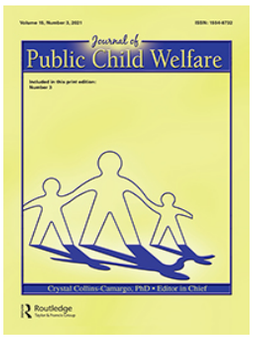

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Lessons from the field: implementing a Trust-Based Relational Intervention (TBRI) pilot program in a child welfare system

Rachel D. Crawley[a], Erin Becker Rázuri[a], Cindy Lee[b], and Sarah Mercado[a]

[a]Karyn Purvis Institute of Child Development, Texas Christian University, Fort Worth, TX, US; [b]HALO Project, Oklahoma City, OK, US

ABSTRACT

The current paper evaluates a pilot program implementing Trust-Based Relational Intervention (TBRI) among a sample of child welfare staff working across eight organizations in order to (1) describe the first year of implementation and (2) examine staff and organizational change. Staff completed assessments of trauma-informed care attitudes and organizational functioning at the start of the project and at the end of the first year of implementation. Results indicate improvement across scales, with implications for the importance of fostering key roles (e.g., mentors) and planning for workforce changes (e.g., recurring trainings) in facilitating implementations that will function in child welfare settings.

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Trauma-informed; child welfare system; child welfare workforce; implementation; intervention

Introduction

Early adversity among children and youth in the child welfare system is pervasive and of significant consequence. Complex trauma, defined as exposure to multiple, chronic, and prolonged traumatic events that often occur within the caregiving system and begin early in development, includes neglect and physical, sexual, and emotional abuse (van der Kolk, 2005). Recognizing and addressing the threats posed by exposure to traumatic events and the impact of complex trauma on the vast number of children served by the child welfare system is critical. In 2017, the United States foster care system served 690,548 children (U.S. Department of Health and Human Services). In the majority of these cases, maltreatment, particularly neglect, was a precipitating circumstance associated with the child's removal from his or her home. Data collected across several years from sites across the United States by the National Child Traumatic Stress Network suggest that the majority of children in foster care (70.4%) experienced at least two of the traumas that constitute complex trauma (Greeson et al., 2011). Even more sobering, many children (11.7% of the same large sample) had experienced

CONTACT Erin Becker Rázuri e.becker@tcu.edu Karyn Purvis Institute of Child Development, Texas Christian University, 2901 W. Lowden, Rees-Jones Hall, Fort Worth, TX 76053, USA

all five types of trauma assessed by the study: physical abuse, sexual abuse, emotional abuse, neglect, and domestic violence. In addition to the intangible cost of widespread trauma to children, families, and communities, recent reports estimate that the economic burden of child maltreatment is substantial. According to a recent study using data from substantiated cases of maltreatment in the United States in 2015, the estimated lifetime cost of nonfatal child maltreatment per victim is over $800,000. Further, the estimated annual economic burden to the US population is $428 billion (Peterson, Florence, & Klevens, 2018).

Early traumatic experiences can interfere with well-being across the lifespan, contributing to problems in behavior (Tabone et al., 2011), social-emotional skills (Becker-Weidman, 2009), cognition (Zilberstein, 2014), and physical and mental health (Shonkoff et al., 2012). Children with complex trauma histories can exhibit a range of severe and complicated reactions to traumatic stress. For children in child welfare, trauma reactions can be exacerbated by the placement disruptions, separations, and/or caregiver loss that are associated with out-of-home care. Moreover, research indicates that among children in child welfare, those with histories of complex trauma have significantly more behavioral and mental health needs than their peers with histories of single trauma and/or non-interpersonal trauma, including higher rates of clinical diagnoses and more symptoms of posttraumatic stress, risk behaviors, and life functioning difficulties (Greeson et al., 2011; Kisiel, Fehrenbach, Small, & Lyons, 2009).

Studies on the pervasive impact of childhood trauma, such as the landmark Adverse Childhood Experiences study (ACES; Anda et al., 2006), have brought to light the enduring legacy of early, interpersonal, and chronic adversity and have led to urgent appeals for strategies to reduce childhood traumatic stress (Shonkoff et al., 2012). Historically, children served by the child welfare system have been overlooked, underserved, or at risk for mistreatment (Kadushin, 1976). However, there is growing consensus that meeting the needs of children served by the child welfare system requires a trauma-informed approach (Griffin et al., 2011). The literature on trauma-informed care is growing and there are now a number of trauma-treatment programs available for children and youth. In addition, a burgeoning field of research suggests that training child welfare workers can increase staff understanding of trauma (Conners-Burrow et al., 2013). However, research on implementing trauma treatment models within the child welfare system is still sparse. Considering the complexities of bringing trauma-informed models to real-world systems of care and the unique challenges of working with children and youth served by child welfare systems, building an evidence-base for trauma-informed approaches within the child welfare system is a vitally important (though arduous) effort.

Given the prevalence of early adversity among children in the child welfare system, the long-term consequences of complex trauma, and the considerable burden to the system committed to caring for these vulnerable children, the

child welfare system stands to benefit from a better understanding of trauma and how to help children heal. Further, trauma-informed care stands to benefit the child welfare workforce. Researchers are showing increasing interest in how to best support a workforce that is at risk for burnout, secondary traumatic stress, and compassion fatigue (Dombo & Blome, 2016). A trauma-informed system could benefit workers in a number of ways. Training child welfare workers to effectively recognize and respond to trauma among their clients could lead to greater job satisfaction and self-efficacy and lower stress and burnout. In addition, a trauma-informed system directly addresses the mental health and well-being of the workers through trauma-sensitive workplace policy, practice, and climate. Indeed, early research suggests a protective effect for workers, such that child welfare services that implemented an evidence-based program aimed at reducing child maltreatment demonstrated greater staff retention (Aarons, Sommerfeld, Hecht, Silovsky, & Chaffin, 2009) and lower emotional exhaustion among workers (Aarons, Fettes, Flores, & Sommerfeld, 2009). Unfortunately, yet another gap exists between research and practice, such that although workforce support appears to be a promising field of study, little evidence is available for effectiveness in practice.

TBRI intervention principles and practices

TBRI is an evidence-based, trauma-informed model of care for vulnerable children and youth. TBRI is grounded in attachment theory and developmental neuroscience, such that TBRI works to repair the harm done by relational trauma by engaging the same attachment processes that organize the developing mind in the absence of trauma (see Perry, 2009; Siegel, 2012). At its core, TBRI teaches adults to *see* the needs and *meet* the needs of children and youth. By providing an understanding of trauma (i.e., seeing the need) and teaching the skillsets and tools that are at the heart of TBRI (i.e. meeting the need), TBRI implementers seek to develop trauma-competent adults who are equipped to improve outcomes for vulnerable children. First put into practice through direct intervention with children in therapeutic day camps (Purvis & Cross, 2006; Purvis, McKenzie, Cross, & Razuri, 2013), the TBRI model has since been taught to parents (Howard et al., 2014; Purvis et al., 2015) and professionals in a range of caregiving environments, including residential treatment (Purvis, McKenzie, Razuri, Cross, & Buckwalter, 2014) and group homes (Purvis, Cross, Jones, & Buff, 2012). Consistent with the three pillars of trauma-informed care (Bath, 2008), the TBRI intervention model consists of a set of three interacting and synergistic principles: *Empowering* to address physical needs, *Connecting* to build trust and set the stage for secure attachment, and *Correcting* to address behavioral needs (Purvis, Cross, Dansereau, & Parris, 2013) .

TBRI implementation process

The most effective approach to bringing hope and healing to vulnerable children is to change the systems that encompass them (see Foster-Fishman, Nowell, & Yang, 2007). Bronfenbrenner's bioecological model provides a useful theoretical lens for implementation, as it emphasizes the connections and transitions between different components of a child's ecology (Bronfenbrenner & Morris, 2006). For children and youth in child welfare, we promote strong connections within systems by offering training and implementation support for adults in a range of child-serving roles, including placement services, advocacy, counseling and mental health, residential/group home services, education, and corrections/rehabilitation. In order to effectively extend intervention principles and practices across systems of care, however, it is necessary to evaluate not only the intervention model, but the real-world implementation process. Research-based implementation frameworks, especially those developed specifically for use within child welfare (e.g., Fixsen, Blase, Naoom, & Wallace, 2009), are important resources for conceptualizing, designing, and executing implementation projects. Such frameworks aid the child welfare community in knowing where to focus energy and resources to bring intervention models into the real world. Informed by implementation science, the TBRI implementation framework is a multi-level process designed to be adaptable to a range of child-serving contexts and responsive to the needs of the implementation site. The current study is among the first to describe and evaluate the TBRI implementation process within a child welfare system. Although each TBRI implementation project is different, the following overview of the key roles, training formats, and implementation phases illustrates the general approach to carrying out TBRI principles and practices in the real world.

Key roles

As with any implementation effort, there were a number of individuals involved with and invested in this pilot program. However, we draw special attention to three roles, as not only are they essential to the execution of the project, but also are specific enough to require further explanation. TBRI Practitioners, central to all TBRI implementations, are professionals (e.g., therapists, caseworkers, foster and adoption care specialists, occupational therapists, medical professionals, counselors, CASA representatives, early childhood and development specialists) who have completed TBRI Practitioner Training (detailed below). As part of the implementation project, select individuals from each organization attended Practitioner Training, after which they were equipped to lead TBRI trainings within their organization using standardized TBRI presentations, videos, and manuals. TBRI Practitioners are key to an organization's implementation process, as these individuals typically act as change agents to spread awareness of the approach and increase buy-in.

This implementation project was led by a Project Director, a TBRI Practitioner and co-founder of a local child welfare nonprofit who has a long-standing relationship with the university institute that conducts TBRI research and training. The Project Director was responsible for acquiring funding, organizing members of the collaborative, and hiring mentors to provide ongoing support. In addition, the Project Director initiated a series of conversations with leadership of potential collaborators to discuss implementation objectives, responsibilities, core activities, and anticipated timelines.

An additional key role was that of TBRI mentors, experienced TBRI Practitioners identified and hired by the Project Director using grant funds to provide ongoing consultation and coaching to the agencies in the collaborative. Mentors live within the community but were not employed by the organizations participating in the project. Mentors were chosen because they had real-world experience implementing TBRI within their own organizations. In addition, the mentors facilitated fidelity monitoring through ongoing consultation and support. Fidelity monitoring presented as supportive consultation has been shown to be a protective factor in similar intervention contexts (Aarons et al., 2009).

Training formats

TBRI training for child welfare professionals typically consists of one- or two-day overviews and five-day Practitioner Trainings. Two-day trainings are designed to provide a broad overview of relational and trauma-informed interventions, emphasizing TBRI, and to teach a relatively small number of TBRI principles and strategies that are suitable to the organizational context. In this project, two-day trainings (delivered in month 2 by professionals with expertise in the intervention model) provided an overview of TBRI principles and practices for organizational leadership and representatives. These trainings also served to gauge interest and need, helped agencies determine who should 'lead the charge,' (i.e. identify individuals who should attend Practitioner Training) and evaluate what agency policies and procedures need addressing to be consistent with trauma-informed care. One-day trainings are typically delivered toward the beginning of a TBRI implementation project and often serve to provide a broad overview of trauma and trauma-informed interventions in order to introduce TBRI to agency staff. In this project, however, one-day trainings were offered more frequently (month 4, 5, 6, 10, and 11) in order to account for workforce attrition and provide a forum for potential new collaborative members to learn about the project (see the Discussion for more information).

Practitioner Training, the centerpiece of all TBRI interventions and the most intensive training offered, consists of nine units of online coursework, an interpersonal interview, and five days of on-site training focused on application and implementation of TBRI. Practitioner Training utilizes a train-the-trainer model, the goal of which is to produce TBRI Practitioners, change agents who

can lead, train, and advocate for the implementation of TBRI within their organizations. This intensive learning experience includes lectures, activities, role-play, and networking. In this project, TBRI Practitioner Training was offered at months 7 and 11.

Project implementation phases

The pilot project was designed to build a shared culture around trauma-informed care among a collaborative of public and private child welfare agencies (public = 3, private = 6, all contracted with the state) that serve foster and adopted children in a metropolitan area of the United States. The first phase of any TBRI implementation project is *Exploration*, with the overarching goal of determining if the organization/community and the implementation team can meet each other's needs. Key activities of this phase include (a) conversations with leadership, (b) delegation of roles, (c) introductory site visits, and (d) initial trainings. In this project, mentors conducted pre-project site visits to assess the agencies' needs and current practices and create site-specific implementation plans in conjunction with agency leadership and representatives. Boundaries between implementation phases are 'soft' and, although the rhythm of implementation tends to be similar across organizations, each organization progresses through the phases at their own pace, dependent on the organization's specific needs, goals, and organizational characteristics (e.g., workforce size, leadership attributes, workplace culture, existing policies and procedures). Thus, although many organizations complete phase one within a matter of months, there is no set deadline.

The second phase of the project, *Immersion*, consists of more intensive training opportunities and the addition of coaching and support activities. The overarching goal of the second phase is to co-create with the organization or community a culture of trauma-informed care and service through training and consultation that is both effective and sustainable. Activities typically include (a) training TBRI Practitioners, (b) continuing to offer large-scale one- and two-day trainings to build community-wide awareness, understanding, and expertise, (c) offering ongoing consultations with organizational staff and leadership, and (d) distributing resource materials to supplement and support the training and consulting activities. In this project, training activities included offering ongoing one-day trainings (months 4–11) to accommodate new staff, existing staff in need of a review, and interested community members (potential partners); TBRI Practitioner training (months 7 and 11); and ongoing mentor consultation and support. During quarterly phone-call coaching sessions, TBRI mentors provided support to agency representatives through reflective activities including case reviews, problem solving, evaluating progress, and identifying next steps. Mentors provided further support through site visits (months 2–3 and 12) meant to guide agency representatives as they took on more responsibility in terms of training, coaching, and supporting their colleagues.

The current study

In response to growing demand, we aim to take TBRI to the next level by utilizing training, coaching, mentoring, and long-term support to build capacity within child welfare settings and other child-serving domains. To that end, the research and training team seek to develop and evaluate an implementation model that can be utilized within child welfare systems to foster a trauma-informed workforce. In this paper, we report on the first year of a multi-year project, describing the phases of implementation, documenting initial findings, and reflecting on successes and challenges in the process. This exploratory study is guided primarily by the following research question: After a year of participation in a TBRI-focused collaborative project where TBRI training, consulting, and coaching are provided, do organizations report changes in organizational functioning, attitudes toward trauma-informed care, familiarity with and use of TBRI, and implementation of TBRI strategies?

Method

Participants

All child welfare agencies within a metropolitan area in the Midwest region of the United States were welcome to apply for the collaborative. All agencies that submitted applications were invited to join. Nine child welfare agencies initially agreed to participate in the project. Among these organizations, 8 participated in data collection (agency/department size ranged from 4 to 67 staff members, $M = 28.71$). At the beginning of the project, agencies reported that they provided direct care to families and offered one or more of the following services: child placement ($n = 3$), child/family advocacy ($n = 3$), counseling or mental health care ($n = 2$), and residential/group home or corrections/rehabilitation services ($n = 3$). Combined, these agencies reportedly served approximately 5,600 children and 2,700 families annually. Seven agencies reported that they employed TBRI-trained staff members at the start of the project. TBRI uptake within each agency at project start varied and included some uptake ($n = 3$) and no uptake ($n = 5$).

All staff members within the 8 participating agencies, regardless of role, were invited to participate in the implementation project and in data collection. At project start, 231 individuals were identified as staff and leadership within the agencies/departments where TBRI would be implemented. Among those individuals, 150 responded to the pre-project survey, 132 provided consent for their responses to be used for research purposes, and 118 completed the pre-project assessments. At follow-up, among the 7 organizations available to participate in research, 218 individuals were eligible to participate in research, 105 provided consent, and 101 completed post-

project assessments. The 101 participants who completed the posttest included new employees hired after pretest and excluded some participants who completed the pretest but chose not to participate in further research. The sample of 55 participants who completed both the pre- and the posttest reflect both high turnover (in some cases as high as 48% loss of staff) and the decision by some pretest participants not to participate in assessments at posttest. Response rates are provided in the Results below.

In total, 227 staff members consented to participate in research and completed assessments at the pre- and/or post-project time points. Participants were 22 to 84 years old (M_{age} = 39.77, SD = 13.31), majority female (54%), white/Caucasian (53%), and heterosexual (66%). Participants reported that they had worked in the child welfare field an average of 8.02 years (SD = 8.67) and had worked in their current job an average of 4.71 years (SD = 5.02). Most participants had obtained a Bachelor's degree or higher (63%) and 32% were licensed/certified or a license/certification candidate.

Data collection

This study was approved by the Institutional Review Board (IRB) for Human Subjects Research after expedited review from the university IRB committee. Data were collected within the first few months of the project start date and again at the end of the first year as determined by the grant funding secured by the Project Director. Agency leadership/representatives completed an application, agency consent forms, and an implementation plan at the start of the project (month 1). Agency staff who elected to participate in research and provided informed consent completed organizational surveys at pre- and post-project time points (months 2–3 and 11). The study utilized a purposive sample to explore the particular characteristics of the population of interest. This method enables us to answer the research question and is appropriate to a small-scale pilot study.

Measures

All agency staff, including leadership and agency representatives, were invited to participate in research. Pre- and post-project organizational surveys included a demographics and background section that collected information about the individuals working within the organizations, their familiarity with TBRI, the practices they currently use to address clients' social and emotional needs, as well as adapted scales from the TCU Survey of Organizational Functioning (TCU SOF; Lehman, Greener, & Simpson, 2002), and the Attitudes Related to Trauma-Informed Care – Human Services scale (ARTIC-35 HS; Baker, Brown, Wilcox, Overstreet, & Arora, 2016).

The TCU SOF is a five-point scale originally designed to evaluate organizational functioning within substance use-related agencies. The subscales adapted for this study included measures of perceived staff attributes (*Influence, Adaptability*), organizational climate (*Mission, Cohesion, Autonomy, Communication, Stress, Change*), job attitudes (*Burnout, Satisfaction*), and workplace practices (*Peer Collaboration, Focus on Outcomes, Task Clarity, Team Change*). Scale scores range from 10 to 50.

The ARTIC-35 HS (α = .91; Baker et al., 2016) presents two opposing statements related to trauma-informed care and asks participants to indicate their agreement with the statements along a 7-point continuum. The assessment includes 5 subscales, each with 7 items, which include: *Underlying Cause of Problem Behavior and Symptoms, Responses to Problem Behavior and Symptoms, On-the-Job Behavior, Self-Efficacy at Work*, and *Reactions to the Work*.

Results

The analysis was guided by the question: After a year of participation in a TBRI-focused collaborative project where TBRI training, consulting, and coaching are provided, do organizations report changes in organizational functioning, attitudes toward trauma-informed care, familiarity with and use of TBRI, and implementation of TBRI strategies? Once the data were cleaned and scales were scored, Cronbach's alpha values were computed to determine the internal consistency of the measures. To assess TBRI awareness, the proportion of participants reporting that they were familiar with TBRI versus not familiar with TBRI was computed at times 1 and 2. Likewise, to assess use of TBRI with clients, the proportion of participants who reported using TBRI with clients versus not reporting TBRI use with clients was computed at times 1 and 2. Cross-sectional measures of central tendency were examined for the ARTIC and TCU SOF scores at times 1 and 2. To estimate change from time 1 to time 2 among participants who responded at both time points, a paired-sample t-test was conducted on TCU SOF and ARTIC scales at times 1 and 2. As two naturally-occurring subsets of agencies was observed (those that had begun implementing TBRI prior to project start and those that had not begun implementing TBRI), an analysis of variance (ANOVA) was conducted to examine the group (subset) effect on TCU SOF and ARTIC measures at time 1. This analysis was conducted again at time 2. To further parse out differences between the subsets and change over time, a repeated measures analysis of variance (ANOVA-R) was conducted (group x time) to examine TCU SOF and ARTIC measures at times 1 and 2.

As described above, of the 231 individuals eligible for participation in research, 132 provided consent for their responses to be used for research purposes (57% response rate). Across organizations, the response rate ranged from 16% to 100% with 6 organizations reporting a response rate of 50% or

more and an average response rate of 67%. Of the 218 individuals eligible for research participation at posttest, 105 consented to participate in research (48% response rate). Across organizations, response rates ranged from 26% to 91% with 4 of the 7 organizations reaching a response rate of 50% or greater.

Reliability estimates for the TCU SOF and ARTIC-35 HS scales examining the pre-project survey responses indicated that most scales had good reliability. Alpha values were comparable to those found in other studies, with only the values for *Focus on Outcomes* (α = .68) and *Stress* (α = .78) below those reported in the literature.

TBRI awareness and use

To examine TBRI awareness and use among staff within the agencies, participants were asked if they were familiar with TBRI at the pre- and post-project surveys. At the pre-project survey, 79% of participants reported being familiar with TBRI. At the post-project survey, 97% of participants indicated being familiar with TBRI. Among participants who reported that they were not familiar with TBRI during the pre-project survey, 86% reported that they were familiar with TBRI during the post-project survey.

To estimate the prevalence of TBRI-use within the agencies, participants were asked in an open-ended question what practices/initiatives they currently use to address children's and/or families' social and emotional needs. Only participants who specifically identified TBRI as an approach they used with clients were included in the frequency count. At the pre-project survey, 18% of participants reported that they use TBRI with their clients. At the post-project survey, 39% of participants reported that they use TBRI with clients. Although 39% might appear low, this reflects the percentage of participants who are actively integrating TBRI into their practice. Changes in practice thinking and practice behavior are key elements of initial implementation. Considering the turnover in the first year and that the first-year focus was centered around training the staff, this increase was deemed noteworthy. As implementation research suggests it takes two to four years from initial exploration to sustained implementation (Fixsen et al., 2009), this percentage is not unexpected.

Organizational functioning

A cross-sectional examination of TCU SOF scales revealed that all organizational functioning scale scores were trending in the desired direction from pre- to post-project time points, although it is not clear that these trends represent any clinical significance (Table 1). However, paired-sample t-test results revealed that, among individuals who provided data at both time

Table 1. Means and standard deviations for TCU SOF and ARTIC-35 HS scale scores.

Scale	Pre-Project *M (SD)*	Post-Project *M (SD)*	*t-Value (df)*
	TCU SOF		
Adaptability	39.05 (5.06)	39.41 (4.69)	1.64 (55)
Autonomy	34.86 (6.16)	36.21 (5.29)	1.59 (55)
Burnout	24.66 (8.07)	23.68 (7.07)	.35 (55)
Change	35.92 (6.16)	36.18 (5.74)	.66 (55)
Cohesion	36.55 (8.86)	38.38 (7.33)	1.55 (55)
Communication	33.22 (8.14)	34.29 (6.35)	.80 (55)
Focus on Outcomes	37.67 (5.87)	38.08 (5.03)	1.12 (55)
Influence	36.39 (6.55)	37.88 (6.51)	1.79 (55)†
Mission	37.08 (6.68)	37.49 (5.98)	.95 (54)
Peer Collaboration	38.03 (6.57)	39.29 (5.98)	.97 (55)
Satisfaction	40.05 (6.94)	41.59 (5.68)	1.31 (55)
Stress	29.89 (8.44)	28.81 (8.60)	−1.07 (54)
Task Clarity	34.22 (6.81)	35.04 (5.92)	1.83 (55)†
Team Change	36.25 (6.24)	36.97 (5.75)	1.36 (55)
	ARTIC-35 HS		
On the Job Behavior	5.65 (.98)	6.04 (.76)	1.96 (54)†
Reactions to the Work	5.52 (.91)	5.85 (.77)	1.22 (54)
Responses to Problem Behavior	5.56 (.90)	5.92 (.79)	2.23 (54)*
Self-Efficacy at Work	5.52 (.99)	5.82 (.75)	1.17 (54)
Underlying Cause	5.25 (.83)	5.63 (.87)	2.34 (54)*
Total ARTIC Score	5.5 (.81)	5.85 (.68)	2.42 (54)*

†$p < .10$. *$p < .05$.

points, the only significant changes in scale scores were marginally significant increases in *Influence* and *Task Clarity*.

Although all agencies began the implementation project at the same time, it became apparent that agencies presented with different levels of TBRI exposure, with five agencies reporting no experience with TBRI prior to the project start date and three agencies reporting some experience with TBRI. To further investigate these two subsets, ANOVA was conducted to examine whether organizational functioning differed between the two subsets (early vs. late uptake of TBRI) at the project start. As one of the agencies in the late-uptake subset was unable to complete post-project surveys, data from this agency are excluded from the analysis. ANOVA results indicate that, at project start, staff in early-uptake organizations reported significantly greater *Job Satisfaction, Team Cohesion, Communication, Focus on Outcomes*, and *Task Clarity*, lower *Stress*, and marginally lower *Burnout* and greater *Mission* than staff in late-uptake organizations (Table 2).

That the two subsets differed at project start, with those agencies that had begun initiating TBRI early demonstrating better organizational functioning than those that initiated TBRI later, could indicate an early positive effect of TBRI. However, these differences could also indicate that the two subsets of organizations differed in functioning in such a way as to allow some agencies to more easily adopt TBRI early in the project. Mentor notes and discussions suggested that by the post-project time point, all agencies had implemented TBRI at some level. Data also suggested that more participants were familiar

Table 2. Means and standard deviations of TCU SOF scale scores for early and late uptake of TBRI.

	Pre-Project			Post-Project		
Scale	Late Uptake *LS* *Mean*	Early Uptake *LS* *Mean*	*F*-Value *(df)*	Late Uptake *LS* *Mean*	Early Uptake *LS* *Mean*	*F*-Value *(df)*
Adaptability	39.13	38.60	.29 (1, 113)	39.93	38.50	1.09 (1, 59)
Autonomy	34.47	35.19	.35 (1, 115)	36.19	36.96	.30 (1, 59)
Burnout	25.78	22.88	3.48 (1, 115)†	23.81	23.87	.00 (1, 59)
Change	35.45	36.71	1.09 (1, 115)	36.57	38.48	2.15 (1, 59)
Cohesion	34.80	39.92	9.22 (1, 114)**	39.14	40.87	1.02 (1, 59)
Communication	32.00	35.73	5.71 (1, 115)*	33.66	37.68	6.38 (1, 59)*
Focus on Outcomes	36.51	39.60	7.71 (1, 115)**	38.17	40.08	2.15 (1, 59)
Influence	36.41	35.92	.15 (1, 115)	39.57	37.00	2.14 (1, 59)
Mission	36.30	38.65	3.35 (1, 112)†	38.89	39.28	.08 (1, 59)
Peer Collaboration	37.34	39.40	2.63 (1, 115)	39.17	41.00	1.57 (1, 59)
Satisfaction	38.43	42.79	11.30 (1, 115)**	41.26	42.80	.98 (1, 59)
Stress	32.16	25.46	19.43 (1, 115)***	30.66	23.80	11.61 (1, 58)**
Task Clarity	33.39	36.19	4.63 (1, 115)*	35.14	37.70	3.75 (1, 59)†
Team Change	35.91	36.90	.65 (1, 115)	37.00	39.36	2.81 (1, 59)†

$^{\dagger}p< .10$. *$p< .05$. **$p < .01$. ***$p< .001$.

with and used TBRI at the post-project time point than at pre-project. A second ANOVA was conducted to examine whether organizational functioning continued to differ between subsets at the end of the project's first year (Table 2). Results indicate that, as at pre-project, staff in early-uptake organizations reported significantly greater *Communication* and lower *Stress* than staff in late-uptake organizations at year-end follow-up. In addition, staff in early-uptake organizations reported marginally greater *Team Change* at post-project, a scale that was not significantly different between subsets at pretest. However, many of the differences between early-uptake and late-uptake agencies found at pretest disappeared by year end, including the significant differences in *Team Cohesion, Focus on Outcomes*, and *Job Satisfaction* and the marginally significant differences in *Burnout* and *Mission*.

Because staff turnover tends to be high in child welfare agencies, surveys taken by staff at posttest are likely to contain data from new participants who were not present at pretest, while data from participants who no longer work for the organization will be absent. Thus, it is important to collect data from all staff who consent to participate in research at each time point because it provides a more complete snapshot of the functioning of the organization at different points in time. However, another way to approach the data is to examine change in the subset of participants who were employed by the agency at both pre- and posttest and agreed to participate in research (n= 55). Although this does not capture the experiences of new hires or those who leave during the course of implementation, it can reveal change in those who remain with the agencies over time. ANOVA-R was conducted

with group (early- and late-uptake subsets) as the between-subjects factor and time (pre- and post-project) as the within-subjects factor among individuals who completed the surveys at both time points. Analysis revealed significant group x time interactions, including a significant interaction for *Cohesion* $F(1, 54) = 4.37$, $p = .04$, such that the scores of late-uptake agency staff increased significantly from pretest to posttest but scores of early-uptake staff did not change. Similarly, there was a significant group x time interaction for *Satisfaction* $F(1, 54) = 4.92$, $p = .03$, such that scores of late-uptake agency staff increased significantly from pretest to posttest but scores of early-uptake staff did not change. Finally, there was a marginally significant group x time interaction for *Mission* $F(1, 53) = 3.56$, $p = .06$ such that late-uptake staff scores increased from pretest to posttest whereas early-uptake staff scores did not change.

Attitudes regarding trauma-informed care

Overall, participants reported positive attitudes toward trauma-informed care at the pre-project survey with means of 5.25 or higher on all ARTIC-35 HS scales (Table 1). A cross-sectional examination indicated that all scale means increased from pre- to post-project time points. Among individuals who provided data at both the pre- and post-project surveys, a paired-samples t-test indicated that means significantly increased on *Responses to Problem Behavior and Symptoms, Underlying Cause of Problem Behavior and Symptoms*, and *Total ARTIC Score*. The means for *On the Job Behavior* also increased, though this increase was marginally statistically significant. ANOVA was conducted to examine attitudes regarding trauma-informed care as measured by the ARTIC-35 HS at project start among staff at agencies that had begun uptake of TBRI prior to the beginning of the project (early-uptake; agency $n = 3$) and staff at agencies that had not yet begun (late-uptake; agency $n = 5$). As one of the agencies in the late-uptake subset was unable to complete post-project surveys, data from this agency are excluded from the analysis. At pretest, there was little difference in attitudes toward trauma-informed care between staff in agencies that initiated TBRI prior to project start and those that initiated TBRI later, except a marginally significant difference in *Self-Efficacy at Work*, such that early-uptake agency staff scored higher than late-uptake, $F(1,116) = 3.49$, $p < .10$. Conducting ANOVA between groups with posttest data revealed no significant differences between early- and late-uptake staff in attitudes toward trauma-informed care at year end.

As with the organizational functioning analyses above, ARTIC-35 HS scores can be analyzed separately at the pre- and post-project time points to provide snapshots of the organizations at each time, but can also be analyzed using data collected from the subset of staff who participated in surveys at both time points to examine change over time. A significant group

x time interaction was present for *Self-Efficacy* $F(1, 53) = 5.15$, $p = .03$, such that scores for late-uptake staff increased from pretest ($M = 5.57$, $SD = .97$) to posttest ($M = 5.83$, $SD = .83$), $t(31) = 2.52$, $p = .02$, while scores for early-uptake staff remained unchanged from pretest ($M = 5.90$, $SD = .71$) to posttest ($M = 5.78$, $SD = .81$), $t(22) = -0.89$, $p = .38$.

Discussion

This pilot project aimed to examine changes in organizational functioning, attitudes toward trauma-informed care, familiarity with and use of TBRI, and implementation of TBRI strategies among child welfare agencies participating in a collaborative project. Findings are consistent with previous research indicating that implementation of trauma-informed training impacts workforce understanding of trauma (Conners-Burrow et al., 2013). In addition, findings are consistent with expectations regarding the impact of implementation on organizational functioning. TBRI implementation was expected to impact organizational functioning for three reasons. First, participating in implementation planning gives members of an organization a shared mission, which is thought to improve organizational functioning (Becan, Knight, & Flynn, 2012). Second, evidence suggests that expert consultation, such as was provided by TBRI mentors, increases engagement and contributes to the creation of a culture, climate, and infrastructure amenable to implementing a new practice (Nadeem, Gleacher, & Beidas, 2013). Finally, as TBRI is fundamentally relationship-based, it can be hypothesized that professionals learning to utilize the principles and practices of TBRI with children and youth might also apply them to relationships with their coworkers, contributing to global improvements in the workplace. While the design of the study precludes conclusions about causation and presents clear limitations, the data show that changes occurred, thus suggesting that further research is warranted.

As anticipated, TBRI awareness and use increased from project launch to one-year follow-up. In addition, positive attitudes toward trauma-informed care increased significantly, such that child welfare staff indicated that their response to problem behaviors and symptoms and their attitudes regarding the underlying causes of problem behaviors and symptoms moved in a direction consistent with trauma-informed care. TBRI teaches that behavioral challenges among children with histories of trauma are rooted in survival behavior, not willful disobedience, and are best addressed through healing relationships. Results that suggest that the child welfare workforce is embracing this trauma lens are encouraging. Comparing staff within agencies that had some experience with TBRI prior to the project launch (early uptake) and those that had no experience with TBRI (late uptake) revealed differences in organizational functioning at pretest, such that the staff in the early-uptake agencies reported better organizational functioning than staff in

the late-uptake agencies. This could mean that the early-uptake agencies benefitted from a high degree of organizational functioning that allowed them to begin implementing TBRI prior to the arrival of a scheduled start date and the support of the collaborative. However, although the data were not collected in such a way as to attribute causation, that most of the differences between the two subsets were no longer seen at the post-project time point could also indicate that project activities were related to improvements in organizational functioning for the subset of agencies that had not initiated TBRI prior to the start of the project.

Follow-up analyses conducted on the subset of staff who provided data at both pre-project and post-project suggest that the improvements in organizational functioning over time were driven by the late-uptake subset, such that they caught up to the early-uptake subset by year end. This might indicate that TBRI implementation contributed to improvements in organizational functioning. However, it also raises questions. A question that can be addressed by follow-up research is whether the early-uptake subset, who exhibited high levels of organizational functioning at pretest but did not demonstrate change at posttest, will exhibit any additional improvements. The more challenging question is whether the early-uptake subset exhibited change upon first exposure to TBRI prior to pretest assessments. For research purposes, it would be ideal if all organizations presented with no exposure to the intervention at project launch. In practice, this has been untenable. Often, individuals exposed to TBRI choose to begin learning more about the intervention, sharing with colleagues, and incorporating it into their daily practice without waiting for an artificial implementation start date. In addition, some early exposure to the intervention is necessary, as it builds interest and creates buy-in among staff. Unfortunately, it contributes to a research design challenge, such that at the first data collection opportunity, there is the possibility that prior exposure to the intervention has already had an effect.

Lessons from the field

Admittedly, the implementation of practice models in child welfare can be an overwhelming prospect. In a thoughtful and detailed guide, McCarthy (2012) implores implementers to write about their process and share it with others. While constructing this manuscript, the authors were challenged to reflect critically on what was done well, what was challenging, and what implications we can draw for policy and practice. These lessons are shared in the hopes of facilitating future implementation efforts.

Build relationships with leadership

The importance of leadership in fostering a successful implementation is well-established (e.g., Sanclimenti, Caceda-Castro, & DeSantis, 2017). As

expected, organizations whose leadership supported implementation made more progress than organizations whose leadership did not show the same enthusiasm. For example, at a large and well-established organization with stable leadership and established procedures for assessing and treating trauma, strong leadership paved the way for implementation, demonstrated in clear implementation goals and the commitment of a large number of staff to training. In contrast, a small agency in the midst of organizational transition had no specific procedures for assessing or responding to trauma, nor had there been any movement to make policies and procedures trauma-informed over the past years. The new leadership, put into place just weeks before TBRI implementation was to begin, had limited buy-in for a program initiated by their predecessor.

Three partner organizations underwent changes in leadership within the first year of implementation. Although this is disruptive, it can also be anticipated. One recommendation for policy and practice would be to shape a preemptive plan-of-action for addressing leadership changes. This might encompass prioritizing conversations with new leadership and extending invitations to leaders for the next available TBRI trainings. For example, hosting monthly trainings ensures that new stakeholders have exposure to the model without delay. In addition, our own experiences and those shared by others (e.g., Akin, Strolin-Goltzman, & Collins-Camargo, 2017) serve as a reminder that leadership change is highly likely to slow momentum on a project, at least temporarily. Surprisingly, however, in one agency that demonstrated low leadership buy-in that impacted large-scale implementation progress, staff reported utilizing TBRI within their daily practice despite lack of administrative support. As will be discussed below, the importance of staff who will champion the intervention amid resistance cannot be overstated.

Establish a project director

Beyond leadership, a number of key roles became apparent in this project. The implementation effort benefited from a dedicated Project Director who was uniquely positioned within the collaborative as a local service provider with a deep understanding of the community and its needs, well-versed in TBRI, and with a long-standing relationship with the institute housing the intervention. The Project Director performed a number of important functions in the development and sustainment of the implementation, from securing funding and recruiting organizations, to hosting trainings and supervising mentors. Just as vitally, the director had the trust of both the research and training institute and the local agencies. In the continued effort to bridge research and practice, the director's proficiency as a local service provider with previous experience in implementation made her an invaluable resource to the research and training institute. In addition, the director noted that her connection to the university-affiliated institute added to her

credibility while building relationships with organizations that would eventually form the collaborative.

Identify and champion agents of change

Practitioners often report that TBRI tends to 'catch fire' within an organization or community when one practitioner or unit demonstrates success with TBRI and colleagues and/or administrators take notice. The 'bottom-up' spread of TBRI requires the investment of individuals who believe in the intervention, have positive results to share, and are willing to persuade resistant colleagues. McCarthy (2012) suggests that these agents of change be given a formal role within the implementation, authorizing the time, responsibility, and authority needed to impact agency-wide practice. Change agents are a valuable resource for implementation (Sanclimenti et al., 2017). In the current project, change agents were identified primarily by the Project Director after initial training sessions and conversations with agency leadership. The literature points to a particular niche that can be filled by middle managers or supervisors who can impact buy-in (McCrae, Scannapieco, Leake, Potter, & Menefee, 2014), but also cautions against assuming supervisors should be accountable for implementation of a new practice model within their agencies (Frey et al., 2012). Although many change agents are indeed in a supervisory role within their agency, our experience has been that not all supervisors will be change agents, nor do all change agents come from supervisory roles. TBRI Practitioner Training, which consists of an intensive week designed to prepare individuals to train and advocate for TBRI within their organization, also serves to identify, empower, and equip those individuals who are positioned to bring change to their organizations.

Utilize mentors

A key role that we continue to develop is that of the TBRI mentor. Research in implementation science suggests that mentorship is an infrequently used but promising strategy that warrants further attention (Darnell et al., 2017). Although there is little research on the role of mentors in child welfare implementation specifically, a recent study documenting the experiences of recently hired frontline child welfare workers revealed that, although workers acknowledged the benefits of supportive workplace relationships, many failed to take advantage of this support (Radey, Schelbe, & Spinelli, 2018). Mentors who are trained in the intervention model and who have real-world experience implementing TBRI within their own organizations are valuable resources both for the implementing agencies and implementation host. For the agencies, they provide a knowledgeable point-of-contact and accountability. Beyond the regularly-scheduled site visits and phone call 'check-ins,' agency staff contacted their assigned mentor to troubleshoot difficult cases or ask for guidance. For the university implementation team, mentors can provide assurance that agencies are implementing the intervention principles and practices with fidelity while

allowing the research and training team to continue working within institutional capacity, given that ongoing expert consultation and coaching is thought to be an important strategy in the adoption, fidelity, and sustainability of implementation (Nadeem et al., 2013). For example, in the case of the large, well-established organization described above, leadership indicated that they were invested in the project and ready to build capacity. However, on the first site visit, the mentor noted a "heaviness" within the organization stemming from "long hours and the demands that negatively impact [the staff's] physical and mental health." The mentor identified staff self-care and administrative support for the workforce as priority, with the goal of modeling TBRI within the workforce: providing snacks and mindfulness activities for the staff, ending quotas, and reducing the number of meetings. Thus, a mentorship model was useful for assuring that the client's needs were met, a core value of TBRI.

Although the mentorship model provided the ongoing consultation and support important to sustaining implementation, this model was not ideal for data collection. Mentors were chosen for their expertise in their field, but were inconsistent in note-taking, interviewing, or filling out surveys, contributing to a lack of data from the mentor's perspective. As service providers, their focus (rightly) is on their clients. In order to make better use of the mentors' skillsets, show respect for their time, and improve the data collection procedures, we continue to amend this process. In a more recent implementation project, evaluators have separated two key roles. Mentors with experience in the field and expertise in the intervention model provide support and coaching through site visits and regular phone calls, but the university research team conducts monthly phone 'check-ins' that closely follow a structured set of questions. The client understands that the primary goal of these phone calls is data collection but that the client can reach out to the mentor at any time for coaching and support.

Offer recurring training opportunities

Addressing process factors, such as training and coaching, is imperative to any successful implementation. This is especially salient in child welfare, where implementation typically centers on developing a skilled workforce (Akin et al., 2016). Although TBRI overview trainings typically are offered toward the beginning of an implementation project with the expectation that most or all staff will participate, in this case, the Project Director decided to repeat one-day overview trainings throughout the first year. Recurring overview trainings, which continued to be well-attended throughout the year, met multiple needs. First, recurring trainings anticipate the high attrition rates common in the child welfare system and streamline the process of training new employees. Second, recurring trainings meet the needs of an overburdened workforce by offering multiple opportunities to reach their training goals. In addition, regularly-held trainings address the time lag between project initiation and installation that can

plague implementations and stall momentum (e.g., Akin et al., 2017). Finally, overview trainings provide a thorough introduction to TBRI for community and agency leaders outside of the collaborative who have shown interest in the project. Admittedly, hosting recurring trainings requires time, space, training materials, and availability of trainers and is not feasible in all projects. However, the Project Director maintains that regularly-held introductory trainings continue to be an efficient use of time, as she fields many requests for meetings from potential collaborators and can invite interested parties to scheduled overview trainings rather than arranging individual meetings and phone calls to introduce TBRI. Additionally, recurring trainings are made possible by the regular availability of a meeting space, which the Project Director, as a local service provider, has access to, as well as training materials, of which there are few. As this project, now in its second year, continues to grow, trainings continue to reach capacity. The next step, now underway, is to reduce university involvement and turn trainings over to the organizations and/or community.

Limitations and future research

Consideration must be given to the limitations of the current study. First, the project utilized a one-group pre-post study design. Although this design can demonstrate change from pre-project to post-project, the lack of a comparison group with random assignment limits the conclusions that can be drawn regarding the effectiveness of the implementation. As three of the agencies began this project with prior exposure to TBRI, it would be especially valuable to utilize a comparison group that controls for exposure. Second, this project took place in one metropolitan area within the U.S. Although a pilot project of a manageable size is an important first step in creating large scale implementation efforts, the small sample limits the conclusions that can be drawn from the data. It is also possible that the findings from this sample do not generalize to other child welfare systems. Finally, analyses were constrained by unavailable data. Ideally, all study participants would participate in data collection at both time points. In reality, the turnover common in the child welfare system and the closure of two of the agencies created challenges for data collection and analyses. The combination of workforce turnover, study attrition, and missing data limits the conclusions that can be drawn from this study.

At the end of the first year, agencies in the collaborative still required significant resources from the university institute. As relationships grow and the principles and practices of TBRI are further disseminated, it becomes necessary to consider what these relationships look like long-term. In the case of the current project, the Project Director applied for and was granted continuing private funding (original funding was for one year) to maintain the project, and both the director and the university institute are committed to continuing the collaboration. We are cognizant of the challenges of long-

term sustainment that continue to trouble communities introducing innovations into complex systems (Ghate, 2016). Research suggests that intensive support such as ongoing training, coaching, and consultation are essential to long-term systems change (Fixsen et al., 2009). Ideally, organizations can begin to carry more of the weight, conducting trainings in-house and taking an active role in building and sustaining a trauma-informed community. With the program now in its second year, the Project Director has continued to expand the number of organizations while continuing to provide training and support to the original collaborative members. Anecdotally, we have observed that as TBRI permeates an organization, change agents from that organization often provide formal or informal support to new organizations looking to make a change. Thus, although the Project Director and university implementation team will certainly reach capacity if the collaborative continues to grow, the opportunity is present to incorporate additional TBRI mentors, practitioners, and leadership support from more senior collaborative members. Future research should examine the extended lifespan of such a collaborative.

A collaborative, as opposed to a collection of agencies in close proximity, implies that the agencies develop relationships with one another, not just relationships with the research and implementation team. In theory, collaboratives share resources and support and strengthen the community through a shared culture of trauma-informed care. In practice, however, collaboratives can be thwarted by turf issues (Akin et al., 2017), competition for funding, resources, or recognition (Bunger et al., 2014), and/or lack of communication (Spath, Werrbach, & Pine, 2008). Future research should examine the workings of collaboratives on a network level in order to create more robust trauma-informed systems.

Conclusions

Real world implementations, especially those taking place in complex systems such as child welfare, will never be tidy. Staff turnover, leadership changes, and agency shut downs all hindered implementation in the current project. Some of these conditions, including high turnover, are consistent enough within child welfare that they should be anticipated and planned for within the implementation. Other challenges, such as the shutdown of two of the nine organizations with which the implementers set out to build a long-term partnership, were an unfortunate surprise to both the implementers and the agencies. Implementers cannot anticipate every challenge, but can construct implementation policies and practices that recognize and respond to changing conditions and needs.

In many ways, the principles and practices of TBRI implementation mirror the principles and practices of the intervention itself. If the core objective of the intervention model is to help adults *see the need, meet the*

need of vulnerable children and youth, then the core objective of the implementation model is to *see the need, meet the need* of the workforce, organizations, and communities supporting vulnerable children and youth. This requires both an intervention model and an implementation model that are fundamentally relational and trust-based. When a TBRI mentor arrived at an agency for a scheduled site visit shortly after staff found out their organization was shutting down, plans to update the implementation plan were abandoned in favor of providing support to staff. No data were collected that day, but the mentor saw the needs of the staff and responded in the spirit of TBRI. In an interesting development, many of the workers displaced by agency closures were quickly hired by other agencies within the collaborative. These agencies saw value in hiring new employees who were already TBRI-trained and open to a culture of trauma-informed care. Creating such trauma-informed cultures of care requires extensive effort. For child welfare systems committed to meeting the needs of vulnerable children and youth, the investment is worthwhile.

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Notes on contributors

Rachel D. Crawley, PhD, LPC is a research scientist at the Karyn Purvis Institute of Child Development at Texas Christian University in Fort Worth, TX.

Erin Becker Rázuri, PhD is a research scientist at the Karyn Purvis Institute of Child Development at Texas Christian University in Fort Worth, TX.

Cindy Lee, LCSW, LADC is the Executive Director and co-founder of the HALO Project, a nonprofit that unites foster and adoptive parents with child welfare and mental health professionals to bring healing to children who have experienced trauma.

Sarah Mercado is a Training Specialist with the Karyn Purvis Institute of Child Development at Texas Christian University in Fort Worth, TX.

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