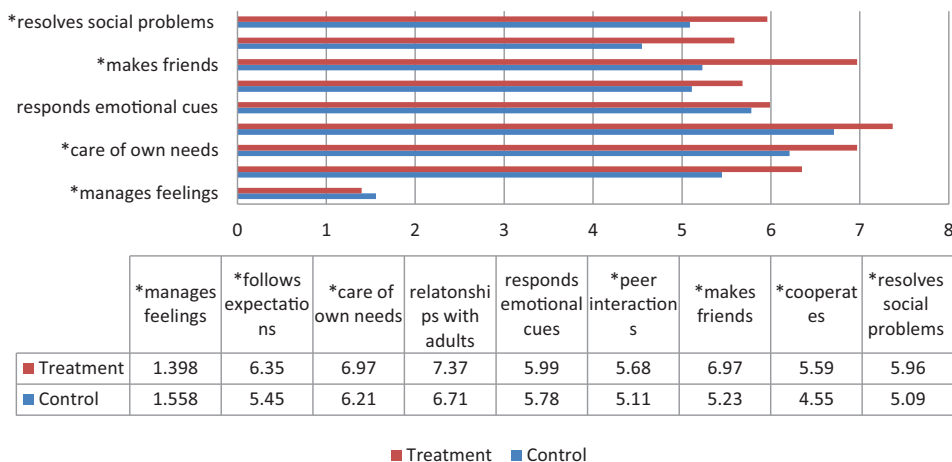|	*manages feelings	*follows expectations	*care of own needs	relationships with adults	responds emotional cues	*peer interactions	*makes friends	*cooperates	*resolves social problems
Treatment	1.398	6.35	6.97	7.37	5.99	5.68	6.97	5.59	5.96
Control	1.558	5.45	6.21	6.71	5.78	5.11	5.23	4.55	5.09

■ Treatment   ■ Control

Figure 4. Analysis of variance for GOLD. See the online article for the color version of this figure.

emotional skills aside from the intervention were very similar. Both groups agreed that the most fulfilling aspect of teaching is the relationship teachers can achieve with children and the affection that they receive as a result. Among the most stressful aspects of teaching preschoolers, the multiple demands of children, low numbers of staff members, and increasing pressure on academic areas were mentioned frequently by both groups. Descriptions of the ideal class and this year's class were also quite similar

between groups. The one area of difference between control and intervention teachers was in their answers to the final question in the interview, which was "What is your best method for teaching social/emotional skills (aside from SC)?" The teachers in the intervention group identified promoting kindness, using Positive Behavior Instructional Supports, using the Second Step curriculum, and repetition of instructions. The control group teachers also mention Second Step and repetition, but not the
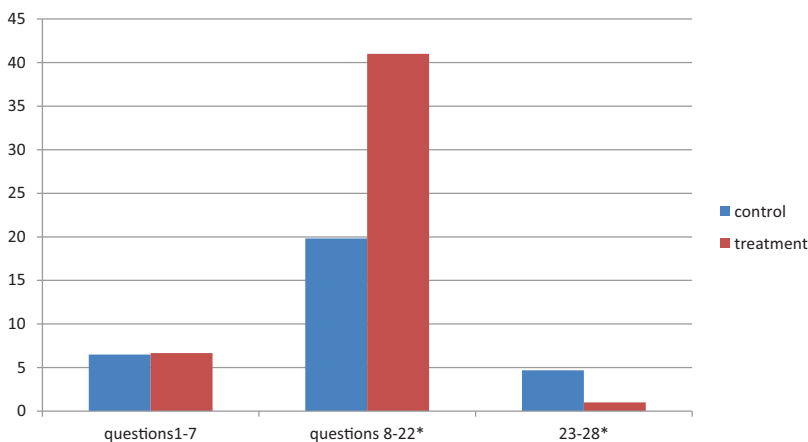

Figure 5. Analysis of variance for the TPOT control versus treatment teachers. See the online article for the color version of this figure.

other methods used by the intervention group, and one added "being really firm."

The teachers in the intervention group were also asked three questions about the SC. The questions were

1. What did you like most about using SC in your classroom this year?
2. What did you like least about using SC in your classroom this year?
3. What has surprised you the most about using SC?

Responses to the first question related to the gains the students made in their abilities to self-regulate their own behavior and attend well to others. One teacher explained, "I can just be present and have a fun, relaxed time with them" because she did not have to manage as many common behavioral issues during this part of the day. The intervention teachers agreed that the biggest barrier to effective use of SC is the need for consistency with teacher's assistants and training the staff to be able to effectively engage the children in a nonpunitive, caring way. Because of the high turnover in staff in the preschools, keeping well-trained assistants in the classrooms is an ongoing issue and makes the smooth implementation of the SC difficult because it is predicated on warm, close relationships between the adults and the children. The teachers stated that having access to a SC trainer, in this case, the special education interventionist, is crucial to being successful. Several of the teachers talked about needing to develop confidence in their leadership of the groups before they could be effective in using the intervention.

When asked what surprised them the most about the SC, the intervention teachers explained that although they expected that the children would enjoy the groups, they did not expect the groups to have such a powerful impact on the children's ability to regulate their own anger and excitement, or to be so effective in helping the children form a cohesive working alliance. One teacher spoke about how surprised she was that her students were able to set and meet group goals after a few sessions of the SC groups.

The qualitative data show primarily consistency in general teaching philosophies between the control and intervention group teachers. The aspect of teaching practice that appears to differ the most between the groups is how they view the management of behavior problems, as reflected in the teachers' responses to the question "How do you teach social/emotional skills?". This conclusion is also reflected in the data from the observational tool. Teachers who used the SC intervention were more likely to view behavioral problems as being reflections of an internal struggle the child was having in relationship to the environment rather than as purposeful or naughty. It is possible that the teachers who participated in the SC training, which includes information on the developing brain and how it is affected by trauma and ACEs, may be more willing to view maladaptive behaviors as ineffective methods for coping with overwhelming emotions rather than being directed at upsetting the teacher or class. Furthermore, the SC groups cause the teachers to interact with the students in nurturing and supportive actions and words, which may also cause shifts in the teachers' perceptions of the children and their motivations. Further research is needed to confirm these ideas.

Discussion

Results from the quantitative measures indicate that SC used regularly in the classroom can help children use more prosocial behaviors and increases the overall amount of learning they are able to do over the course of the year. Findings on the PBQ were particularly striking. There was a significant difference between the control and intervention classrooms on all areas measured by the PBQ. Anxious, aggressive/hostile, and hyperactive/distracted subscales all indicated that SC is very helpful in reducing problematic classroom behaviors. Gains were also made in fine-motor skills, problem-solving, and the management of emotions. Qualitative interview analysis and TPOT findings reinforce the quantitative findings and reinforce the result that using SC also improves teacher–student relationships and reduces teacher stress due to student behavior problems.

Improvements in behavior and social-emotional skills were durable across the academic year and affected multiple domains of learning. It is possible that the stronger teachers were in the intervention group; however, the interview data do indicate that the teachers who used the SC groups felt that their teaching skills improved as a result.

Overall, the results of this study seem to indicate that using SC in the early childhood

classroom is a relatively low-cost, simple, and highly effective intervention. Although more research is needed to learn how SC affects student behavior, SC appears to be a very promising intervention, especially for early childhood classrooms with large numbers of children experiencing toxic stress.

Limitations

As was mentioned in the *Procedures* section, the primary limitation in the research design was the nonrandom assignment of teachers to control or experimental conditions. Additional limitations have to do with the necessary messiness of real-world, rather than laboratory, research. All of the instruments used to measure progress are standardized, but they are all also rating scales. Therefore, if the rater feels any bias toward any child, his or her ratings will be higher or lower than they might otherwise be. It is also not possible to control for every possible variable that might affect growth. The use of a large sample does ameliorate some, but not all, extraneous factors. To be certain that the growth seen in the treatment group was, in fact, due to the treatment, this study should be replicated with random assignment of teachers to the control or treatment conditions.

Conclusion and Implications

SC is one intervention that improves children's social-emotional skills, fine-motor skills, and teacher–student relationships. Although this study did not directly measure the impact of SC on children's feelings of safety, many of the measures used may be seen as proxy measures of children's felt sense of safety and well-being at school. Future research is needed to definitively show that SC reduces stress levels in children; however, the improvements in behaviors and in fine-motor skills, which cannot be effectively accessed under high levels of stress (Porges, 2004, 2011), indicate that the children receiving the intervention feel more relaxed and safe in the classroom than those who were in the control group.

SC is a low-cost, high-impact intervention that can be added to the skill sets of early education teachers and mental health professionals with relatively few barriers to implementation. Evidence suggests that the intervention is effective in improving classroom behaviors and the teacher–student relationship. Early educators who serve families in which toxic stress and trauma are common should consider adding SC to their routine practices.

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(*Appendix follows*)

Appendix

The Interview Questions

Demographics: Gender: Age: Race/ethnicity: Years teaching:

Highest degree in education:

1. How long have you been a preschool teacher? How long at this school?
2. Can you tell me about your favorite aspects of being a teacher?
3. Can you tell me what's most stressful about teaching?
4. Tell me about the children you're teaching now. Whatever comes to mind is ok.
5. How are their social skills compared to other groups you've taught?
6. Tell me about your ideal student-teacher relationship.
7. Does your ideal match up with reality right now? Why/why not/in what ways?

8. (SC group teachers) What do you like most about using SC in your classroom this year?
9. (SC group teachers) What do you like least about using SC in your classroom this year?
10. (SC group) What has surprised you the most about using SC?
11. What is your best tool for teaching children to relate to each other in kind, respectful ways?
12. Is there anything else you think you need to tell me about teaching or using SC?