



Mixed Methods Illustration of Teachers' Trauma-Informed Attitudes and Practice

Beth S. Russell¹ · Mackenzie N. Wink¹ · Morica Hutchison¹

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Abstract

Traumatic events during childhood are crucial to consider when addressing children's social and emotional development, as childhood trauma is associated with negative impacts, including academic achievement. Additionally, positive classroom environments and teachers' trauma-informed attitudes and behavior play a role in supporting recovery from children's trauma-related experiences. Aspire, Connect, Thrive (ACT) is a trauma-informed school-based intervention that examined students' Social Emotional Competence (SEC) and resilience for K-8th grade students in a disadvantaged, urban elementary school in Connecticut contending with the effects of students' exposure to trauma. The present study examines the experience of ACT teachers who received professional development and subsequently implemented learned content in the classroom ($N=17$; 70.6% female, mean age=44 years; 47.1% racial/ethnic minority; mean years teaching=15.6) through qualitative evidence of trauma sensitivity (observed and self-reported) and clinician-ratings of teachers' positive classroom environment. Quantitative results indicate significant change over time in teachers' attitudes and trauma-informed classroom responses. Interview themes suggest (1) teachers learned from and implemented the intervention content in their classrooms dependent upon the support the teacher was given, (2) teachers' perspectives on the connections between the student-teacher relationship and trauma-informed attitudes or practices influenced teacher behavior, and (3) teachers' own emotions and experiences implementing trauma-informed practices were key to classroom management.

Keywords Trauma Informed Practice · Teacher Attitudes · Social Emotional Competence

Traumatic events, such as interpersonal violence, witnessing or being a victim of a crime, and experiencing mental and/or physical abuse include physically or emotionally harmful occurrences, which may or may not be life threatening, have lasting adverse effects on mental, physical, social, or emotional well-being (Finkelhor et al., 2015). Further, the National Child Traumatic Stress Network (NCTSN, n.d.a) emphasizes witnessing events that are harmful to others can be considered traumatic despite a lack of direct threat to the individual. These experiences are not uncommon, as nearly two-thirds of individuals will experience a traumatic event during childhood (Finkelhor et al., 2015; McLaughlin et al., 2013). Importantly, responses to traumatic events

are highly varied, and not all children experience enduring impacts (NCTSN, n.d.a). However, children who may evidence struggles to recover from trauma may report behavior that is anxious and depressive that can interfere with academic outcomes (Ganzel & Morris, 2011; Ryan et al., 2018) and have, over time, reported lower health-related quality of life (Weber et al., 2017). Additionally, recovery from trauma exposure in childhood is associated with risk behaviors including substance use, delinquency, and accident or injury (Hunt et al., 2017; Laceulle et al., 2019; Perfect et al., 2016). To center the needed supports to bolster resilience factors on children's emotional well-being, scholars and practitioners have identified crucial social and emotional resources amenable to intervention.

Traumatic events during childhood are a crucial consideration when addressing students' social emotional competence (SEC). SEC involves an understanding of ones' own emotions and the emotions of others, thus SEC interventions often aim to improve students' decision-making or problem solving skills by bolstering their ability to regulate

✉ Beth S. Russell
beth.russell@uconn.edu

¹ Department of Human Development & Family Sciences,
University of Connecticut, 348 Mansfield Avenue, U-1058,
06269-1058 Storrs, CT, USA

their emotions and behaviors, while also building their recognition of others' emotions to aid building and maintaining positive relationships (Collaborative for Social, Emotional, and Academic Learning, 2013). SEC is among a set of emerging contemporary issues relevant to administrators, teachers, and support staff to encourage positive outcomes for the children and families they serve. Research suggests teachers' trauma-informed attitudes and behavior impacts positive classroom environments and children's SEC development through increases in student motivation to learn, emotion regulation capabilities and willingness to take risks (Blazar & Kraft, 2017; Crosby, 2015; Domitrovich et al., 2017). Thus, efforts to adaptively engage children with past traumatic experiences to support and overcome trauma-related social-emotional struggles without retraumatization (called trauma-informed programming; Crosby, 2015; Overstreet & Chafouleas, 2016), includes improving awareness of problem behaviors stemming from underlying issues – including traumatic events experienced at school, home, or in the community among teachers and school administrators.

The first published approach to trauma-informed programming was developed by Cole et al. in 2005. Several additional approaches have been developed since then (Koslouski & Stark, 2021). These approaches generally aim to increase educators' understandings of trauma, promote safe and predictable learning environments, foster consistent and caring relationships, and embed social and emotional learning into the classroom (e.g., Dorado et al., 2016). Although there is no standardized trauma-informed professional development for educational settings (Thomas et al., 2019), preliminary evidence suggests that these approaches can be effective in increasing teachers' knowledge about, and use of, trauma-informed practices (e.g., Dorado et al., 2016; Koslouski, 2022, McIntyre et al., 2019).

Such trauma-informed programming can result in teaching practices such as more productive attempts to solve children's problem behaviors as teachers with less trauma awareness often resort to punitive problem behavior strategies such as zero-tolerance policies, and are associated with poor student outcomes, such as dropout, and increased discipline problems (Hart & Diperna, 2017). Use of proactive and positive classroom practices, such as problem-solving conversations to create collaborative solutions, has demonstrated outcomes of increased students social-emotional skills and reducing recurrence of problem behaviors in the classroom (Hart & Diperna, 2017). These positive practices are examples of trauma-informed practices that can bolster opportunities for children to learn new social-emotional skills. Importantly, addressing unmet social emotional needs (e.g., struggles to recover from past trauma) can mediate students' ability to enter the classroom-learning environment

ready to learn, for example, by providing coping skills to regulate the vigilance, anxiety, or fear that may otherwise interfere with academic engagement. In addition to bolstering students' SEC, increasing teachers' trauma awareness may improve student-teacher relationships and lead to subsequent impacts on children's development and academic achievement (Crosby, 2015; Jennings & Greenberg, 2009). Classrooms of teachers with increased trauma awareness are characterized by a climate of lessons designed to build on student abilities, strengths and intrinsic motivation, low conflict and disruptive behavior, and encourage appropriate expression and communication of emotions, all of which lead to increased student performance, behavior and retention of taught material (Jennings & Greenberg, 2009; Oehlborg, 2008).

Teachers play a vital role in building trauma-informed classrooms, but require specific support and education themselves to meet students' social emotional needs. Preparing an educational space to welcome all children requires that teachers anticipate a range of student needs. For children exposed to trauma and/or violence, planning safe environments means considering practices that reframe students' struggles not as deficits, but as opportunities to use a person-centered, strengths-based approach - specifically one underpinned by high levels of trauma awareness - which involves being aware of and sensitive toward the individual's trauma while promoting a sense of safety and empowerment in their own skills and competencies (Hopper et al., 2010). Additionally, such trauma-informed approaches can account for the impact of social determinants including poverty, housing/food insecurity, and institutionalized discrimination that may shape health and learning outcomes (Crosby et al., 2016; Levine Brown et al., 2019; Rodger et al., 2020). This trauma informed approach can help teachers and other school-based staff understand whether the student is struggling with impacts of past or on-going trauma thereby influencing how teachers respond to their students, for example, by promoting sensitive responses characterized by empathy and caring over those characterized by attitudes that risk retraumatizing the child (e.g., that misbehavior is a choice) (Cole et al., 2005; Wolpov et al., 2009).

According to Crosby et al. (2018), trauma-informed practice leverages teachers' insight and creativity to adapt classroom management and direct instruction practices. Recently, industry-wide recognition that teachers need this content both as they prepare to join the workforce and on an on-going basis has risen (Day et al., 2015). However, evidence-based curricula are scarce and few studies have reported impacts on teachers' trauma-informed attitudes and classroom practice concurrently. The preponderance of those studies that have evaluated the efficacy of trauma-informed trainings focus on the downstream impact on

children (rightly so) but neglect rigorous evaluations of the primary intervention targets – teachers themselves. The current project addresses this gap by presenting mixed methods results on teachers' outcomes from a longitudinal intervention.

Aspire, Connect, Thrive (ACT) is a trauma-informed school-based intervention that uses a treatment- versus comparison-site design to examine impacts on students' SEC and resilience in a disadvantaged community contending with a children's exposure to trauma (e.g., high rates of violent crime). At the treatment site, the ACT program sought to bolster children's social-emotional skills and resilience while reducing mental health symptoms and improving academic performance. These goals were achieved through teachers' professional development, supports for students' positive peer and mentor relationships, and providing students with during and after-school academic supports (for further details about the student-focused program components and the study's student outcomes, see Hutchison et al., 2020). The present exploratory study examines the experience of teachers ($N=17$) at the treatment site in ACT's multi-component intervention. Qualitative evidence of trauma sensitivity (observed and self-reported) and clinician-ratings of teachers' positive classroom environment are presented. Through an ecological systems lens (Bronfenbrenner, 1979), which posits a bidirectional interactions between individuals and environments, which includes attitudes and beliefs, with influences on relationships and contexts, such as between teachers and students within classrooms, and situated within larger systems, such as organizational climate and education policy. This theoretical premise for interconnections between individual experiences across ecological settings underscores the need for measurement at several ecological levels, as the theory posits that social interactions between teachers and their students influence individual perceptions about not just students' behavior, but perceptions of the self as a teacher in the classroom thereby shaping teacher's observable behavior. Theoretical frameworks that posit an interactive network of systems are best positioned to inform contextually valid research designs and yield relevant findings to inform future practice. We strive to answer the following research questions: What do teachers report before and after participating in a trauma-informed intervention when asked about their perspectives on trauma and children's classroom behavior, and is there alignment between these qualitative accounts and observed classroom observations? Did these accounts change over the course of the 2-year ACT program?

Method

Participants

Participating teachers ($N=17$) in grades K-8 were recruited from an urban elementary school in Connecticut receiving intervention services through the ACT program. This community is characterized by several indicators of increased risk, including: high unemployment rates double the statewide rate (10.8% compared to 5.3%), high household poverty rates (54% with an income below 200% of the Federal Poverty Level (FPL) and 29% of below 100% FPL), and high crime rates (i.e., violent crime rates 4.8 times higher than found statewide; Data USA, 2019; U.S. Census Bureau, 2019). At the district level, schools in this community are characterized by a high degree of student and teacher turn-over, reporting high teacher turn-over rates both within in a single year and across years, and report stable and noteworthy rates of students who transfer out to other local magnet and charter schools through an annual lottery system. Teachers in the ACT sample ($N=17$; 70.6% female, mean age = 44 years; 47.1% racial/ethnic minority; mean years teaching = 15.6) only participated if they had students in their classroom participating in ACT. Teacher turn-over can be seen through completion rates of annual ACT interviews: of the 17 participating teachers, five teachers (29.4%) completed only an enrollment interview and had left before the interview scheduled at the end of year 1; 12 teachers (70.6%) completed two interviews (at enrollment and the end of year 1), and four teachers (23.5%) completed three (enrollment, end of year 1, and end of year 2). There were no differences between teachers who left the school in their first year compared to those who were retained across multiple academic years (e.g., on the basis of age, gender, racial or ethnic identity, or number of years teaching); all teacher attrition from ACT was accounted for by teacher departures from the school. Student turn-over also impacted the ACT program: In its final program year, ACT served 149 students at the treatment site (53% male, mean student age = 9.8 years; 92.4% racial/ethnic minority), having seen attrition due to school transfers above 30% each year. Across the ACT program years, students self-reported an average of 1.15 traumatic events through annual trauma surveys completed at the beginning of the school year. Of those who reported trauma exposure, 30.2% ($N=45$) of students had elevated trauma scores above the cut-off for clinical concern and were referred to clinical support services. For further information about student outcome measures in ACT, please refer to Hutchison et al. (2020); see Table 1 for further sample characteristics.

Table 1 Teacher demographics ($N=17$)

	Mean	SD
Age	44	11.2
Years Teaching	15.6	7.6
	N	%
Gender		
Male	5	29.4
Female	12	70.6
Race		
White	9	52.9
Black	6	35.3
Two or more	2	11.8
Ethnicity		
Hispanic	6	35.3
Non-Hispanic	11	64.7
Grade Level		
Kindergarten	2	11.8
First	2	11.8
Second	3	17.6
Third	3	17.6
Fourth	2	11.8
Fifth	4	23.5
Sixth	1	5.9

Measures

Trauma Sensitivity. ACT teachers participated in semi-structured qualitative interviews upon entering the ACT program for a baseline understanding of their trauma knowledge and attitudes. The teachers were subsequently interviewed at the end of every school year to assess any change over time. As part of the interview protocol, teachers were invited to describe their approach to building classroom environments and to collaboratively identify areas where they had motivation to learn and grow in their practice. Additionally, the semi-structured interview provided an opportunity for teachers to share previous experiences of trauma if they were comfortable doing so, as well as explore opportunities for support if needed or requested. Data coded from 3 specific interview items are reported here: understanding of the impacts of trauma on children’s development, their attitudes toward children affected by trauma, and classroom strategies utilized to address trauma-related behavioral or academic issues. Coding for an overall level of trauma awareness drew from 4 a priori themes: level of disruption in classroom from problem behaviors, level of awareness of relationship between students’ past trauma and current behaviors, the teacher’s self-confidence to manage problem behaviors, and interest in receiving further professional development around childhood trauma. Each of the 4 items were scored on a Likert-type scale ranging from 0 (“None”) to 3 (“Robust”) and the item set had a strong internal consistency as a composite indicator of teachers’ trauma awareness (Cronbach’s $\alpha=0.84$).

Classroom Rating & Observations. A licensed clinical social worker who co-developed all professional development training sessions observed the ACT classrooms to characterize the learning environments of ACT student participants. The observation served several purposes for ACT: importantly the observation (1) provided teachers the opportunity to welcome the clinician into the students’ learning environment as a welcome presence, (2) provided the clinician with opportunities to see teachers strengths and potential areas for growth for latter (optional) consultation with teachers, and (3) afforded the opportunity for the research team to collect data about the classroom environment from a source other than teacher reports. A novel observation tool was created for the study, drawing Likert-scale items from the New Orleans Trauma-Informed Schools Environmental Scan Checklist (Orchard Place/Child Guidance Center’s Trauma Informed Care Project, 2020) and the Positive Behavioral Interventions and Supports Classroom Management Practices Observation Tool (Midwest PBIS Network, 2020). The clinician rated the classrooms on 7 items using a 4-point scale (from 1, “Principle is not in place” to 4, “Principle is fully in place”): positive and safe teacher-student connections, opportunities for social emotional learning, presence of strengths-based approaches to bolster student success, presence of culturally-affirming approaches, student opportunities to contribute and make choices in the classroom, and that the classroom was a safe, predictable place with positive behavioral supports. Ratings from these 7 items were then averaged to report a “positive classroom environment” score; this measure had a strong internal consistency in the present sample (Cronbach’s $\alpha=0.94$). In addition, the clinician articulated qualitative comments for each of these 7 items, plus overall observation notes where 3 general themes were often described: the teacher’s use of strategies the clinician covered in the professional development trauma-focused trainings (noting the use of positive behavior management strategies, for example), the overall classroom climate (the development or use of sensory “peace” corners or quiet spaces for students’ self-soothing and stress management, for example), and the nature of teacher-student interactions (interactions that were respectful, positive, and strength-based rather than sarcastic or critical, for example). Feedback from the observations was used to inform clinician support for teachers and to capture change over multiple years.

Procedures

The ACT project was a multi-component effort to reduce trauma symptoms in K-8th graders who consented to participate; thus, the majority of the services and measures used to document their impact were student-focused. Services for

ACT students ranged from classroom activities to promote SEC, peer-mentorship during and after school, homework support and tutoring, and referral to mental health supports when needed. [For additional details on the student supports provided through ACT, please see Hutchison et al., 2020.]

Teachers with ACT students completed baseline interviews (as described previously) upon their enrollment and consent at the beginning of the academic year. Annual follow-up interviews were completed for returning ACT teachers each Spring, at the end of the academic year. The ACT treatment site received professional development trainings focused on information about trauma in childhood, its effects on students' learning and behavior, and positive behavior management classroom strategies. Training sessions were held once every eight weeks for the entire school teaching staff (including long-term substitutes, aids and other specialists) – 2 sessions in the Spring term of the first ACT program year, and 2 sessions each in the Fall, and 2 Spring terms of the second year - thus ACT teachers were a subset of the school staff who received the trauma-focused information sessions. The series of sessions were developed and facilitated by a licensed social worker with over 25 years' experience serving high-risk communities. Over the course of ACT's two program years, 6 unique sessions were offered that addressed teacher self-care, the role of compassion in classroom and the experience of classroom fatigue, identifying traumatic stress and secondary traumatic stress, stress management through breathing exercises, building community among teaching peers, fostering social support and an environment of care, cultural awareness and mutual respect in the classroom. Sessions ranged in size from 12 to 35 participants and were formatted to include information-sharing through brief lecture moments and small group discussion with structured opportunities to describe challenges and successes attendees had experienced in their classrooms. Some experiential activities were included as appropriate, for example, the self-care session included the provision of an optional chair massage. Specific to the ACT teachers, individual support was provided through annual clinician observations of the classroom (described above) and feedback on strengths and opportunities for improvements. If warranted or requested by the teachers, clinician "push-ins" were offered to provide support for specific ACT students during class hours.

Analysis

A convergent parallel mixed methods approach was used to analyze data in this study, combining concurrently collected qualitative and quantitative data from ACT to allow for the depth and nuance of teachers' experiences to be prioritized during analysis (Johnson et al., 2007; Teddlie & Tashakkori,

2009; Venkatesh et al., 2013). Quantitative analyses were based on the a priori codes of teacher interviews on trauma sensitivity and from clinician-rated positive classroom environment observation scores. Mean scores were calculated and analyzed through independent samples t-tests for change over time for teachers who participated in more than one year of the program. Due to high levels of existing turnover prior to the study, these analyses were exploratory and implemented with only the intent to examine the possibility of emerging trends. The more substantial analysis effort centered on the qualitative data at hand. Qualitative analyses included interviews with teachers and clinician quotes from classroom observations of positive classroom supports, as described above. Teacher interviews and clinician observations were examined using content analysis to explore quotes for content that illustrated low, middle, or high levels of trauma-informed attitudes. A low trauma-attitudes score consists of scores beyond one full standard deviation below the mean of the scores, middle score fell within 1 standard deviation from the mean, and a high score was one standard deviation above. Additionally, the study used a reflexive approach to thematic analysis (Braun & Clarke, 2006) as a guiding framework for the qualitative inquiry, which examines patterns or themes within the data, and goes beyond content analyses which only explores implicit or explicit meaning within the text (Guest et al., 2012). The content analysis approach was helpful for identifying illustrative quotes to align with quantitative observation scores, whereas the thematic analysis that identified codes through line-by-line coding using an open framework (Braun & Clarke, 2006) that were then refined and organized into the themes that emerged from the data. Following Silverman's (2000) recommendations to demonstrate credibility or trustworthiness (Guba, 1981), the research team used a recursive analysis process. Coders read through the dataset of interviews to gain a sense of overall content while noting of patterns, questions or thoughts about their observations. Revisiting notes further enhanced credibility and observations during the subsequent coding process, to ensure all relevant data were included in articulating representative codes. Members of the research team met at several critical points during the coding process – after the first content review but prior to coding to discuss impressions and preliminary ideas, and following coding, but prior to finalizing themes discussed as emerging from the data.

Results

Descriptive Quantitative Results

Interviews

Of the 17 teachers who participated in ACT, only 12 participated for more than one program year. Five teachers participated for one year and completed only a baseline interview; 8 participated in two program years, completing the baseline and one follow-up interview, and 4 participated in the baseline and 2 follow-up interviews. Among baseline interviews, 4 teachers scored in the lowest category, 6 scored in the middle by describing a mix of both high and low statements and attitudes, and 4 were rated as high. Among teachers' most recent interviews, only one teacher's scores remained in the lowest category, 9 scored in the middle, and 2 scored high. The trauma -informed attitudes of teachers who participated in at least 2 of the program years indicate that 7 saw improved scores, 2 stayed the same, and 3 saw decreased scores. For teachers with at least two years participating in ACT, the average baseline trauma sensitivity score was 2.16, while the average for most recent scores was 2.26 (see Table 2).

Observations

The observation results included scores given by a clinician who observed teachers' classrooms as part of the teacher supports offered through the ACT intervention. A low observation score indicated that from the clinician's observation, the teacher's actions and classroom environment did not provide a positive, supportive space for students. A teacher with a high observation score was a teacher whose classroom environment promoted learning, safety, and inclusion. A high scoring teacher's practice would be characterized by support and guidance while focusing on academic contents all the while modeling and communicating the value of SEC. Of the 16 teachers who participated in a baseline

observation, 3 scored in the low range, 10 scored in the middle range, and 3 in the high range. Of the 9 teachers who participated in the ACT classroom observations for more than one year, scores on the follow-up observations included 2 teachers with scores in the low range, 5 teachers in the middle range, and 2 teachers received scores in the high range. Baseline observation scores had an average score of 2.66 whereas subsequent observations had a mean score of 3.33 (see Table 2).

Change over time

Of the 12 teachers who had more than one interview, 7 teachers' trauma attitudes improved over time, 2 teachers' scores did not change, and 3 teachers' scores declined. As expected, scores from each time point were significantly correlated with one another ($r = .656$, $p = .021$), but while the mean score from baseline to subsequent interview did increase, the change was not statistically significant (see Table 2). Scores were significantly correlated ($r = .667$, $p < .05$) from baseline observation to the most recent observation, and changed significantly over the elapsed time ($t = -1.06$, $p = .001$).

Observation-Interview Score Alignment

For teachers who had both observation and interview scores at more than one time point, alignment among scores was examined between sources of data at the most recent time point. Associations between trauma sensitivity and positive classroom environment scores indicate continuity between teachers' beliefs and attitudes regarding trauma and their outward-facing classroom practices. For more than half of the teachers, observation scores supported the ratings from their interviews -- these teachers received scores either in the middle or high range in the interviews and observations. For teachers who received a score in the low range on the interviews, the observation scores did not align in a similar direction. For two of these teachers, they received moderately higher scores on the observation than on the interview (low interview to middle observation, and middle interview to high observation). Additionally, one teacher received a higher score on the observation than they did on the interview (with an observation score in the highest possible range, but a mid-to-low interview score).

Qualitative Interview Results: Trauma Awareness

Teachers who with low scores on the a priori trauma awareness codes spoke about students in their classroom needing to behave and follow rules regardless of their lives outside of school. These teachers sometimes even acknowledged

Table 2 Key variable descriptive statistics, correlations, and paired t-tests

	1	2	3	4	Mean (SD)
Baseline Trauma Sensitivity ($N = 17$)					2.16 (0.47)
Subsequent Trauma Sensitivity ($N = 12$)	0.656*				2.26 (0.60)
Baseline Positive Classroom Supports ($N = 17$)	0.423	0.236			2.66 (0.91)
Subsequent Positive Classroom Supports ($N = 9$)	0.628	0.580	0.667*		3.33 (0.76)**

Notes. * $p < .05$; ** Significant change from baseline ($t_{(8)} = -5.59$, $p < .001$)

that trauma exists in their students, but denied any connection or link to students' behaviors or social emotional skills in the classroom. For example, one teacher stated:

It's good to know background knowledge on the kid but I'm not going to feed into you every day. There's a lot of people who have it hard. You can overcome that.

Low-scoring teachers typically discussed being strict and uniform across all students in their approach to handle behaviors in the classroom. They also highlighted their perceived importance on student motivation to behave better as a driving force behind problem behaviors, instead of something external such as trauma histories:

[one problem behavior is] a lack of drive, motivation. [students] just have to care yourself and it's really not imbedded in them in this population unfortunately.

Teachers who scored in the middle category often included statements that were conflicting regarding trauma and behavior. Attitudes and beliefs often supported trauma awareness or emotional needs of their students but then later would make statements that did not honor this trauma awareness. For example:

...when I'm teaching the class, sit up, shut up, fold your hands and do what I'm telling you. They need the structure. If I'm sitting there being emotional with the kids during class that's not going to work. Look at all the emotional needs I have in my class. You have to do that in private, when they're doing poetry, at another time. Otherwise this would be a disaster.

The same teacher later stated,

"They get angry for nothing. Like NOTHING. I had a kid, I said 'hey you didn't get that problem right' and as I was walking out, he got so angry he banged his head against the table as hard as he could. That's not normal. These are common occurrences."

A teacher who received a high score discussed knowledge of trauma in students and recognized the impact that trauma may have on their lives, including inside the classroom. They often talked about the need for compassion, empathy, and warm relationships with their students, as well as recognizing that their behaviors stem from their experiences and social-emotional skills, and not from lack of motivation to behave better. For example:

I think it's very important to know your students as people, because if you don't know them as people then you don't understand some of their behaviors and you won't be able, you attribute everything to academic need or academic umm deficiencies... but sometimes [student behavior] has nothing to do with [academics].

This same teacher stated:

They're not little adults.... umm... and they're asked to carry a big load and unfortunately, they have to but they are not emotionally built to be carrying such a heavy load. So, as much as we can lighten it and give them a space where they feel they can, you know, express themselves and be children at the same time I think that will help them emotionally, academically for the future.

Qualitative Observation Results: Positive Classroom Environment

A classroom observation receiving a low score would be one characterized by comments indicating either a complete lack of each competency or poor and inconsistent implementation of each competency in the classroom. For example, a range of competencies could be noted as attempted but not well incorporated into the classroom, such as using a strengths-based approach to promote student success: *"Some students got praise for the work they were attending to, but there were many more opportunities that were missed for this."* This same teacher also received comments about not showing evidence of providing a classroom that supported social-emotional learning: *"There was little evidence of this happening, as the teacher struggled to teach math skills and to "police" the class. More emphasis was placed on the latter."*

A teacher scoring a middle range on the observation showed inconsistent incorporation of competencies into their classrooms, receiving a mix of scores with some competencies scoring high and some low. For example, one teacher received high scores and comments in promoting strengths-based approaches:

The observation occurred during centers, where most students were working independently in small groups. There were quite a few students who were working well with this task and who were being praised for their efforts and modeling behavior. When there were questions, the teacher would ask more questions leading the student to the answer and continue with praise and more questions until they were successful. This

was a great example of teaching towards competencies. [They] also gave students ideas for additional work they could do when their task was complete, so that students could continue to work independently at their pace and still feel a sense of challenge and accomplishment. There was a lot of praising of work and behavior occurring in class.

However, this teacher also had other competencies that were a mixed success, such as promoting a positive and supportive classroom environment:

[The teacher] remained mainly with one group, supporting them in their work through coaching and praising. [They] frequently complimented students and had her eyes on the whole class, ensuring that folks were working and feeling supported in what they needed to do. [They] gave a 4-minute warning for transition time and overall the class atmosphere was relaxed. There was soft music playing in the background and a calming beach scene was projected up on the board. One student struggled with losing his work and [the teacher] was a bit hard on him and talked about this openly in the class.

Receiving a high observation score indicated that most or all of the competencies on the observation tool were not only present, but incorporated into the classroom well. These teachers' observations showed that the competencies were clearly present. One teacher received the highest rating possible on all competencies, with very positive clinician comments that indicated success in promoting a positive classroom environment. For example, with regard to the positive connections competency the clinician noted:

[Teacher] has a great relationship with [their] students. Even when they are not all on track, [the teacher] has the patience and the presence to wait until things settle and students are ready to work. [This teacher] does a great job at publicly praising and recognizing small and large accomplishments in class and the students are clearly responsive to [the teacher].

This teacher was also observed demonstrating a very effective approach to supporting social emotional learning in the classroom:

“There was a nice opportunity for this when a student refused to join a group that she was assigned to, as she didn't like the other students there. The teacher led a short discussion about the importance of participation and not losing out on opportunities because someone

else is holding you back. [They] then gave the student the time and space to think about it and to digest that sometimes we have to work with people we may not like. The student eventually joined the group and was a successful participant, leading her team to win some of the math games. [The teacher] clearly stated that while the point was to solve the math problem, the real point was how to work together to figure things out and help everyone in the group understand what to do. One student said, “[Teacher], you put the wrong people together” and [the teacher] replied, “No, I put the right people together, because things aren't always going to be smooth and you have to learn to work together through the rough times to be successful.””.

Thematic Analysis

A thematic analysis was conducted on the interviews using guidelines for recursive and reflexive analyses (Braun & Clark 2006, Guba, 1981; Guest et al., 2012, Silverman 2000) which resulted in identifying three main themes: feeling supported enough to engage in trauma-informed classroom practices, understanding or beliefs about student-teacher relationships, and teachers' mental or emotional experiences from student traumas or classroom interactions. The first theme that emerged when considering how teachers learned from and implemented the intervention knowledge into their classrooms was how much support the teacher was given. A number of teachers discussed the importance of feeling supported, using their colleagues as resources, and knowing their school administrators supported the teachers' use of trauma-informed practices to manage classroom behaviors. This perceived support helped teachers to feel comfortable to implement these approaches and attitudes about trauma and classroom behavior. For example, one teacher stated:

I feel more prepared now because I think the trainings that we've done school wide umm you know, allows me to realize that I'm going to be supported. So, if I'm taking time away from reading to deal with a child who is having a meltdown, I know that the principal of the school, like other staff members you know, know where I'm coming from and why it's happening. So, I feel adequately trained, umm more training is always useful, umm because sometimes I do forget some of the practices so getting that refresher once in a blue moon umm definitely helps.

A second teacher echoed the team perspective by saying:

I think kind of for me it would be stepping back from a leadership role almost so it's kind of by stepping back. Umm and looking at things more as a team rather than how I can just help myself or I can just help one person, it's like how everyone can come together and do it as one instead.

The second theme that emerged was teachers' perspectives on the connections between the student-teacher relationship and trauma-informed attitudes or practices. Many teachers who scored high on trauma attitudes spoke about the importance of building and maintaining a close relationship with their students. Some teachers also challenged aspects of the expectations or commonly held beliefs about needing to be the strict authority figure, instead describing the greater importance of having a strong relationship foundation in order to have success with their students. One teacher stated:

“It was instilled when I first came in, that the rough and tough [teachers] get the kids in line, not trying to be their friend, and I think it actually is kind of the opposite, it's not that you really want to be their friend, but you have to be more friendly than the rough and tough person in order to get respect from them in order for you to do what you need done. Umm just getting to know the kids is one of the bigger ones (...) I mean, I used to use the [behavior] chart where if you were in pink every single day, I was calling home and it doesn't work. Because if you keep calling home, all you're going to do is agitate the parents, and then they're not going to bother doing anything for the child so it's more of, you have to figure out ways inside the classroom, so it's not by taking things away, it's by seeing what that child likes. So, ‘Ok, what can you do for me to earn time to do something for you’. It's got to go both ways. It can't be a dictatorship.”

A second teacher expressed similar sentiments and said:

So, fake bravado is something that I'll, you'll you see a lot. So ‘I don't care about this like yo, this is dumb, I hate this’ and all that. And a constant need to get attention, and the most, the quickest way they feel they can get attention, from my experience because I've dealt with a lot of challenging students, is to engage in a challenge situation. ‘I'm going to challenge you’. They'll be like ‘it's stupid that you wear two necklaces, you know that right’ so then you're like ‘yeah because you're 10 and you know so much about fashion’ and you kind of get into that like, but it's really like ‘I really like your necklace, I really want to talk

to you’, that's really what they're trying to do but they don't have the skills, especially, especially, if it's a student in crisis, or whatever term they use now, because they haven't developed the skills to say ‘[teacher's name] I really want to talk to you, I really want to be around you.’ And you find that all the time. So, what students will do is they want to engage in conflict because they know when they engage in conflict, you as the person in charge or in the lead will need to resolve that conflict before you move on. So, a lot of teachers will try to do that by regaining the control of the situation, but generally not me (...) I don't need to be in control. In reality nobody is really in control in classrooms. You'll see that a lot. Then you'll see it on the other end where the student will draw pictures and give you notes ‘you're the best teacher’. They know you care, they know you value their opinion but you did not devalue them in the school structure (...) Students are defensive because that's how they survive outside. You don't need to survive; you need to thrive and I will control that because you are safe.

A third example of this is seen here, as a teacher emphasizes empathy and vulnerability:

“Having empathy for the children. Trying to understand where they're coming from and help them work through it by giving them strategies (...) Really get to know the child and build this relationship with them. Create a trusting relationship. Maybe share things about your life with them so maybe in turn they might share some things with you. And a child that's shut down and reserved umm, the more open that you can be and honest with them the more open and honest they'll be with you.” Another teacher provided an example by saying, “Conference with the students and allow both sides to say what they want to say and then kind of try to get them on the right path to come up with some kind of compromise (...) Just being willing to stop the academics to deal with some of the social issues is key because you can't get to the academics if they're upset and not willing to be actively engaged in learning. Stop the academics and deal with some of the social issues so you can move passed it and move on”.

The final theme that emerged during interviews was the impact of teachers' own emotions or experiences on their ability in implement trauma-informed practices. Teachers discussed the difficulty of working with students who have experienced traumas, often with many students in their

classes having trauma histories, and how that emotionally impacted them as teachers. One teacher stated:

Students are disadvantaged, not just because they don't have things, because I can buy them pencils, I can buy them things, but I can't buy them experiences. And I think that impacts their learning. It's hard because as an educator you, you're always trying to compensate for some of the situations. And umm emotionally it wears on you. And so we talked about, in some educational settings, and I think even ACT talked about it one time. Umm being a teacher kind of empties your cup sometimes emotionally, that you have to do things to refill yourself, umm and kind of self-taking care. So, you have that too, but I think the hardest part is, and I think some teachers don't do a good job, is separating your empathy from lowered expectations.

Another teacher echoed this idea saying:

...sometimes you want to take it personally like 'oh they're doing this to hurt me because they can't do this to whoever at home'. So, I just try to take a different point on it, it's not that they're doing this to me, they just can't control themselves.

Discussion

This mixed methods study sought to answer questions around teachers' trauma attitudes both self-described in interviews and rated by a clinician through classroom observations. First, teachers' trauma-informed attitudes were examined at the beginning of the program when teachers first enrolled, and through each teacher's most recent interview point (either one or two years later). Interviews showed patterns of change over time for teachers' attitudes that indicated improvement in most cases, with a smaller set appearing to remain stable or decline over time. For teachers whose scores improved (true of 7 out of 12 teachers), baseline interviews were characterized by either having low or mixed attitudes regarding trauma and students. When these teachers were interviewed in their most recent timepoint, their interviews received higher, more consistent scores. This aligns with previous studies showing increased knowledge after participating in professional development on trauma-informed practices (e.g., McIntyre et al., 2019). However, previous studies have traditionally used pre-post assessment immediately before and after professional development offerings. Thus, the current study offers new insight about the sustainment of this learning over time. For example, after

participating in the ACT program, one teacher's interview was characterized as less mixed in attitudes and approaches to behavior management (e.g., based on their ownership of a personal trauma history that colored their sometimes-high expectations and their interactions with students). The trauma-informed attitudes and approaches described by this teacher also included details on the teacher's approaches toward managing their own emotions and reactions, in line with findings from other studies (Hart & Diperna, 2017), particularly around student behaviors. These connections are evidence of key linkages between individual-level attitudes and perceptions and social interactions seen through classroom behaviors as posited by Bronfenbrenner (1979). In particular, this teacher reflected on the ACT trainings they had completed and how they came to see the connections between children's behavior and the effects of trauma on neurodevelopment, emphasizing their own more positive responses to student behavior that had become less intense and emotionally reactive after the teacher's participation in ACT trainings.

Not all teachers improved, however. There were a small number of teachers whose scores declined after participating in ACT (true of 3 teachers). Those teachers' interviews were ones that received mixed or low scores on trauma attitudes at the beginning of their involvement with the ACT program, and then received lower scores at their most recent interview. For example, one teacher started out fairly low on trauma attitudes, but recognized trauma exists by citing key points from the ACT trainings offered to teachers, specifically citing the recurring, intrusive thoughts and feelings that characterize trauma being triggered by sometimes every day events and the compounding effects of this reiterative experience on children's development. In the teacher's most recent interview, however, their attitudes toward student behavior were less indicative of trauma-informed attitudes, lacking the alignment with ACT trainings, and instead citing students lack of motivation and a need for clear consequences to students' behavior. One potential explanation for this is social desirability bias (Bergen & Labonté, 2020; Nederhof, 1985), whereby participants respond in ways they feel are desired by the interviewer particularly early in the course of a study when trust in the research team is still developing. Thus, initial responses may have been higher due to participants' desire to provide socially desirable responses; over time and with increased trust built in the research team, participants may have described trauma awareness that may have been less socially desirable and reflective of lower awareness. An alternative explanation for the differences in trauma attitude trajectories may be evident when considering another important intervention factor: teachers must actively engage with the topic being presented to experience change that can be sustained over

time. A previous study on prevention program implementation emphasized the importance of participant's engagement and support for the intervention and its components for implementation to have high fidelity and consistency in use of components (Hickey et al., 2018). Aligned with this previous research, teachers participating in the ACT program spoke about the materials and trainings they received in ways that indicated engagement. The teachers who spoke of the trainings as informative and helpful for understanding both their students and how to approach behaviors relating to trauma were teachers who scored in the middle or high ends of the attitudes scores at both timepoints. Teachers who discussed the trainings as informative but not relevant to their classroom experiences, or did not recognize the link between trauma history and children's behaviors and needs in the classroom, tended to score lower. Additionally, three of the five teachers who did not complete more than one year of the program scored low on their interview, observations, or both, which further supports the role teacher engagement may play in intervention efficacy.

The three main themes that emerged from the teacher interviews show important patterns in the responses. The first theme, feeling supported to engage in trauma-informed practices, aligns with a previous study which found that ongoing support improved fidelity and success in implementing new practices into the classroom (Reinke et al., 2014). In line with these previous findings, teachers in this study described how the support from school principals and colleagues helped the teachers feel comfortable to incorporate the trauma-informed practices into their classrooms.

The second theme that emerged was teachers' beliefs about their relationships with their students. Previous research shows that positive student-teacher relationships can impact a variety of outcomes including more effective managing of problem behaviors, students' social-emotional wellbeing, and academic success (Hamre & Pianta, 2001; Konishi et al., 2010). Additionally, student-teacher relationships may have implications for students with trauma histories, where positive student-teacher relationships can support needs around safety, feeling cared for, and feeling connected to school (Dods, 2013). The findings from this study further support that many teachers recognize and understand the importance of the student-teacher relationship in positively handling behaviors and incorporating trauma-informed practices and again provide evidence of the importance of linkages between experiences in multiple ecological domains (student-teacher social interactions and individual teacher attitudes and behavior, in this case).

The third theme that emerged was the mental and emotional experiences for teachers as a result of their students' trauma or classroom interactions. Previous research indicates that teaching is an emotionally-burdensome profession

in which teachers' emotions are impacted by their student relationships and by student behavior, which can lead to job burnout and turnover (Chang, 2009; Hagenauer et al., 2015; Richards, 2012). In addition to the overall emotional burdens of the job, teachers may experience further negative emotional experiences around emotional exhaustion and compassion fatigue, especially when working with children who have experienced trauma or adverse experiences (Koenig et al., 2018). In line with these previous findings, teachers discussed the difficult emotional experiences they faced which resulted from supporting their students with trauma histories.

Implications for Future Work

There are practical implications from the findings presented here. First, these results indicate school-based interventions can improve teachers' trauma-informed attitudes toward their students. These interventions, however, need to be aware of and address teachers' active engagement and protect the quality of the teacher supports implemented to ensure teachers follow the intervention as directed and are invested in the program's success. The findings of the current study show that when programming supports the teachers' trauma-informed behavior management, teachers felt more able to articulate their comfort implementing these strategies. This indicates a need for interventions to appreciate and incorporate positive support systems within the school. Evidence from the extant literature indicates burnout contagion between co-workers is possible in high-stress settings including classrooms, such that both positive and negative emotional, attitudinal and behavioral experiences are shared (Bakker, & Schaufeli, 2000; Meredith et al., 2020). These findings underscore the need for intentional structures that emphasize the value of positive interpersonal connections between teachers at work, and supportive supervision between administrators and the teaching staff.

Additionally, it is important to note that organizational systems, policies, and structure can have important implications that can promote or hinder teachers' use of supportive strategies, including trauma-informed practices. For example, leadership engagement and support for intervention efforts can be a critical component to promoting strong implementation of interventions and staff buy-in (Aarons et al., 2014; Brimhall et al., 2016). Structural factors and policies, such as time restraints, curriculum requirements, and testing schedules, which increase levels of stress and burnout (Richards, 2012; Richards et al., 2018), can also drastically hinder teachers' bandwidth to engage in additional, evidence-based initiatives that support bringing new practices into the classroom (Larson et al., 2018). These

organization-level factors should be considered when implementing interventions in schools.

The current findings illustrate the relationship-based perspectives teachers have about the importance of building positive relationships with their students. Particularly for schools that serve primarily underprivileged populations including students who have experienced trauma exposure (Ormiston et al., 2022), teachers may be experiencing compassion fatigue and internalize the emotional burdens of their students' experiences in ways that negatively impact teacher well-being and constitute a potential barrier to forming compassionate, positive and respectful relationships with their students (Krop, 2013; Maring & Koblinsky, 2013).

Limitations

There are several limitations worth noting, despite these contributions to the literature. First, the number of teachers who participated in multiple years of the intervention and completed multiple interviews is limited, as the program saw turnover rates that echo rates noted for teachers in high-risk communities industry-wide (Djonko-Moore, 2016). Results of the longitudinal t-tests in particular should be understood relative to this small sample size and generalized with extreme caution. Additionally, self-reporting on sensitive topics like trauma attitudes and responses in the classroom may be susceptible to social desirability, thus impacting how teachers responded to the interviewer. Efforts to account for teachers' experiences of adversity while minimizing risk of triggering or retraumatizing them are crucial for these conversations. While all of the intake interviews, most some of the follow-up interviews, and all classroom observations (and related follow-up supports) were completed by the licensed clinicians on the team well-prepared to conduct sensitive conversations like these, a small number of follow-up interviews were conducted by a team member who did not have clinical training but who held a Master's degree with an applied research focus and who was trained by their clinical colleagues. Future studies can consider only employing only licensed team members to maximally protect participants' positive experiences – though we note this may be prohibitively expensive from an intervention administration perspective. Finally future efforts can also strengthen their approach by considering student and administrator perspectives. The trauma-informed training sessions offered to all teaching staff at the ACT treatment site facilitated by a seasoned licensed social worker were only possible every eight weeks; this teacher-specific component could be strengthened in future programs by increasing the frequency of sessions to monthly, and offering each in smaller settings when pragmatic

constraints on the schedule for professional development opportunities allows.

Conclusions

Despite these limitations, this study provides important insights into the mutable nature of teachers' trauma awareness and classroom practices to best support their students. Future school-based interventions addressing students' trauma can use these findings to build programming that encourages teachers to engage in trauma-focused professional development. These findings also highlight the role of teachers' own emotional experiences in how they understand their students' behaviors, which then impacts their approach taken toward resolving those behaviors. This study provides evidence of the need for continual education for teachers to build trauma awareness and classroom management approaches that support all students, especially those who may have experienced adverse experiences. A particular strength of this work is the articulation of themes that emerged from the teachers' interviews about the importance the teacher-student relationship and providing strength-based, positive responses to students' behavior in the classroom. This theme is partnered with an additional theme that stresses the compassion-fatigue that teachers experience when working with students from a disadvantaged background, which may compromise their ability to establish and maintain nurturing learning environments for all learners. These inter-connected themes may provide insight into the set of teachers who demonstrated limited improvement over the course of the ACT program, given the rates of trauma in the ACT students, where 45 of the 149 students (30.2%) reported elevated trauma-related mental health experiences. Perhaps the clearest implication from this study is a resounding call for school systems that serve disadvantaged, high-stress communities to couple trauma-informed teacher trainings with secondary trauma supports to prevent compassion fatigue in teachers. Teaching staff are the context of care for the students in their classrooms, and proactively fostering positive communities that provide social support and nurturing connections to offset any secondary trauma they experience stands to offset a known barrier to their ability to provide the consistent, high quality trauma-informed instruction.

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Declarations

Conflict of Interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

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