Psychological Trauma: Theory, Research, Practice, and Policy

The Implementation and Effect of Trauma-Informed Care Within Residential Youth Services in Rural Canada: A Mixed Methods Case Study

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Objective: The prevalence and associated risks of trauma have led youth-serving institutions to adopt trauma-informed care (TIC). A limited research base has linked TIC with improved outcomes. Associations between TIC and vicarious traumatization (VT) are even less commonly studied. The purpose of this case study is to evaluate the implementation and effect of TIC within 1 residential youth services division in rural Canada using the curriculum-based Risking Connection (RC; Saakvitne et al., 2001) and Restorative Approach (RA; Wilcox, 2012) trauma training programs, with a focus on VT. ***Method:*** We used an explanatory sequential mixed methods design and a participatory action research approach to evaluate the implementation and effect of RC and RA. Study 1, the quantitative program evaluation, used a prepost design to evaluate the effect of RC and RA on staff. Study 2, the qualitative study, used participant observations and interviews to develop a deeper understanding the quantitative findings. ***Results:*** This study replicated previous findings that RC improves attitudes favorable to TIC but found that staff experience of VT increased after TIC training. Qualitative findings suggested that the division was successfully implementing TIC and that increased awareness and discussion of VT were potentially responsible for increases in VT scores. ***Conclusions:*** This case study documents improvements in staff attitudes favorable to TIC post-RC and RA and presents an in-depth analysis of TIC implementation. The study also highlights the complicated relationship between TIC implementation and staff experience of VT. Finally, this study provides a blueprint for conducting program evaluations of TIC.

Keywords: trauma-informed care, Risking Connection, vicarious traumatization, mixed methods, program evaluation

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Adverse childhood experiences have been called a public health epidemic because of their high prevalence rates and lifelong negative health impact (Felitti et al., 1998). Vulnerable populations, such as youth in residential treatment and members of indigenous communities, are at even greater risk of experiencing trauma (Lipschitz, Winegar, Hartnick, Foote, & Southwick, 1999; Sochting, Corrado, Cohen,

Ley, & Brasfield, 2007). Trauma-informed care (TIC) describes a whole-system approach to service delivery that integrates an understanding of the pervasive impact of trauma and strives to ameliorate rather than exacerbate its effects (Harris & Fallot, 2001; Substance Abuse and Mental Health Services Administration [SAMHSA], 2014). The burgeoning TIC movement grew out of the reality that settings serving trauma survivors have failed to integrate the research on trauma and its effects into their approaches, policies, and practices (e.g., Sprague, 2008). Attention has increasingly focused on this issue over the last decade, driving the call to adopt TIC across service systems (Ko et al., 2008).

Though some disagreement about what constitutes the key elements of TIC exists (Hanson & Lang, 2016), most agree that systems adopt TIC via multiple, intersecting pathways including workforce development; organizational development; leadership development; adoption of TIC policies, procedures, and protocols; restraint and seclusion reduction; use of trauma screening; and implementation of trauma-focused interventions (Azeem, Aujla, Rammerth, Binsfeld, & Jones, 2011; Bloom & Farragher, 2013; Brown, Baker, & Wilcox, 2012; Harris & Fallot, 2001; Ko et al., 2008; SAMHSA, 2014). The extent to which a system is trauma-informed depends a great deal on the moment-to-moment, day-to-day behavior of its personnel. Thus,

in youth-serving settings, foundational trauma training for staff focuses on the prevalence of trauma; its impact on development; behaviors as adaptations to trauma; relationships as a primary agent of change; an ecological, strengths-focused perspective; and the creation of safe environments that promote control, choice, empowerment, and collaboration (Harris & Fallot, 2001; SAMHSA, 2014). TIC whole system change relies in large part on changing the attitudes and behavior of the staff, with the ultimate goal being improved client health outcomes.

An equally important, though less commonly emphasized, goal of TIC professional training is to improve staff well-being by reducing vicarious traumatization (VT; Hanson & Lang, 2016; SAMHSA, 2014). VT, defined as the negative changes in the helper that result from empathically engaging with and feeling, or being, responsible for traumatized clients (Figley, 1995; Ludick & Figley, 2017; Saakvitne et al., 2001), has been linked to increased psychological distress and decreased well-being (Adams, Boscarino, & Figley, 2006; Butler, Maguin, & Carello, 2017). VT is common among helpers; over 70% of social workers reported experiencing at least one secondary traumatic stress symptom, and 15% met the core criteria for a diagnosis of posttraumatic stress disorder (PTSD; Bride, 2007). The high rate and negative impact of VT presents a notable challenge to maintaining a healthy and productive workforce in social services.

Though TIC is being widely adopted, the research supporting its efficacy and effectiveness is in its infancy. Uncontrolled studies have shown that TIC implementation can build knowledge, change attitudes, and develop practices favorable to TIC (Azeem et al., 2011; Brown et al., 2012; Lang, Campbell, Shanley, Crusto, & Connell, 2016). Clients in care systems using TIC have been shown to have reduced time to discharge, improved rate of discharge to a lower level of care, and improved mental health and substance abuse outcomes (Greenwald et al., 2012; Hodgdon, Kinniburgh, Gabowitz, Blaustein, & Spinazzola, 2013; Morrissey et al., 2005). In the only controlled study conducted on youth, implementation of the Sanctuary Model improved residential treatment environments such that they had more support, autonomy, spontaneity, personal problem orientation, and safety. In this trial, TIC was also associated with greater youth gains in coping skills and sense of control over their lives (Rivard, Bloom, McCorkle, & Abramovitz, 2005). Though addressing VT is a central tenet of TIC, the link between TIC implementation and VT reduction has yet to be studied. Research on VT suggests that increased support from coworkers and supervisors, quality clinical supervision, a shared power structure within the organization, and the use of evidence-based practices, all of which are present in TIC, are associated with less VT (Craig & Sprang, 2010; Hensel, Ruiz, Finney, & Dewa, 2015; Slattery & Goodman, 2009). Though this emerging literature is promising, high-quality research is sorely needed that demonstrates the effectiveness of TIC and also elucidates the processes by which successful TIC implementation, including VT reduction, occurs.

Using a Whole System Change Process to Implement TIC

The purpose of the present mixed methods case study is to evaluate the implementation and effect of TIC using the curriculum-based Risking Connection (RC; Brown et al., 2012;

Saakvitne et al., 2001) and Restorative Approach (RA; Wilcox, 2012) trauma training programs within one residential youth services division. RC is one of several models used as a pathway toward TIC culture change (others include, e.g., the Sanctuary Model and the Attachment, Regulation, and Competency [ARC] framework). Similar to other models, RC includes (a) leadership consultation, (b) foundational trauma trainings, and (c) guidance about embedding TIC in the system. The process typically begins with leadership consultation, which includes multiple meetings and results in a plan to shift the policies, procedures, and practices of the organization toward TIC. Leadership consultation continues as the organization schedules RC Basic training for all staff across the organizational hierarchy, including direct treatment providers and nontreatment staff. RC Basic is a 16–18 hr foundational trauma training that provides a "trauma framework" for understanding the extreme symptoms and behaviors of trauma survivors, stresses the adaptive function of these symptoms and behaviors, and represents a paradigm shift away from traditional behavior modification or medical models historically utilized in treatment. The primary goals of the RC foundational trauma training are to increase awareness about the prevalence and impact of trauma and to shift helper perspectives to be more trauma-informed.

RA (Wilcox, 2012) is a trauma-informed approach to treatment and behavior management for congregate care settings based on restorative justice principles, often used in combination with RC. It emphasizes clients doing learning tasks and restorative tasks (e.g., making things right with the harmed party) rather than receiving punitive consequences. RA is a 7-hr supplemental training to RC. The primary goal of RA is to provide helpers with tools that they can use in their work with clients. Both RC and RA place special emphasis on helper well-being and managing vicarious traumatization.

Finally, RC uses a train-the-trainer (TTT) method of dissemination whereby organizations gain the internal capacity to conduct ongoing formal RC trainings using their own credentialed trainers. In addition, the TTT model trains mentors across the organizational hierarchy, who model the approach "on the floor," sustaining and further embedding RC and RA into the work environment (Brown et al., 2012). The TTT training is an additional 16–18 hr and is focused on imparting the content and skills necessary to formally and informally teach RC within an organization.

Context of Implementation: Residential Youth Treatment Facilities in Rural Canada

The context of this case study is the government-run division responsible for all residential youth services in a largely rural province/territory of Canada. The division serves youth across the age span who are temporarily or permanently removed from their homes because of abuse in the home or because of their own problem behavior. Length of stay tends to be months rather than days, with some youth staying in care for multiple years because of the lack of family and community resources. The division opted to use the RC and RA models to adopt TIC for several reasons, including their focus on frontline treatment providers, system-wide approach to implementation, philosophical match with First Nation values, and emphasis on VT. When the division adopted RC and RA, division staff had received several one-time trainings about

trauma and attachment and had a division culture already friendly toward TIC principles.

A significant portion of the youth in residential care within this division are First Nation/Aboriginal and were raised in families and communities devastated by the abuses of Canada's residential schools. From the late 1800s to 1969, the government of Canada aligned with churches to "civilize and Christianize" First Nation people by forcibly placing them in residential and day schools, where they suffered systematic and repeated trauma at the hands of school personnel (Sochting et al., 2007). Disbanded in 1969, the legacy of the individual and community trauma of the residential schools remains (Haskell & Randall, 2009). Youth served by this division are frequently the children of residential school survivors, and First Nation families are distrustful of government-run mental health and residential treatment services.

The Current Study

This research is a two-part mixed methods case study of the implementation and effect of TIC in a residential youth services division located in rural Canada. The quantitative program evaluation data presented in this article were gathered as part of the original RC and RA implementation contract with the division. The original quantitative study aims were to (a) replicate previous findings that RC and RA improve beliefs favorable to TIC, and (b) evaluate the hypothesis that TIC reduces staff experience of VT. After 3 years of continuous RC and RA implementation, there was substantial anecdotal evidence that RC and RA were feasible, socially valid, and effective. However, the program evaluation data suggested mixed results, leading the division to enter into a research partnership to conduct a qualitative study to understand the findings. The qualitative study used an explanatory sequential mixed methods design as well as a participatory action research approach, in which stakeholders were central to developing the research question and designing the study (Palinkas et al., 2011; Wallerstein & Duran, 2006; see Table A1 in the supplemental material for details). The qualitative study aim was to develop a deeper understanding of TIC implementation and its effects with a specific focus on understanding the mixed program evaluation findings related to VT.

General Method

Mixed methods research designs, especially those that utilize participatory action approaches, have powerful implications for program development, implementation, and evaluation (Nastasi & Hitchcock, 2015). The use of quantitative data alone and an etic approach to understanding TIC implementation would not have provided the important insights into the emic perspective of stakeholders, thus overlooking factors critical to understanding both the process of implementation and the effect of RC and RA. Moreover, mixed methods research and participatory action research are thought to better represent the voices of marginalized individuals and ground the research endeavor in the lives of those for whom the research is designed to serve (Mertens, 2007; Nastasi & Hitchcock, 2015; Wallerstein & Duran, 2006).

This mixed methods study utilized a longitudinal sequential process, in which the quantitative analysis of program evaluation data was conducted first, followed by the qualitative analysis (i.e.,

QUAN → qual; Palinkas et al., 2011). Our mixed methods design was explanatory, in that the results of the qualitative analysis were used to explain the findings from the quantitative analysis.

Study 1: Quantitative Program Evaluation Method

Procedure

The primary objectives of the quantitative study were to understand the effect of RC and RA on staff attitudes about TIC and staff experience of VT. To evaluate these aims, we used a prepost study design appropriate for program evaluation (Fitzpatrick, Sanders, & Worthen, 2010). Staff consented to participate in the program evaluation and were administered a measure packet immediately before and immediately after the 3-day RC Basic training. Data were collected anonymously, and longitudinal data were matched using a participant-generated code. Six RC Basic trainings occurred, the first conducted by RC trainers and the remaining conducted by TTTs; trainings were delivered across 2 years until all staff had been trained. Overall, 33% of staff were trained by RC faculty and the remaining 67% were trained by TTTs within the division. The packet was also completed at a third time-point 5.5 months after the RC Basic training by a small subset of the original group of participants ($n = 23$) who elected to participate in the TTT training to become a TTT or a Mentor.

Participants

Participants were staff who worked in residential treatment facilities, outpatient treatment services, and related fields, who served children and youth, and who participated in RC and RA training ($n = 116$). They were mostly female (68%) and ranged in age from 21–66 years old ($M = 38$, $SD = 11$). Staff had worked in their current positions an average of 6 years ($SD = 5$) and had worked in mental health or related fields for an average of 11 years ($SD = 8$). Half of the participants were direct care staff (i.e., caseworkers, residential care workers), with smaller numbers identifying as other staff (i.e., therapists [10%], nurses [5%], teachers [5%], supervisors [3%], and administrators [3%]). Almost a quarter of participants (23%) identified their job type as "other." Unfortunately, the survey did not ask participants to specify their job role in this case; many of these individuals were likely support staff, which was excluded from the survey, or fell into more than one job role category.

Measures

Attitudes favorable to TIC. Staff completed the Trauma-Informed Care Belief Measure (Brown et al., 2012), a 19-item measure of beliefs favorable to TIC, at pretest, posttest, and follow-up. Items are rated on a 5-point Likert scale and an average score was created. Internal consistency ranged from .79–.85 in previous evaluations, and validity data indicate that the Trauma-Informed Care Belief Measure detects improvement in staff attitudes after trauma training (Brown et al., 2012). Internal consistency for this sample was good with the exception of the small follow-up subsample ($\alpha_{pre} = .84$, $\alpha_{post} = .88$, $\alpha_{fu} = .59$).

Vicarious traumatization. The Professional Quality of Life Scale (ProQOL; Stamm, 2009) evaluates secondary trauma and is

frequently used to measure VT. Specifically, this 30-item measure evaluates the positive construct of compassion satisfaction (i.e., the pleasure derived from being able to do one's work well) and the negative constructs of burnout (i.e., feelings of hopelessness and difficulties dealing with work) and secondary traumatic stress (i.e., negative effects such as sleep difficulties and intrusive images experienced when working with clients who have trauma histories). The ProQOL was administered at pretest, posttest, and follow-up. Items are rated on a 5-point Likert scale, and sums were calculated per the ProQOL scoring manual. The final two RC Basic training groups did not complete the ProQOL at posttest because of administrative error; thus, the posttest sample size for this measure is $n = 82$. High scores on the compassion satisfaction and low scores on the burnout and secondary traumatic stress subscales are favorable. The ProQOL is widely used and is associated with strong internal reliability and construct validity (Stamm, 2009). Internal consistency in this sample ranged from acceptable to excellent across time-points (αs = .71–90).

Analyses

Missing cells (0.3%) for participants who completed a measure for that phase were imputed using the simple mean method; when the measure was completely missing, pairwise deletion was used. Separate analyses were run for each of the four outcomes. First, pretest to posttest score comparisons were made using paired samples t tests with the full sample ($N = 116$). Repeated measures analyses of variance (ANOVAs) were also conducted for each outcome to evaluate change over the three time-points within the smaller subsample of TTTs and Mentors ($n = 23$). When indicated, within subjects simple contrasts were evaluated comparing pretest to posttest and pretest to follow-up. Findings were considered statistically significant using an α level of 0.05. To aid interpretation of findings, standardized effect sizes were calculated (i.e., pretest-to-posttest/follow-up difference divided by the SD).

Results

Attitudes about TIC. As hypothesized, RC and RA training statistically significantly improved staff beliefs favorable to TIC from pretest to posttest, $t(114) = 10.11$, $p < .001$, $d = 1.02$. For the smaller subsample of TTTs and Mentors who participated in three waves of data collection, a repeated measures ANOVA confirmed that staff attitudes favorable to TIC statistically significantly changed over time, $F(2, 42) = 19.02$, $p < .001$, improving from pretest to posttest and maintaining at follow-up, $F(1, 21) = 20.33$, $p < .001$, $d = .94$, and $F(1, 21) = 26.07$, $p < .001$, $d = 1.02$ (see Table A2 and Figure A1 in the supplemental material).

Vicarious traumatization. Contrary to hypotheses, though the direction of the effect was as expected, compassion satisfaction showed no significant change from pretest to posttest, $t(81) = 1.61$, $p = .11$, $d = .13$, nor across the three time-points within the smaller subsample of TTTs and Mentors, $F(2, 44) = .15$, $p = .86$, $d_{prepost} = .07$, $d_{prefu} = .07$. Also contrary to hypotheses, burnout scores moved in an unfavorable direction from pretest to posttest, $t(81) = 3.47$, $p = .001$, $d = .69$. A repeated measures ANOVA failed to confirm this finding with the smaller subsample of TTTs and Mentors, $F(2, 44) = .24$, $p = .79$, $d_{prepost} = .22$, $d_{prefu} = .18$. Finally, secondary traumatic stress scores also moved in an unfa-

vorable direction from pretest to posttest, $t(81) = 5.58$, $p < .001$, $d = .50$. The repeated measures ANOVA confirmed that secondary traumatic stress increased over the three time-points for TTTs and Mentors, $F(2, 44) = 3.58$, $p = .04$. Scores became less favorable from pretest to posttest and were maintained at follow-up, $F(1, 22) = 5.49$, $p = .03$, $d = .55$, and $F(1, 22) = 4.93$, $p = .04$, $d = .56$ (see Table A2 and Figure A1 in the supplemental material).

Post hoc analyses. Given the counterintuitive program evaluation findings related to staff experience of VT, several post hoc analyses were conducted to inform the interview guide and support the development of hypotheses for the qualitative study. First, given previous research that those professionals with more client contact were likely to evidence greater secondary traumatic stress (Hensel et al., 2015), we analyzed pretest differences by job role. Findings indicated that direct care staff had significantly less favorable attitudes toward TIC than other trainees at pretest, $t(87) = 2.15$, $p = .03$, $d = .48$. However, no pretest differences were apparent for compassion satisfaction, $t(87) = -.53$, $p = .60$, $d = .12$, burnout, $t(87) = 1.09$, $p = .28$, $d = .24$, or secondary traumatic stress, $t(87) = 1.63$, $p = .12$, $d = .35$ (see Table A2 in the supplemental material). Second, we inspected whether staff who were trained later during the process of TIC implementation were likely to start out with less favorable scores. This was indeed the case for attitudes about TIC, $F(5, 115) = 30.17$, $p < .001$, $\eta^2 = .58$, burnout, $F(5, 115) = 34.94$, $p < .001$, $\eta^2 = .04$, and secondary traumatic stress, $F(5, 115) = 2.85$, $p = .02$, $\eta^2 = .61$, but not compassion satisfaction, $F(5, 115) = 1.03$, $p = .41$, $\eta^2 = .11$.

Study 2: Qualitative Study

Study Design

The primary objective of the qualitative study was to develop a deeper understanding of the implementation and effect of TIC with a specific focus on understanding the mixed program evaluation findings related to VT. Our study team included the six coauthors on this article as well as one interviewer and one community partner within the division. We are master's and doctoral level individuals and doctoral students with expertise in trauma, TIC implementation, mental health, youth residential treatment, study design, and mixed methods research. For reasons unrelated to this study, our community partner stepped back from the direct administration of the study after the protocol was completed but before data collection began and opted to no longer maintain a coauthor role. Details about partner roles utilized to achieve study goals, objectives, and outcomes are available in Table A1 in the supplemental material. When the qualitative study was initiated, institutional review board approval was obtained.

Procedure, Participants, and Measures

The qualitative study included two data collection techniques to enhance triangulation of findings (Tashakkori & Teddlie, 2010). The numbers of sites and individuals recruited balanced the goals of obtaining a representative sample while maintaining study feasibility. First, 8 hr of *participant observations* across four sites within the division were conducted with the goal of creating a

de-identified record of the verbal and nonverbal behaviors of individuals and observable aspects of the environment. Sites were chosen to be representative of those serving boys versus girls and those equipped for shorter-term transitional placements versus longer-term residential care. No sites selected for observation declined to participate. Second, 10 in-depth *participant interviews* were conducted with division staff. A list of all staff who had completed training was acquired from our community partner. Individuals from the list were invited to participate by email until five direct care staff (i.e., caseworkers, residential care workers) and five other staff (i.e., supervisors, therapists) were recruited (10 agreed to participate; 28 did not respond, were on leave, or declined). In general, participants were between early 30s and late 40s in terms of age, identified as White, and possessed either bachelors or master's degrees. On average, participants had held their current job role for a little over 6 years, had worked for the division for almost 10 years, and had lived in the area for about 17 years. An interview guide that targeted our follow-up questions related to the quantitative findings was designed in consultation with both our community partner and our consultant, Dr. Beth Hudnall-Stamm (Stamm, 2009). After consenting and being oriented to the interview process, participants completed the interview via Skype. Interviews took an average of 73 min ($SD = 10$). All interviews were digitally recorded, transcribed, and checked for accuracy.

Analyses

In line with descriptive coding methodology (Tashakkori & Teddlie, 2010), all data were first reviewed to develop a broad understanding of the content, keeping the study aims in mind. Second, all data were coded within QSR International's NVivo 10 (2012) software using a priori coding derived from the study aims and interview guide. Though the primary focus of this article is the a priori codes, all text segments were reviewed a third time and assigned a posteriori codes if indicated. Through this somewhat iterative process, any assigned codes that required modification were corrected. All data were double coded, and the coding team resolved disagreements through discussion to reach consensus of at least 90% on coding. Analysis focused on the final list of two overarching a priori codes and one a posteriori code. Quality markers of qualitative research (e.g., reflexivity, rigor, transparency, credibility, trustworthiness, and auditing) were attended to over the course of this study. The interview guide, consent form, and documents relevant to the audit trail are available upon request.

Findings and Mixed Method Integration

The program evaluation findings suggested that TIC training led to an improvement in staff attitudes favorable to TIC, but that staff experience of VT increased after training. Analyzing the participant observations and in-depth interviews resulted in two central a priori codes: evidence of successful TIC implementation and staff experience of VT. Each central code included several subcodes. The VT subcodes focus in large part on our hypotheses about why staff report of VT increased after training and for later cohorts of trainees. A priori codes were also examined separately for supervisors/therapists, who were considered to have less day-to-day,

on-the-ground contact with youth, and caseworkers/residential care workers, who were considered to have more (Hensel et al., 2015). In addition, one a posteriori code became apparent with coding and was also analyzed: "parallel processes in TIC implementation."

Evidence of successful TIC implementation. Generally, the qualitative findings highlighted evidence that the division had fully and successfully adopted the essential elements of TIC, confirming our quantitative finding that RC and RA improved staff attitudes favorable to TIC. For example, participants noted the universal adoption within their division of a relational and strengths-based approach to working with youth; a "huge shift" in the language used to describe youth, their behaviors, and their progress in conversations, meetings, and documentation; a move away from "trying to control the behavior" of youth and instead toward "healing" as the end goal of treatment; an engagement in cohesive, collaborative, and supportive teams; a feeling of support by supervisors; and an impression of ongoing buy-in and commitment to TIC from the broader administration (see Table 1 for mixed methods results and Table A3 in the supplemental materials for detailed qualitative findings). In addition, staff saw TIC as providing "a framework for . . . taking some of that theory and transcribing it into how to actually work on the floor with the youth" and allowing the team to focus on long-term outcomes; thus, paving the way for real, lasting, and important gains for youth. Coding revealed small between-role differences in how staff saw TIC as an active ingredient in client outcomes. Supervisors/therapists found the flexible and relational nature of RC as a framework for care to be most useful, while caseworkers/residential care workers found the on-the-ground, day-to-day use of RA as a guide for helper-client interactions and behavior management to be most helpful.

Finally, staff viewed organizational culture change because of TIC as a slow but steady process. This culture change was seen as being in line with the values and goals of the division, and also as being driven in large part by staff training and resultant changes in staff attitudes and behaviors. Caseworkers/residential care workers noted that they had some coworkers who "want things to stay the same and are really aversive to that change" because they felt that with TIC, "kids aren't being held accountable." They noted that it could be challenging to work on a team in which some staff have not bought into TIC. Staff identified general challenges to TIC implementation, noting that TIC is harder to implement in crisis situations. Coding revealed minor between-role differences related to day-to-day TIC implementation. Specifically, supervisors/therapists noted the importance of mastering the "constant dance . . . back and forth about providing structure, routine, predictability and being more flexible and understand[ing]." Related, staff also noted that a risk of implementing TIC is that staff can reactively "draw back more towards being stricter [and] more consequence-based because they had that kind of internal debate as to whether we have gone too far to the right . . . [focusing on] relationships and everything and . . . not providing any type of structure."

Vicarious traumatization. Qualitative findings focus on why staff-reported VT increased after training and for later cohorts of trainees primarily by evaluating four hypotheses our team developed after reviewing the unexpected program evaluation findings. First, the data provide support that higher posttest scores on VT may be because of increased awareness of the problem of VT

Table 1
Mixed Methods Results Demonstrating Explanatory Sequential Findings

Method	Quantitative	Qualitative
Question 1a	*Does TIC training improve participants' attitudes favorable to TIC?*	*Does TIC implementation lead to staff attitude change, improved client outcomes, and organizational culture change?*
Answer 1a	Yes. Participants' attitudes about TIC become more favorable from pre- to post-training.	Yes. Staff reported favorable attitudes about TIC, viewed TIC as the mechanism by which client outcomes improved, and consistently described aspects of organizational culture change inherent in adopting TIC.
Question 1b	*Were there differences by job role?*	*Were there differences by job role?*
Answer 1b	Yes. Direct care staff had less favorable attitudes about TIC at pretest than other staff.	No. Overall, staff agreed that TIC was being implemented successfully.
Question 2a	*Does TIC training improve participants' VT?*	*Does TIC implementation improve participants' VT?*
Answer 2a	No. Participants in TIC training actually reported more VT post-training rather than less.	Yes. TIC implementation is seen as helpful for understanding and addressing VT.
Question 2b	*Were there differences by job role?*	*Were there differences by job role?*
Answer 2b	No. Participants' scores on VT at pretest did not differ by job role.	Mixed. There was considerable agreement between job roles regarding most hypotheses about VT. However, caseworkers/residential care workers were less likely than supervisors/therapists to feel like VT supports existed and were accessible at work.

Note. TIC = trauma-informed care; VT = vicarious traumatization.

rather than an actual increase in VT in staff. Specifically, staff reported having an increased awareness of VT as a result of the training (see Tables 1 and A4). This included better understanding the symptoms and impact of VT; feeling competent to label VT in the context of their work; and not feeling "wimpy and not being able to handle the demands of [the] job."

Second, we found mixed support that participants felt an intense awareness of VT in the short term during the training but felt better in the long run. In general, staff agreed that the VT portion of the training was "impactful," "intensive," "raw and emotional," shocking to learn about, and "exhausting." Some staff found the VT portion of the training to be at first very intense and hard, particularly during the second day of the training but felt "empowered" and "really positive" by the end. Others reported feeling consistently hopeful and "energized" throughout the training. One caseworker/residential care worker postulated that the VT content affects individuals differently based on how much they had previously focused on developing their professional and personal self-awareness. Another posited that the "three very kind of busy and kind of overwhelming days" were too brief for staff to fully integrate the profound meaning personally and professionally of being aware of VT and to make the changes necessary to address this awareness. Therefore, it is possible that the VT measure was collected over too short a timeframe to detect real improvements in VT. Whether participants, in fact, felt better over the weeks and months after training was addressed in the following code.

Third, our findings suggest that the intense experience of learning about VT during training feels better for some over the long term, while for others, it is not addressed effectively posttraining. It also appears that the increased discussion, both positive and negative, about VT across the division was one reason why later cohorts of trainees endorsed more VT. Specifically, staff agreed that VT could be better integrated into discussions during team meetings or other contexts outside of the original trauma training. Staff also noted that they had trouble getting support around VT at work, not because the system was uninterested, but rather because the resources were limited, were sometimes ineffective, and required staff to address VT during their own time. Coding revealed

several between-role differences. Supervisors/therapists reported that there was a systematized response for addressing VT when incidents occurred and that self-care was built into the system. One supervisor noted "When my staff expressed their strong feelings and I saw the vulnerability in them, it made me feel like I blew it. Like I didn't see the need for them to process on a deeper level and that I hadn't ever introduced this to them prior to the training . . . I had felt like I had failed them in some ways. I felt that I should have understood that . . . I shouldn't have expected that they work through this on their own." In contrast, caseworkers/residential care workers reported that there were few options at work to deal with VT and that the options that did exist were limited by the nature of the job. For example, one noted that it is hard to talk to a supervisor who has an "open door policy" when there is no staffing support for a break. These staff also discussed VT as a common reason for turnover in the division, stating "people started realizing what needed to be provided to them in the workplace, and when that wasn't happening, then I think people started getting uncomfortable and looking elsewhere for jobs."

Fourth, our hypothesis was not supported that staff who identified as First Nation/Aboriginal and who were likely to have experienced the effects of intergenerational trauma resulting from Canada's residential schools may have had a unique reaction to the VT aspect of training because it echoed their personal trauma experiences. Although participants suggested that employees with personal trauma histories may be uniquely drawn to work in mental health and residential treatment facilities, they also noted that the program evaluation data were unlikely to be driven by the small number of First Nation/Aboriginal staff in the division.

Finally, staff provided several additional ideas about why the program evaluation data showed an increase in staff experience of VT for later cohorts of trainees. Specifically, they posited that it could be because of the unique characteristics of those staff (e.g., they were working many hours of overtime, they were older and had worked in the division longer, they were newer and were being overly affected by the stress of the job); the residential facility in which the staff worked (e.g., their house served a particularly challenging youth); or the supervisors (e.g., at least one supervisor

changed mid-TIC implementation and was perceived as more supportive of TIC). Caseworkers/residential care workers also noted that two system-wide stressors (e.g., adopting TIC, a larger wage/benefits issue affecting government employees more generally) could also have impacted VT scores.

Parallel process in the context of TIC implementation. Finally, we investigated one a posteriori code that was consistent with the central tenet of TIC that change must happen in a parallel way at multiple levels of the organization (i.e., parallel process; see Table A5 in the supplemental material). For example, although TIC is often focused on improving staff-to-client interactions, the success of TIC is directly related to improvement in staff-to-staff and supervisor-to-staff interactions. In this case study, staff noted several parallel processes occurring during TIC implementation, which they thought resulted in better care for clients. For example, floor staff noted improved relationships with one another, noting "at the beginning, where everyone is saying okay [my co-workers] aren't committed to the job or they are lazy or they seem to be avoiding these things, and [then] all the sudden we are talking about VT and maybe this is really hard for them and maybe this is something that they need help with . . . co-workers started to really provide support to each other." Supervisors approached floor staff with the attitude that they were "doing the best they can," allowed them more independence, recognized floor staff's expertise, gave them a "voice" during the treatment planning process, and approached supervision in a relational way. TIC techniques, including improved communication, were also noted to improve the relationships among group homes within the division, among departments within the larger care system, and between the families of youth in care and external service settings such as schools.

Discussion

The growing awareness of the pervasive nature and public health impact of adverse childhood experiences and trauma has spurred interest in trauma-informed service delivery across service sectors, with particular interest in those that serve marginalized populations such as youth in residential treatment and members of indigenous communities. However, the lack of high-quality research on the process and effectiveness of TIC is a roadblock to broader adoption.

Our primary aims in conducting this mixed methods case study were twofold. First, we implemented the curriculum-based RC and RA (Saakvitne et al., 2000; Wilcox, 2012) trauma training programs and evaluated the association between TIC implementation and two primary staff-level outcomes, attitudes favorable to TIC and staff experience of VT. Our findings bolstered the evidence base of TIC generally, and the RC and RA trauma training curriculum in particular, by demonstrating that RC and RA implementation is associated with improved staff attitudes favorable to TIC. This finding replicates previous data also gathered in a youth congregate care setting (Brown et al., 2012), and adds to the growing evidence base for RC and RA effectiveness across service sectors and with vulnerable populations (Green et al., 2015; Sochting et al., 2007).

However, this study also highlighted the critical need for additional empirical research on TIC implementation using theoretically grounded, well-established, and research-informed TIC models such as RC and RA. Specifically, just as our quantitative findings replicated the impact of TIC on staff self-reported atti-

tudes, they also alerted us to impacts of the training that were counterintuitive and potentially harmful. To our knowledge, ours is the first study to directly investigate the impact of organizational TIC implementation on VT, even though addressing VT through increased awareness and self-care is a central tenet of TIC. Although Roberts and colleagues' (Roberts et al., 2005) call for rigorous research on TIC is now over a decade old, little has changed. The field is still in desperate need of large-scale, fully powered empirical research using designs that support causal inference, use psychometrically valid instruments (e.g., Baker, Brown, Wilcox, Overstreet, & Arora, 2016), and triangulate client, staff, and organizational outcomes (e.g., Overstreet, Whalen, & Baker, 2016).

Our second aim was to conduct a qualitative investigation to develop a deeper understanding of the implementation and effects of TIC, with a specific focus on understanding why VT got worse, instead of better, after TIC training at this site. In our first set of qualitative findings on TIC implementation, we noted overlap with nearly every domain of SAMHSA's (2014) white paper synthesizing the extant literature on TIC and providing guidance for implementing TIC. For example, our data suggest that TIC implementation is a complex process that must span all levels of an organization and that requires years to fully occur. Time-limited TIC training for leaders, one-off professional development trainings for staff, and even adoption of trauma-focused interventions for clinicians are likely insufficient to promote true culture change toward TIC. Even organizations that make TIC implementation a priority can struggle to infuse TIC systemically and sustain this culture change over time, especially in the face of budgetary challenges, changing populations served, and staff turnover. Successful implementation also requires sustained commitment to TIC along with the dynamic implementation of TIC over time, as evidenced by the division highlighted in this case study. In addition, this study suggests tips for successful implementation of TIC. For example, it appears that floor staff may particularly value tools such as RA (Wilcox, 2012), which are not routinely integrated into foundational trauma training curricula. TIC implementation may also benefit from booster training sessions for staff, continued efforts to embed TIC concepts into the fabric of organizational life across the staff hierarchy, and persistent attention to the impact of VT.

Our second set of qualitative findings highlighted the complicated relationship between TIC implementation and staff experience of VT. When asked about the most impactful and important message of RC and RA, many participants, including those in this case study, point to the training segments on VT. Yet, the quantitative findings of this study registered the impact of the training on participants' VT as negative. Qualitative analyses helped us understand this "negative" finding. It is common for treatment providers to report that, before trauma training, they considered their experience of VT to be an individual problem that resulted from their own deficiencies (Figley, 1995). When helpers learn about the VT phenomenon, they realize that VT is inevitable and normal in relational work with trauma survivors. Viewed in this way, the "unfavorable" results our program evaluation data revealed could instead be viewed as "favorable." After training, it appears that staff may gain knowledge about, more willing to acknowledge, and get validation for an experience that is central to their profession as helpers, suggesting that perhaps staff have more tools to manage VT. Though this association between VT and trauma training has not been formally reported in the literature, it has been observed

(B. Hudnall-Stamm, personal communication, January 24, 2013). Given the prepost study design and small sample used in this study, future research should replicate this finding with other samples, use longitudinal data collection to explore the trajectory of VT during TIC implementation, and investigate whether and under what conditions VT scores do improve.

This study has the potential to guide future research and practice efforts related to TIC implementation while also providing a roadmap for organizations to complete mixed methods program evaluation projects related to TIC. However, the case study also suffered from several limitations: it focused on a single division, it lacked a control or comparison group, measures were collected over a relatively short timeframe for most of the participants, the only subgroup with follow-up measures was not a random subsample of the larger study population, and youth outcomes were not evaluated. In addition, recruitment of individuals for interviews proved challenging and, though all trainees had the potential to be invited to participate, those who agreed to participate may not have been representative of the division. Nonetheless, the 10 individuals interviewed matched the rest of the division in terms of demographic characteristics and job roles. Our anonymous quantitative data collection strategy unfortunately made it impossible to match participants across the quantitative and qualitative subsamples. Though our interpretation of the findings is, by the nature of qualitative research, filtered through our perspective, the complementary nature of the methods enhances our confidence that we have achieved a comprehensive understanding of the findings. Finally, our case study findings provide an in-depth look at the process of TIC implementation within one government-run division responsible for residential youth services in rural Canada. However, youth-serving settings differ in significant ways and TIC implementation will likely look different across service sectors. Therefore, the information garnered from the current study may not generalize to urban settings, privatized systems, systems that are not ready to adopt TIC, or settings such as education and juvenile justice. Nonetheless, we have the potential to learn from in-depth, qualitative explorations such as this one, so long as they are complemented by other perspectives.

This study also sheds light on several important implications related to VT. First, although discussing and addressing VT is considered a central tenet of TIC and trauma training, our findings suggest that this must be coupled with ongoing and consistent opportunities for support and self-care. Staff training about VT may result in staff feeling worse in the short term, a feeling that could persist and potentially result in turnover if not addressed in an ongoing way. Furthermore, our case study suggests that it is not enough to tell staff about VT and expect that they address it on their own and outside of work without organizational interventions to facilitate the process. It is unrealistic to think that even a staff who is attentive and committed to his or her own self-care will lessen his or her experience of VT in an organization that, for example, does not provide regular, high-quality supervision; requires continual on-call responsibilities; or provides inadequate vacation or mental health benefits. As can be seen by our findings, these challenges occurred even within a division that was otherwise quite successful in its implementation of TIC.

Second, this study raises important questions about how to best provide professional development about secondary trauma, VT, and related topics. The risks and benefits of raising awareness about the negative impacts of VT on the treatment provider are currently unknown. Some TIC curricula such as RC attempt to introduce VT in a way that acknowledges these profound negative effects, is emotionally impactful and validating, but is not overwhelming. Other methods have selected to approach the topic of VT by highlighting positive psychology constructs such as resilience, mastery, optimism, and collaboration (ACS-NYU Children's Trauma Institute, 2011). It remains an empirical question as to which approach is most effective, or whether an integration of these two approaches could better meet treatment providers' needs.

Our final set of qualitative findings suggested a theme that we did not anticipate when we conducted the qualitative portion of the case study. Specifically, many staff attributed positive changes in their relationships with coworkers, supervisors, and outside professionals to TIC. These findings reflect the way TIC, with its emphasis on relationships as the primary agent of therapeutic change, can become part of the fabric of the organizational culture. Previous research has linked supportive relationships with coworkers and supervisors, as well as organizational systems that propagate shared rather than hierarchical power, with less VT (Hensel et al., 2015; Slattery & Goodman, 2009). If this finding replicates, future research should investigate the impact of these within- and between-organization relationships on client outcomes.

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