

Examining Behavioral Health Screening Tools to Identify Adverse Childhood Events in Minoritized

Students in a School Setting

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Abstract

Universal trauma screening process does not exist in the elementary school setting, yet school-aged children have the highest incidence of trauma or adverse childhood experiences. Research indicates implementation of universal screenings for individual students and the student body as a group (systems level data) is feasible. An effective screening process in an elementary school setting was developed by: 1) surveying teachers' perception of trauma among their students, 2) implementing a schoolwide screening process to understand the academic, social, and emotional needs of students and their families, and 3) gathering and sharing resources based on the teacher survey and screening results. The IHI model for improvement was used for this quality improvement project (QI). Using Plan, Do, Study, Act (PDSA) cycles; and a school behavioral framework guided an evidence-based approach to implementing a screening process in an elementary school setting. Teacher surveys were administered, and three communication strategies were employed to implement the screening and connect with families which included electronic, digital text messaging, in-and person communication. A 100% response rate from teachers surveyed exceeded one of the project's aims for two of the three questions and 90% response rate for the third question. Teachers also requested more trauma-informed training. There was a 30% engagement rate and almost 17% completion rate of the screening tool. A collaborative process with stakeholders was instrumental in the success of this project. Digital text messaging is an effective method to communicate and engage families, but more iterations of the screening process are needed.

Problem description

Adverse childhood experiences (ACEs) are traumatic events that occur in childhood, such as violence, abuse, and growing up in a family with mental or substance abuse issues (Centers for Disease Control and Prevention [CDC], 2019). Current research demonstrates that trauma exposure is common with nearly two-thirds of children exposed to a traumatic event before the age of 17 (Gonzalez et al., 2016). In the United States, the most common forms of ACEs include economic hardship and parental separation or divorce. Older children (13-17 years of age), non-Hispanic African American children, children living in poverty and children living in rural areas are more likely to experience parental separation or divorce (Crouch et al., 2019). In Oregon, 24.1% of children under 18 years of age have experienced two or more ACEs with the highest prevalence among Native American/Alaska Natives, African Americans, and Native Hawaiian/Pacific Islanders (Oregon Health Authority, 2019). School-aged children have the highest incidence of ACEs (Oregon Health Authority, 2019). In Lane County, data from 2014-2017 show the prevalence is even higher, with 25.2% of adults having experienced four or more ACEs which is 50% higher than the general population (Oregon Health Authority, 2019; CDC Vital Signs Fact Sheet, 2019), suggesting worsening trauma exposure over time. Incorporating trauma-informed educational strategies and interventions in early childhood aligns with federal policies and programs which seek to improve school climate and reduce trauma among youth in America (SAMSHA, 2022).

ACEs have adverse effects on a child's cognitive development, increasing negative health outcomes, morbidity, and mortality rates (Crouch et al., 2019; Gonzalez et al., 2021; Jones et al., 2019; Nadeem et al., 2021). One ACE factor with a deleterious impact on cognitive development is poverty. Poverty rates in Oregon parallel the national average of 11%, while in Lane County poverty rates are approaching 20% (Lane County Equity Report, 2019). Poverty is described by Engle & Black (2008) in terms of income level and social exclusion, with income poverty defined as lacking enough means to pay

for basic food needs to meet nutritional requirements, necessitating financial assistance; consequently, this level of income poverty can lead to social exclusion on many levels, including lack of information and education. Poverty contributes to multiple secondary adversities, such as family economic insufficiency, hunger, and increased exposure to violence (Hughes & Tucker, 2018). For minorities, specifically African Americans, poverty can be compounded by the effects of structural racism and discrimination. Research has linked ACEs to neuroendocrine dysregulation impacting cognitive and memory abilities which can derail learning (Oh, 2018). As a result, screening and assessment of a child's needs before entering school can inform teachers, school leadership, and behavior support staff in schools how best to support students facing adversity and trauma (Gonzalez et al., 2021; Robles et al., 2019)

Evidence indicates screening for childhood adversity, including behavioral or mental health issues, is an important initial step in identifying children at risk for harmful or negative outcomes (Oh et al.; 2018; Perry & Daniels, 2016; Yucell et al., 2020). Untreated mental health conditions in childhood, resulting from ACEs, that persist into adulthood, typically require more intensive services and are associated with higher risk for other health conditions, such as obesity, stroke, cancer, and diabetes; thus, early treatment of mental health conditions is critical to mitigating this cycle (CDC Vital Signs Fact Sheet, 2019; Sicheloff et al., 2017). Universal health screenings (screening the entire student body or school district) using a multi-tiered approach to assessing behavioral health risks, where a group (comprehensive, systems level data), as well as individual students, are screened, were found to be feasible to implement in schools (Sicheloff et al., 2017). A school behavioral health (SBH) framework was used to administer behavioral health screenings where mental health survey completion rates by school staff exceeded 68 percent (Sicheloff et al., 2017). A secondary analysis by Sicheloff et al. (2017) analyzed the implementation of universal health screenings and found that less than 15% of schools screen students; thus, this proposal focuses on developing a systematic approach to implementing trauma

informed screening for students in a public elementary school setting because no such system currently exists in a local school district in the Pacific Northwest.

Available Knowledge

Research shows that a student's cultural identity and background increase their risk for disciplinary measures in school. Minoritized students and students with disabilities are disproportionately expelled or suspended from school, often leading to the juvenile justice and prison systems (Dorado et al., 2016). In 2009-2010 the San Francisco Unified School District found that African-American students were suspended 6.5 times more than European American students (Dorado et al., 2016). Lack of awareness and understanding of trauma leads to the inability to respond appropriately to behavioral problems, increasing the prevalence of decreased academic performance and school dropout (Dorado et al., 2016; Robles et al., 2019). Academic success is contingent upon healthy socioemotional development and when ACEs are present, children of color are often mislabeled as unmotivated, unruly, or diagnosed with a behavioral, developmental, or psychological disorder, and the school dropout rates are higher (Dorado et al. 2016; Perry & Daniels, 2016; Robles et al., 2019). Additionally, using screening tools with a trauma-informed framework and implementing trauma-informed educational practices addresses gaps in punitive treatment, decreases stress or post-traumatic stress aggression and out of school suspensions, and increases school engagement among students, importantly minoritized students (Dorado et al., 2016; Daniels & Perry, 2016; Oh et al., 2018; Sicheloff et al., 2017; Yucell et al., 2020).

A review of the literature revealed five screening processes for assessing trauma and risky health behaviors in children. Three of these screening processes focused on trauma in schools (Cordell et al., 2015; Dorado et al., 2016; Gonzalez et al., 2016; Nadeem et al., 2021; Perry & Daniels, 2016; Sicheloff et al., 2017). Commonalities among these five studies include important steps to the implementation of a screening tool, which are: 1) identification of schools where students are not

meeting academic metrics; 2) collaboration with the school system and the local community to get buy-in, particularly among the school principal and families; 3) selection of a valid screening tool, 4) provision of education and/or training to individuals who will be administering the screening, 5) identification of a data collection system or digital program to gather and synthesize the data, 6) care coordination with the school system, families, and community to provide resources that address the unmet needs of students (Dorado et al., 2016; Perry & Daniels, 2016 & Sicheloff, 2017). Each of the aforementioned screening processes described used one or more of these implementation processes.

The first screening process was done through the University of California, San Francisco's Healthy Environments and Response to Trauma in Schools (HEARTS) Program, which promotes school success for trauma-impacted students through a whole-school approach (school students, staff, and the school system) utilizing the response-to-intervention multi-tiered framework (Dorado et al., 2016). The HEARTS program is grounded in the Trauma and Learning Policy Initiative's framework and the goals were to: 1) increase student wellness, engagement, and success in school, 2) build staff and school system capacities to support trauma-impacted students by increasing knowledge and practice of trauma informed classroom and school-wide strategies, 3) promote staff wellness through addressing burnout and secondary trauma and, 4) integrate a cultural and equity lens with an understanding of the sequelae of trauma to reduce racial disparities in disciplinary actions such as suspensions and expulsions. The program was implemented in four schools (n=1243), program length ranged from 1.5 to 5 years, and showed a need for addressing the achievement gap for minority students, primarily African-American and Latinx. A subsample of 46 students received HEARTS on-site therapy using a validated screening tool called the Childhood and Adolescent Needs Strengths scale (CANS). This tool was used to assess the impact of trauma-informed practices on student outcomes. The results showed there was an increase in student wellness, engagement, and success in multiple areas that were statistically significant. This included increases in the students' ability to learn, stay on task, attendance, and decreases in behavior

incidents and school suspensions. School staff also increased their knowledge in trauma-informed educational practices as well as implementing these practices.

Gonzalez et al. (2016) conducted a school-based screening approach using a validated screening tool, the Trauma Event Screening Inventory for Children (TESI-C-Brief), a validated screening tool tailored for elementary school-aged children. A brief self-report method assessed the incidence of trauma exposure among 402 elementary students from ethnically and linguistically diverse backgrounds, and if the effects of trauma led to PTSD, (Gonzalez et al., 2016). Over one-third of students had trauma exposure and experienced PTSD that caused significant distress (Gonzalez et al., 2016). The TESI-C-Brief was determined to be an effective tool, but one limitation of the study was selection bias, thus data may not be fully representative of trauma exposure in this population (Gonzalez et al. 2016).

In a 2021 systematic review, conducted over two years, Nadeem et al. (2021) studied the feasibility for primary care teams (including medical assistants and primary care providers) to screen for traumatic stress among adolescents at school-based health centers (SBHC) and the subsequent connection (linkages) for adolescents who screened positive to behavioral health services. Using the Primary Care PTSD (PC-PTSD) screening tool as the initial screening and the subsequent screening, PTSD Checklist for DSM-5 (PCL-5), given by the integrated behavioral health clinician (IBHC), the study found that among 12- to 22-year-olds (n=2109 in year one, n=2052 in year two), who either spoke English or Spanish, 66.3% completed the initial PC-PTSD screen in year one and 46.7% completed the initial screen in year two (Nadeem et al., 2021). The subsequent assessment, PCL-5 had a much lower completion rate of 9.6% and 8.1%, respectively (Nadeem et al., 2021). This study also included a chart audit analyzing the process of linkage by the primary care provider (PCP) to behavioral health services and oftentimes documentation by PCPs was insufficient to determine if the results of the traumatic screening were discussed with the patient and if a plan was made to connect them to behavioral health services (Nadeem et al.,2021). Though the follow up screening rates were low, the majority of adolescents

within the SBHC setting were connected to IBHC, other behavioral health services or were scheduled to receive services, conveying efforts were made by the SBHC to link adolescents to behavioral health care (Nadeem et al., 2021). The authors proved that trauma screening is feasible in SBHCs, but inconsistent staffing may lead to lower screening rates (Nadeem et al., 2021).

Siceloff et al. (2017) examined the rising utilization of mental health services using the school behavioral health (SBH) framework. The authors discuss the elements needed to develop a multi-tiered SBH approach to care and examines whether universal mental health screening can be implemented. The traditional approach in schools has been the refer-test-treat model. In this model, students with the highest need are prioritized by referral to special education or related services. However, this approach does not allow for students who may be at risk for developing a behavioral health need (Siceloff et al., 2017). Though utilization of mental health services is on the rise in schools, less than 15% of schools have a strategic and systematic approach to screening for mental health risk and conditions at the population level, which can identify students who need immediate treatment and students who would benefit from early intervention or preventative services (Siceloff et al., 2017). The authors were part of a two-year study, The USC Project to Learn about Youth study, funded by the Centers for Disease Control. The study assessed universal, district-wide screening by teachers for behavioral health and tic disorders in central South Carolina, K-12 school districts (20 schools with over 10,000 students), including urban, suburban and rural areas (Siceloff et al., 2017). The assessment used by teachers was a two-part, online validated survey and included the Strengths & Difficulties Questionnaire and the BASC-2 Behavioral and Emotional Screening system, totaling 55 questions and took 4-5 minutes to fill out for each student by a designated teacher (Siceloff et al., 2017). The results revealed a 68.6% survey completion rate and excluding the 10% of families who opted out, the completion rate was 76.7% in year one and similar results in year two, 68.5% and 73.9% respectively; therefore, these results show that universal screening of mental health conditions in the SBH model is feasible (Siceloff et al., 2017).

Two limitations to universal mental health screening in schools are funding and stigmatization of mental health (Siceloff et al., 2017).

Rationale

The framework used for the quality improvement project is the IHI model for improvement. Using Plan, Do, Study, Act (PDSA) cycles can lead to improvement because it allows for sequential tests of change (Scoville & Little, 2014). Additionally, an SBH framework was used to guide an evidence-based approach to implementing a behavioral health screening process in an elementary school setting (Siceloff et al., 2017). SBH involves systematically evaluating all students in a school or school district on behavioral and emotional criteria using a universal screening process (Siceloff et al., 2017). The next step in the SBH framework includes selecting a screening tool that is contextually and developmentally appropriate, psychometrically sound, and usable (Siceloff et al., 2017). Thirdly, ensuring there is a data infrastructure in place to gather and analyze the data is necessary. Lastly, communicating clear objectives for the screening process is paramount to facilitated that the selected screening tool meets the school's needs and has the scientific elements necessary to match the screening goals (Siceloff et al., 2017).

The root-cause-analysis completed for this project identified the absence of a standard screening process to proactively determine historical experience of adverse childhood events among elementary school students using a cause and effect diagram (Appendix A). Developing an evidence-based screening process will fill this gap, allowing school personnel and leadership to tailor system level and individualized interventions based on specific student needs (Cordell et al., 2015; Siceloff et al., 2017). A trauma-informed educational (TIE) approach underpinned this work with the goal of increasing student wellness, engagement, and facilitating success for students (Dorado et al., 2016). Additionally, a TIE approach integrates a culturally sensitive and equity focused lens, which can reduce racial disparities in disciplinary actions such as suspensions and expulsions (Dorado et al., 2016). Multiple leadership

elements are essential to address and facilitate the change in education through a trauma-informed lens. Particularly for future, ongoing, sequential tests of change, leadership elements that are transformational, complex, and authentic, create successful microsystems. Understanding that there are racial inequities in the identification of trauma in youth that can lead to biological changes, inappropriate punitive interventions, and negative academic experiences and outcomes, is a key part of addressing these inequities and changing the system (Dorado et al., 2016, Perry & Daniels, 2016; Oh et al., 2018; & Sicheloff et al., 2017). Once trauma in students is identified, a trauma-informed educational approach has led to changes in how the school system and staff engage with students, resulting in improvements in students' experience and academic outcomes.

Specific Aims

The overall aim of this project was to develop an effective screening process for trauma in an elementary school setting. The reason for implementing this trauma screening process was to survey teachers on their understanding of trauma in the learning environment and how to support students in the classroom, and to assess the academic, social, and emotional needs of students and families (See Appendix B). By the end of September 2022, the goal was to have 90% of teachers and staff complete a survey to ascertain whether receiving information about their students' trauma experiences is helpful and what they feel would best support the needs of their students. By late December 2022, the goal was for 50% of families to complete a screening about their exposure and experience with trauma. Resources and results of screening and teacher feedback were gathered and shared within the school community.

Context

Two thirds of the student population at a small elementary school in the Pacific Northwest (SPN) are underserved with minoritized students making up a little more than one-third of the total student population (GreatSchools, 2022). The SPN program is ranked above average for overall student progress,

yet the underserved and minoritized students are making less academic progress compared to all students at the school (GreatSchools, 2022). At SPN, students with disabilities are suspended more than 2.5 times compared to the state average for this group. Sadly, when examining suspension rates of all students the rate is less than double the state average (GreaterSchools, 2022). The total number of families eligible to fill out the screening is two-hundred and forty. Facilitators to this project include the school principal promoting trauma screening and examining current school data for outcome gaps (academic, behavioral, psychosocial) within the system and school staff/teachers interacting with the students regularly to assist follow-up with families to encourage completion of screening. Anticipated barriers included time limitation for implementation and adequate data collection due to the academic schedule, resistance to the process of carrying out behavioral screenings in the school setting due to increased workload, and reluctance from families/students to participate in trauma screening leading to low survey response rate.

Interventions

The first step of the intervention was to collaborate with school leadership to determine the most appropriate screening tool to use for this student population, and an effective process for implementing the screening tool (Siceloff et al., 2017). The second step was to survey school staff and teachers using Qualtrics, a digital database, to assess their understanding of how trauma presents in their student population (Appendix B). Staff/teachers were asked to rate the prevalence of students with trauma in their class by choosing percentage categories (Appendix B). Lower percentage ratings may indicate a lack of understanding from teachers on the impact of trauma on behavior and learning. The third step was to identify the teachers and staff to facilitate the administration of the anonymous screening tool starting in September of 2022 before the school year begins during school registration. Additional points of contact, such as parent-teacher conferences and scheduled school activities for students and their families, were utilized to try to increase the number of returned screenings.

Reminders were sent out by leadership and staff through email, text messaging, and the school newsletter. Only one full PDSA cycle was done. The last step in the implementation process of the school screening tool was collaborating with leadership to review screening responses and develop a resource list to address the system and individual needs of students. The anonymous screening was sent out to families with the option to be contacted by school leadership and staff to follow up on more immediate needs.

Study of Interventions

During weekly meetings, field notes were taken to understand the current process at the school and to identify which leader/staff/teacher would carry out administering the student survey and gathering the data. To prevent respondent burden, observation and note taking was done to determine the impact of the screening process on daily routine. Note taking and observation will help determine the elements that contributed to the success of intervention.

Measures

The first outcome measure for this project included the number and percent of completed staff and teacher surveys. The staff/teacher survey was administered digitally through a software program, Qualtrics, and results will be downloaded from Qualtrics. The survey included three questions to understand teacher perception of how trauma in students may be reflected in a classroom setting. The last two questions assessed whether staff/teachers felt resources would be helpful (using a 4-point Likert scale from 'It would not be helpful' to 'It would help significantly') and what specific support they needed to help support their students. A second outcome measure was the number and percent of completed screenings. The process measure involved determining which method(s) used to communicate with families about the trauma screening tool had the highest return rates. For example, looking at the number of responses received after increasing the frequency of a communication method or if online methods vs in-person methods yielded better response rates.

Analysis

To meet aim 1 for this project staff/teacher surveys completed were counted and a percentage was calculated. A histogram was employed for the first three survey questions that assessed the staff/teacher beliefs about the incidence of student trauma and the impact of the trauma on academic and behavioral concerns. For question four of the survey, a percentage was calculated for the number of staff/teachers answering either 3 or 4 on the 4-point Likert Scale. For the fifth survey question, a pie chart was created to describe which resources staff/teacher feel would help them to meet the needs of the students. Data collection for the screening tool was done monthly, from mid-September 2022 through early December 2022, to determine the response rate and which method of communication elicited the highest responses. The number of families who engaged in the screening, but had multiple items of missing data, and the number who completed the survey were calculated and graphed on a run chart. A percent response rate was calculated by dividing the number of screenings completed by number of screenings sent out. The feedback from teachers on what they need to better support students will help in developing a school resource list for the school to address needs from the results of the screening tool.

Ethical Considerations

Ethical considerations for this project included making certain that families do not feel targeted and ensuring the assessment tool did not stigmatize families based on educational and familial needs. The tool was responsive to historical and cultural issues, especially with the heightened discriminatory experiences of minoritized groups. Ethical principles of autonomy, respect, veracity, and confidentiality were maintained, throughout the project. A request for determination was submitted to the Institutional Review Board, the project was deemed quality improvement and no further action was taken. There was no conflict of interest to declare.

Results

The staff/teacher survey, which was administered on August 31, 2022 had 100% (N=31) response rate within 3 days, exceeding the 90% goal. Most staff and teachers believe that students in their classroom have experienced some type of trauma. More than half of teachers believe 26% or more of students have experienced or have been impacted by trauma (See Figure E1). Two-thirds of teachers perceive trauma to be associated with students who have academic concerns (See Figure E2). An even higher percentage of teachers, 77%, perceive that trauma is affecting more than 50% of students in their classroom (See Figure E3). Finally, over 77% of teachers believe that knowing the psychosocial needs of students in their classroom would be helpful to them. Staff and teachers provided feedback on which supportive resources would help them meet the needs of their students including additional training in trauma and trauma-informed care, time to get to know students/families, classroom support and coordinated care (See Figure E4).

The second portion of this QI project was to evaluate family experiences using a trauma screening tool. A diary of events was recorded (See Table 1).

Table 1
A Timeline of the Quality Improvement Project

Dates	Events
6-Sep-22	Family Screening Final Approval by School Leadership
5-Oct-22	Discussion w/Author of Screening Tool
20-Oct-22	Edits Provided by Author of Screening Tool Specific to QI Project
20-Oct-22	Final Edits to Screening Tool Made
21-Oct-22	Family Screening Tool Launched

The implementation of the family screening tool was approved by leadership prior to the start of the academic year, on September 6th, 2022. The initial communication to families about the screening was

shared through the school newsletter on September 16th, 2022. To uphold ethical considerations on the use of the tool, the original developers were contacted to review and discuss if the tool could be modified for the purpose of this project. This process delayed the launch of the screening tool until October 21st, 2022. A run chart is provided to show each week which communication strategy was employed facilitating engagement and completion of the tool. The run chart illustrates the number of families who engaged with the screening tool but may not have completed the tool (See Figure E5).

There were three methods of communication utilized in this QI project (all decided upon in collaboration with school leadership): electronic communication via newsletter, digital communication via text, and verbal communication via video links and in-person conversations. The highest engagement and completed number of screening tools was in week 2 after the first text message method was employed. Forty-seven families engaged with the tool, but only twenty-four completed the screening for a total of 10% response rate for week 2. Overall, seventy-three families engaged with the screening tool and forty-one completed the screening tool over the 5-week project resulting in a 17% response rate. Families who engaged with the survey started the survey but did not answer the majority of the questions. It is unclear why so many families had engaged with the screening tool but did not complete it. The least number of responses came during the week of parent-teacher conferences with only one family completing the tool during this time. During parent-teacher conferences the screening tool was made available by providing iPads to families waiting for their scheduled conference time, but it is unclear how many families were able to arrive early enough to review and complete the tool before the parent-teacher conference start time. Of note, the school sent out messaging by text message from the school district at the same time of the parent-teacher conferences about another survey requesting feedback from families. This may have interfered with families responding to the screening tool for this project. Though text messaging elicited the highest response rate, delayed launching of the screening tool may have led to low response rates overall. A benefit of in-person dissemination of tool was having

families share their thoughts on receiving the screening and their impression of the quality of the survey. For example, one father stated that the screening tool asked questions appropriate questions eliciting meaningful information. The mother of another student shared that she felt the tool was important because it was asking questions related to her experience of trauma.

Summary

This QI project utilized an evidence-based and culturally sensitive approach to develop and implement a screening process using a staff/teacher survey and a family trauma screening tool. A strength of this project was utilizing the SBH framework by collaborating with staff, teachers, and school leadership to understand their perception of trauma among students at SPN while gaining an understanding of what they value in their teaching experience to help them address the needs of their students. The staff/teacher survey exceeded the desired response rate, but the family screening only reached 17% response rate. The highest engagement with the implementation of the tool occurred with text message communication. Initial communication with families through the newsletter and in-person communication yielded the lowest engagement and completion rates. A list of resources was compiled using the data from the staff/teacher survey and the screening tool and distributed to staff and families. The key findings from this QI project are: 1) staff/teachers are motivated to address the academic, behavioral, and emotional needs of their students and families; 2) determining the needs of the staff/teachers for future training; 3) screening tool to assess trauma and needs of students and families can be designed using a culturally appropriate and equity lens; 4) families interviewed supported the use of the screening tool; and 5) text messaging is an effective communication method to reach families but a follow-up PDSAs are needed.

Interpretation

In this QI project, the response rate of the staff/teachers survey was higher (at least 90%) than in the in the Healthy Environments and Response to Trauma in Schools (HEARTS) study (62% response

rate) (Dorado et al., 2016). This was a significant finding for this project since the focus was on building collaborative relationships with school personnel, students, and families. Knowing that staff/teachers are motivated and engaged will be critical to future PDSA as additional systems will be implemented to support students and families in and outside the classroom. Research indicates care coordination is a key component in building relationships and addressing communication gaps with families (Daniels & Perry, 2016; Dorado et al., 2016).

According to Perry & Daniels (2016) the highest requested item by teachers and staff was professional development training. For this QI project staff and teachers requested trauma informed educational development the most when asked about what they need to better support students in the classroom. A similar finding in the staff/teacher survey was the request for professional development training, particularly TIE.

In this QI project, we had lower engagement and response rates to our survey questions, but one major difference is that the studies referenced were done over multiple years vs 5 weeks. Various communication strategies were utilized for this project with text messaging showing the highest response rate. This is different than another study that found on-site access to support for students and families with intentional follow up and monitoring seemed to be effective (Perry & Daniels, 2016). In the Dorado et al. (2016) study, looking at tiered support for individual students and school-wide, telephone communication was the primary method in connecting with families and provided a way to educate families on psychosocial support strategies. Two different primary communication methods were used, which does not support one method over another, but the common theme in each is the investment of time taken to implement TIE approach and the comprehensive outlook on how to effectively implement TIE.

Multiple screening tools were reviewed that address pediatric trauma, eventually the tool chosen for this project was specific in screening for trauma and understanding how students function and

behave in school. A thorough process was employed with the developers of the tool to adapt the screening tool to meet the needs of the students and families. Just as choosing the appropriate tool was important to the success of this project, making sure the screening tool was provided in English and Spanish was a priority, making sure communication about the project was provided in both languages as well. Feedback from families during the in-person communication method provided evidence of support for the implementation of the tool.

There is a two-fold systems impact from the results of the QI project. First, the teacher survey highlighted the desire for more TIE professional development training and now leadership is aware of this and can take steps to support teachers in this request. Second, as part of the school's effort to support families, in part from the results of the screening tool, the school is putting together a day of support for families where donations will be collected for household items, clothes, toiletries. Additionally, community organizations that focus on youth development have been asked to partner with SPN to share with families how they can participate and how families can be sponsored to participate.

This QI project was conducted over a very short time period (5 weeks) and this may have led to decreased response rate. Additionally, the screening tool was modified to ensure it was culturally appropriate and questions written using an equity lens. These modifications required approval from the developer of the CANS tool which delayed the timing; thus, the administration of the screening did not occur with the new school year's welcome back and registration process as planned.

Limitations

There were several limitations of this project. First, although this project can be generalizable in other school settings, the results may yield different results/needs based on specific needs of each school community. Another limitation is that this project did not connect with the Spanish speaking families in a meaningful way, despite sending out communication in Spanish. A third limitation is that

the timing of the dissemination of the screening tool coincided other screenings launched by the school district which may have interfered with the number of families who responded to the screening tool for this project. The school district screening had a similar title and was sent out at the same time communication was given to families about the screening tool for this project which may have impacted the response rate during that time interval and overall. Finally, this project was conducted without the facilitator of the project having much background in launching a project such as this, and there may have been a more efficient functional design for this project, particularly understanding and navigating the how to use the Qualtrics database.

Efforts were made to minimize limitations in this project, including choosing a screening tool that was appropriate for this project. Attempts were made to collaborate with Spanish speaking personnel at SPN who have relationships with families and know which families may connect with the reason the screening tool was sent out, but only one Spanish speaking family completed the screening tool using the Spanish version. Conversations with key stakeholders, school leadership and leaders within the school district were essential; yet it was not clear that other screenings would be done during the same timeframe. Dissemination of two-family screenings at the same time could be a confounding factor, leading families to believe they were filling out the screening tool for the QI project.

Conclusions

As a result of this QI project teachers are receiving additional support in TIE and a school event has been planned to provide families with donated items, personal services, and youth specific organizations where families can have their child participate in skill building, as well as team-oriented activities. This project highlights that a trauma screening process and an effective method of communication can be implemented in an elementary school, which is vital for setting the foundation for additional information gathering and the next PDSA cycle. The next PDSA cycle should look at how demographics and disparities need to be prioritized, specifically looking at families who are impacted by trauma the

most. One recommendation is to disseminate the screening tool at the beginning of the school year as new students and returning students are welcomed back to school, particularly while families may be more available with their time and potentially interested in engaging in the process before getting inundated with other school obligations.

A collaborative school approach can be utilized to obtain a clearer understanding of the incidence of trauma within the school district and the state level, which can inform policy for more funding in schools to address this need and potentially link students and families to services early on, before the issue shows negative impacts on the child. As a healthcare provider, having interprofessional collaboration between schools and pediatric primary care settings to address trauma can have a significant and positive impact on a child. With children having the right support in school, interprofessional collaboration between these two disciplines can lead to successful learning and continued engagement in school. This is a moral imperative when considering the health disparities on trauma and its impact on brain development, learning, and subsequent health conditions.

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Screening for Primary Care: Qualitative Study. *Journal of Medical Internet Research*, 19(7), e261.

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Appendix A

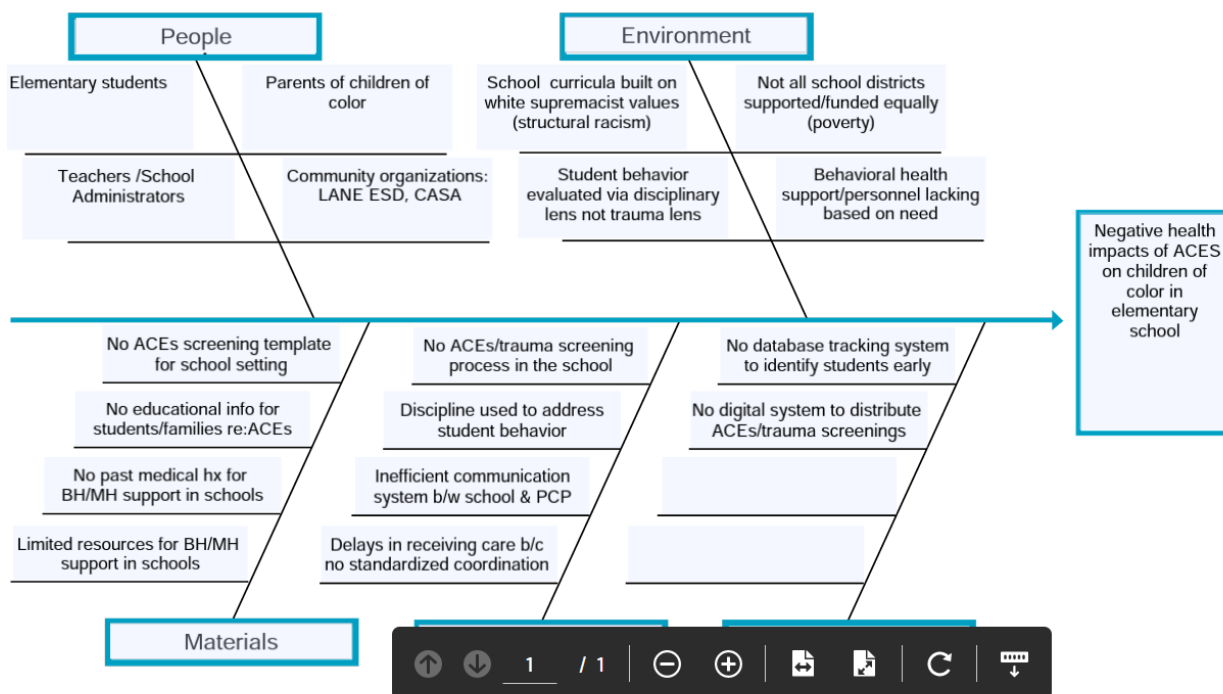
Cause and Effect Diagram

Template: Cause and Effect Diagram

Team: Enyo Dzata

Project: ACEs/Trauma Screenings in Schools

- 1) Input the effect you'd like to influence.
- 2) Input categories of causes for the effect (or keep the classic five).
- 3) Input causes within each category.



APPENDIX B**STAFF & TEACHER SURVEY****STAFF AND TEACHER INITIAL SURVEY**

Teacher & Staff Survey: The goal of this survey is to understand the psychosocial needs of students and what resources can be provided to help meet these needs.

What percentage of students in your class (on average) do you think are experiencing trauma *
or have been impacted by trauma?

- 10% or less
- 11-25%
- 26-50%
- 50% or more

Of the students in your classroom who have academic concerns, what percentage do you *
think have been affected by trauma?

- 10% or less
- 11-25%
- 26-50%
- 50% or more

Of the students in your classroom who have behavior concerns, what percentage do you think * have been affected by trauma?

- 10% or less
- 11-25%
- 26-50%
- 50% or more

Do you think having information about the psychosocial needs of students in your class would * be helpful?

- It would not help 1 2 3 4 It would help significantly
-

As a teacher/staff member, what would help you best prepare to meet the needs of students?



Paragraph

Long answer text

Appendix D Family Survey Model

Standard Comprehensive Child and Adolescent Needs and Strengths 3.0 • Rating Sheet

Date: <input style="width: 50px;" type="text"/>			
Type: <input type="checkbox"/> Initial <input type="checkbox"/> Scheduled Update <input type="checkbox"/> Major Life Event <input type="checkbox"/> Exit			
Assessor ID: <input style="width: 50px;" type="text"/>		Program: <input style="width: 50px;" type="text"/>	
Client Name: <input style="width: 50px;" type="text"/>		Client ID: <input style="width: 50px;" type="text"/>	DOB: <input style="width: 50px;" type="text"/>
Gender: <input style="width: 50px;" type="text"/>	Ethnicity: <input style="width: 50px;" type="text"/>	Grade: <input style="width: 50px;" type="text"/>	Zip Code: <input style="width: 50px;" type="text"/>

d

For the **Life Functioning Domain and associated module**, use the following categories and action levels:

- 0 – No current need; no need for action or intervention.
- 1 – Identified need that requires monitoring, watchful waiting, or preventive action based on history, suspicion or disagreement.
- 2 – Action is required to ensure that the identified need is addressed; need is interfering with functioning.
- 3 – Need is dangerous or disabling; requires immediate and/or intensive action.

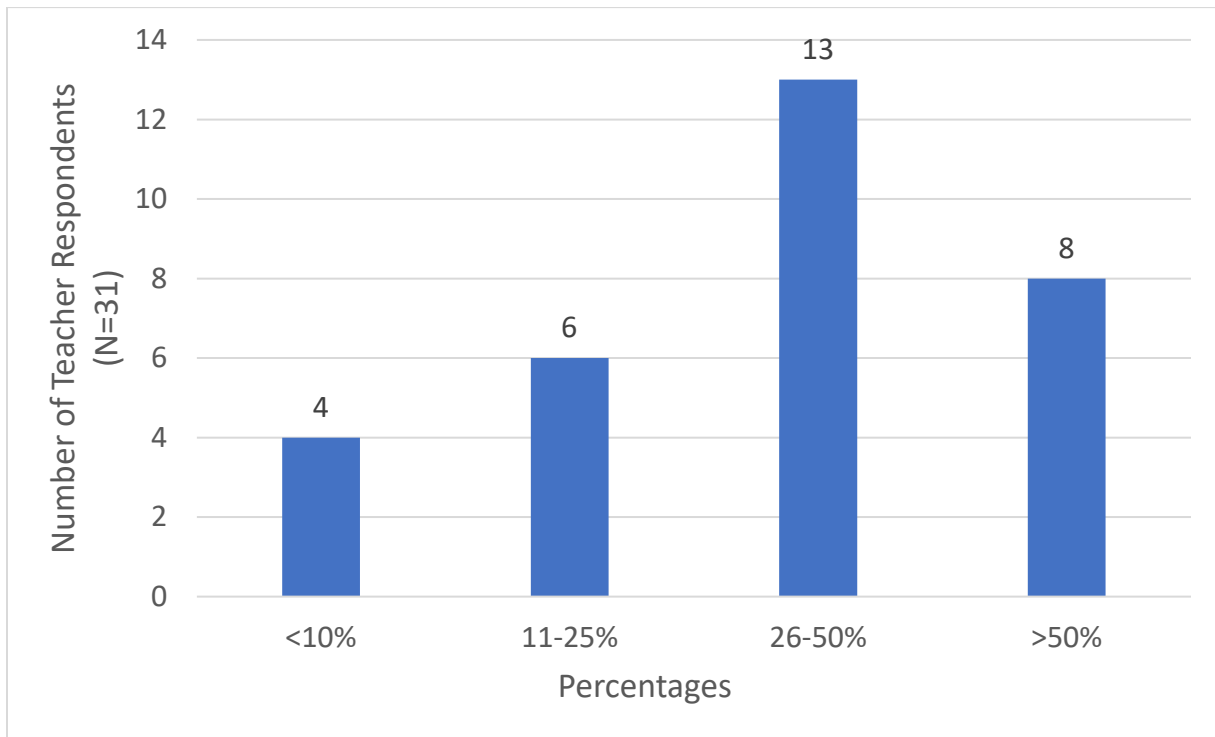
LIFE FUNCTIONING DOMAIN										
Items	N/A	0	1	2	3		0	1	2	3
Family Functioning		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Medical/Physical	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Living Situation		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sexual Development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social Functioning		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sleep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recreational		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	School Attendance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Developmental/Intellectual (A)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	School Behavior	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Job Functioning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	School Achievement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Legal		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Decision Making	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A. DEVELOPMENTAL NEEDS MODULE (To complete when the Developmental/Intellectual item is rated '1', '2' or '3'.)										
Cognitive		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Communication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Developmental		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Self-Care/ Daily Living Skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please write a rationale for any item in the above domain or modules rated actionable ('2' or '3').

Appendix E
Staff/Teacher Survey results

Figure 1

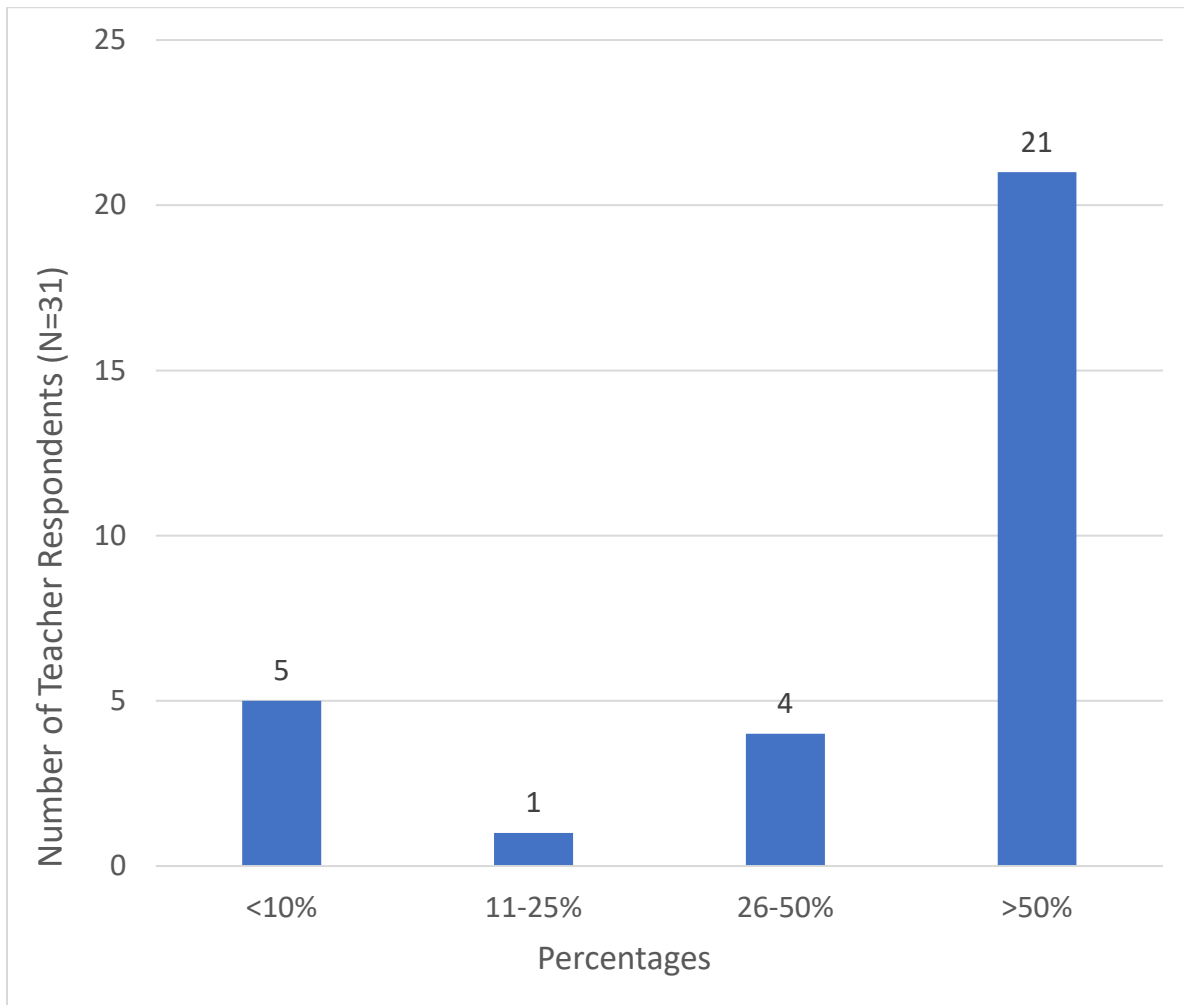
Percentage of Students in the Classroom Affected by Trauma



Note: Survey question 1: What percentage of students (on average) in the classroom have experienced trauma or are impacted by trauma?

Figure 2

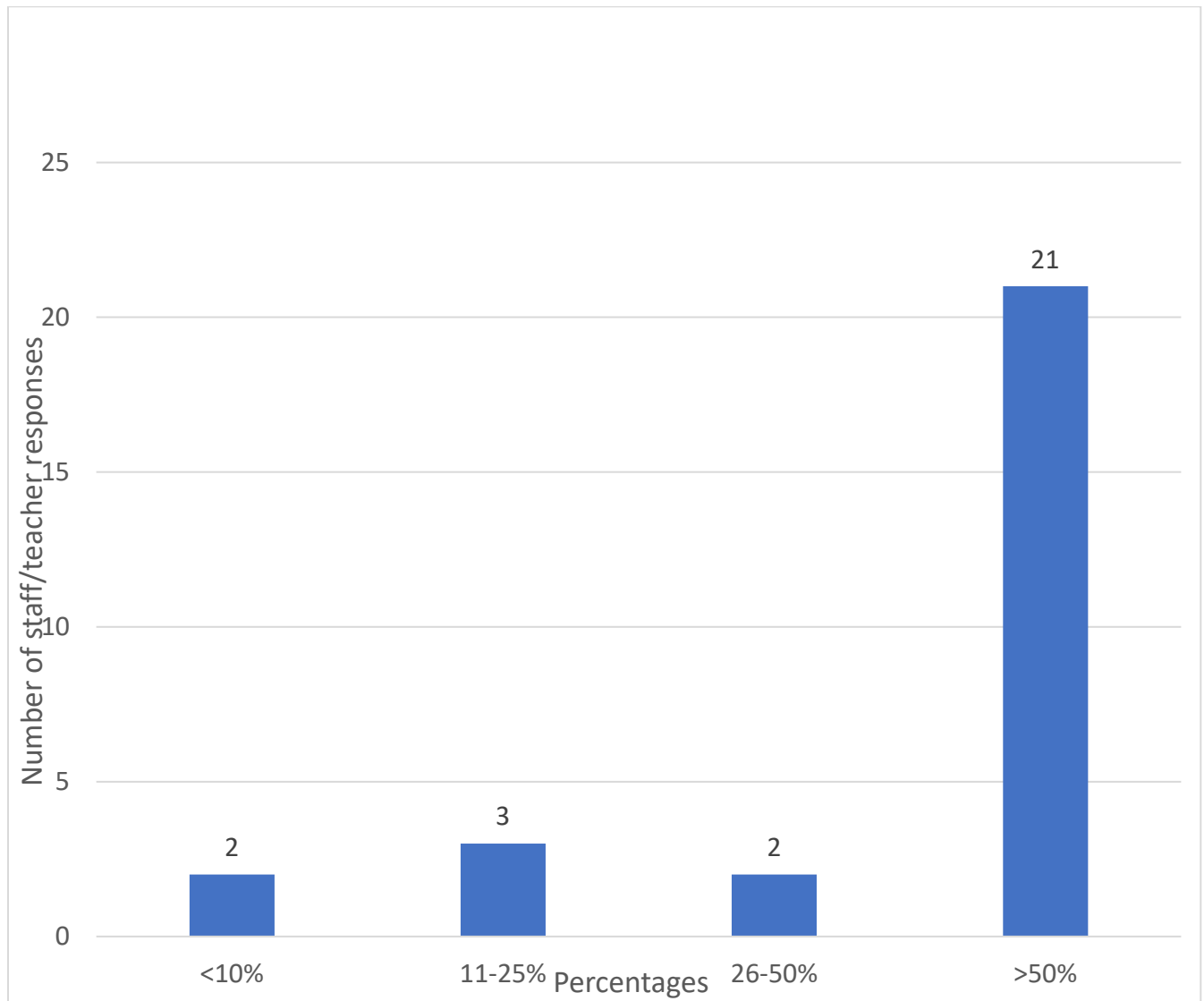
Percentage Of Students With Academic Concerns Teachers Believe May be Affected By Trauma



Note: Survey question 2 asked of the students in your classroom who have academic concerns, what percentage of students do you think are affected by trauma?

Figure 3

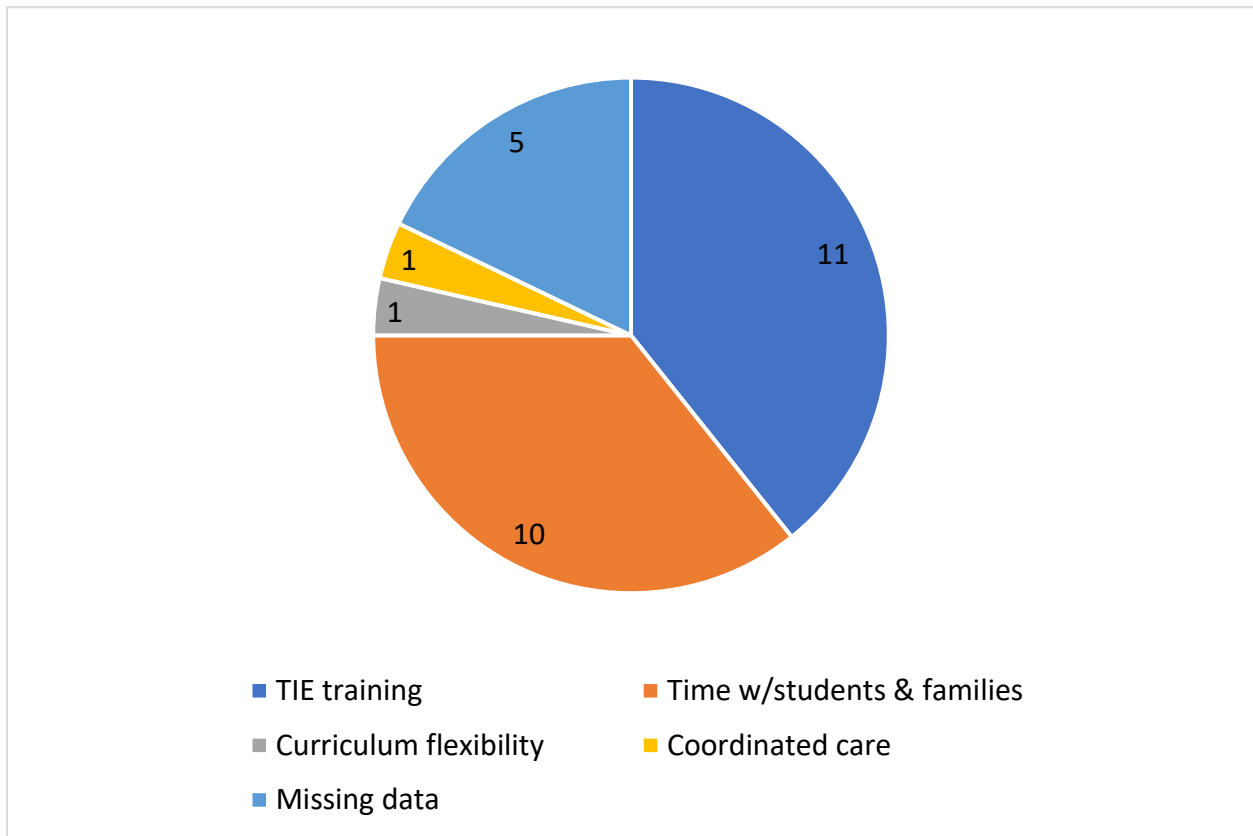
Percentage of Student With Behavioral Concerns Teachers Believe Are Affected by Trauma



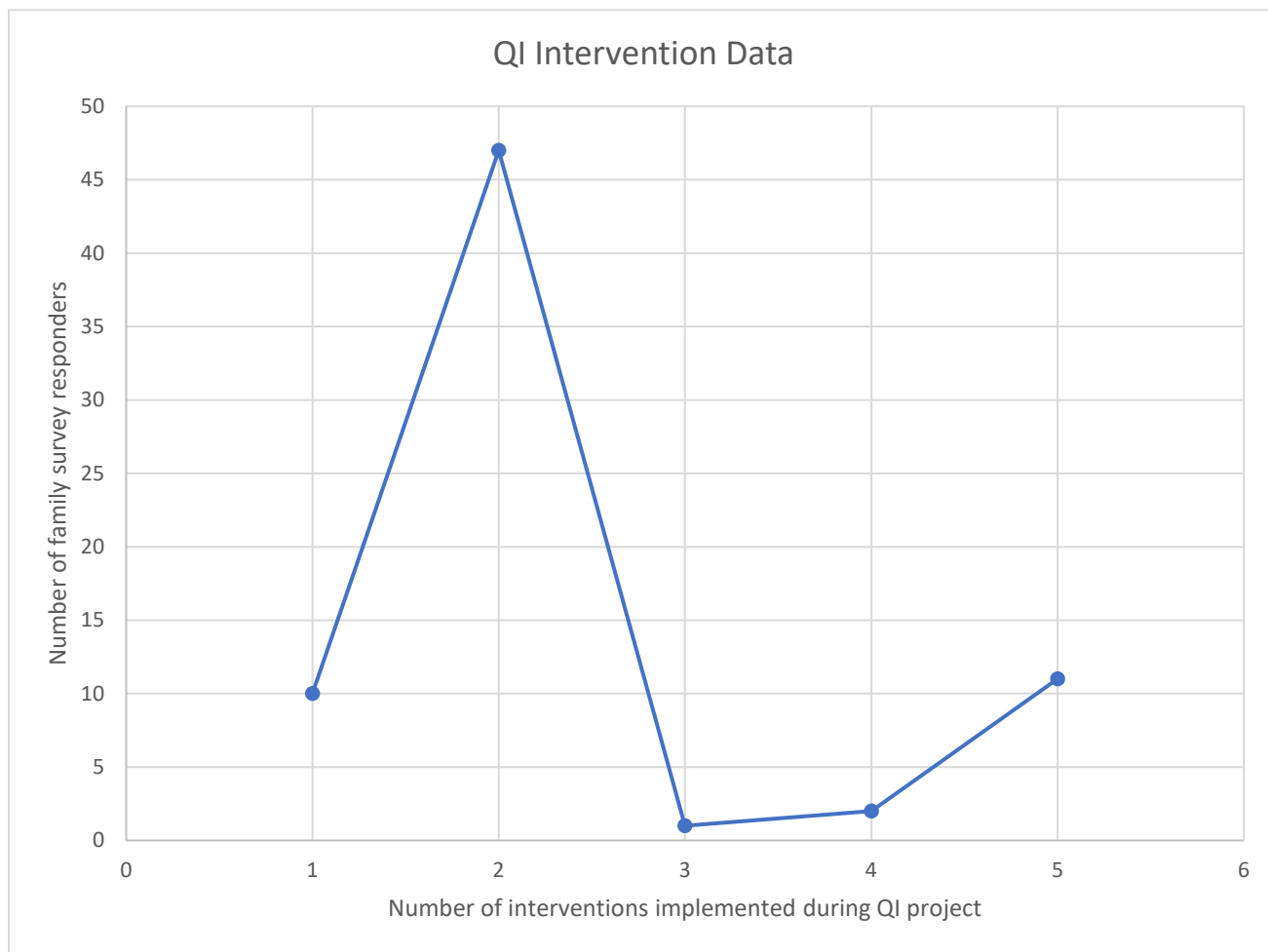
Note: Survey question 3 asked of the students with behavior concerns, what percentage do you think are affected by trauma?

Figure 4

What Teachers Say They Need to Support Students in the Classroom



Note: Survey result from what teachers need to support students in the classroom with not all teachers responding and some teachers giving more than one answer (N=28/31)

Figure 5*Quality Improvement Data: Each Method of Communication*

Note: Each Method of Communication by date: 1= 10/20 -11/1: Weekly Newsletter, 2=11/2-11/8: Weekly Newsletter + text message, 3= 11/9-11/10: Weekly Newsletter + P/T conference, 4= 11/11-11/15: Weekly Newsletter, 5=11/16-11/12/2: Second text message + continued weekly newsletters