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## RESEARCH REPORT

# Trauma-Informed Behavioral Parenting: Early Intervention for Child Welfare

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*Principal Investigator:*

Heather Agazzi, PhD, MS  
University of South Florida  
Department of Pediatrics

*Key Project Staff:*

Alison Salloum, PhD  
University of South Florida  
College of Social Work

Emily Shaffer-Hudkins  
PhD, University of South Florida  
Department of Pediatrics

Kathleen Armstrong, PhD  
University of South Florida  
Department of Pediatrics

Carrie Adams, PhD  
University of South Florida  
Department of Pediatrics

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## Abstract

Untreated trauma exposure in early childhood can lead to immediate health problems which can persist throughout a lifetime. Caregivers often voice concerns about their children who have behavioral health problems like sleep disturbance, feeding problems, tantrums, aggression, and irritability when caring for these children. While several effective parenting treatments exist for these children, they are expensive, not universally available, and therefore difficult to access. Trauma-Informed Behavioral Parenting (TIBP) was developed to bring needed behavioral parenting treatment to Early Steps, a statewide community-based early intervention program. This report presents the results of the implementation of TIBP through five early interventionists in the Bay Area Early Steps Program. Mixed methodology was utilized to evaluate the effects of TIBP on child behavior, caregiver stress and parenting skills, treatment acceptability, feasibility of the program, and therapist fidelity. Specifically, early interventionists embraced TIBP as a practical and helpful home-based program to which they demonstrated high fidelity. Further, caregivers demonstrated great gains in their use of positive parenting skills and reported some reductions in their stress. Some reductions in child disruptive behaviors were reported but they were not statistically significant. Results suggest that TIBP holds promise as a training model for early intervention programs that can positively affect child and caregiver behaviors vis-a-vis a low-intensity and low-cost training model.

## Project Description

### Child and Family Service Review (CFSR) Outcomes

Our overarching goal is that children receive adequate services to meet their physical and mental health needs. To achieve the CFSR Well-being Outcome #7, specifically, children receive adequate services to meet their physical and mental health needs, we proposed to develop and implement an early intervention trauma-informed behavioral parenting model.

Two additional goals were to: 1) develop a trauma-informed behavioral parenting model that can be replicated across Part C Early Steps programs in the state of Florida; and 2) implement TIBP and examine its impact on the CFSR Well-being Outcome #7.

The Trauma-Informed Behavioral Parenting (TIBP) project proposed to expand evidence-based child welfare practices by creating a training model for early interventionists providing Part C Early Steps services to infants and toddlers. Specifically, TIBP trained five early interventionists who work with the Early Steps population in Hillsborough and Polk Counties. These professionals received training and support to equip them to meet the mental and physical health needs of child welfare involved children enrolled in Early Steps. We created a training that was convenient, included minimal compensation for their time learning new skills, and was appropriate for professionals with a minimum of a bachelor's degree. Most of the evidence-based treatments for the child welfare population require professionals to have master's degrees or higher, thus, reducing the number of children who have access to high quality care.

To achieve Outcome #7, we created a manual of TIBP that can be used by other Part C programs across the state during home-based early intervention services. TIBP is an 8-week behavioral parenting program designed to be delivered in the home environment. Five early interventionists who participated in TIBP training were assigned children receiving Early Steps and child welfare services. Interventionists met these families in their home setting weekly, which is part of standard care, and delivered TIBP using the TIBP manual. Children and families practiced skills with the interventionist present via a coaching model and practiced their skills in daily homework activities in between sessions. Rating scales and observations were collected at pre-, during, and post-intervention to document outcomes.

### Participants

To ensure cultural diversity, multiple families were actively recruited from the Bay Area Early Steps program in collaboration with Eckerd Community Alternatives and associated child welfare agencies serving a socio-economically diverse population of young children and their families. TIBP served children ages 18 – 36 months who were enrolled in the Part C Bay Area Early Steps program and receiving child welfare services. Once a child turns 3 years old, they age out of the Early Steps program. Thus, our program aimed to recruit children who are closer to their 2nd birthday and at most, 2 years, 9 months of age to ensure adequate time for the intervention. Bay Area Early Steps serves a large geographic region including children and families from Hillsborough and Polk Counties. As such, children from diverse socio-economic backgrounds are served: age (birth to 3); race (52% white, 30% black, 18% mixed/other); ethnicity (39% Hispanic); geographic location (urban, suburban, and rural locations across Hillsborough and Polk counties); and insurance

status (74% Medicaid enrollment). Thus, there is an overrepresentation of underprivileged children of cultural and ethnic minorities served through the Bay Area Early Steps program.

### Research Design

This 1-year study employed an open-trial design with the addition of focus groups and qualitative analyses to pilot an 8-week trial of manualized TIBP. We used confirmatory research to test the following *a priori* hypotheses designed to meet the CSFR Outcome #7.

TIBP participants will report decreased child disruptive behaviors.

TIBP participants will report decreased parenting stress.

TIBP participants will increase use of positive parenting skills.

TIBP participants will report decreased child posttraumatic stress symptoms.

TIBP participants will report high treatment acceptability.

TIBP interventionists will demonstrate high levels of fidelity to the TIBP manual.

### Data Collection

Prior to commencing the 8-week study, the program coordinator (PC) met independently with each caregiver and child in the home. The PC was sometimes accompanied by the team's research assistant (RA). During the *initial assessment*, the PC reviewed the informed consent with the caregiver. If written consent was provided, caregivers completed the following: demographic information sheet, *Eyberg Child Behavior Inventory (ECBI)* (child disruptive behavior), *Dyadic Parent-Child Interaction Coding System-Third Edition* (parenting skills), *Parenting Stress Index-Short (PSI) Form* (parenting stress), and the *Young Child PTSD Checklist (YCPC)* (trauma symptoms). Upon completion of paperwork and written assessments, the PC video recorded a session of playtime between caretaker and child to further establish baseline data. This recording consisted of 3 minutes of warm-up play, 5 minutes of direct play between caretaker and child, and a clean-up situation where the caretaker coached the child to help clean up the toys. The PC utilized a standardized script to direct this activity. Lastly, an *integrity checklist* was completed by the PC to ensure the integrity of the session.

Caregivers were asked to document daily play times with their child on a homework sheet and return the form to their early interventionist (EI) during the subsequent eight sessions. The EIs also completed *integrity checklists* following each session. At week 4, caregivers completed the YCPC in order to assess ongoing trauma symptomology. This data was collected by EIs and then turned into the principle investigator (PI) or PC during regularly scheduled meetings with study staff.

Upon completion of week 8, the PC returned to the home to meet with the caregiver and child for a post-assessment. The PC repeated the same steps as the pre-test visit, including all written assessments and recorded video. In addition, caregivers completed the *Therapy Attitude Inventory (TAI)* to assess treatment acceptability. All data were entered into a database over the course of the study. Finally, the pre- and post-videos were blindly and

independently scored by a certified dyadic parent-child interaction coder to measure changes in caregivers' use of behavior descriptions, specific praise, and reflections, as well as expected decreases in questions, commands, and criticisms of the child.

## Results

### Quantitative Analyses

*Descriptive Statistics.* Participants included caregivers ( $N = 8$ ) of young children who met criteria for the TIBP program, as well as early intervention providers assigned to serve each of the enrolled families ( $N = 5$ ). All caregivers were foster mothers and ranged from 31 to 70 years of age ( $M = 48$ ). The majority of caregivers reported that their race was Caucasian/White (75%), with one respondent indicating African American/Black, and one respondent indicating Other. In addition, 75 percent reported their ethnicity as Hispanic, with the remaining 25 percent as non-Hispanic.

The majority were married (75%) and 25 percent were divorced. In regard to employment, 25 percent of caregivers indicated that they worked full-time, 12.5 percent worked part time, and 62.5 percent were not employed. Yearly household income varied: \$10,000 to 24,999 (25%), \$25,000 to 34,999 (25%), 35,000 to \$49,999 (25%), and \$50,000 and above (25%). They reported a range of educational experiences: high school (37.5%), technical school (37.5%), and four-year college degree (25%).

Caregivers also provided information on their foster children enrolled in the TIBP program. The majority of children were male (62.5%), with ages ranging from 18-30 months ( $M = 23$  months). Children's ethnicity was reported as Caucasian/White (62.5%), African American/ Black (12.5%), Multi-racial (12.5%) and Other (12.5%). The majority of the children were Hispanic (75%).

Most children attended professional childcare (62.5%), while 25 percent stayed at home with their foster parent or a relative, and 12.5 percent attended childcare provided by a friend/relative. Only one child was reported to be receiving therapy services outside of the Early Steps program.

Early intervention providers ( $N = 5$ ) were all female, and ranged in age from 29 to 47 years of age ( $M = 38$ ). Three providers were married and two were single. All providers indicated their race as Caucasian/White; one participant indicated Hispanic ethnicity. Highest level of education included a four-year college degree (40%) or graduate degree (60%). Three participants reported working part-time and two full-time. In regard to Early Steps credentialing, the majority of providers were Infant Toddler Developmental Specialists (80%); one provider was an Early Interventionist. Years of experience working in early childhood development ranged from 2-10 years ( $M = 6.5$ ), and years of experience working in the Early Steps program ranged from 2-9 years ( $M = 4.5$ ).

*Participants who dropped from study.* A total of four subjects dropped out of the study. Two caretakers chose to withdraw from the study following a series of health issues. For one participant we were unable to complete the initial assessment with the caregiver during the initial visit because she needed all forms (including rating scales) read to her and asked to complete them at a later date — which

she repeatedly cancelled or no showed. One caregiver dropped out because she wanted services transferred to her child's childcare setting and no longer wanted home-based services. Per the initial grant and IRB approval, these participants were still compensated for their time prorated based on how far they had progressed through the program (one \$20 Publix gift card if withdrawn prior to week 4 and two if withdrawn afterwards). All withdrawn participants were also offered to have TIBP services continued by their Early Steps provider should they so choose.

### Analyses for Outcome Variables

To study change we examined for each outcome the distribution of the pretreatment scores, post-treatment scores, and difference scores (post-pre or pre-post such that positive differences correspond to improved outcomes). To test for improvement between the pre and post score distributions, the Wilcoxon Signed Rank Test was used. A non-parametric approach was chosen over the paired-samples  $t$ -test because the sample size was not sufficiently large for the central limit theorem to guarantee normality of the sampling distribution of the mean. We chose the Wilcoxon Signed Rank Test over the Sign Test and chose a directional test (improvement versus non-improvement) over a non-direction test (change versus no change) based on power considerations. Table 1 provides a summary of the difference scores (positive values indicate improvement), pre and post test median scores, the statistic and  $p$ -value for each of the dependent variables (See Table 1 on next page).

A detailed summary of selected individual variables follows. We describe results of observer-rated variables first (e.g., DPICS), followed by the following caregiver-rated variables: Young Child's PTSD Checklist (YCPC), Parenting Stress Index, Fourth Edition (PSI-4 Short Form), Parent-Child Dysfunctional Interaction (P-CDI), Eyberg Child Behavior Inventory (ECBI) Intensity, Dyadic Parent Child Interaction Coding System (DPICS) and the Therapy Attitude Inventory (TAI). The pretreatment, post-treatment, and difference scores are shown in Table 1 for each variable for each participant.

#### **Young Child's PTSD Checklist (YCPC).**

The pretreatment PTSD scores were somewhat U shaped ( $sk = -.08$ ,  $ku = 1.68$ ), ranging from 0 to 28 with a mean of 15.63 (median = 15.0) and SD of 10.86. Post-treatment scores were negatively skewed ( $sk = -1.05$ ,  $ku = .91$ ), ranging from 0 to 12 with a mean of 7.5 (median = 8.5) and SD of 3.89. Of the 8 participants, 5 had scores that improved (difference > 0). The difference scores were somewhat U shaped ( $sk = .44$ ,  $ku = -1.35$ ), ranging from -5 to 27 with a mean of 8.13 (median = 6) and a SD of 12. *The scores from pretreatment to post-treatment approached statistical significance* ( $S = 11.5$ ,  $p = .0586$ ).

#### **Parenting Stress Index, Fourth Edition (PSI-4 Short Form)**

*Parent-Child Dysfunctional Interaction (P-CDI).* The pretreatment P-CDI scores were approximately normally distributed ( $sk = -0.29$ ,  $ku = -0.28$ ), ranging from 50 to 94 with a mean of 74.6 (median = 75.0) and SD of 14.37. Post-treatment scores were somewhat mound shaped ( $sk = -0.08$ ,  $ku = -1.03$ ), ranging from 14 to 86 with a mean of 48.75 (median = 52) and SD of 26.55. Of the 8 participants, 7 had scores that improved/difference > 0. The difference scores were approximately slightly positively skewed

Table 1: Outcome Scores\*

Outcome	Difference Scores	Pre Median	Post Median	S	p	Cohen's d
YCPC – PTSD	27, 17, 5, -5, 20, 7, -2, -4	15.00	8.50	11.5	.0586	.75
YCPC – FI	13, 9, -2, 9, 3, 0, -1, 0	5.50	1.50	7.5	.0782	.62
ECBI – Intensity T	8, 3, 8, 4, -8, -1, -1, -5	52.50	53.00	3.0	.3477	.11
ECBI – Problem T	25, 11, 8, -26, 2, -2, -2, 4	52.00	51.00	6.0	.2266	.24
PSI – Total Stress	94, 24, 12, -12, 22, -12, -2, 44	73.00	49.00	11.0	.0742	1.0
PSI – PD	84, 16, -18, -24, -12, -20, -10, 24	37.00	42.00	-0.5	.5117	.21
<b>PSI – P-CDI</b>	<b>80, 26, 22, -12, 56, 14, 4, 16</b>	<b>75.00</b>	<b>52.00</b>	<b>16.0</b>	<b>.0117</b>	1.79
PSI – DC	92, 31, 50, -6, 12, -26, -14, 22	72.00	49.00	9.0	.1250	.78
<b>DPCICS – BD</b>	<b>7, 13, 0, 0, 20, -1, 19, 21</b>	<b>2.50</b>	<b>11.00</b>	<b>9.5</b>	<b>.0313</b>	8.24
<b>DPCICS – Reflection</b>	<b>33, 6, -1, 4, 4, -1, 3, 3</b>	<b>5.00</b>	<b>8.50</b>	<b>15.0</b>	<b>.0157</b>	1.95
<b>DPCICS – LP</b>	<b>8, 0, 10, 0, 9, 1, 7, 0</b>	<b>0.00</b>	<b>4.00</b>	<b>7.5</b>	<b>.0313</b>	
DPCICS – UP	4, -9, -2, 0, 2, 5, -7, 0	4.00	4.50	-2.0	.6406	.15
<b>DPCICS – Questions</b>	<b>23, 37, 1, 35, -1, 3, 31, 5</b>	<b>18.00</b>	<b>4.75</b>	<b>16.5</b>	<b>.0117</b>	.75
DPCICS – Directions	15, 4, 24, 29, 3 -24, 16, 24	21.00	8.50	12.0	.0547	.36
DPCICS – Criticisms	0, 9, 0, 11, 0, 0, -1, -6	1.50	1.00	2.0	.3125	.83

\*significant values bolded

(sk = .92, ku = .59), ranging from -12 to 8 with a mean of 25.75 (median = 19.0) and a SD of 29.29. There was a statistically significant improvement in scores from pretreatment to post-treatment ( $S = 16$ ,  $p = .0117$ ).

**Total.** The pretreatment Total scores were slightly negatively skewed (sk = -.50, ku = -.25), ranging from 30 to 96 with a mean of 66 (median = 73) and SD of 21.17. Post-treatment scores were negatively skewed (sk = -.51, ku = -.77), ranging from 2 to 76 with a mean of 44.75 (median = 49) and SD of 25.27. Of the 8 participants, 5 had scores that improved (difference > 0). The difference scores were moderately positively skewed and peaked (sk = 1.36, ku = 2.06), ranging from -12 to 94 with a mean of 21.25 (median = 17) and a SD of 35.16. *The scores from pretreatment to post-treatment approached statistical significance ( $S = 11$ ,  $p = .0742$ ).*

#### **Eyberg Child Behavior Inventory (ECBI) Intensity.**

**Intensity.** The pretreatment Intensity scores were U-shaped (sk = .14, ku = -1.46), ranging from 42 to 66 with a mean of 54.75 (median = 52.5) and SD of 8.99. Post-treatment scores were approximately normal (sk = .02, ku = .02), ranging from 43 to 63 with a mean of 53.75 (median = 53) and SD of 6.50. Of the 8 participants, 4 had scores that improved (difference > 0). The difference scores were somewhat U shaped (sk = -0.23, ku = -1.04), ranging from -8 to 8 with a mean of 1 (median = 1) and a SD of 5.80. *The improvement in scores from pretreatment to post-treatment were not statistically significant ( $S = 3.0$ ,  $p = .3477$ ).*

**Problem.** The pretreatment Problem scores were approximately normal (sk = .65, ku = -.55), ranging from 41 to 71 with a mean of 54.75 (median = 52.5) and SD of 10.46. Post-treatment scores were slightly peaked (sk = .54, ku = -1.03), ranging from 43 to 67 with a mean of 52.25 (median = 51) and SD of 8.68. Of the 8 participants, 5 had scores that improved (difference > 0). The difference scores were somewhat slightly negatively skewed and peaked (sk = -.70, ku = 2.33), ranging from -26 to 1 with a mean of 2.5 (median = 3) and a SD of 14.46. *The improvement in scores from pretreatment to post-treatment were not statistically significant ( $S = 6$ ,  $p = .2266$ ).*

#### **Detailed Results for Dyadic Parent Child Interaction Coding System (DPICS)**

**Labeled Praise (LP).** The pretreatment LP scores were 0. Post-treatment scores were somewhat U shaped (sk = .11, ku = -2.47), ranging from 0 to 10 with a mean of 4.38 (median = 4.0) and SD of 4.5. Of the 8 participants, 5 had scores that improved (difference > 0) and 3 remained at 0. The difference scores were somewhat U shaped (sk = .11, ku = -2.47), ranging from 0 to 10 with a mean of 4.38 (median = 4) and a SD of 4.5. *The scores from pretreatment to post-treatment ( $S = 11.5$ ,  $p = .0586$ ) approached statistical significance.*

**Behavior Descriptions (BD).** The pretreatment BD scores were approximately normally distributed (sk = -.66, ku = -1.20), ranging from 0 to 3 with a mean of 2.0 (median = 2.5) and SD of 1.20. Post-treatment scores were somewhat U shaped (sk = .11,

ku = -2.12), ranging from 0 to 24 with a mean of 11.88 (median = 11.0) and SD of 9.78. Of the 8 participants, 7 had scores that improved (difference > 0). The difference scores were somewhat U shaped (sk = -.006, ku = -2.20), ranging from -1 to 21 with a mean of 9.88 (median = 10) and a SD of 9.57. *There was a statistically significant improvement in scores from pretreatment to post-treatment (S = 9.5, p = .0313).*

**Reflections.** The pretreatment reflection scores were approximately normally distributed (sk = .64, ku = .09), ranging from 1 to 11 with a mean of 5.13 (median = 5.0) and SD of 3.27. Post-treatment scores were positively skewed (sk = 2.75, ku = 7.67), ranging from 7 to 35 with a mean of 11.5 (median = 8.5) and SD of 9.56. Of the 8 participants, 6 had scores that improved (difference > 0). The difference scores were positively skewed (sk = 2.55, ku = 6.88), ranging from 1 to 33 with a mean of 6.38 (median = 3.5) and a SD of 11.03. *There was a statistically significant improvement in scores from pretreatment to post-treatment (S = 15, p = .0157).*

**Directions.** The pretreatment direction scores were approximately normally distributed (sk = .69, ku = -.48), ranging from 0 to 57 with a mean of 21.5 (median = 18) and SD of 20.3. Post-treatment scores, which correlated .67 with pretreatment scores, were positively skewed (sk = 1.78, ku = 2.89), ranging from 0 to 20 with a mean of 4.75 (median = 1.5) and SD of 7.07. Of the 8 participants, 7 had scores that improved (difference > 0). The difference scores were platykurtic (sk = .16, ku = -2.33), ranging from -1 to 37 with a mean of 16.75 (median = 14) and a SD of 16.37. *There was a statistically significant improvement in scores from pretreatment to post-treatment (S = 16.5, p = .0117).*

**Criticisms.** The pretreatment question scores were moderately positively skewed (sk = 1.46, ku = 2.70), ranging from 0 to 11 with a mean of 3.5 (median = 1.5) and SD of 4.4. Post-treatment scores were positively skewed (sk = 1.44, ku = 1.42), ranging from 0 to 9 with a mean of 1.88 (median = 1.0) and SD of 2.99. The pretreatment, post-treatment, and difference scores are shown in Table 1 for each participant. Of the 8 participants, 7 had scores that improved (difference > 0). The difference scores were approximately normally distributed (sk = .82, ku = .10), ranging from -6 to 11 with a mean of 1.63 (median = 0.0) and a SD of 5.58. *The improvement in scores from pretreatment to post-treatment was not statistically significant (S = 2, p = .3125).*

**Questions.** The pretreatment criticism scores were moderately positively skewed (sk = 1.25, ku = -.20), ranging from 8 to 58 with a mean of 26.1 (median = 21) and SD of 15.1. Post-treatment scores were extremely positively skewed (sk = 2.41, ku = 6.22), ranging from 3 to 46 with a mean of 14.75 (median = 8.5) and SD of 15.47. Of the 8 participants, 2 had scores that improved (difference > 0) and 4 remained at 0. The difference scores were negatively (sk = -1.36, ku = 2.05), ranging from -24 to 29 with a mean of 11.38 (median = 15.5) and a SD of 17.07. *The improvement in scores from pretreatment to post-treatment approached statistical significance (S = 12, p = .0547).*

Our effect sizes ranged from small to very large; this is very common when sample sizes are small. Our estimated effect sizes are not the true effect sizes because they contain sampling error. When the estimated effect is moderate but not statistically significant it indicates the true effect may be 0 or may be moderate or large in size. Two variables had large effect sizes and were statistically significant (P-CDI and BD in Table 1). For these

variables we are confident there was an effect (i.e., the true effect was not 0) and the estimate of the size of the effect was large.

### **Therapy Attitude Inventory (TAI)**

On the TAI, 100 percent of the participants reported an average TAI score of 4 or higher. The TAI has a Likert type scale from 1-5 where a score of 3 is 'neutral' or 'learned a few new techniques' and a score of 4 is 'somewhat improved' or 'learned several useful techniques'. Item scores ranged from 3-5 and average scores for individual items ranged from 4.13 to 4.88.

### **Homework Completion (Practice Play)**

For the practice play, 100 percent of the participants reported an average of 4 or more nights of homework a week. Individual averages ranged from 4 nights weekly to 7 nights a week for one participant. Four homework sheets (out of 56 total collected) were missing and excluded from analyses.

### **Integrity Checklists**

The early interventionists demonstrated high fidelity with treatment implementation with average scores ranging from 93% to 100% across sessions. Additionally, inter-rater agreement between the EIs and the project coordinator for the first treatment session averaged 98.5% for fidelity with treatment implementation.

## **Qualitative Analyses**

### **Research Team and Reflexivity**

The project coordinator led two focus group sessions with the support of the principal investigator. Both researchers were female, hold doctorate degrees in school psychology, and were employed by a university in combined clinical and research positions. Further, both the PI and the PC have extensive training in child development early intervention and research methods associated with these fields.

The researchers conducted the focus groups to gain insight into the experiences of both the early interventionists (EIs) who implemented Trauma-Informed Behavioral Parenting (TIBP), and the caregivers who received the TIBP early intervention program. The researchers trained the EIs in the TIBP program in the first two months of the study (9 months prior to the focus group) and worked closely with them throughout that time via monthly supervision meetings, phone conferences, and live supervision visits. Thus, the researchers had a well-established relationship with the EIs, and they were familiar with the researchers' occupations, reasons for conducting the study, and goals for the TIBP program. The caregiver focus group participants had previous interaction with the PC during recruitment, pre- and post-intervention assessment sessions, and during 1-2 TIBP sessions in their homes. One of the caregivers had previous interaction with the PI during recruitment. All caregivers had some knowledge of the reasons for conducting the study as explained during the recruitment and consent process. Additionally, prior to starting the focus group sessions, we explained how we would use their comments to inform the final draft of the TIBP program.

### **Study Design**

We utilized an inductive approach, a process of coding data without trying to fit it into a pre-existing coding frame, to organize the data. Themes were identified at a semantic/explicit level. This resulted in a data-driven thematic analysis organized to show

patterns in semantic content (Braun & Clarke, 2006). All of the EIs and TIBP participants were invited by phone call or face-to-face interaction to participate in the focus groups. This purposive sampling process resulted in all five EIs and three of the eight caregivers who completed TIBP participating in the focus groups. We conducted the EI focus group at the PI's office building and the caregiver focus group at a centrally located community center. In addition to the participants (see quantitative results), principal investigator, and program coordinator, additional study team members included a graduate assistant and one or two undergraduate research assistants. The three caregiver focus group participants were foster mothers from diverse ethnic backgrounds: one Hispanic, one African-American, and one White Non-Hispanic.

The research team developed the focus group questions for the sole purpose of this study and they were approved by the USF IRB. The PC read each question aloud to the group, clarified questions as needed, and asked follow-up probing questions throughout the sessions. Two video cameras recorded each session while the undergraduate students scribed which participant initiated each comment and the PI made field notes. Each focus group lasted for approximately 90 minutes. Given the narrow scope of the interviews, the small number of possible participants in the focus groups, and the fact that the focus groups were part of a larger mixed methods study, data saturation was achieved to the extent possible for the study (Bonde, 2013). Focus group data were transcribed by members of the research team with each transcription checked for accuracy by another member of the research team. One EI focus group participant reviewed the transcript and identified codes from her focus group for accuracy with no suggested changes. The process of returning the transcripts to a caregiver participant was not able to be completed.

Following the thematic data analysis steps provided by Braun and Clarke (2006), members of the research team reviewed the transcriptions to familiarize themselves with the data, independently generated initial codes, and mapped prospective themes for each focus group. Subsequently, members of the research team met to come to consensus regarding the codes and data-driven themes. The team defined a theme as a concept that occurred repeatedly and encompassed several sub-concepts related to the research objectives. For the EI focus group, this stage of the data analysis produced four main themes and three of the four had two subthemes, respectively (See Figure 1 in the Appendix). For the caregiver focus group, initial analyses identified two key themes with three subthemes each.

## Thematic Findings

The PI and PC worked together to revise the themes for the two focus groups. Given the subjects evident throughout this data set and the objectives of the study, the final thematic map named four key themes for the early interventionist focus group (see Figure 1 in the Appendix). Further analyses led to minimal revisions to thematic maps for the caregiver focus group, and two key themes remained (see Figure 2 in the Appendix).

For our first research objective, to develop a trauma informed behavioral parenting model that that could be replicated across Part C Early Steps programs in the state of Florida, we considered the broad question: What factors contributed to TIBP program implementation? The data from the EI focus groups supported three key themes related to this question.

## Early Interventionist Theme 1: Training Components

The early interventionists indicated several training components that they received prior to coaching their first family in TIBP contributed to program implementation.

### Prior to Implementation

All of the early interventionists indicated that the structured training provided as part of the TIBP program was very helpful. This training included two half-day workshops, self-study utilizing videos, and monthly meetings to review and practice skills. All of these components were named by the early interventionists as training dimensions that facilitated their ability to implement the TIBP program. One EI explained:

*It's the amount of times we did it. Every time we met, we went over how the 5-minute play should be implemented and that's what helped me the most. I felt pretty confident going into the homes, even the first time, and doing that part.*

The four EIs that had previous training experiences related to the skills implemented in the TIBP program acknowledged that these previous experiences mattered in regards to their confidence in coaching the parents to utilize the skills. The fifth EI indicated a desire to have had more experiences with the skills prior to coaching a family to utilize these skills.

### Suggested Modifications

When asked what they would change regarding the training they received, several of the EIs indicated they would recommend expanding the training program. One EI suggested:

*Shadowing a provider. I think [someone learning to implement TIBP] should shadow as many weeks as they can...it's so different when you're in a home and you're actually watching the parents reacting and you're training a parent as well as a child.*

Several others indicated that watching videos of each session of the program implemented with toddlers of various developmental levels would suffice for additional training prior to implementation.

### Support During Implementation

Similar to the training they received prior to program implementation, the early interventionists felt the support they received during implementation mattered. Specifically, they cited the monthly supervision meetings, with case reviews and skills practice, along with the one in-home coaching support session they received from the PC per case as instrumental to their ability to implement TIBP with confidence. One EI stated, "I feel I learned best watching the action" when she received in-home coaching support for one of her cases. Another EI with four TIBP cases elaborated:

*I got to see [the PC receive in-home coaching support] at different phases and [the PC] got to see me in different phases and it's very different [at later sessions] as opposed to the first session, second session. I think that will definitely make me better going forward.*

## Suggested Modifications

Similar to expanding the training received prior to implementation, all five of the EIs recommended increasing the amount of training they received while coaching the caregivers to use TIBP skills. Suggestions to accomplish this additional training included: 1) increasing the number of in-home supervision sessions; 2) varying the sessions for which in-home supervision is provided; and 3) early interventionists recording their sessions with caregivers for individualized feedback during supervision meetings.

The early interventionists felt that compensation for training time was essential both for training received prior to program implementation and during program implementation. As one EI emphasized:

*I know there's a certain number of kids that I have to financially see a week, and you know if I have to cancel or like clear out a day for whatever, you know that impacts my income.*

They explained that the contracts they have with their agencies provide pay only per session they complete with a child and their family. Therefore, if they desire to obtain professional development or participate in a training, they either have to cancel sessions with families and lose income, or schedule around their sessions, such as meeting during mid-day when many of the children are taking their naps. One of the early interventionists summed up this theme saying, "You don't see the kid, you don't get paid."

## Early Interventionist Theme 2: TIBP Program Components

### Strengths

The early interventionists indicated several dimensions of the TIBP program that were integral to successfully coaching caregivers in TIBP. The fact that the program has a scripted manual the EI can follow to coach parents pleasantly surprised the EIs:

*One thing I found helpful was the script... To be honest, I didn't really know if I would like the script because it made me feel like I didn't know what I was doing, but to have it, it was actually really good because it gave me the right words to say and to know when to say them.*

Three of the EIs relayed that the visual handouts enhanced implementing TIBP, helping both caregivers and children to learn the skills. For example, teaching the child and caregiver the calming technique to stretch like a cat was easier because the EI showed the picture of a cat stretching:

*I think those kinds of visuals are fantastic... I mean all you have to do is to put a picture up and the kid is like, "okay I need to stretch like a cat."*

### Suggested Modifications

All of the early interventionists suggested that the manual should specify adaptations for each lesson given the child's developmental level and trauma history. For example, one of the early interventionists felt the Story Board was integral to implementing TIBP for the family she coached; however, another EI stated that the Story Board was not relevant for one of her cases given the child's particular trauma history and when the

child came to live with his foster parent who participated in TIBP. Several of the EIs encountered trying to teach a child a lesson, but, as one EI stated, "the kiddo I had was just too small. She just didn't understand." Given that some of the children receiving TIBP were not yet two years old and demonstrated developmental delays, supervision meetings allowed the PC and PI to support the EIs in how to adapt the lessons for these children. All of the EIs agreed with the suggestion to make these adaptations as specific sections in the manual for each lesson.

Another suggested modification to the program involves building in more time for establishing rapport with the family and explaining the coaching process. When an EI starts with a family, they typically spend the first session observing the caregiver-child interaction, completing forms necessary for her particular agency, discussing the expectations of the upcoming program, and answering the caregivers' questions. As many caregivers have not previously participating in a coaching style program, the early interventionists felt taking additional time in Week 1 to explain how coaching works and establish rapport would further enhance TIBP program implementation. An early interventionist explained:

*There needs to be more discussion that the provider coming to your house will be coaching you along and there to provide support and feedback and information to help you... And set it up in a way that they know when we come in that's what we're supposed to be doing and it's not because we're questioning their parenting skills... We're there to show them this new program we think will benefit them with the specific child that had trauma...*

Another EI shared how one of the foster mothers she worked with responded to coaching:

*She always teases, "I feel like a two-year-old when you do that," but she teases about it and understands the program and agrees and thinks it's working great.*

Finally, the early interventionists gave suggestions about how to take the program components they identified as strengths and expand these components to increase generalization across settings. For example, they would like even more visuals that could cue the parents to utilize the skills they're learning throughout their day and to add places on the homework sheets to individualize each caregiver's goals for the week. Additionally, two early interventionists recommended adding to the existing sections on coaching caregivers to use the skills in everyday routines. One EI explained the challenge one of her caregivers experienced:

*It's hard for the families to generalize even if they come up with good solutions [when we're coaching them]. In the moment, when the kids are jumping on the couch, it's hard for them to step back and say, "I'm just going to ignore that," and then praise him when he gets down. I think that's a difficult skill for families to do without someone being there with them every day reminding her "Don't look at him, don't look at him. He'll get down. Don't look at him..." It's hard for them to implement it in the moment without help.*

Furthermore, the early interventionists consistently expressed the need for strategies to generalize skills to multiple caregivers in the child's life. All of the children enrolled in the TIBP program had an extensive number of caregivers involved in their care, including teen/adult foster siblings living in the home, grandparents, and childcare providers. Additionally, most of

the children in foster care placement were working toward reunification with their biological parents and often had visitation with these adults. The early interventionists felt like the program would benefit from having materials specifically designed to assist these additional caregivers to similarly implement TIBP strategies:

*It's just hard when you've got more than one caregiver who is trying to help mold this child. It's almost like you need to have a group meeting like, "okay anyone who's going to be helping taking care of this kid lets go" because everybody needs to be on the same page, everyone needs to be speaking the same language, talking the same way... How great would it be to provide the teacher with the language that [the caregiver is] using at home to give to them? Like, when we see him [standing on the chair], we don't say, "Get off the chair!" We say, "feet down or feet on the floor," so the child's hearing from all [caregivers that they're] on the same page.*

### Early Interventionist Theme 3: Other Factors

In addition to training and program components specific to TIBP, early interventionists felt that other factors affected TIBP program implementation. Since TIBP was implemented within the already existing framework of Part C Services, in order for an EI to start providing services to any child in the Part C system, a set process needs to be followed. At times, this process led to delays in which the EI was able to start providing TIBP to a family identified as eligible for the program. As previously mentioned, the providers are only paid when they complete a session with a family, so delays in starting services negatively impacted their income and created challenges in scheduling children eligible for TIBP. Another dimension of Part C services is providing services within a child's natural environment, including where the child resides and/or their childcare setting; however, the TIBP program required that the 8 weeks of intervention were provided only in the child's home in order to specifically address challenging behaviors the parents/foster parents were experiencing. Despite caregivers agreeing to this criterion during the screening for eligibility process, some early interventions reported that parents desired services in the childcare setting, either instead of, or in addition to, the in-home services. Furthermore, providing services in the home rather than a clinic setting both enhances and adds challenges to providing early intervention services. As one early interventionist described:

*I immediately saw a barrier of two older children [maybe 10-13 years-old] that were homeschooled plus a newborn baby that she was taking care of, plus a 3- or 4-year-old that she was taking care of and it was absolute chaos. And I know it must be difficult to keep your eyes on a baby and a 3-year-old while we're trying to do TIBP [with the 2-year-old], so I could kind of tell it was overwhelming for her and [I was not] sure what to do at that point.*

Finally, family factors sometimes influenced the efficiency with which TIBP services were provided. Children dual-enrolled in Part C services and the foster care system have complex lives with numerous appointments and sometimes additional health concerns. Three of the five EIs reported cancellations due to these factors, disrupting the fluidity of the 8-week program. One EI elaborated:

*The family where there were no cancellations, I feel like did so much better and it was so much more consistent. In the families where there were cancellations, they were just more disjointed and more like having to catch up, so I definitely, in the future as a provider, will make more of an effort to be like, "We really need to make this 8 weeks in a row."*

### Early Interventionist Theme 4: TIBP Benefits

#### Family Benefits

The first three themes related to the research objective to determine what factors influenced TIBP program implementation. For our second research objective, during our thematic analysis we asked the question: What impact did early interventionists perceive TIBP to have on child and family outcomes? No negatives to participating in TIBP were indicated. Conversely, the early interventionists perceived numerous benefits resulting from providing TIBP. They relayed how the caregivers participating in TIBP appeared to feel less stress and more confident in their abilities to handle their children's misbehaviors:

*I liked how it drew attention to the caregiver's stresses and gave attention to them and focused on getting themselves mentally healthy to be able to help the kiddos.*

Another provider elaborated:

*And we're building up the families too, because you're helping them deal with the stress and what they're going through...it's almost like a double-whammy where we're coaching them to build up the child by building them up, you know? Like, "You can do this, you got this, good job doing this."*

A third EI added, "You're increasing their self-esteem" while the whole group nodded in agreement.

In addition to caregivers feeling empowered to address the behaviors of the child specifically enrolled in the program, caregivers reported to their provider how they were able to generalize the strategies to other children in the home:

*The child that I had has an older sister who's like 3 and a half and her foster mom was using [the strategies] with her and it was working with her.*

#### Early Interventionist Benefits

In addition to benefits to the family, the early interventionists reported that learning and implementing TIBP enhanced their skills:

*Since we've learned these skills... I definitely feel like now I use so many of these skills all the time with all these other families... It's really what Early Steps [Part C services] should be doing with all of the providers, you know in terms of the coaching... I don't think we were ever really taught coaching and this is teaching us how to be better coaches.*

Another EI added, "And even some of the kids who aren't traumatized. There are pieces of this you could just use in so many different ways." A third EI summed up how providing TIBP was beneficial, saying, "I enjoyed [TIBP]...I think it made me a better provider all around and gave me a lot of great skills that can be used across the board."

For our first research objective, to develop a trauma-informed behavioral parenting model that that could be replicated

across Part C Early Steps programs in the state of Florida, we considered the broad question: What factors contributed to TIBP program implementation? The data from the EI focus groups supported three key themes related to this question.

## Caregiver Theme 1: Program Evaluation

The three caregiver focus group participants, all foster parents, were asked several questions in order to aid in evaluation of the TIBP program. These foster parents relayed numerous beneficial program components, some components inconsistently perceived as challenging, and a few suggestions for enhancing TIBP.

### Beneficial Program Components

All of the caregivers felt the whole TIBP program as beneficial. One foster parent summarized:

*I thought the entire process was beneficial. I mean, some of it was common sense, but common sense things that I hadn't been doing.*

Another caregiver agreed:

*I won't say it was easy, but everything, like she said, was common sense. And it makes sense. And it's good that we're learning these new techniques.*

In response to a prompt for specific components they felt were helpful, all three caregivers identified the strategy to follow the child's lead as beneficial to meeting their needs of their children. One foster parent shared, "I found it beneficial to, to definitely have patience with the child to let him direct me to interact with him." A second caregiver added, "If you kind of let them kind of lead, it helps." The third foster parent explained:

*I felt like, [the kids] feel like the attention is super charged when they get [to lead the play in special play], when they have that one on one, when they get that five minutes or ten minutes or however long we do it.*

Other strategies the foster parents appreciated included learning how to: 1) give clear, positively stated directions; 2) use time-out effectively; and 3) use active ignoring. The latter strategy was specifically helpful for one family to reduce tantrums:

*For us it was definitely the active ignoring because in our situation she came to us and there was very little communication, what little there was, was basically screaming tantrums. I mean, really, really horrible tantrums, and very lengthy tantrums. So throughout us working with [our EI], and starting this program, I mean that has almost gone away. I mean, we still have the normal two-year-old tantrums now, but it's not like when she first arrived. The active ignoring and then when they stop [the behavior], you go immediately back to them and say "thanks for calming down, great job, now let's go do whatever else." It's made a world of difference.*

When asked if there was anything not beneficial or that should be removed from the program, they unanimously said "no."

### Challenging Program Components

The caregivers were asked to share components of the TIBP program that they felt were challenging to learn or implement. Two of the foster parents emphatically said, "Clean up!" One caregiver elaborated:

*Yes [clean-up was challenging], especially with the new things. It was terrible. But now, at home with his toys, it's okay. [I'll tell him] "it's time to put it away." He'll look at me at first, and I go "you can't take that to the car," and he'll go back and put it up.*

With other components, varying views were expressed. For example, one foster parent shared that generalizing using the strategies to other locations was challenging:

*I took him to a new place and his behavior was bad... [We were in another city and] we cannot let him go and do what he wants to do, and that was a challenge for him.*

While another foster parent stated:

*Sometimes actually it's an all-day thing and it's very beneficial, and it doesn't have to be in the home. It can be out in public, it can be out in the play yard, it can be just about anywhere, even when eating.*

Furthermore, one foster parent expressed that participating in a coaching style intervention program was challenging to get used to at first:

*I thought [coaching] was a little bit awkward. I haven't experienced something like that since maybe school or a new job of training... So that was like a little hard. I felt like it was almost like a hover for a little bit. It was awkward at first, but then you got used to it because it was someone who was coming to your home and being part of your family. So it was like...it was okay.*

The second foster parent felt similarly:

*Initially it's a little awkward, but every time you learn something new, or you're in a new environment, it's a little bit awkward. It's just how it is, but not in a negative way.*

In comparison, the third caregiver stated, "I thought it was great."

Finally, all of the foster parents reported that involving the whole family and extended family is important; however, two foster mothers felt this can be challenging at times. One elaborated:

*[The strategies are] beneficial when he's just with us, but when the other siblings come around and they have their little terrors because they're four or five years old, it's hard to implement what we're learning. They do it well when it's just us one on one, but when the other family members participate or they are there at our home, nobody wants to help participate... Whatever I get from any teacher I make copies to give to my sister in law "here, you learn these things too" because we can't do it by ourselves. I'm always doing those things.*

Similarly, another foster mother shared:

*My [adult] daughter is always telling my [young foster] children, "Go do this! Don't do this!" And so I find it was easy to tell my daughter "why don't you work with them instead of yelling, and telling them? Why don't you tell them 'be gentle'?"*

### Program Recommendations

Caregivers provided a few recommendations to improve the TIBP program. One foster mother suggested creating an

advanced organizer to give to the caregivers at the beginning of the eight-week program so that they know what is coming each week. Two of the foster parents wished for the program to be longer than 8 weeks, simply saying, "I would love for the program to extend" and for the program to have "more time."

## Caregiver Theme 2: Positive Outcomes

Numerous benefits of participating in TIBP were reported by the three foster parents, including improving their own skills, improved child behaviors and outcomes, and benefits for the whole family.

### Caregiver Benefits

All of the caregivers felt as though they learned to be more patient. Additionally, two of the foster parents are currently involved in raising other children, either in their own home or in their extended family, and reported being able to use the skills they learned with these other children. One of the foster mothers shared:

*[His siblings] see it and then they want to sit on our laps and participate and get the praises. They're like "what about me, do I get a high five? Am I being good?" So that makes us feel good that they're yearning for the same thing.*

Finally, two parents shared that they felt empowered to handle their children's behavior and tantrums more effectively. One of the parents described a recent tantrum, "He just threw his little tantrum, and I was like, okay, I can deal."

### Child Benefits

Caregivers reported reduced tantrums, increased communication skills, and improved focus during play. One caregiver shared the significant communication improvements her child has demonstrated, "At one point it was just five words, now I can't get him to stop talking, which is okay." Another foster parent shared a similar positive outcome. Her child had very few words when the program started and tended to tantrum to communicate. Now she describes him:

*He talks. Some of the words I understood, some I don't, but he'll sit in my lap, and he calms down and he'll talk to me. And he'll shake his head and go like this - like we're having a conversation.*

### Whole Family Benefits

All of the foster parents reported improved caregiver-child relationships. As one foster mother shared, "It made a big impact in our entire relationship and communication." She explained:

*Not that we didn't have a good bond already, but I think it's definitely helped with that. Like I said, especially when they get to direct the play, I feel like they're just so laser-beam focused on you, you know, it's a nice feeling in there when you do that.*

Finally, caregivers expressed developing a connection with their TIBP provider. One foster parent described this relationship:

*We feel like you're in this child's life just as much as we are and they see you as extended family.*

## Discussion

### Hypotheses and Interpretation of Results

We used confirmatory research to test the following *a priori* hypotheses and an interpretation of the results in light of each hypothesis follows.

### **TIBP participants would report decreased child disruptive behaviors.**

Caregiver ratings of child behaviors on the Eyberg Child Behavior Inventory were in the average range overall (median scores) at pre- and post-intervention on both the Intensity and Problem scales, despite reporting challenging child behaviors anecdotally and on other study assessments. While four individual participants did improve 3-8 points on the Intensity scale and another 4 improved 4-25 points on the Problem scale, there were 4 who did not and thus, this balanced out any differences. Our sample size was likely too small to have a normal distribution of scores which also affects our findings. We believe that with a much larger sample, we could show decreases in child disruptive behaviors over time. Further, in future studies, it may be warranted to only include children who are rated in the clinical range on a measure like the ECBI at study screening. *In summary, this hypothesis was not supported.*

### **TIBP participants will report decreased parenting stress.**

Caregivers' ratings of their Total parenting stress approached statistical significance and a couple of caregivers reported significant drops in total stress (44-94 points lower). Three of the eight caregivers reported minor increases in stress (2-12 points) although they were within the average range even with these increases. Again, when the eight caregiver scores were converted to a median score, their report of total stress was within normal limits at pre- and post-intervention. Our sample size was too small to achieve a normal distribution of scores which affected our findings. We found a similar result on the Parental Distress (PD) subscale where about 5 of 8 participants reported increased scores for Parental Distress. The median scores at pre- and post-intervention were within normal limits despite change in scores. Again, on the Difficult Child (DC) subscale, results were not statistically significant, median scores were within normal limits at pre- and post-intervention and these findings are impacted by the small sample size.

Caregiver scores on the Parent-Child Dysfunctional Interaction (P-CDI) subscale were statistically significantly lower at post-intervention. The median scores were highest for this subscale at pre-test (75th%) and post-test (52nd%) relative to other subscales but both were within normal limits. The effect size was also quite large. On this subscale, 7 out of 8 participants reported lower scores at post-intervention with 1 person reporting a slightly higher score (increase in 12 points). Despite the small sample size, with the majority of participants moving in the same direction, an effect was found. On this sub-scale, caregivers reported that their children were smiling more at them, doing things that made them feel good as parents, and feeling like their child liked them and wanted to be close with them by the end of treatment.

*In summary, this hypothesis was supported for only the P-CDI scale and not supported for the other subscales, although the total scale approached significance.* We believe that with a much larger sample, we could show decreases in overall parenting stress over time. Further, in future studies, it may be warranted to only include only caregivers who self-rate in the clinical range on a measure like the PSI-Short Form at study screening.

### **TIBP participants will increase use of positive parenting skills.**

Caregiver use of the positive parenting skills showed statistically significant improvements from pre- to post-test when median scores are examined. In particular, parents demonstrated marked increases in their use of Reflections, Labeled Praises,

and Describing Behaviors and Emotions. These findings were very encouraging in light of the minimal training the early interventionists had received in coaching caregivers in these skills. In Parent Child Interaction Therapy (PCIT), where the therapist has received intensive training and supervision in coaching, caregivers show marked improvement in their use of these parenting skills of the course of 12-16 weeks. In TIBP, caregivers were coached weekly over the course of 8 weeks in the use of these skills and asked to practice for 5-minutes daily with their child. These skills are taught because they all teach the caregiver to follow the child's lead in play while also helping the caregiver to pay attention to appropriate child behavior, model speech skills and teach vocabulary and concepts, show interest and approval of the child's play and ideas, and increase child's self-esteem. These skills play a critical role in developing a warm and secure relationship with a primary caregiver and are critical component in PCIT from which our intervention drew upon. In study after study of PCIT, including those with abusive parents, parents demonstrate marked growth in their use of positive parenting skills referred to in PCIT as the PRIDE skills (Allen, Timmer, & Urquiza, 2014; Bagner & Eyberg, 2007; Boggs et al., 2005; Chaffin et al., 2004; Timmer, Urquiza, Zebell, & McGrath, 2005).

Caregivers were also coached to avoid certain skills (e.g., the 'avoid skills': questions, directions, and criticisms). Caregivers made statistically significant reductions in their use of questions and their use of directions approached statistical significance. This was a positive finding, and consistent with the PCIT literature, given that questions and directions take over the lead of the conversation and the play and often suggest disapproval or that the caregiver is not really listening to the child. Caregiver questions were often requests for the child to imitate their speech or behavior, "Can you say piggy?", or "Can you put the piggy in the barn?", and "Can you share with me?" and then repeating such statements over and over despite child resistance. Directions tended to be statements like, "You do it!" or "Push the door down like this!", and "Bring it over here!" These statements resulted in the caregiver leading the play and the children appearing frustrated at caregiver demandingness, which is why they are a focus of coaching caregivers to have more positive interactions with their children.

The final 'avoid' skill is criticism. Caregivers usually try to refrain from harsh critical statements when being watched by others, and a review of our video tapes revealed that caregivers tend to use statements like, "no, no", "you're not sharing" and they would repeat these statements over and over as a means to influence the child's behavior. These statements typically do not result in a child changing their own behavior and can be interpreted as criticism; again, making them an important focus of coaching caregivers to have more positive interactions with their children. *In summary, this hypothesis was mostly supported across the individual parenting skills.*

#### ***TIBP participants will report decreased child posttraumatic stress symptoms.***

Child PTSD symptoms on the YCPC did decrease overall from pre- to post-treatment and while the finding was perhaps clinically significant, the difference was not statistically significant. Three of the eight children had scores at the clinical cut-off at pre-test and all children had scores well below the clinical cut-off at post-test. This was a positive finding and was expected given other similar interventions for childhood trauma. We taught

these caregivers specific strategies to promote warmth, security, attachment, as well as to use positive discipline skills. Specifically, caregivers reported that their children were showing fewer negative emotions, sleeping better or having fewer nightmare, were engaging in fewer episodes of irritable behavior, and were startling less. Most of the items that caregivers were endorsing as problematic are typical responses to stress among very young children. One of the limitations to the YCPC is that many of the symptoms on this scale are not applicable to two year olds. Two-year-old children may not have the autobiographical memory capacities that are required to develop full blown PTSD (Scheeringa, 2015, personal communication). Interestingly, an anecdotal finding that we were not expecting was that several caregivers reported increased symptoms of PTSD immediately after unsupervised visits with their biological parents. We did not collect any data to measure this in a more objective way but future studies may consider how to evaluate this reported effect.

While we offered to connect all caregivers who rated children above the clinical cut-off to other community resources (e.g., The Crisis Center of Tampa Bay), they all denied this assistance and wanted to wait until our program was completed. *In summary, this hypothesis was supported.*

#### ***TIBP participants will report high treatment acceptability.***

Overall, caregivers reported high satisfaction with TIBP. Each participant reported high levels of treatment acceptability overall and the average scores for individual items across participants were also high. These ratings were similar to participant satisfaction scores in previous studies of PCIT and HOT DOCS (Brestan, Jacobs, Rayfield, & Eyberg, 1999; Schuhmann, Foote, Eyberg, Boggs, & Algina, 1998; Ware, McNeil, Masse, & Stevens, 2008; Williams, Armstrong, Agazzi, & Bradley-Klug, 2011). Most participants felt like they had learned several useful techniques for discipline and for teaching their child, their relationship was somewhat better than before, they were somewhat more confident in their skills, and that their child's behaviors were somewhat improved. *In summary, this hypothesis was supported.*

#### ***TIBP interventionists will demonstrate high levels of fidelity to the TIBP manual.***

Overall, the early interventionists demonstrated very high levels of fidelity to the TIBP manual based upon their completion of the weekly integrity checklists. The early interventionists did a great job of turning in these checklists at regularly scheduled meetings as only three checklists were missing at the conclusion of the study. Additionally, the independent rater at week 1 also documented high levels of fidelity to the manual and inter-rater agreement was extremely high. We anticipated that interventionists would demonstrate high levels of fidelity if they had a checklist to guide them through each weekly session. *In summary, this hypothesis was supported.*

## **Summary**

In summary, some, but not all, of our hypotheses were supported with the current data set. We found favorable results across most of the DPICS skill areas, meaning that caregivers moved in the predicted direction. We also found that caregivers reported high satisfaction with the treatment and the early interventionists demonstrated high fidelity to the TIBP manual.

However, we did find significant improvements on Total parenting stress (PSI-Short Form) but rather on one sub-scale (Parent-

Child Dysfunctional Interaction), nor did we find significant improvements in child disruptive behaviors (ECBI) or child PTSD symptoms (YCPC).

### Strengths of the Present Study

The present study has several strengths that are worth mentioning prior to a discussion of the limitations. First, this study is one of the first to create a manualized intervention for children who are involved in our Florida child welfare system and the birth to three Early Steps program. To date, the authors are not aware of any studies that have been conducted specifically for this vulnerable population of infants and toddlers who present with developmental delays and have a history of neglect and/or maltreatment. While other interventions are available to meet the needs of this vulnerable population, most of them are expensive, not universally available, and certainly not available through Florida's Early Steps program. We successfully created a manual that was adapted from existing evidence-based interventions like PCIT and from evidence-based principles of behaviorism. Second, while our sample size was very small and mirrored the ethnic diversity of young children who are overrepresented in Florida's child welfare system. Our sample also included ethnically diverse foster parents. Finally, we successfully trained five early interventionists who provide services to Early Steps children in the Tampa Bay area. With limited resources and time dedicated to training and supervision, we equipped these professionals with the tools to assist families who report disruptive child behaviors. These interventionists all reported feeling confident in their ability to serve children in child welfare with co-occurring developmental delays and disruptive behaviors upon completion of the study, a feeling they did not have at study start-up. Further, these early interventionists reported an interest in taking on future Early Steps clients with disruptive behaviors (whether due to a trauma or not), an intervention service that is in high demand among the birth to three population, but is often underserved due to a dearth of providers equipped to handle these cases.

### Limitations

There are several external and internal limitations to this study. First, the participants were selected from one Florida Early Steps program in a large geographic region in southwest Florida. In terms of external validity, the population and ecological transferability (Tashakkori & Teddlie, 2003) of the research was minimized, and the results from the sample likely cannot be generalized across early intervention participants. However, it should be noted that the present sample was very diverse in terms of ethnicity, caregiver age, and caregiver socio-economic status.

Second, the sample size was very small and therefore many of the variables of interest were not normally distributed. With the small sample size, we must acknowledge that our estimated effect sizes are not the true effect sizes because they contain sampling error and this affects the internal validity. With regard to the small sample size, we experienced many barriers to our initial goal of enrolling 30 2-year-old children. First, Early Steps referrals were down overall in the fall 2015. The program had recently closed several clinics due to appointments not being

filled. Early Steps administrators were unsure of why these appointments were not being filled. Another barrier to enrollment was that children who were involved in child welfare and referred to Early Steps did not always present for Early Steps eligibility evaluations. Hypothesized reasons for these high rates of non-attendance included frequent changes in foster care location, case manager turnover, transportation issues, and conflicts with other appointments as foster care children tend to be involved in numerous services. When we calculated our potential TIBP referrals while writing the grant, we assumed that the majority of children in child welfare who were referred for Early Steps services would present for the evaluation.

Thus, we underestimated the number of children who drop-off completely. Another barrier once children are enrolled in Early Steps was that many foster parents put their child in full-time childcare, and our program is home-based, so caregivers declined. We had one caregiver who enrolled in the study knowing this and then decided a couple of weeks into treatment that she definitely wanted services to continue only in the childcare setting. Finally, another barrier to enrollment is that some foster parents reported that they could not accommodate 'another service' as children in child welfare have many appointments/services from their perspective. All of these barriers to enrollment meant that we had to change our design from a 2 x 2 randomized-controlled trial to an open trial on a small case series of subjects.

Another limitation of the current study related to the measurement tools we selected and the age of our child participants. Given our difficulty with enrollment mid-way through the project we extended our age-range down to 18 month-olds. However, the YCPC and the ECBI were not standardized on children under age two. Thus, the technical adequacy of these instruments with this study sample must be questioned. The young ages of these children, in addition to the small sample size, likely impacted our ability to get a true assessment of the latent variables of interest, namely child disruptive behaviors associated with trauma.

### Directions for Future Research

The small sample size was a major limitation in the present study. As was pointed out previously, it was very difficult to obtain normality on the variables of interest due to the extremely small sample size. Future studies of TIBP must incorporate larger sample sizes. We believe that we are well positioned to conduct a larger randomized-controlled pilot trial of TIBP at this time because our program's name is now known in the community and once the referral stream initiated we had more referrals than we could serve in the remaining months of the contract. We hope to obtain additional extramural funding to continue our evaluation of the effectiveness of TIBP.

With a larger sample size of child participants over the age of two years, we would likely be well-positioned to utilize the standardized rating scales utilized in this study. Future investigations may consider an alternate measure of PTSD symptoms or eliminate the evaluation of this latent variable given that there is not a uniform consensus as to whether or not children under three years old can develop full blown PTSD. It may be that their symptoms present only as disruptive behaviors (e.g., sleep dysregulation, irritable mood, tantrums, etc.) and that a measure of child disruptive behaviors like the ECBI is sufficient.

Future studies may consider only enrolling participants who screen above the clinical cut-off for disruptive child behaviors and caregiver stress as measured on standardized rating scales. This would preclude participation by caregivers who anecdotally report high levels of stress and disruptive behaviors, like the ones in our sample, but it may lead to more significant findings.

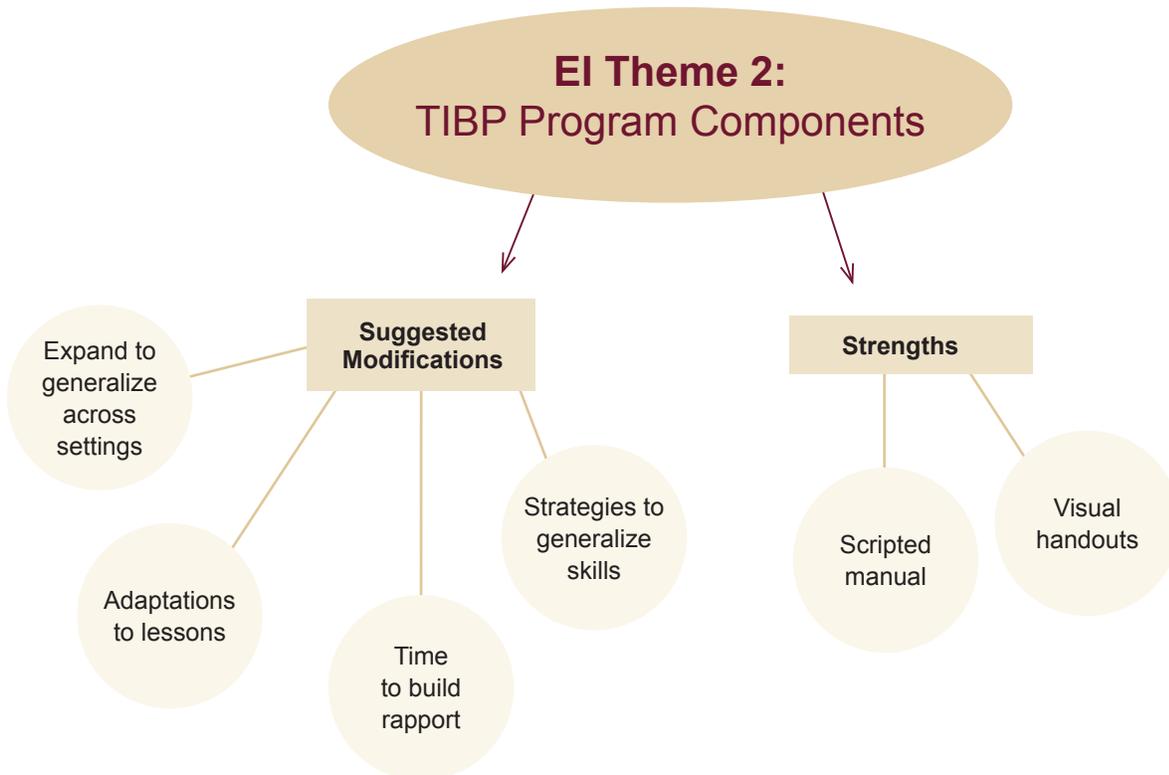
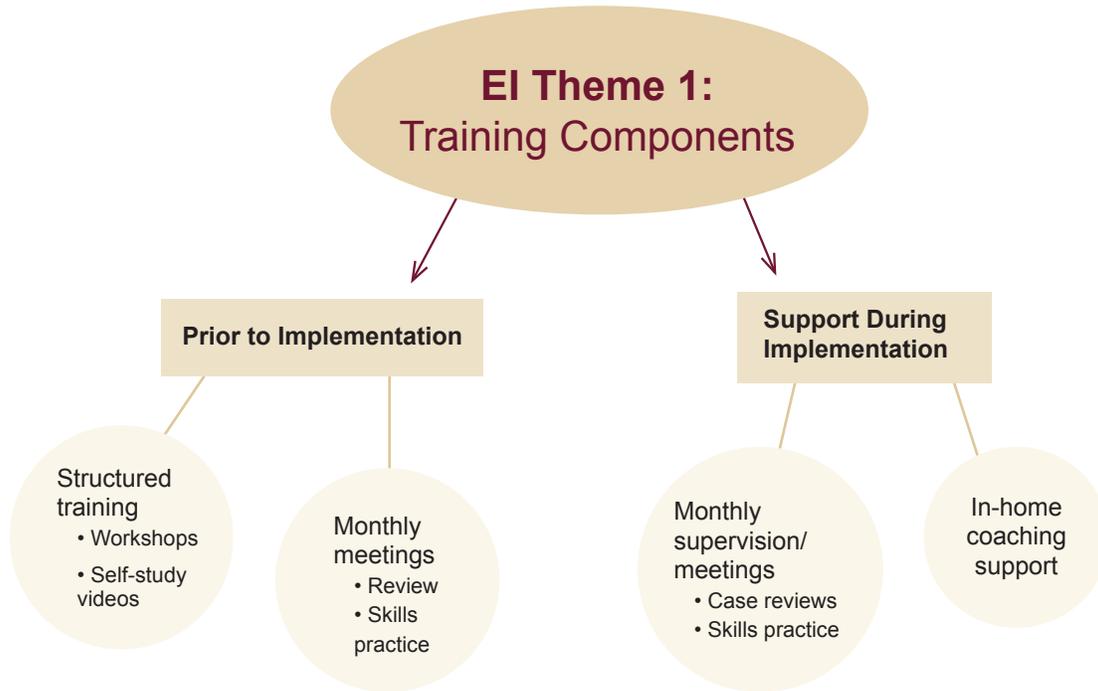
In summary, TIBP is a promising practice that can be implemented easily within existing Florida Early Steps programs. Our early interventionists demonstrated the ability to learn the intervention with minimal training and supervision and implement the intervention with fidelity. Our participant data suggested that some of our hypotheses were supported while others were not supported most likely due to sampling error associated with a very small sample size. Results of our focus group interviews with early interventionists and with caregiver participants suggested that TIBP has good face validity and of potential benefit to children with developmental delays who are involved in the child welfare system and their caregivers. Early interventionists also reported feeling confident in their ability to implement the intervention. Further study is warranted to support these findings.

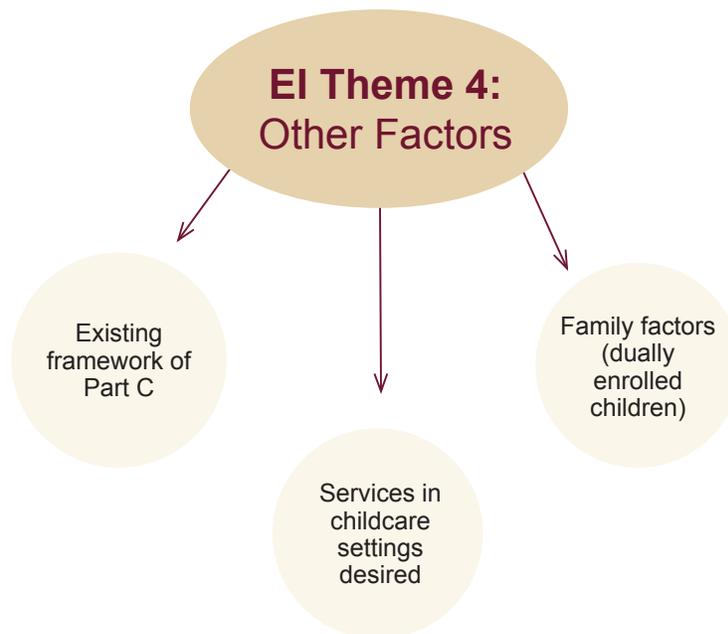
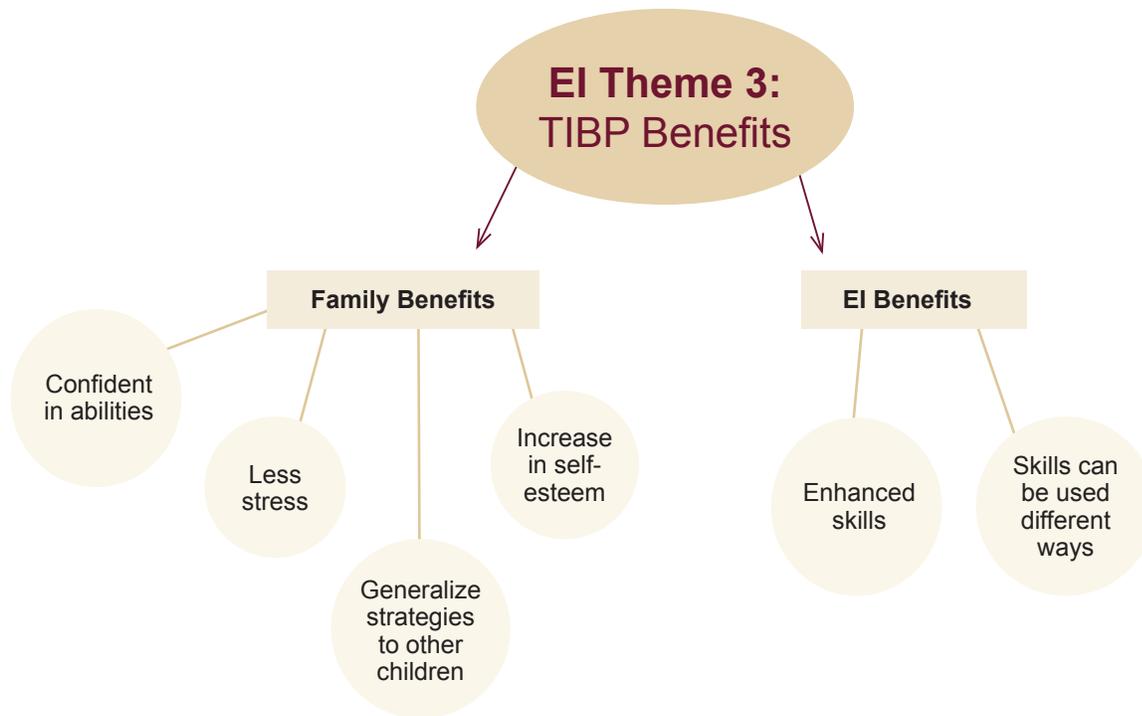
### Sustainability

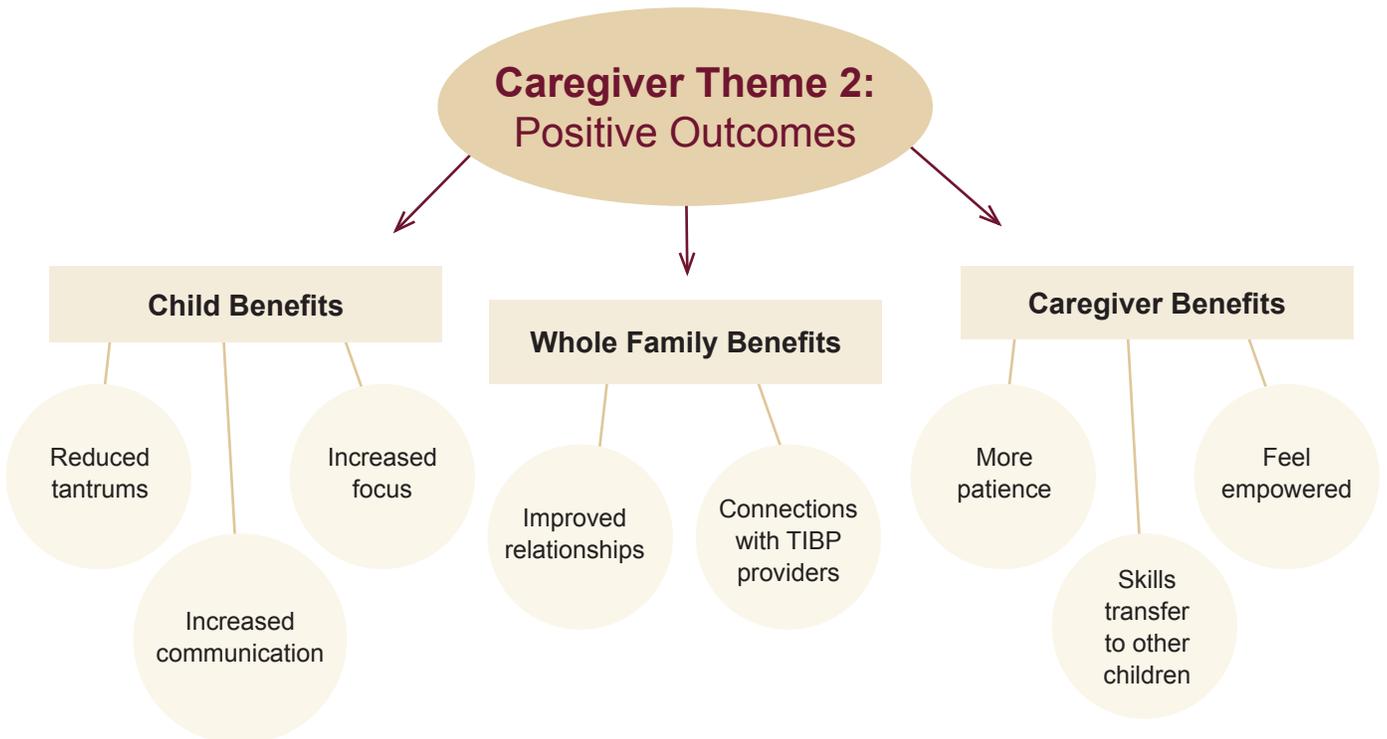
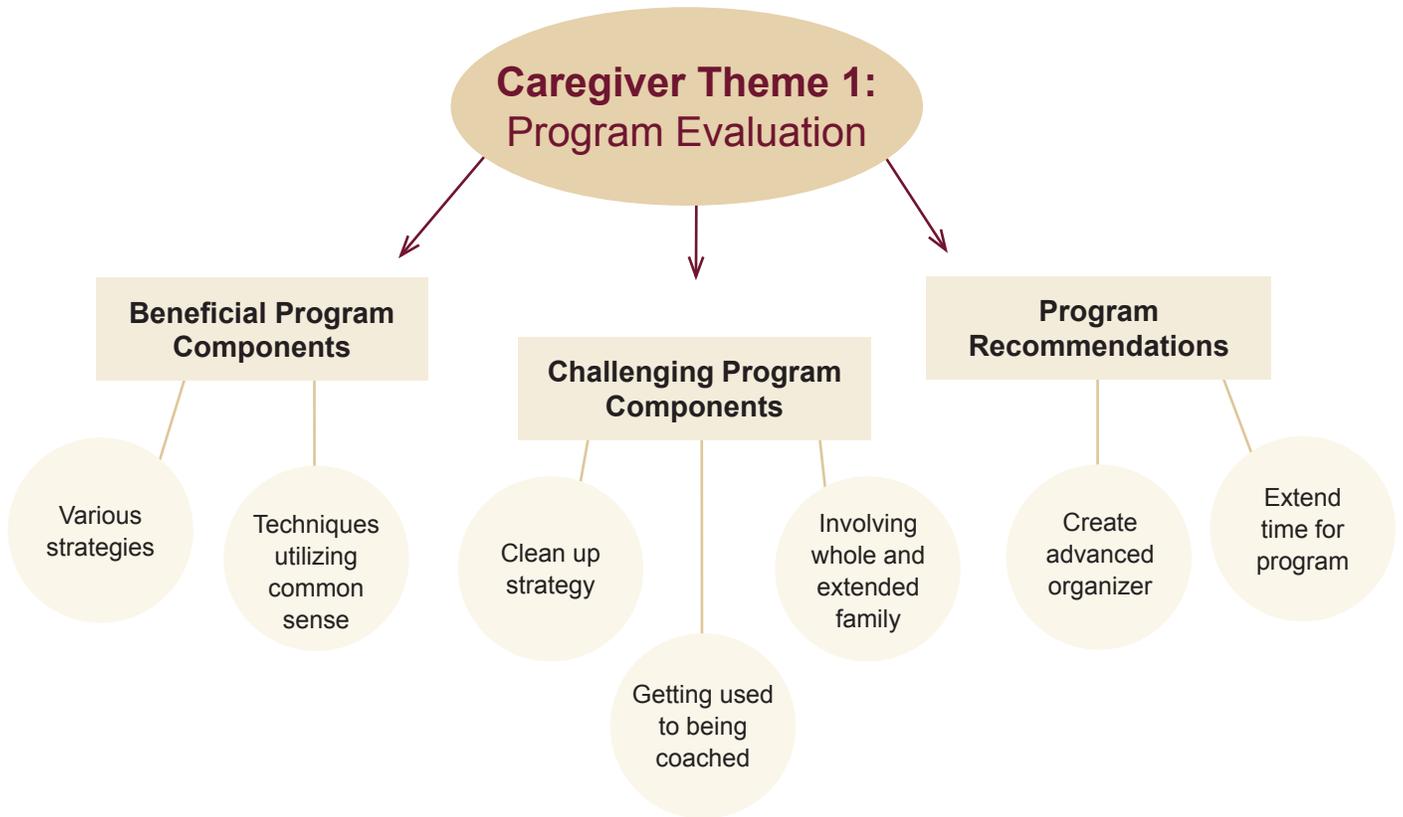
As of today, TIBP is currently available as a service for children who reside within Hillsborough and Polk Counties receiving Part C services through Bay Area Early Steps. All five of the early interventionists who completed training and supervision set out in this study have endorsed confidence and a desire to continue to use TIBP. We are considering changing the name because our program is founded in evidence-based practices for children presenting with behavioral issues and thus, they need not have had a trauma in order to benefit. Some of the trauma-focused handouts will need to be slightly revised to appeal to a broader population and some of the handouts could just be eliminated for different children. We are working on enhancing the manual to include these types of suggestions for future use. As for using TIBP beyond the Bay Area Early Steps program, we are currently looking for extramural funding mechanisms or foundation and training dollars that would allow us to expand these needed services into other early intervention communities.

Appendix

Thematic map based on early interventionist (EI) focus group







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