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# Teachers' Perceptions of Toxic Stress and Classroom Practices They Use with Young Children

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Walden University
2020

Abstract

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by

Pamela Joyce Waddell

MA, Lindsey Wilson College, 2010

BA, Virginia Tech, 1994

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

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## Abstract

Young children experiencing toxic stress has negative consequences on their development. The purpose of this case study was to explore teachers' perceptions of toxic stress in young children and the classroom practices used to assist students experiencing toxic stress from two rural early childhood centers in an eastern state in the United States. The conceptual framework for this qualitative research included Bronfenbrenner's ecological model of human development, social constructivist theory, and information from The Center on the Developing Child at Harvard University. The research questions explored teachers' perceptions of toxic stress in young children and classroom practices being used in the classroom when working with students experiencing toxic stress. Data collection for the study included teacher interviews, journals, and classroom observations. Open coding and thematic analysis were used for data analysis and to develop a synthesis of the information, including the main themes. The results of the final study indicated that teachers describe challenging, aggressive, and/or withdrawn behaviors in students experiencing toxic stress. Teachers indicated concerns about the home environments of young children experiencing toxic stress. Teachers felt emotional and unprepared when working with these children and they used consistent routines and frequent communication to support students experiencing toxic stress. The research could lead to social change, especially in the local community and to the local providers of early childhood education and care. The study could help to inform the local community about toxic stress and the influences on growth and learning for young children dealing with toxic stress.

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# Dedication

The dissertation is dedicated to my husband, Marc and our son, Caden. Without your love, support, and encouragement, I could not have accomplished this journey. I also dedicate this to my mom and dad, for their love and support from the very beginning.

For all those that have chosen the field of early childhood, I also dedicate this work. The field of early childhood offers so much to so many. Thank you for your time, talents, and dedication to children and families.

Acknowledgments

I wish to first acknowledge that all the praise and thanks goes to God. **Psalms 121:1-2** *I will lift up mine eyes unto the hills, from whence cometh my help. My help cometh from the LORD, which made heaven and earth.*

I have been so blessed with tremendous family and friends. My wonderful husband and son have walked this journey with me from day one. They have been more than supportive and patient. They have been my cheering squad and my shoulders to cry on. Also, to my terrific parents for their constant love and support. They have always believed in me and encouraged me. My dad did not get to see me complete this accomplishment. However, I know that he is seeing the completion of this dream and journey from heaven, along with other family, friends, and our littlest angel. To my mom, she continues to show me how to remain strong and committed to dream your dreams. I also want to acknowledge my friends and close colleagues. Thank you for always supporting and encouraging me. A special thank you goes to my peer reviewer for her time and help. A special acknowledgement goes to Dr. Darragh Callahan. She helped me begin my Walden journey. Finally, a tremendous and heartfelt thank you goes to my committee members and especially to my committee chair, Dr. Terri L. Edwards. Dr. Edwards has helped me so much and encouraged me in so many ways. She has supported me and guided me. She has shared the journey and lifted me up more times than I can count.

I am so thankful and blessed for everyone in my life, that walked this journey with me. Thank you!

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# Chapter 1: Introduction to the Study

Early childhood is a critical time for growth and development in children. Young children are often entering early childhood classrooms for the first time and teachers are working with young children from many backgrounds and with varied developmental levels (Escamilla & Meier, 2018). According to Perry (2016), founder of The Child Trauma Academy, children have many opportunities from public education such as valuable experiences that will help to develop their brains, bodies, and minds. Teachers are seeing children entering school with delays in brain development, including development in cognition, social skills, and emotional skills (Perry, 2016).

These developmental delays in cognition and in social and emotional development are being caused by children experiencing extreme stress from events such as abuse, negative environments, and poverty (Fisher et al., 2016). The extreme stress is also known as toxic stress or trauma. Exposure to this type of stress causes changes to occur in young brains, influencing children's overall growth and development negatively (Perry, 2016). The reality of early toxic stress is that it may lead to a life of continual distress for many children (McEwen & McEwen, 2017). It is critical for schools, centers, and teachers working with these children to grasp the results of toxic stress on the young brain. The educational environment needs strong policies, procedures, and guidelines that focus on success for all children, including the ones in toxic stress (McEwen & McEwen, 2017).

In this study I explored teachers' perceptions of toxic stress in young children and practices they used in early childhood classrooms. The study had the potential to provide

teacher insight that could inform the early childhood field on perceptions of toxic stress. The research could lead to social change, especially in the local community and to the local providers of early childhood education and care. The study could help to inform the local community about toxic stress and the influences on growth and learning for young children dealing with toxic stress.

The chapter will highlight the background of the study, the problem statement, the purpose, and the specific research questions that were used during the research. The chapter has information on the conceptual framework guiding the research and important definitions that are referenced throughout the study. The chapter concludes with a discussion of assumptions and limitations for the research and the significance of the study and the chapter summary.

## Background

In an eastern state in the United States, where the study took place, the number of families living in poverty is around 62,717, according to Child Care Aware® of America State Child Care Facts (2017). As of July 1, 2016, the United States Census Bureau had 20.2% of families and children living in poverty within the county selected for the current study. According to The Institute for Child, Youth, and Family Policy, The Heller School, Brandeis University (2016) poverty brings many challenges to young children, including toxic stress.

The reviewed literature contained information on toxic stress and young children, with limited information available on teachers' perceptions and their practices with students with toxic stress. According to McEwen and McEwen (2017), it is important

that professionals in the field of early childhood understand that children in stress must be positively supported in their early childhood experiences. Teachers need to be well-informed and supported while working in settings with students experiencing toxic stress.

## Problem Statement

There is a problem pertaining to young children experiencing toxic stress and the influences this has on their development. Children are experiencing major stressors, some caused by the effects of poverty, resulting in concerns for their development and learning (Dijk, 2018; McEwen & McEwen, 2017). These stressors are causing some children to suffer in their social and emotional development, resulting in children potentially being labeled with behavioral concerns and facing challenges in their learning (McWhirter, McWhirter, McWhirter, & McWhirter, 2017). These stressors are often viewed as toxic stress, defined by The Center on The Developing Child at Harvard University or CDCHU (2016) as a "response [that] can occur when a child experiences major, frequent, and/or prolonged adversity" (p. 12). These adversities can include neglect, abuse, parental mental illness, and economic concerns. Infants and young children experiencing toxic stress have changes in their growth and development (Fisher et al., 2016). Shern, Blanch, and Steverman (2016) noted findings in which children experiencing toxic stress may have changes to the structure of their brain resulting in challenges to learning and delays in cognitive and emotional development. Perry (2016) examined the changes to the young brain resulting from toxic stress and trauma. He focused on the negative results to cognitive development, especially with children living in poverty. Perry suggested that the achievement gap can be increased for children in

poverty and toxic stress once they enter school. In 2016, the Mercer Child Development Council looked at information shared by teachers throughout early childhood classrooms and daycare facilities in the eastern state in the United States. The information indicated an increase in children facing the effects of toxic stress. Brightman, Thompson, Esernio-Jenssen, Alford, and Shenkman (2015) also noted influences of stress to children in poverty increasing, with effects being noted in development and overall health. The literature reviewed included a focus on the developmental effects of toxic stress, along with school environments and other possible supports for children in toxic stress. There appeared to be a meaningful gap in the research on practice concerning exactly how teachers of young children perceive toxic stress and the early childhood classroom practices used when working with students who are experiencing toxic stress. Humphries, Williams, and May (2018) discussed the importance of teachers' perceptions in the early childhood classroom and they found that additional research was needed in understanding teachers' perceptions toward stress and social/emotional learning. Humphries, Williams, and May looked closely at perceptions as factors influencing teacher practice and that these perceptions can influence the overall classroom practices found in early childhood settings.

## Purpose of the Study

The purpose of this study was to explore teachers' perceptions of toxic stress in young children and the classroom practices used to assist students experiencing toxic stress from two rural early childhood centers in an eastern state in the United States. The study could provide information about perceptions and practices focused on young

children experiencing toxic stress and further contribute to the body of knowledge needed to address this problem. The research paradigm was grounded in a social constructivist approach, with a qualitative design. In this study I looked at eight teachers in total: four each from two rural early childhood centers in an eastern state in the United States. The findings from this study could identify new information on perceptions and early childhood classroom practices of teachers working with students experiencing toxic stress.

## Research Questions

In the qualitative study, I looked at the following research questions: (a) What are teachers' perceptions of toxic stress in young children they work with? and (b) What classroom practices are teachers using in the early childhood classroom when working with students experiencing toxic stress?

## Conceptual Framework

The conceptual framework for this qualitative research included Bronfenbrenner's ecological model of human development (1994), social constructivist theory (Piaget, 1936; Vygotsky, 1978), and the report on toxic stress from the CDCHU. Bronfenbrenner explored the influences of connected systems that influence development of humans from birth throughout their life. The microsystem, mesosystem, exosystem, and macrosystem are the systems Bronfenbrenner described. The growing and developing child is influenced by each system. In the microsystem, the growth of the child is influenced by such factors as family and school. In the macrosystem, the child's development is

influenced by things such as living in poverty and cultural contexts (McWhirter et al., 2017).

Kretchmar (2018) explained Vygotsky's social constructivism and the idea that learning appears in the context of social and cultural connections. Vygotsky focused much attention on the role of social supports and community in supporting the learning process. Vygotsky saw social interaction as having a meaningful role in a child's learning. People interacting with the child also played a critical role in the child's learning, such as seen in scaffolding (Kretchmar, 2018; McLeod, 2018; Vygotsky, 1978). Teachers working with students can use the theory of social constructivism to understand the learning process (Kretchmar, 2018). In exploring the information from Adams (2006) on social constructivism, it is important to note the overarching elements such as the importance of learning activities, scaffolding, the connections to culture and home, and the zone of proximal development (Vygotsky, 1978).

The CDCHU (2016) presented a detailed report which included information on the use of science, research, and development, as key factors in responding to toxic stress in children and families. The report contained details on child development, past research, and new research opportunities in toxic stress. Environmental areas, safe spaces, appropriate curriculums, staff considerations, positive interactions, and well-trained staff were all factors noted in the report.

I further explored the research questions by using Bronfenbrenner's (1994) model, as a support for the conceptual framework. I also referenced the theory of social constructivism during the analyzation of the data, to construct new knowledge on both

perceptions and early childhood classroom practices (Adams, 2006; Vygotsky, 1978). The report from the CDCHU (2016) was another item referenced during data collection and analyzation. Thematic analysis of the data collected on teachers' perceptions and early childhood classroom practices was used to identify patterns and connections in working with young children experiencing toxic stress. The themes in the data could provide pedagogical knowledge for teachers working with students experiencing toxic stress.

## Nature of the Study

Qualitative research, using a case study model, was used in the design of this study. As Yin (2013) noted, the research results from the case study could highlight the case "within its real-world context" (p. 321), allowing for a closer reflection of the data. A case study represented the most reasonable design to collect the anticipated data on teachers' perceptions and classroom practices used to assist young children experiencing toxic stress. Ryan, Lane, and Powers (2017) also examined multilayered supports for young children in early childhood settings that could support the negative experiences of toxic stress using a case study design. Jensen (2013) shared research findings with poverty and toxic stress working together to influence a child's experience in the early childhood classroom setting.

Data collection for the study included interview responses, journal entries, and classroom observations. The data came from the selected teachers in early childhood classrooms, from two rural centers in an eastern state in the United States. Teachers participating in the study worked with students from birth to five.

Thematic analysis was used to analyze the qualitative data collected during the study. In using thematic analysis, connections and themes in the data were identified. The connections and themes provided additional information on the research questions. Open coding was used for thematic analysis. The coding process allowed me to develop a synthesis of the information, including main themes about the two research questions. In the process of open coding, I used hand-coding, Microsoft Word and Excel files, and the qualitative data analysis software QDA Miner Lite.

## Definitions

For the purposes of this study, the following definitions were addressed:

*Early childhood:* In this study, early childhood referred to children who were between the ages of birth and five (McEwen & McEwen, 2017).

*Early childhood centers*: In this study, settings included early childhood centers that provided services to children from birth to five. The settings encompassed the overall center location, including classrooms, playgrounds, and equipment. (McEwen & McEwen, 2017).

*Early childhood center director*: The qualified person responsible for the day-to-day operations at the center (Escamilla & Meier, 2018).

*Teachers*: Staff employed at the early childhood centers, responsible for directly providing services and educational opportunities in early childhood classrooms to young children (Humphries et al., 2018).

*Toxic stress and/or trauma*: Continuous adverse instances of stress/trauma that interrupts the normal brain functioning and development in a young child (CDCHU, 2016).

## Assumptions

In this study, one assumption was that early childhood professionals might have different perceptions of toxic stress and young children than the current research information. Early childhood professionals might define toxic stress differently from the research and look at it more within the parameters of behavior, rather than from the developmental perspective. Another assumption was that teachers in the early childhood classrooms might use planned activities that might not be identified as supporting the individual child and may not support a child experiencing toxic stress. Another assumption was that it might not be easy to observe early childhood classroom practices with children in toxic stress. A final assumption was that teachers in early childhood centers might not plan and individualize for children struggling in certain developmental domains. These assumptions were important to identify because they could be common assumptions found in the thoughts of some professionals currently in the field and ones outside of the field of early childhood.

## Scope and Delimitations

The study yielded information on perceptions and classroom practices that teachers, in two rural early childhood centers were using, to support young children experiencing toxic stress. One boundary of the study included the geographic location of the two rural early childhood centers. The centers were in a small town in an eastern

state in the Unites States. Another boundary was the number of teachers in the possible participant pool for the study. The participants needed to be teachers currently working at early childhood centers. Due to the rural area, the early childhood centers were limited in number. The centers also employed small numbers of staff and this limited the participant pool for the study. The study excluded private preschools, state preschool programs, family childcare providers, and public preschool settings.

Thick description methods were used during the data collection stage and during the thematic analysis of the data. I used a reflective journal to record information about local phenomenon, cultural considerations, and potential societal issues observed or experienced while collecting the data. The reflective journal helped to describe social and cultural themes and patterns identified during the research. The data, along with the reflective journal included generalized information on teachers' perceptions of toxic stress and early childhood classroom practices used in working with children experiencing toxic stress. The research yielded information that might be generalized for use by early childhood professionals and teachers. The research might also provide beneficial information for early childhood staff working at preschools, public schools, and Early Head Start and Head Start programs.

## Limitations

A few limitations were considered in the study. One limitation was that the study was limited to two rural early childhood centers in an eastern state in the United States, making the number of available teacher participants low. Another limitation for consideration was that the study focused only on early childhood centers. Most of the

available locations in the identified research area were made up of public schools and Head Start facilities. A final limitation to consider was that the participants had varied degrees of education, knowledge, and experience with toxic stress.

Transferability and the dependability of the design were considered in the limitations of the study. The results from this case study might not be suitable for generalization to all early childhood classroom settings; including preschool, Pre-K, and family homes. The research results were specific to the selected early childhood centers and reflective of the participants working at those centers. The dependability of the study was supported by triangulation and the plan for data collection. Triangulation occurred with the use of three different methods for the collection of data, including interviews, journals, and observations. These multiple methods supported the dependability of the study, providing information from eight teachers in total: four each from two rural early childhood centers in an eastern state in the United States.

The observational periods could have been influenced by teacher participation, child interactions, and the fact that the observations interrupted the normal daily routine to some small extent. Bias was considered, one bias being the selection of early childhood centers due to the limited availability of potential sites. My observation during the observational periods was a potential bias, especially in ensuring the capture of objective and factual information.

I addressed transferability, dependability, and biases by having the selection of locations remain consistent with the planned study. The selection of participants was also consistent. Another measure was that the participating locations and the teacher

participants were well-informed about the purpose of the study and the parameters to individual participation throughout the research. A final measure to address the potential biases was to have the thematic data that was collected reviewed by a second source not related to the study. The secondary peer review was a person in education employed at a local school, with no connections to the participants or the selected locations in the study. Their review included a check for accuracy of themes and review of the data analysis, checking for objective and factual details versus individual opinions and/or assumptions.

## Significance

Identifying common themes in perceptions and early childhood classroom practices of teachers working with students experiencing toxic stress was a significant part of this study. Shern et al. (2016) described families and children in poverty being influenced by stress at regular intervals throughout their lives. There was limited research concerning teachers in early childhood centers working with children experiencing toxic stress. The study could provide information to rural, early childhood centers by helping to identify further training and professional development in working with young children experiencing toxic stress.

The study could be meaningful to local early childhood teachers and the communities they serve by providing significant information to help inform the rural localities about young children experiencing toxic stress. Many of these rural early childhood centers provide essential care and educational opportunities to children from birth to school-age. In 2016, the Mercer Child Development Council also found staff in these facilities reporting limited access to professional development opportunities in

classroom practices with children experiencing toxic stress. Early childhood staff could be informed with details about toxic stress from this study. Teachers of young children could also be informed on early childhood classroom practices and opportunities to improve learning outcomes. The study could potentially be significant in allowing teachers to be involved in sharing knowledge about those classroom practices used to assist children experiencing toxic stress. The research could lead to social change, especially in the local community and to the local providers of early childhood education and care. The study could help to inform the local community about toxic stress and the influences on growth and learning for young children dealing with toxic stress.

## Summary

Early childhood is a critical time for growth and development in children. There was a problem pertaining to young children experiencing toxic stress and the influence it had on their development. The problem was happening for young children in an eastern state in the United States. The purpose of this study was to explore teachers' perceptions of toxic stress in young children and the classroom practices used to assist students experiencing toxic stress from two rural early childhood centers in an eastern state in the United States. The focus of the research questions included teachers' perceptions of toxic stress in young children and the early childhood classroom practices they used to assist students experiencing toxic stress.

Thematic analysis was used to analyze the qualitative data collected during the study. In using thematic analysis, connections and themes in the data were identified. The connections and themes provided additional information on the research questions.

Open coding was used for thematic analysis. Identifying common themes in perceptions and early childhood classroom practices of teachers working with students experiencing toxic stress was a significant part of this study. The research could lead to social change, especially in the local community and to the local providers of early childhood education and care. The study could help to inform the local community about toxic stress and the influences on growth and learning for young children dealing with toxic stress.

In Chapter 2, I present the results of the literature review and discuss the conceptual framework. The chapter contains current research on toxic stress and young children. Information on the causes of toxic stress, affects to learning and development, and support for young children experiencing toxic stress are all included in the literature topics reviewed. Literature search strategies are provided. Related key concepts are identified for the literature reviewed. The conceptual framework is discussed and explained in detail.

# Chapter 2: Literature Review

The purpose of this study was to explore teachers' perceptions of toxic stress in young children and the classroom practices used to assist students experiencing toxic stress from two rural early childhood centers in an eastern state in the United States. In this chapter, I identified the search strategies I used to obtain relevant primary and secondary sources from the last five years that focus on toxic stress and young children. I presented information on my conceptual framework, the ecological model of human development. The rest of the literature review contained information on defining toxic stress and the influences of toxic stress on development, children, and families. Information on teachers working with children experiencing toxic stress and community supports for children and families were also discussed in the literature. I also reviewed information on resiliency and took a further look into the conceptual framework and literature that supported the framework throughout the study. I concluded the chapter with the summary based upon the literature review.

## Literature Search Strategy

The literature review was a thorough review of current information and topics on toxic stress and young children. I used the Walden University Library to access the following databases: Academic Search Complete, Education Source, ERIC, Expanded Academic ASAP, PsycINFO, Science Direct, Social Sciences Citation Index, and SocINDEX with Full Text. I also used Google Scholar to identify other resources. Additionally, the library search process included searches using Boolean/phrase selections to identify full text offerings that were limited to academic, peer reviewed

journals. Further, I limited my search to relevant research with publication dates ranging from 2012 to 2018.

The following charts highlight key search themes, words, and combinations of search themes and words utilized during the literature search and identification period.

Table 1

*Key Search Themes, Words, and Combinations*

| Toxic Stress | Poverty and Community | Trauma and Resiliency | Mental Health and Health | Families and Toxic Stress |
|---|---|---|---|---|
| Toxic Stress in Young Children | Poverty in Early Childhood | Trauma in Young Children | Early Childhood Mental Health | Families and School Supports in Toxic Stress |
| Toxic Stress in Children | Poverty and Toxic Stress | Trauma in Early Childhood | Early Childhood Health | Families and Toxic Stress |
| Toxic Stress in Early Childhood Education | Poverty and Trauma | Trauma and Health | Mental Health and Development | Parents and Toxic Stress |
| Toxic Stress and Trauma | Poverty and Early Childhood Development | Trauma and Families | Health of Young Children | Mothers and Toxic Stress |
| Toxic Stress and Poverty | Poverty and Trauma | Trauma in Schools | Mental Health in Young Children | Fathers and Toxic Stress |
| Toxic Stress in Education | Community | Head Start and Trauma | Early Childhood and the ACES Study | |
| Toxic Stress in the Classroom | Community Responses to Toxic Stress | Resiliency in Young Children | | |
| Teacher Perceptions of Toxic Stress | Community Supports to Early Childhood | Resiliency in Early Childhood | | |
| Teacher Activities and Toxic Stress | Communities and Trauma | Child Resiliency | | |
| Classroom Environments and Toxic Stress | Community Supports for Children in Toxic Stress | Resiliency and Toxic Stress | | |
| Schools and Toxic Stress | | Resiliency and Trauma | | |
| Schools and Trauma | | | | |
| Toxic Stress and Childcare | | | | |
| School Supports for Toxic Stress | | | | |

## Conceptual Framework

The conceptual framework for this qualitative research included Bronfenbrenner's (1994) ecological model of human development, the social constructivist theory (Piaget, 1936; Vygotsky, 1978), and the report on toxic stress from the CDCHU (2016). With the ecological model of human development, I addressed the developmental influences of toxic stress in children. Then using social constructivist theory, I incorporated systemic influences on the presence and considerations of toxic stress. Last, the report for responding to toxic stress allowed me to address the various influences and outcomes of toxic stress more specifically for young children.

### Bronfenbrenner's Ecological Model of Human Development

Bronfenbrenner (1994) explored the influences of connected systems on the development of humans from birth throughout their life. These connected systems are the microsystem, mesosystem, exosystem, and macrosystem. The microsystem includes the child's family environment, friendships, school relationships, and other close relatives. The next system is the mesosystem; this system interacts with the microsystem and involves the family and school connection regarding a larger environment that surrounds the child. The next system Bronfenbrenner described is the exosystem. With this system the child and family unit can be influenced by the greater external environments such as the family work environment. The exosystem can also influence the neighborhood surroundings and this neighborhood connection can relate to the school setting and to the family setting. An even broader system is the macrosystem. The macrosystem influences the child's cultural and social environment in their

neighborhood, school, and family. The final system is the chronosystem and this system extends into another direction that describes the influence of time on a child. The time factor can include chronological time and time regarding the history of the family and the history of the environment surrounding a child (Bronfenbrenner, 1994).

**Social Constructivism**

The conceptual framework was also supported by the theory of social constructivism (Piaget, 1936; Vygotsky, 1978). Social constructivism, as defined by Kretchmar (2018) is the work of Vygotsky and the thought that learning appears in the context of social and cultural connections. Vygotsky focused much attention on the role of social supports and community in supporting the learning process. He viewed these supports as playing a meaningful role in the everyday learning events that a child participated in and he felt that other people surrounding the child, also played a critical role in moving the child's learning forward, such as seen in scaffolding (Kretchmar, 2018; McLeod, 2018; Vygotsky, 1978). Social constructivism guides the process of learning and helps to guide educators and teachers in ways to help students throughout the learning process (Kretchmar, 2018).

**Center on the Developing Child**

The report on toxic stress, developed by the CDCHU (2016) includes information on the use of science, research, and development as factors in responding to toxic stress in children and families. The report contains details on child development, past research, and research and development opportunities that can be considered for future work around toxic stress. The report also provides factors to consider in early childhood

programs that can support children with toxic stress. The factors include environmental spaces such as safe places and appropriate curriculums. Staff considerations such as positive interactions and well-trained staff are also factors.

**Connections and the Conceptual Framework**

Elements in the systems from Bronfenbrenner (1994), social constructivism (Piaget, 1936; Vygotsky, 1978), and the report from the CDCHU (2016), provided connections for the study. The study centered on a conceptual framework that framed the study's purpose and data collection methods. The analysis of the data showed themes on teachers' perceptions and early childhood classroom practices. These themes might inform social knowledge and construct knowledge in working with children and toxic stress. The identification of themes might also provide insight into the importance of understanding the cultural aspect to a child's learning, especially in their previous experiences (Fleury & Garrison, 2014). Social constructivism, science, and the work of Bronfenbrenner appeared to intersect and provided focus for the purpose, data collection, and analysis. The focus on social constructivism also supported the literature review. The focus also included the importance of learning activities, learning through action, problem solving, scaffolding, the connections to culture and home, and the zone of proximal development (Vygotsky, 1978).

Bronfenbrenner (1994) described the influences of systems on an individual child. The child can experience toxic stress in these systems throughout their early years (Rosenbaum & Blum, 2015). Vygotsky's (1978) social constructivism contained theoretical guidance for the study and to the data collection and analysis. The results of

the study might include new knowledge in teachers' perceptions and early childhood classroom practices when working with students in toxic stress. The report from the CDCHU (2016) provided a definition for toxic stress and information on the developmental changes caused by toxic stress.

## Literature Review Related to Key Concepts

### Defining Toxic Stress

The literature review defined toxic stress in different ways. Shonkoff, with the CDCHU (2016) established the term toxic stress and defined this type of stress as continual exposure to adverse events that can lead to changes in a child's brain, growth and development. (Perry, 2016; National Scientific Council on the Developing Child, 2014). Information provided includes types of stress, adverse experiences, and implications from toxic stress. In 2007, A Science-Based Framework for Early Childhood Policy, The National Scientific Council on the Developing Child provided foundational, scientific support and informed policy and practice when looking at the influences on young children dealing with toxic stress. The problem of toxic stress as a change agent in the growth and development of young children was supported by the information. The results of stress do depend on the types of stress and the events that happen in a child's life (Rosenbaum & Blum, 2015).

### Three Types of Stress

The council looked at the stress response system in children and the different types of stress including three levels of stress: "positive, tolerable, and toxic" (CDCHU, 2016, p.11). The first stress level was a more normal stress that activated a response but

was relatively short and did not create a negative influence. The second level was more influential and had the potential to last somewhat longer, causing the bodily systems to be out of balance and directly affected. The second level could be neutralized by supportive connections with people interacting positively with the child. The third level and the most serious was the toxic level. The stress response in this level was much longer and chronic in duration and could be caused by exposure to adverse events. These events might include adversities such as abuse, violence, and living in poverty (Dowd, 2017). The toxic nature of this stress led to effects on a child's growth, development, health, and their later adolescent and adult health (Perry, 2016). In the reviewed literature, information included supporting the potential for toxic stress to be altered, especially in examples where the child had a positive relationship with an adult who showed care and concern (CDCHU, 2016).

**Adverse Childhood Experiences Study**

Dowd (2017) revealed the connections with toxic stress that were related to the ACE or the Adverse Childhood Experiences Study. The results of toxic stress increased with each incident of an ACE indicator and many children faced at least one ACE indicator, increasing their risk immediately. Many children in poverty faced multiple ACE indicators, putting them at an even greater risk. The Centers for Disease Control and Prevention (2016) highlighted the key findings from the CDC-Kaiser ACE study that occurred from 1995-1997. The study revealed that adults who have suffered adverse childhood experiences are more likely to have greater implications to their health and life outcomes as they age. These adverse events included such things as abuse, living in

poverty, and exposure to violence (Dowd, 2017). The occurrence of these events can cause breakdowns in a child's development and growth (CDCHU, 2016). As the participants in the ACE study aged, these events appeared to also lead the subjects to an increase in unhealthy behaviors. Once the participants entered adulthood, the findings reflected increases in many diseases and illnesses, including early death (Centers for Disease Control and Prevention, 2016).

The ACE study contained useful information for this research study. The ACE study information included the affects to a child's learning, development, and growth brought on by adverse experiences or chronic exposure to toxic stress (CDCHU, 2016; Overstreet, 2015). Grasso, Ford, and Briggs-Gowan (2013) also looked at these adverse events as potentially traumatic events (PTEs). These PTEs resulted in stress and influenced growth and development in the brain of infants and toddlers. Their information concluded that as many as "1 in 4" (p.94) young children may have an event or PTE in their early years. These findings are significant in that many young children throughout our country may face PTEs. These PTEs may result in toxic stress and changes to growth and development. The literature reviewed shows that trauma and toxic stress are things that children have faced for decades and for most children they will be affected by some type of trauma during their early childhood years (Paccione-Dyszlewski, 2016). The effects of the trauma will vary for all children depending on the type of experience and the continual exposure to the stress (Rosenbaum & Blum, 2015).

**Implications on Early Childhood Development**

The literature contained information on the implications to early childhood development from toxic stress, including affects to learning, brain development, and health. The results of toxic stress on young children targets all development (Perry, 2016). The young child, from infancy to school-age is developing rapidly in physical, social and emotional, cognition, and language development. The toxic events can target development and appear as learning impairments, struggles making and keeping relationships with others, changes in behaviors, and difficulty with everyday routines such as eating and sleeping (Buss, Warren, & Horton, 2015). As children grow and develop, these events can cause multiple health and mental health concerns. Buss et al. (2015) expressed findings in children experiencing such mental health events as anxiety, increased negative behaviors, post-traumatic stress disorders (PTSD) and later exposure to the abuse of drugs and alcohol. Kletter et al. (2013) also included similar results in their findings, as they looked at potential cases of PTSD in children exposed to war, violent acts, terrorism, and other negative events. Golding and Fitzgerald (2016) noted the presence of later diagnoses of ADHD and extreme negative behaviors in children that have been exposed to toxic stress from birth to three years of age. Their findings identified that toxic stress appeared to be passed on generationally, especially in cases of mothers and male children (Golding & Fitzgerald, 2016). The information was significant because toxic events might continue from one generation to the next, making children open to greater adversities from toxic stress.

## Brain Development and Toxic Stress

The literature reviewed reflected consistency and agreement in that children facing toxic stress will have changes to their overall development and learning. The young child's brain development was also changed (De Jong, 2016; Ryan et al., 2017). Harvard University's, National Scientific Council on the Developing Child (2014) reflected that the toxic stress that some young children face can cause major changes in their overall growth and development, including the brain. The brain connections are vulnerable during the early years and the science and research showed that exposure to toxic stress actually changes and alters these connections. As children face toxic stress, their response system becomes highly alert and hormonal and chemical responses are a part of the child's reaction to the stress. The stress reaction can cause an increase in such substances as adrenaline and cortisol (National Scientific Council on the Developing Child, 2014; Perry, 2016; Shonkoff & Bales, 2011;). Some children may experience resilient factors, such as positive relationships and nurturing caregivers, providing supportive interventions in their early growth, development, and learning abilities (Dowd, 2017; National Scientific Council on The Developing Child, 2014).

## Areas of the Brain Influenced by Toxic Stress

Gershoff (2016) noted that reoccurring physical punishment is a potential form of toxic stress in young children. The areas of the brain may include the prefrontal cortex, amygdala, and hippocampus regions of the brain. These findings indicated that with repeated toxic stress the brain is in and out of a state of normalcy or allostasis. These repeated events exposed the young brain to noticeable changes and adaptations over time.

The prefrontal cortex controls emotions, along with the emotional response and with the repeating nature of toxic stress, this area of the brain is susceptible to change in typical emotional responses. The amygdala controls the fear response regulation and with toxic stress, incidences involving fear, can change the amygdala. The hippocampus controls functions such as memory and changes have also been observed in this brain location, along with the prefrontal cortex and the amygdala (CDCHU, 2016; Gershoff, 2016). De Jong (2016) continued to note similar occurrences in the young brain. De Jong's findings indicated that children exposed to domestic violence were also exposed to continual toxic stress. Changes to the brains of infant children in domestic violence situations indicated similar affects. Affects seen included changes in behaviors, less emotional control and responses from the children, differing moods such as increased irritability, and changes in the neuroendocrine system (De Jong, 2016). DeSocio's (2015) research echoed earlier findings that during the fetal period, toxic stress events for the mother might actually initiate early changes to the fetus and the developing brain. DeSocio also indicated that if once the infant is born and the toxic stress continues, then the overall implications continue for the child as they grow and develop.

**Implications to Physical Health and Mental Health**

The information gained from the CDC-Kaiser ACE study from 1995 to 1997, indicated that exposure to adverse events certainly appear to influence health diagnoses later in life (Centers for Disease Control and Prevention, 2016). Shonkoff and Garner, along with The Committee on Psychosocial Aspects of Child and Family Health, the Committee on Early Childhood Adoption and Dependent Care, and the Section on

Developmental and Behavioral Pediatrics (2012) reflected that this early exposure to toxic stress could predispose children to a comprised immune system, heart issues, depression, possible asthma conditions, and trouble in dental health. The exposure to toxic stress environments also leads to changes in human genes and changes in the genetics of a child. The correlation with toxic stress and the environment showed that children exposed to severe toxic environments were at a greater risk for changes in their genetic picture (Hornor, 2015). DeSocio (2015) revealed that recently the American Academy of Nursing decided that toxic stress must be elevated as one of the highest considerations for the health of young children. These considerations by the American Academy of Nursing were mirrored by the policy that the American Academy of Pediatrics developed in 2012. Shonkoff and Garner, along with the committee members presented an ecobiodevelopmental framework that addressed toxic stress as a major health concern for young children. The mental health implications described by De Jong (2016) included concerns with increased anxiety, depressive disorders, and increased aggression. Rosenbaum and Blum (2015) had findings that the health of today's children coincided with living in poverty. Their research showed that children in poverty typically had poorer health conditions and less opportunity to good health care and providers.

The literature was consistent and saturated with research showing how children in toxic stress were at an increased risk for many issues. These issues included multiple developmental and health related concerns, occurring before birth and into adulthood. The literature also included research on the poverty connection and toxic stress.

## The Poverty Connection

Rosenbaum and Blum (2015) looked at the connection between poverty and the overall influences on children. Their results showed that in the early 1900s, children's health was changed by infection and disease, usually leading to death. In their research, the major causes of death for children were injury and homicide, usually due to abuse and the environment. These causes were increased for children living in poverty and negative environments. Rosenbaum and Blum also made a connection to the work of Bronfenbrenner and recognized the intersection between the health of a child and the environment they live in. The children living in poverty were often living in extreme environmental conditions and had poor health conditions as well. Romens, McDonald, Svaren, and Pollack (2014) extended this focus with their study into the exposure of young children to maltreatment and abuse. Many of these children faced the consequences of repeated episodes of maltreatment, physical, sexual, mental, and emotional abuse. The research showed another example of the implications of toxic stress to a young child's growth and development. Children living in poverty are exposed to many additional stressors. Poverty not only affects the children, but it also has negative consequences for the family and the family unit (Richards, Lewis, Cornelli Sanderson, Deane, & Quimby, 2016).

## Poverty and Toxic Stress: Implications for Families

The literature included multiple references to the influences that toxic stress has on families. Blitz, Kida, Gresham, and Bronstein (2013) provided information showing that most families currently in poverty, include adults that also grew up in poverty. This

was an example of generational poverty. The research also showed that the child's system and the family system stayed out of balance due to the constant exposure to toxic stress events (Blitz et al., 2013). Rijlaarsdam et al. (2013) had findings that were similar to those of Blitz, et al. They looked at the family unit and toxic stress with a focus on children ages three to five in poverty. Their findings included information on depressed mothers, children, and toxic stress. Rijlaarsdam et al. noted that other adverse factors for families in poverty; included the home environment, parenting styles, and the social demographics of a family. Their research concluded that even if income is increased for a family, it might not be enough to stop toxic stress for the family or the children. (Rijlaarsdam, et al., 2013).

**Other Family Hardships**

In the longitudinal study from Edwards and Hans, (2015) they studied over 400 infants and their temperaments. The findings reflected that an infant's exposure to toxic stress included such key factors as types of parenting, the emotional state of the mother, family conflicts, and the family socioeconomic status or SES. These findings correlated with other findings, suggesting that for families, multiple factors might increase the results of toxic stress. Knowles, Rabinowich, Ettinger de Cuba, Cutts, and Chilton, (2016) made similar connections in their study of families that faced hardships, such as poverty, familial depression, and food insecurity. Food insecurities as a cause of toxic stress, also represented additional health and development concerns for young children. The lack of proper food and nutritional requirements for optimal growth and health was a real concern (Knowles et al., 2016). Lantos and Halpern (2015) offered research into the

role of poverty in relation to health outcomes for young children. Their research supported the study and the problem statement, especially for children already exposed to toxic stress factors from their families, and the rural environments they live in.

**Other Stressors for Children and Families**

Berry, Willoughby, Blair, Ursache, and Granger (2014) took a different approach on early childhood experiences. Their approach looked at children and their early experiences with family, schools, and community settings. These experiences might include interactions with parents, going to school for the first time, and involvement in community activities. Berry et al. looked at these experiences as potential causes for stress in young children. If these experiences were repeated and negative, then the actual experiences might serve as chronic sources of toxic stress. For some children, these childhood experiences were positive, and they benefited the young child (Berry et al., 2014). Their findings indicated that the negative experiences cause children to have increased cortisol levels and changes to executive functioning. Puff and Renk (2014) described similar findings that showed negative results for children, from family financial stress. Puff and Renk noted that the stressors families faced were from money issues, parenting tasks, living in poverty, and their children's temperaments. These stressors could be transferred to the child in ways such as lacking basic needs, stress from parental factors, and daily environmental stress. In connecting to Bronfenbrenner's model, the research also showed that the child was influenced by the surrounding systems in their life, especially the immediate family or the microsystem. From the social constructivist theory, it was also important to look at young children dealing with toxic stress.

Especially, in school settings and to be able to understand more about teachers' perceptions and early childhood classroom practices.

**Toxic Stress in the School Setting**

School is an important system as seen in Bronfenbrenner's model, including participation in the school environment or the mesosystem. These school environments and classrooms need to be sensitive to the trauma and stress that young children face (Statman-Weil, 2015). The child experiencing constant stress is always in that state of being out of balance and Statman-Weil found that many young children were coming from microsystems and family supports that were entrenched with abuse, neglect, and trauma. Often young children are misdiagnosed, and toxic stress is not identified as a concern (Statman-Weil, 2015). These misdiagnoses are critical to be aware of because early childhood teachers need to know what is going on with each individual student and what they might bring to the classroom daily, especially from the home environment (Overstreet, 2015). Gerwin (2013) expressed many opportunities that can be provided for young children, such as in Head Start and Early Head Start classrooms and their services provided to low income children and families. Gerwin proposed that the true key was really in effective caregiving within the school and classroom. Caregiving was even more critical for children in poverty. There was a consensus in the reviewed literature that more research was needed in understanding toxic stress in the school environment (Holmes, Levy, Smith, Pinne, & Neese, 2015).

Much of the literature reviewed, focused on strategies to use in the classroom with developmental delays. The gap was in the research on practice around teachers'

perceptions of toxic stress in young children and classroom practices used to assist children experiencing toxic stress. In this study, I identified and defined themes in teachers' perceptions and classroom practices from the data collected. I used the thematic information to inform the research questions and to add to the literature and research.

**Programs for Toxic Stress**

The literature did not provide as much specific information on teachers working with children and toxic stress. The literature reviewed mainly included suggestions for program options and classroom strategies. Holmes et al. (2015) looked at teachers working in early childhood settings, reviewing three urban Head Start programs that utilize Head Start Trauma Smart or HSTS. The program offered guidance to teachers and staff in utilizing interventions such as training, individualization, and peer connections. Crittenton Children's Center was a center providing mental health services, along with the three Head Start programs implementing the HSTS design. The layers of support included three specific categories including the ARC Model, trauma-focused cognitive behavioral therapy, and mental health support focused on early childhood (Holmes et al., 2015). Gerwin (2013) echoed similar findings in what certain programs were providing that might prove beneficial in working with children and families in toxic stress. Westside Infant Family Network or WIN was one such program helping parents deal with the stress from the past. Ryan et al. (2017) showed support for a layered-model approach to working with children in early childhood settings who may be facing toxic

stress. There was a consensus that multiple supports need to be in place to successfully support children and families in dealing with chronic toxic stress (Gerwin, 2013).

**Program Expulsions of Children**

Growth and learning were modified, and potential brain connections were altered and/or created due to the consistent exposure to toxic stress (De Jong, 2016; Ryan et al., 2017). The young child could potentially respond to situations differently due to the changes in the brain and may identify harmless events with fear and behavioral responses that are not typical (National Scientific Council on The Developing Child, 2014). The child's ability to remember could be influenced, along with their ability to successfully learn and develop in key domains. Research reviewed from Holmes et al. (2015) indicated that children with toxic stress faced overall delays in growth and might be exposed to expulsion from preschool settings due to what was often viewed as behaviors that were difficult. These expulsions were often more than double the numbers of expulsions in regular school settings. The results indicated that children are being misdiagnosed and not getting the professional help they need (Holmes et al., 2015). Ryan et al. found that children were removed from preschool classrooms and programs due to behaviors and delays; potentially associated with their exposure to toxic stress. The findings also supported changes to the young brain, developmental delays, and sensory disorders.

**Recommendations for Professionals**

Overstreet (2015) and the CDCHU (2016) reviewed what was needed for professionals working with children facing toxic stress. These professionals could

include teachers, psychologists, and other school personnel. Many of the recommendations were similar to those mentioned in this chapter, such as staff being informed about trauma and understanding what behavior means and the true roots of the observed behaviors. These findings were similar to Holmes et al. (2015) in showing the need for staff to be trained and to recognize when behavior may be fueled by the effects of toxic stress. Overstreet also recognized the need for staff to take care of themselves as an important strategy for working with children in an early childhood classroom. The need for early childhood professionals to be familiar with the ACE's study and the many "adverse experiences" that children may face was an important factor in the research from Overstreet (p.29). Another factor for teachers working with children in toxic stress is dealing with feelings of defeat and frustration (Statman-Weil, 2015). Staff might not be aware of the causes of the trauma and the implications to the classroom, such as withdrawal, problems with attachment, and children being in a state of constant stress. If not fully recognized or understood, there could be the potential for children to be labeled incorrectly and for staff to have negative responses to children and their families (Statman-Weil, 2015). Understanding the implications for teachers was one factor when thinking about children and toxic stress. Another factor was the classroom environment (CDCHU, 2016).

**Classroom Supports**

A common theme in the reviewed literature was for staff and schools to be well-informed about toxic stress (Walkey & Cox, 2013). Statman-Weil's (2015) found that classroom spaces needed to be appropriate for children dealing with trauma and needed

to be “sensitive” to these children (p.73). The appropriate classroom routine, staff responses, and planned activities show support for children with delays in language, communication, regulation, play, and forming relationships; all of which were concerns for children experiencing toxic stress (Statman-Weil, 2015). Holen, Waaktaar, Lervag, and Ystgaard (2013) looked at work with older children. Their work highlighted a program called Zippy’s Friends. The program promoted positive changes for the classroom setting, in the hopes of improving academic progress for children facing stress (Holen et al., 2013). The work from Jensen (2013) had recommendations for activities that included more physical activities, exposing children to new words, giving positive comments and encouragement, and developing coping skills. Jensen further explained that for children in poverty there was a difference in what teachers and staff observe in the classroom versus the same observations for middle- and upper-class children. The different focuses included: health, nutrition, word knowledge, abilities, positive outlook, intelligence, relating with others, and constant stress. According to Jensen these seven focuses, required a different approach and plan for the classroom.

**Classroom Supports for Early Childhood**

Jensen (2013) recommended that early childhood teachers and staff know their students and their needs, including knowing about health conditions, family life, individual stress responses, and nutritional concerns. Ryan et al. (2017) provided a case study example to highlight the positive indications of providing support in the preschool setting; especially during critical periods of brain growth. Ryan et al. reviewed the effectiveness of using a multi-layered model for three – five-year-olds who might not be

able to succeed in a regular preschool classroom setting. The model was the Circle Preschool Program and it was grounded in the work of Perry and the guidance from the National Association for the Education of Young Children (NAEYC). The foundations of the model included relationship building between classroom staff and children, a curriculum focused on play, positive experiences, and appropriate sensory activities (Ryan et al., 2017). Their focus was on the importance of school supports that could provide a supportive classroom setting that was responsive to the results of toxic stress and trauma. The model was positive and looked at many disciplines, approaching toxic stress from the viewpoint of early identification and early intervention, in order to potentially change the developmental outcomes for young children (Ryan et al., 2017).

**School and Family Supports**

The school is an important part of the mesosystem. According to Bronfenbrenner (1994) the school is an integral part of their family life, neighborhood, and community. Walkey and Cox (2013) supported looking at childhood stress in a sequencing manner with stress being unique at different levels. For some children, the stress may be handled by traditional supports such as positive relationships with staff and classroom supports. For other children, the supports need to be layered involving classroom staff, administration, families, and mental health. These findings were similar to the findings from Overstreet (2015) where the work reflected that traditional school settings and discipline practices might not be effective for children dealing with toxic stress. Overstreet also suggested that school staff needed to be trained in stress and to understand that behavior can be a sign that a child is experiencing stress. Overstreet

supported self-care for school staff and recognized that staff stress can be negative for the school and classroom environment. The information was important because it informed the study with possible supports already available for schools, classrooms, and early childhood educators.

**Resources that Schools Can Utilize**

The literature did include information about resources already available for schools and staff to utilize with young children and toxic stress. Overstreet (2015) reviewed the use of the National Child Traumatic Stress Network's core curriculum on childhood trauma or the CCCT as a possible support for schools and their staff. Wherry, Corson, and Hunsaker (2013) shared research on the use of assessments that could be utilized by trained staff or mental health professionals to identify trauma in children. In the research from Wherry et al. they identified a form created by Briere called the trauma symptom checklist for children, which looked to identify trauma in young children, especially children facing toxic stress from sexual abuse. The use of the checklist was valuable because it supported the idea of involving parents in the process and this was important for schools to consider (Wherry et al., 2013). Research from Forkey, Morgan, Schwartz and Sagor (2016) showed the benefits of using the trauma symptom checklist (TSC), the trauma symptom checklist for children (TSC-C) and the trauma symptom checklist for young children (TSC-YC). Their work focused on looking at children in foster care settings that had been exposed to trauma/stress and who are exhibiting behavioral concerns and health adversities. Forkey et al. provided helpful insight into the

need to look closely at the foster care population and the need for additional tools and supports to help inform those working with children and families in similar situations.

**School Supports and Responses to Toxic Stress**

The CDCHU (2016) reviewed how schools and childcare centers have responded to the recent research in brain development and toxic stress in young children. Their findings indicated that most schools and childcare programs had not successfully responded to the changes in research. Programs and schools were continuing to use information that was outdated and did not recognize the current information from neuroscience and epigenetics. Supports that could be beneficial for schools, teachers, and staff to implement included play, language, self-regulation skills, supporting executive functioning, and understanding young children's mental health (CDCHU, 2016). Day et al. (2015) offered similar support in their work and the review of schools working with students in trauma, as they looked closely at females in a residential school setting. The study from Day et al. supported the ecological model of Bronfenbrenner (1994) with indications that the individual system for the student, or the microsystem, must work together with the mesosystem, or the school environment. Day et al. indicated that for schools to be well-informed they must consider all of Bronfenbrenner's systems and that trauma and stress does reach every system, influencing the child, family, school, and community.

**Early Childhood Supports**

Perry and Conners-Burrow (2016) focused on early childhood facilities, offering additional support to the current study. Their findings were similar to Day et al. (2015),

with information supporting the use of training for staff and the collaborative work with teaching staff and mental health providers. Perry and Conners-Burrow focused on the use of early childhood mental health consultation or (ECMHC) in childcare, schools, and home visits with parents and families. The collaborative model showed progress in identifying toxic stress implications early. Teaching staff used play scenarios, active listening, positive talking points, eye contact, supportive attention, and positive discipline with children (Perry & Conners-Burrow, 2016). Driessen (2018) looked at early intervention opportunities in the Netherlands, in programs providing support to children from lower economic homes and minority families. Training for staff was necessary because teachers needed to be aware of toxic stress and more training was also needed on the potential delays and behavioral responses seen from toxic stress exposure. Sigler (2016) reviewed two programs for their support in school readiness for children, including Early Head Start (EHS) and Healthy Families America (HFA). The research found that implementing a strong curriculum, having staff provide home visits, and summer preparatory programs offered to children before they enter kindergarten, all helped to support children in stress.

**School Supports and the Family**

DeSocio (2015) included in her work that parent involvement was crucial in supporting the health and development of a young child. She suggested that parental awareness was needed even before birth, due to the possible influences of maternal stress on the developing child. Blitz et al. (2013) advocated for parent involvement in their work with looking at family engagement. Their research indicated that if staff are not

knowledgeable about toxic stress, then they could not effectively support children and families. Communication with families was a key to the positive supports for children facing toxic stress. Blitz et al. recommended that early childhood caregivers must understand families and poverty to truly support these children facing generational toxic stress (2013). Garner (2013) had another example of advocating for collaboration among childcare staff and families with such supports as home visits and working together to understand the toxic stress that a child was experiencing. The research indicated that home visiting was effective in being able to work with the mother/family to support an understanding of toxic stress. The collaborative model, along with social and emotional supports for a child could show positive results and help to structure a resiliency model (Garner, 2013). Swick, Knopf, Williams, and Fields (2013) looked at the strategies for families and schools in their work and offer similar findings, such as having schools and staff focus on children feeling safe, having positive relationships with students, and promoting consistency in routines and schedules (p. 183). The connection between the school and family was seen throughout the literature. In reviewing the literature, it was important to consider all systems that influenced the child in toxic stress, including the family, the school, and the community; or the exosystem (Bronfenbrenner, 1994).

**Community Implications**

The literature discussed that toxic stress was now a prominent public health concern Shern et al. (2016). Shern et al. offered opportunities for communities consisting of improving mental health supports, improving assistance to those in poverty, new strategies for substance abuse, and identifying ways to reduce community violence.

Jutte, Miller, and Erickson (2015) highlighted communities and neighborhoods dealing with adversity. The adversity could occur for children and families, simply by the postal code location they lived in. They offered suggestions for community leaders to be involved in community development that supports children and families in poverty and focuses on community health. Their recommendations included all sectors of a community working together collaboratively: education, health, and mental health. These sectors, when working together can provide developments and interventions that can support children and families in "improving neighborhoods and life circumstances" (Jutte et al., p. 49, 2015). Brightman et al. (2015) also noted that conditions of poverty can cause adversities for children. If these children were already in stress, then a life in poverty could exasperate the conditions. Gerwin (2013) noted that community leaders need to consider scientific information and research when looking at how to address child well-being, including toxic stress and developmental implications.

**Medical Community Coordination**

Chesney's (2015) research looked at the work of pediatric nurse practitioners (PNPs) and their focus on toxic stress. Chesney focused on the young child's brain and the changes to brain development from toxic stress. Chesney found that home visiting programs such as the Maternal, Infant, & Early Childhood Home Visiting Program or MIECHV add benefits and help communities have a responsive approach (Chesney, 2015). Block (2015) suggested that the medical community must play a role in addressing toxic stress, along with the education and mental health providers. Block (2015) referenced the ACE study results and other research to show the need for treating

young children in a pediatric practice. The information reviewed the American Academy of Pediatrics' (AAP) new Center on Healthy, Resilient Children, as an innovative resource for pediatricians and other medical practitioners. The center had resources in guidance and education on toxic stress as a social and medical health issue. Block found that the issue of toxic stress needs to be approached by many partners, working together to find resilient supports for young children. Shonkoff, Garner, The Committee on Psychosocial Aspects of Child and Family Health, the Committee on Early Childhood Adoption and Dependent Care, and the Section on Developmental and Behavioral Pediatrics (2012) referenced a similar collaboration as a way to successfully help children and families dealing with trauma and stress. Their work discussed the tremendous costs that toxics stress health issues can have on society and the medical community. The ecobiodevelopmental framework for early childhood policies and programs provides a model for community and medical support to young children in stress. The model offers guidance for communities in child welfare systems and maternal depression and the influences that both may have on stress in early childhood (p. 239).

**Other Medical and Community Responses**

The health community, including pediatricians, have the opportunity to identify and assess symptoms of toxic stress in young children. Brightman et al. (2015) encouraged pediatricians to be involved in assessing children for stress, especially those children living in poverty. Their research offered a model that pediatricians can follow for assessing children in stress and encouraged those in the field to be more aware of possible stress when treating low-income children. Cox et al. (2018) from the American

Academy of Nursing, noted that toxic stress was of critical importance and was identified by the Academy Board of Directors as a focus for their current work and research. Cox et al. spoke to the importance of The Nurse Family Partnership as an example of a positive response. Their work highlighted the importance of working with caregivers and teachers in learning about social and emotional skill development in young children. The research supported the conceptual framework for the study and referenced similar goals found throughout social constructivism. McRae's (2013) research looked at community collaborations and the sharing of information to create an innovative community approach to toxic stress. The information comes from the work presented at a symposium by the Alberta Family Wellness Initiative (AFWI). The overall theme in the information was that if children have brains that are healthy, then the communities they live in, will be healthy too.

**Other Supports to Consider**

The literature had information for schools, the medical community, mental health providers, higher education, and other service providers. The information was on working together on the issues of childhood adversity, trauma, and toxic stress. A few literature selections reviewed, also commented on the involvement of the business sector in becoming a community partner. Kuehn (2014) discussed that to build supports for the early childhood community, involvement of the private and nonprofit sectors may be an important consideration. An example was with the ReadyNation nonprofit group. Anderson, Blitz, and Saastamoinen (2015) further studied the possible benefits of training and educational support provided by the higher education community. In the study,

university partners provided support to an elementary school in stress and trauma. Their identified findings were important to consider in the study and in looking at teachers' perceptions of toxic stress. The research indicated that the staff felt that more assistance and communication was needed in knowing how to work with children experiencing trauma (Anderson et al., 2015). The study indicated that staff often do not consider the behaviors of the children to be connected to trauma. School staff also need to find ways to reduce their own personal and professional stress. These research findings supported the study, and the study gained more information on teachers' perceptions and early childhood classroom practices with children facing toxic stress.

**Resiliency Supports to Consider**

Resiliency and resiliency factors were important for inclusion in the conversations around toxic stress. In defining resiliency, it is the thought that an individual can proactively approach what is happening to them and overcome obstacles they may face (Richards et al., 2016). The literature included references to resiliency as a positive factor for helping children and adults in overcoming the influences of stress and trauma. Richards et al. (2016) had information on resiliency that looked at the possibilities of intercessions that can be used with young children and older children who have experienced trauma. Richards et al. found that children were influenced by stress and trauma in a multitude of ways, such as through exposure to poverty, neglect, mental illness in the family, divorce, and abuse. These adversities lead children to experience trauma and stress, influencing their overall health and wellbeing. Richards et al. reviewed resiliency factors including supportive adult relationships, developing strengths,

and having a positive outlook. Other factors noted were helping children and youth to deal successfully with adverse states and overcoming negative affects to their health and development. Richards et al., provided information that supported the study and the research questions on teachers' perceptions and early childhood classroom practices. Their work also supported part of the conceptual framework for the current study and the inclusion of Bronfenbrenner's (1994) model. The individual and family/microsystem, the school/mesosystem, and the community/exosystem are all important systems that may help promote resiliency in children (Richards et al., 2016).

Hornor's (2015) research contained similar findings, in that for some children experiencing toxic stress, the influences might not be as negative due to resilient factors. Resiliency factors identified include, the genetic makeup of each child, the involvement of at least one positive adult in a child's life and a child's personality traits. The argument was made from Hornor, that if the implications of toxic stress are to be understood, then the research must look more into positive resiliency factors. Meadows et al. (2015) provided insight into family resiliency. In considering the importance of family support to children dealing with trauma and stress, it appears that family resiliency could help in addressing toxic stress (Meadows et al., 2015).

**Additional Research Needed**

Humphries et al. (2018) stressed the importance of needing more research in early childhood teachers' perceptions, including perceptions of children's emotions and on social and emotional learning. They commented that the teacher was the main component of learning in the classroom. Humphries et al. noted that it is critical to have

teachers share this type of information because they are the ones interacting with the children and implementing the practices in the early childhood classroom. The study included data collection from teachers of young children and provided an opportunity to learn more about their perceptions and their early childhood classroom practices around toxic stress. Gershoff (2016) reviewed previous research in child brain development and implications due to chronic stress exposure. Gershoff suggested more research on harsh punishment and the consideration that this type of punishment could cause chronic trauma and stress for some children. Garner (2013) reviewed the young brain and what happens with exposure to adversity from the mother of the young child. The work was on a structured research approach with results that can be a model for those working with young children and families. There were indications for additional research on the influences of positive social and emotional growth and on the role of resiliency. Home visiting and the benefits it could offer to children and families experiencing chronic adversity, trauma, and stress also should be considered. Additional information and research on teacher perceptions could help inform those working with young children. Collaboration work among caregivers and partners could also help in identifying and treating toxic stress (Garner, 2013).

## Summary and Conclusions

The literature review had many considerations on toxic stress and possible implications to young children. In topics such as brain changes and developmental implications, the literature was well-saturated with information and research. There were

references to the school and medical supports available for children and families experiencing toxic stress.

The literature review was saturated with information about toxic stress in the following: defining toxic stress, implications to early development, the poverty connection and themes on supports for schools, teachers, classrooms and the family. The review included community involvement, especially from the medical community. The review concluded with resiliency and the need for additional research. The review of the literature had suggestions for additional research in physical punishment and in the need for a comprehensive research structure around toxic stress. The review of the literature was lacking in information on how teachers perceive toxic stress and in the early childhood classroom practices being used with students.

The purpose of this study was to explore teachers' perceptions of toxic stress in young children and the classroom practices used to assist students experiencing toxic stress from two rural early childhood centers in an eastern state in the United States. The research could lead to social change, especially in the local community and to the local providers of early childhood education and care. The study could help to inform the local community about toxic stress and the influences on growth and learning for young children dealing with toxic stress.

In Chapter 3, I present the design and rationale for the study, the role of the researcher, methodology, trustworthiness, and ethical procedures for the study. The design, rationale, and my role as the researcher are discussed and explained. The

methodology is described in rich detail. Trustworthiness and the ethical procedures for the study are presented.

# Chapter 3: Research Method

The purpose of this study was to explore teachers' perceptions of toxic stress in young children and the classroom practices used to assist students experiencing toxic stress from two rural early childhood centers in an eastern state in the United States. The study sample consisted of eight teachers: four each from two rural childhood centers in an eastern state in the United States. The chapter highlights the case study design and rationale for this study, the methodology, and the selection process for the teachers who participated in this study.

## Research Design and Rationale

For the study, I collected data on the following research questions: (a) What are teachers' perceptions of toxic stress in young children they work with? and (b) What classroom practices are teachers using in the early childhood classroom when working with students experiencing toxic stress?

I selected the case study design to collect the desired information, with review and research focusing on actual teachers' perceptions and early childhood classroom practices. I gathered data from traditional early childhood center teachers and their classrooms, allowing for real-time data collection. I collected this information from teachers who were working with young children currently experiencing toxic stress.

I considered other qualitative research designs: ethnography, narrative, and grounded theory. Ethnography was not selected because a cultural view was not the primary focus. Narrative was not used because of the individual nature of the method. Grounded theory was not an option because a theory would not be created. The case

study was the best method selection due to the nature of the design. I used the design to collect real-time data from several sources including interviews, journals, and observations.

The original plan for the study included interviews, journals, and observations with all eight teacher participants. During the data collection phase, the global pandemic COVID-19 impacted the original plan. I had completed three teacher interviews prior to COVID-19. While the interviews were being scheduled for the remaining teachers, COVID-19 state-wide restrictions were put into place by the governor. The two early childhood centers in the study were impacted and had to close. I revised the plan for data collection to have the remaining five teacher interviews completed. For the five teachers, I was not able to complete the remaining journals or observations due to the center closures. The study was completed with all eight teacher participants being interviewed, three teachers completing journals, and three teachers having a classroom observation. With the case study design and the revised plan for the data collection, I was able to generate and construct thematic knowledge about the research questions and the identified gap in research on practice.

## Role of the Researcher

I had the role of observer-participant. As an observer, I observed and collected data based upon the interviews and observations. I was an observer during the interview process with all eight teachers. I also acted as an observer during the review of the three completed journal entries. Then I was an observer-participant during the three classroom

observations. Throughout the study, I utilized observational techniques and participated in an active role of getting to know the participants.

I was not aware of any personal or professional relationships that was influenced by the research. I was not employed at any of the participating early childhood centers and I did not work with, instruct, and/or supervise any of the participants. The potential for research biases were minimal. Ethical issues were considered. I was familiar with the local area in the eastern state in the United States and the selected early childhood centers and their respective directors. I addressed any possible issues by using an identical method for contacting the locations and by providing the same information for all participants. The participating directors and teachers followed the same procedures, and the information was collected using the same methods. I did not see any other issues, such as conflict of interest or power differentials being factors. No incentives were provided during this research study.

## Methodology

### Participant Selection

I selected the population for this study from the available rural early childhood centers and the teachers working in those centers. The centers were in an eastern state in the United States. The four early childhood centers had a total of 24 teachers. Eight participants were selected for this study; four each from two early childhood centers identified for use in this study. The number of participants was a sampling of teachers from the population available. According to Malterud et al., (2016) the selection of five

to 10 participants should provide sufficient information to answer the research questions. Data collection included information on teachers' perceptions and classroom practices.

The two selected rural early childhood centers provided services to young children, ensuring the information was relevant to early childhood. I assumed responsibility for recruiting the two rural early childhood centers and ensured that each center director understood the rationale for the study and the commitment involved for those participating in the study. The teachers needed to work in early childhood classrooms and teach children from birth to age five. A letter of cooperation from a research partner was provided to three rural early childhood centers. I also provided a letter of intent for each director and letters of invitation for participation were provided to each qualified teacher. These letters provided general information and the rationale for the study. At any time, teachers could withdraw with no penalty. If a teacher withdrew; then another teacher was selected from the center. If another teacher had not been available, the study could have continued with seven participants. At any time, centers could withdraw with no penalty. If a center withdrew from the study, then another center was contacted for participation. If another center had not been available, then the study could have continued with one center. The study needed at least six participants and one center to complete the data collection. The study was completed with eight participants and two centers.

Once participants consented to participation, I assigned the teacher and classroom according to a number system from one to four. A location code in the form of two

alphabetical characters was assigned to each of the two early childhood centers, one center being AB and the other being CD.

The teacher and center coding system identified the participants as follows:

- Teacher 1 AB
- Teacher 2 AB
- Teacher 3 AB
- Teacher 4 AB
- Teacher 1 CD
- Teacher 2 CD
- Teacher 3 CD
- Teacher 4 CD

**Instrumentation**

In keeping with the identified rationale, design, and methodology, I used the following collection instruments: interview questions (see Appendix A), journal form (see Appendix B), and classroom observation form (see Appendix C). The collection instruments were produced by me, and no published instrument was used during this study. During the eight semi structured interviews, I asked the teachers a series of eight identical open-ended questions to gather information on teachers' perceptions of toxic stress and classroom practices used. Three teachers were able to complete the journal form during a set period, lasting no longer than two weeks. The three teachers were to journal daily. The teachers could provide hand-written or typed information on thoughts and perspectives on toxic stress and note classroom practices used. The journal form was

provided to the teachers either as a hard copy or as a Microsoft Word document file. Individual children's names and/or identifiers were not to be shared in the journal entries. For the three teachers, I scheduled and conducted observations in each classroom once they had completed the interview and journal stages. The three observations allowed me to observe and focus on teacher practices. I collected written objective notes on the observation form.

Data from the eight interviews, three journals, and three observations were from individual teachers working directly in early childhood classrooms, with students potentially facing toxic stress. With the instruments I developed, the case study design was well supported using interviews, journals, and classroom observations. The interview questions I developed were reviewed for clarity and understanding by two professionals currently employed in the field of early childhood training and technical assistance. Their expert review of the questions supported validity and helped to identify any concerns or discrepancies in the wording of the questions. I also used the identified collection methods to support the validity of the study by providing multiple sources of data collection.

**Procedures for Recruitment, Participation, and Data Collection**

I was responsible for the recruitment of participating locations and data collection throughout the study. The population for the study was made up of 24 teachers in four early childhood centers. I contacted the available early childhood centers and scheduled a time with the director to discuss the proposed research study, rationale, and design. A letter of cooperation from a research partner was emailed to the directors and they agreed

to participation by signing the letter. Letters of intent were emailed to each director, along with letters of invitation for each qualified teacher. The selected teachers needed to be in early childhood classrooms and teach children from birth to age five. I provided the teachers with detailed information about the study and requirements for participation. The teachers were emailed information on informed consent. Once teachers agreed and consented to participation in the study, I worked with each individual teacher to schedule a time for the interview, which did not interfere with their daily classroom schedule. For three teachers, the interview was at the early childhood center, in a designated private space not used by children. For five teachers, the interview was over the phone. The interviews only occurred once with each teacher and lasted no longer than an hour. During the semi structured interviews, I asked the eight open ended questions in order of the interview protocol form. I used follow-up questions if more information or clarification was needed from a participant. I collected written interview notes and audiotaped the interviews to ensure data collection accuracy. During the interviews, I collected information on thoughts and perspectives on toxic stress and classroom practices used.

Due to the COVID-19 center closures, only three teachers were provided journal forms after their completed interviews. For the three teachers, I explained the form in detail and referred the teachers to the written instructions. The journal forms were used by the three teachers for two weeks. The three teachers completed the form daily and journaling could occur at the center or at another location designated by the teacher. The teachers could record by hand or type, entries onto the journal form. The teachers did not

use their name or the names of children on the forms. The teachers recorded the date and time on each journal form. Each form had two selections for recording notes. The first one was for personal thoughts on toxic stress. The second section was for classroom practices and/or strategies being used to support students with toxic stress.

Due to COVID-19 center closures, only three classroom observations occurred during data collection. The three teachers that were able to complete their interviews and journals were scheduled for a classroom observation. I conducted an hour observation in each of the three teacher classrooms and took objective notes. I used an observation form for each teacher and recorded notes on teacher classroom practices observed.

When data collection was completed, the teachers were ready to exit the study. I provided each teacher with information that concluded the study and shared appreciation for their participation. Once the research study was approved and finalized, I provided each director and teacher participant with a brief one to two-page written summary of the study and the research findings. No additional follow-up procedures were identified for the locations or for the participants.

**Data Analysis Plan**

The methodology for the research design was a case study model. Thematic analysis was used to analyze the collected qualitative data. I used the guide for thematic analysis from the work of Maguire and Delahunt (2017) making connections and identifying themes within the data. I followed the six-phase framework process from Braun and Clarke (2006) to complete the thematic analysis. Data collection for the study included eight interview responses, three sets of journal entries, and three classroom

observations. For the first research question, the interview responses and journal entries provided insight into teachers' perceptions of toxic stress in young children. For the second research question, all three data sources contained information about the early childhood classroom practices that teachers currently use with students.

In the first step, I read and reviewed the data twice, becoming familiar with the data. I transcribed the data from the interviews, journal entries, and observation forms. I used the individual audio recordings to transcribe the data. I transcribed the data from each interview into a separate Microsoft Word file. The word files were entered into a password protected computer and all hard copies of the data collected were stored in a locking file cabinet. The journal forms collected from the three teachers were read and reviewed twice. The three observation forms that I completed were read and reviewed twice. Data from the journal forms and observation forms was transcribed into word files.

The second step in the thematic data analysis was a third review of the data. I used open coding with the transcribed data, including the interview transcriptions, journal forms, and observation forms. During this third review of the data, I went over each line of the transcripts, hand-coding and assigning codes to the data. I underlined key phrases and made notes in the margins of the paper about codes and connections. I used different color coding for these initial connections. The color coding was achieved using highlighters. The colors were used to note reoccurring words, similarities in the data, and phrases found in the transcripts. After completing the initial open coding stage, I used

axial coding to review the initial codes and to search for categories. I identified codes that were similar and had connections to the research questions.

The third step in the thematic data analysis plan was to begin to identify patterns and emerging themes in the categories. Using information from Bree and Gallagher (2016), I developed a plan to use a Microsoft Excel spreadsheet to review categories and initial emerging themes. I reviewed categories for connections and relevance to the research questions and the elements of the conceptual framework. At this stage, I used the data analysis software QDA Miner Lite for data storage.

The fourth step in the thematic data analysis plan was to review the initial themes. During this stage, I continued to refine the themes and to identify connections within the themes that related back to the research questions and conceptual framework. I reviewed the thematic information two more times during phase four.

The fifth step in the thematic data analysis plan was to define the themes and determine the number of final themes. I continued to look for relationships to each research question. In this phase of the thematic analysis process, I finalized the themes.

The sixth and final step in the thematic data analysis plan was to do a final review of the themes and to write about the results. After my thorough data analysis process, I was able to confirm the themes and in turn answer the two research questions. I also looked for information that supported social change. The new knowledge could offer guidance on teacher perceptions of toxic stress and classroom practices being used with young children experiencing toxic stress. The research could lead to social change, especially in the local community and to the local providers of early childhood education

and care. The study could help to inform the local community about toxic stress and the influences on growth and learning for young children dealing with toxic stress. The thematic data analysis was also supported by the conceptual framework and the trustworthiness of the study.

## Trustworthiness

Trustworthiness, credibility, transferability, dependability, and confirmability were critical to the research study. Thick description, triangulation and peer review was used for validity and credibility (Creswell, 2012). I supported thick description by using my plan for thematic analysis and in the writing of my own notes and reflections during the data collection stage. These tasks provided information about local phenomenon, cultural considerations, or potential societal issues. Triangulation, during data collection included the plan for interviews, journals, and observations. The thematic data was peer reviewed for agreement of the themes determined during data analysis. The peer reviewer was a teacher. She had experience working in early education and was familiar with research techniques, such as data collection, data review, and coding. She had no personal connection to the study or the participants. She reviewed the thematic data, helping to establish trustworthiness and credibility to the data analysis.

Triangulation, along with multiple data collection methods supported the trustworthiness and dependability of the study. For confirmability of the study, there was a clear audit trail with a defined process for data gathering and step-by-step thematic analysis procedures.

## Ethical Procedures

Once IRB approval was complete, documentation was included for reference in Chapter 4. I continued to review the ethical procedures for the study, including consideration of the human participants and the treatment of the data collected. The teachers were protected and only identified by me and the director at each location. The teachers were assigned a code, with a number for their name and a letter for their location. The data collected was protected and only seen by me. The peer review of the thematic data analysis helped to establish trustworthiness and credibility for the study.

Information collected did not identify any participant. The interviews were labeled with the teacher's assigned code. All eight interviews were recorded for authenticity and accuracy. The journal forms for the three teachers were labeled with the code for each teacher. The three teachers wrote/typed entries in their own words. No individual child information was collected. The forms for the three teacher observations included the code for each teacher. For the three observations, only factual and objective notes were recorded on teacher practices. I did not use subjective language and did not observe students. The three observations only focused on the teachers and their classroom practices. At any time, teachers could withdraw with no penalty. If a teacher withdrew; then another teacher was selected from the center. Data collection was scheduled with the new teacher as soon as possible. At any time, centers could withdraw with no penalty. If a center withdrew from the study, then another center was contacted for participation.

I will keep the data for a period of five years from the end of the data collection stage. The written and recorded data was stored in a locked file cabinet. The transcribed data and computer files were stored on a password protected personal computer. At the end of the five year period, I will destroy the data; including interview transcripts, interview recordings, journal forms, observation forms, word files, and QDA data storage.

An ethical consideration was that this study involved early childhood centers where young children attended. Children were not involved in this study. There was no harm identified for children. For the three classroom observations, I tried not to interrupt the normal schedule and routine of the classroom and observed from a location suggested by the teacher. I did not interfere with the classroom interactions and activities. Throughout the study, I continued to monitor data collection for ethical considerations and concerns.

## Summary

The methodology and rationale for the research design was a case study model. Thematic analysis was used to analyze the qualitative data collected during the study. In using thematic analysis, connections and themes in the data were identified. The connections and themes provided additional information on the research questions. Data collection for the study included eight interviews, three journals, and three classroom observations. The centers and teachers were selected from a specific geographic location in an eastern state in the United States. Teachers participating in the study worked with young children from birth to five.

Open and axial coding was used for thematic analysis. The coding process helped me to develop a synthesis of the information, including main themes about the two research questions. The coding methods were used with the data collected from: eight interviews, three journals, and three observations. The participant selection, data collection, instrumentation, and ethical considerations; all supported the trustworthiness of the research study.

In Chapter 4, I present the results of the study, describe the setting, demographics, participants, data collection methods, thematic analysis, evidence of trustworthiness, and findings. The setting and data collection are described in rich detail. All data analysis and results are reported and presented to support and address the study research questions. In Chapter 5, the findings are interpreted and connected to the literature. Recommendations are made for further research.

# Chapter 4: Reflections and Results

## Introduction and Purpose

The purpose of this study was to explore teachers' perceptions of toxic stress in young children and the classroom practices used to assist students experiencing toxic stress from two rural early childhood centers in an eastern state in the United States. The research paradigm was grounded in a social constructivist approach, with a qualitative design. The qualitative study included two research questions: (a) What are teachers' perceptions of toxic stress in young children they work with? and (b) What classroom practices are teachers using in the early childhood classroom when working with students experiencing toxic stress? The chapter will provide information on the purpose, setting, demographics, data collection, data analysis, results, and trustworthiness of the study.

## Setting

The centers and teachers were selected from a specific geographic location. Eligible participants included teachers working with young children, birth to five. The study included eight teachers in total: four each from two rural early childhood centers in an eastern state in the United States. Once IRB approval was obtained, the consent form was finalized. The form included the Walden University and IRB approval number 12-24-19-0502388. After IRB approval, the directors at each of the early childhood centers were contacted. The first center agreeing to participate withdrew from the study. The second center was able to participate. When the first center withdrew, IRB was contacted and approval for another potential center was granted. The director at the third center was contacted and agreed to participate.

## Demographics

Eight teachers from two rural early childhood centers were the research participants. Codes were assigned to each teacher. The teachers were assigned a number from 1- 4 and a center code. All participants were females. Each teacher worked in a classroom with children ranging in ages from birth to five. Five teachers predominately worked with children three to five. Two teachers predominately worked with children two to four. One teacher worked mostly with children birth to 2. The education of the teachers included one teacher with a master's degree, five teachers with bachelor's degrees, and two teachers with either associate degrees or certificates. Their experience in working with children birth to five included one teacher with over 29 years, two teachers with over 20 years, two teachers with over 10 years, and three teachers with less than five years of experience. Table 2 includes teacher demographics with teacher participants, ages of children in the classroom, years of experience, and gender.

Table 2

*Teacher Demographics*

| Teacher Participants | Ages of Children in the Classroom | Years of Experience | Gender |
|---|---|---|---|
| T 1 AB | 3-5 | < 5 | Female |
| T 2 AB | 3-5 | 29 | Female |
| T 3 AB | 2-3 | 20 | Female |
| T 4 AB | 3-5 | 10 | Female |
| T 1 CD | 3-5 | 20 | Female |
| T 2 CD | 3-5 | 10 | Female |
| T 3 CD | 2-4 | < 5 | Female |
| T 4 CD | Birth-2 | < 5 | Female |

## Data Collection

The original plan for data collection included interviews, journals, and observations with all eight teacher participants. During the data collection phase, the global pandemic COVID-19 impacted the original plan. In the middle of scheduling and conducting the interviews, COVID-19 state-wide restrictions were put into place by the governor. The two early childhood centers in the study were impacted and had to close. I revised the plan for data collection to have the remaining teacher interviews completed by phone. I was not able to complete the remaining journals or observations due to the center closures. The study was completed with eight teacher interviews, three teacher journals, and three classroom observations. The following information provides a review of the data collection process.

Before COVID-19, IRB approval was received. After IRB approval, the directors of the centers were provided with letters of participation to provide to the teachers. Once

the letters were received, I reached out by phone and talked to each teacher to determine interest in participating in the study. If the teacher expressed interest, I emailed the consent form to them. The teacher then reviewed the form and replied to my email with "I Consent". The process reduced the burden for each individual and served as documentation of consent. Once consent was received, codes were assigned to the center and to each teacher. The first center was assigned a location code with two alphabetical characters, AB and the other center was assigned CD. The teachers were assigned a number from1- 4. The teacher and center coding system identified the eight teacher participants:

- Teacher 1 AB (T 1 AB)
- Teacher 2 AB (T 2 AB)
- Teacher 3 AB (T 3 AB)
- Teacher 4 AB (T 4 AB)
- Teacher 1 CD (T 1 CD)
- Teacher 2 CD (T 2 CD)
- Teacher 3 CD (T 3 CD)
- Teacher 4 CD (T 4 CD)

The next phase in data collection was the semi structured interviews at center (AB). Three teacher interviews (T 1 AB, T 2 AB, T 3 AB) were conducted in a private office at the first center. Each semi structured interview was scheduled for an hour. The participants were informed about the audio recording of their interview. I used an Olympus VN-541PC recording device. I had two recording devices available in case one

did not work properly. I started each interview with brief introductions and a reminder of the informed consent. I informed each teacher that the data collected would be kept confidential and that I was the only person who would have access to the information. I explained that all data would be coded and that they would have an assigned participant code, that only I would know. I asked the eight open ended questions in order of the interview protocol form. I used follow-up questions if more information or clarification was needed from a participant. During the interview, I collected information on thoughts and perspectives on toxic stress and classroom practices used. At the conclusion of the three individual interviews, I provided directions for the three teachers to complete the journal forms during a set period, lasting no longer than two weeks.

For the three teachers completing the journal, the forms were provided at the end of their interviews. I provided 10 journal forms and if requested a Microsoft Word document of the form. I explained the journal form and the written instructions. The forms were used by the teachers for two weeks. The teachers completed the form daily, either at the center or another location of their choice. The teachers journaled by hand or typed on the form and did not record any personal names or information. The date and time were recorded on each form. The form had two sections for journaling, one for personal thoughts on toxic stress and the second one for classroom practices and/or strategies being used to support students with toxic stress. At the end of the journaling period, I collected the journal forms from the three teachers in sealed envelopes.

Next, I scheduled and conducted three observations in each classroom, for the three teachers completing the interview and journal stages. I conducted the one hour

observation in the teacher's classroom and made objective notes. I used one observation form for each teacher, hand-writing notes on teacher practices observed. I did not include any names or personal information on the form.

At this time, the fourth teacher at AB center decided not to participate. I contacted another teacher by phone, and she agreed to participate and provided consent (T 4 AB). I contacted the director at the second early childhood center (CD). I confirmed the letters of participation had been received by the teachers. I reached out by phone and talked to each teacher to determine interest in participating in the study. If the teacher expressed interest, I emailed the consent form to them. The teacher then reviewed the form and replied to my email with "I Consent". Four teachers (T 1 CD, T 2 CD, T 3 CD, T 4 CD) provided consent.

At this stage in the data collection process, COVID-19 impacted the original plan. While the interviews were being scheduled for T 4 AB, T 1 CD, T 2 CD, T 3 CD, and T 4 CD, COVID-19 statewide restrictions were put into place by the governor. The two early childhood centers in the study were impacted and had to close. The fourth teacher (T 4 AB) at the first location and the four teachers (T 1 CD, T 2 CD, T 3 CD, T 4 CD) at the second location were not working. I revised the plan for data collection to have the five remaining teacher interviews completed by phone. Each semi structured interview was scheduled for an hour. The five teachers were informed about the audio recording of their interview. I used the Olympus VN-541PC recording device. I started each interview with brief introductions and a reminder of the informed consent. I informed each teacher that the data collected would be kept confidential and that I was the only

person who would have access to the information. I explained that all data would be coded and that they would have an assigned participant code, that only I would know. I asked the eight open ended questions in order of the protocol form. I used follow-up questions if more information was needed from a participant. Journal forms and classroom observations could not be completed for these five participants due to the classroom closures. The final study included data collection from eight teacher interviews, three teacher journals, and three teacher observations.

## Data Analysis

The methodology and rationale for the research design was a case study model. Thematic analysis was used to analyze the collected qualitative data. I used the guide for thematic analysis from the work of Maguire and Delahunt (2017) making connections and identifying themes within the data. I followed the six-phase framework process from Braun and Clarke (2006) to complete the thematic analysis.

### Phase 1 – Review of the Data

In the first phase, I read and reviewed the data twice, becoming familiar with the data. I transcribed the data from the eight interviews, three journal sets, and three classroom observations. I used the eight individual audio recordings to transcribe the data. I transcribed the data from each interview into a separate Microsoft Word file. The word files were entered into a password protected personal computer and all hard copies of the data collected were stored in a locking file cabinet. The 30 journal forms collected from the three teachers were read and reviewed twice. The three observation forms that I

completed were read and reviewed twice. Data from the journal forms and observation forms was transcribed into files.

**Phase 2 – Initial Coding**

The second step in the thematic data analysis was a third review of the data. I used open coding with the transcribed data, including the interview transcriptions, journal forms, and observation forms. During this third review of the data, I went over each line of the transcripts, hand-coding and assigning codes to the data. I underlined key phrases and made notes in the margins of the paper about codes and connections. I used different color coding for these initial connections. The color coding was achieved using highlighters. I used six highlighters in the following colors: yellow, blue, green, orange, pink, and purple. The colors were used to note reoccurring words, similarities in the data, and phrases found in the transcripts. I identified 65 initial codes. Table 3 includes a sample of eight of the initial codes, with corresponding teacher codes, participants, and teacher excerpts.

Table 3

*Open Coding Examples*

| Open Codes | Teacher Participants | Teacher Excerpts |
|---|---|---|
| Behaviors | T 1 AB | "His behaviors are off the charts." |
| | T4 AB | "It comes out behavior wise." |
| Aggression | T 1 CD | "Confrontation, you know just ready to blow a fuse, you know the anger was so high and intense." |
| | T 3 AB | "Very aggressive." |
| Unprepared | T 1 AB | "I am not equipped with the training to handle them." |
| | T 2 AB | "I would just like to have some information, how to help them." |
| Emotions | T 3 CD | "It is really sad." |
| | T 1 AB | "I feel helpless" |
| Parents | T 4 AB | We have relationships with families." |
| | T 1 CD | "I took time to get to know them and talk with them" |
| Home | T 4 CD | "Something going on family wise." |
| | T 1 AB | "Stress-filled environments at home causes stress at school" |
| Reassurance | T 2 AB | "Reassuring words." |
| | T 1 AB | "Comforting and talking" |
| Practices | T 2 AB | "We have a schedule and we do follow it." |
| | T 1 CD | "Make sure and reassure them they are ok." |

After completing the initial open coding stage, I used axial coding to review the initial codes and to search for categories. After reviewing the codes, I created a word cloud to review the codes in a visual presentation. I also created charts in Microsoft Word and began the assignment of the codes into categories. I identified codes that were similar and had connections to the research questions. I used the charts to identify the common connections and relationships between codes and to assign categories. I highlighted the categories each with an individual color. The colors helped with easier identification and delineation of the categories. In using axial coding, I was able to identify ten categories. Table 4 includes the categories identified through axial coding, along with teacher participants, and teacher excerpts from the data.

Table 4

*Axial Coding Categories*

| Categories | Teacher Participants | Teacher Excerpts |
|---|---|---|
| Challenging Behaviors | T 1 AB | "Stress in children causes meltdowns, challenging behaviors." |
| Aggression | T 1 CD | "You know the anger was so high and intense." |
| Home Events | T 1 CD | "Dynamics of their home. They don't have the stability." |
| Parents | T 4 AB | "We have relationships with families." |
| Awareness | T 4 CD | "More children have more stress on them than you really realize." |
| Teacher Emotions | T 1 AB | "I feel helpless." |
| Feeling Unprepared | T 2 AB | "I would just like to have some information, how to help them cope with their stress." |
| Social/Emotional Practices | T 1 AB | "Children need proper coping mechanisms." |
| Relationships | T 1 AB | "Comforting and talking, one-on-one talks." |
| Routine | T 2 AB | "We are strict about the routine." |

The axial coding process helped me to further develop a synthesis of the information, identifying specific main categories that supported the two research questions.

**Phase 3 – Initial Themes**

The third step in the thematic data analysis plan was to begin to identify patterns and emerging themes in the categories. After reviewing information from Bree and Gallagher (2016), I developed a plan to use a Microsoft Excel spreadsheet to review categories and identify emerging themes. I created an Excel document to work with the identification of initial themes. I reviewed categories for connections and relevance to the research questions and the elements of the conceptual framework. At this stage, I used the data analysis software QDA Miner Lite for data storage. I entered my codes and categorical information into QDA Miner Lite.

**Phase 4 – Review of Themes**

The fourth step in the thematic data analysis plan was to review the initial themes. During this stage, I continued to refine the themes and to identify connections within the themes that related back to the research questions and conceptual framework. I reviewed the thematic information two more times during phase four. I also created a visual thematic map with the refined themes. At this stage, the thematic data was peer reviewed for agreement of the initial themes with the categorical data. She reviewed the thematic data, helping to establish trustworthiness and credibility to the data analysis.

**Phase 5 – Defining Themes**

The fifth step in the thematic data analysis plan was to define the themes and determine the number of final themes (Appendix D). I reviewed the current thematic

information and the visual map again. I continued to look for relationships to each research question. I revised the visual thematic map at this stage. In this phase of the thematic analysis process, I was able to finalize four themes (a) Teachers describe challenging, aggressive, and/or withdrawn behaviors in students experiencing toxic stress, (b) Teachers are concerned about the home environments of young children experiencing toxic stress, (c) Teachers feel emotional and unprepared when working with young children experiencing toxic stress, and (d) Teachers use consistent routines and frequent communication to support students experiencing toxic stress. Table 5 provides visual information on the final themes identified for each research question.

Table 5

*Themes and Their Alignment with Each Research Question*

Research Question 1: What are teachers' perceptions of toxic stress in young children they work with?

| Theme | Categories |
|---|---|
| Teachers describe challenging, aggressive, and/or withdrawn behaviors in students experiencing toxic stress. | Challenging Behaviors<br>Aggression |
| Teachers are concerned about the home environments of young children experiencing toxic stress. | Home Events<br>Parents |
| Teachers feel emotional and unprepared when working with young children experiencing toxic stress. | Awareness<br>Teacher Emotions<br>Feeling Unprepared |

Research Question 2: What classroom practices are teachers using in the early childhood classroom when working with students experiencing toxic stress?

| Theme | Categories |
|---|---|
| Teachers use consistent routines and frequent communication to support students experiencing toxic stress | Social/Emotional Practices<br>Relationships<br>Routines |

## Phase 6 – The Results

The sixth and final phase in the thematic data analysis plan was to do a final review of the themes and to write about the results. After my thorough data analysis

process, I was able to confirm the four final themes and in turn answer the two research questions. I did not find any conflicting information and therefore determined that no further data analysis was needed. The final themes provided information on the research questions concerning teacher perceptions of toxic stress in young children and the practices that teachers use to support young children experiencing toxic stress.

## Results of the Study

Research Question 1:

What are teachers' perceptions of toxic stress in young children they work with?

The first research question was about teachers' perceptions of toxic stress. Three themes emerged from my results.

**Theme 1 – Teachers describe challenging, aggressive, and/or withdrawn behaviors in students experiencing toxic stress.**

The first theme that emerged was that all eight teachers were able to describe challenging and aggressive behaviors in young children and this helped them to identify toxic stress. T 1 AB shared that children in stress "get emotional quickly". T 1 CD felt that the stress "disrupts the emotional balance" of the child. Descriptions of behaviors and reactions were used by the participants such as out of control, meltdowns, and as T 1 AB described, behaviors being "off the charts." Over half of the participants agreed that these advancing behaviors were not typical and that children with these behaviors were perceived as experiencing some type of stress in their life. T 4 AB described her thoughts:

> I think it [toxic stress] is very real. I think it does affect how they are able to learn and how they are able to grow healthy. I think it is important that we watch for those signs, so we can help them and the families. I think toxic stress in a child, one way or the other comes out behavior-wise. It makes them withdrawn or it is going to make them angry and they lash out. You know when you see it, you see it at the extreme of one or the other. Usually the anger but a lot of times it can be the withdrawn too.

T 1 AB wrote in her journal entries, "stress in children causes meltdowns, challenging behaviors, and changes the tone of the environment totally" and "stress can be too much for children and sometimes it causes them to have serious emotions/reactions." T 1 CD described it for one child as "confrontation, you know just ready to blow a fuse, you know the anger was so high and intense." T 2 CD talked about it being "hard for them to deal with things. They get more frustrated." In a similar thought, T 3 AB discussed that "you see a change in their behavior because of toxic stress." T 4 AB shared that the stress "is going to make them angry and they lash out." T 1 CD shared that out of the children she has had with toxic stress, that probably "80% lash out."

Specific behaviors and reactions noted by the participants included hostility, hitting others, aggressive language, pushing, kicking, throwing things, screaming, and slapping. Several participants did describe other reactions such as T 4 AB talked about stress making some "withdrawn [and] usually [it is] the anger but a lot of times it can be withdrawn too." T 1 CD described a child as withdrawn and isolated sharing that the

child “does not talk, because of the bad things that have happened.” Similarly, T 2 CD offered this, “they want to be by their self” due to the stress.

**Theme 2 – Teachers are concerned about the home environments of young children experiencing toxic stress.**

For the first research question, the second theme identified was teachers’ common concerns and thoughts about how the home environment impacts stress. Most of the participants also noted certain home events that can cause toxic stress for young children. T 4 CD shared thoughts about the home environment, “I feel like with a child that it is not just them, I feel like they have something going on family wise.” T 1 CD also recognized that children with stress have “brought baggage with them” from home. In a similar thought, T 1 AB shared that “stress filled environments at home, cause stress at daycare [and] school.” T 2 AB also commented that “the stress the children are dealing with at home is effecting them at school.”

All participants shared insight into some of the home events that they felt children had experienced, leading to their stress. T 1 AB stated the following about the home environment: “I think of maybe not having the mom and dad, a single parent home, maybe grandparents taking care of them, maybe alcoholism in the family, maybe drug abuse, not eating. I think that is toxic stress.” T 1 CD talked about divorce saying, “the dynamics are so scattered [with] different parents and parents have other families.” T 1 AB also mentioned divorce and “fighting parents.” T 4 CD shared that maybe someone had “been abusive to them.” Other home events mentioned death of a family member, neglect, and food insecurity. In fact, half of the participants commented on children

being hungry as a possible cause to their stress. T 2 AB offered "I don't think he gets enough food at home" talking about a child currently in her classroom. In a similar comment, T 3 AB also wrote in a journal entry, [they] may not always get enough food." T 1 CD shared:

> But now if a child is hungry, I am going to know that. That is something, I think that is one of my biggest things. I do not want them to be hungry. And I believe if a child is not feed, then you are asking for all kinds of problems. You are asking for a lot more than family dynamics. But there is something about not being fed or the anxiety from not being fed on time.

Seven of the eight teachers did not feel that poverty was a consideration when discussing the impacts of the home environment or home events. Overall, most of the teachers shared that they did not usually know if a child came from poverty or not. T 1 CD commented that in knowing about a child in poverty, that she would "go to [the] director for instance and say well I do not know what is going on with this [child] and then she would say, ok I am going to give you some background." T 4 CD had a similar experience:

> We just come to the owner and talk to her about it and usually she will take care of it. I'm pretty sure she just talks to parents and asks if they need help but I haven't specifically dealt with a student like that I would say.

T 1 AB shared a similar thought about knowing children in poverty, "I don't know. I mean we partner with Head Start and that would be a way of knowing if you qualify for certain things, but I do not know." T 3 AB added, "usually we don't know that, I have

had families to confide in me before." T 2 AB shared similar thoughts in saying, "it is not really something we know." T 2 CD was the only teacher to really comment that "sometimes you know, you just know sometimes."

Another common thought concerning the home environment was the relationship with parents. Most of the teachers felt their communication with parents was positive and a strength. Many felt communication was important; however, they did not specifically mention discussing child stress with the parents or families. For three of the teachers, communication was more successful because of the relationships they had created with parents and families.

T 4 AB commented that it is about:

> Relationships with families, because if you can't build that with families, that parent is never going to tell you anything about their day and they are not going to want to, especially if it is something they need, they are not going to let you know. That's how you build that relationship.

T 2 CD also shared a similar thought, "I think if you have a good relationship with the parents it makes you have a good relationship with the child too. They are leaving their child with you, in your care."

T 4 AB additionally shared:

> We have relationships with the families. We are going to get to know the parents, you know involving them and seeing how they might want to be involved. To the parents, say hey how are you doing and open up a door for communication again, you know if there is an issue with the child, then contact the parent and say hey

> they are doing this, do you know why, are they doing it at home? And how do you handle it? Do you know what might be causing it? And things like that, that really opens up the communication, so that you can know the whole family better.

T 4 CD commented on positive communication saying, "and when I do talk to them, I don't say anything negative, really like I just talk to them about what they are doing and maybe how we can help them and see what they think."

T 1 AB did feel parent communication was a struggle saying:

> I usually contact them, either by phone call or text message, or when they come in. But [for] some of them, it is also stressful [and] they do not get picked up by the same person every day. And the person picking them up is not their parent. It is a friend or the babysitter. Or someone that the parent works with. You don't have the support to be able to communicate with the family.

Parent communication was also mentioned in the journal entries multiple times and during the classroom observations, two teachers were observed communicating with parents as they arrived with their children.

**Theme 3 – Teachers feel emotional and unprepared when working with children experiencing toxic stress.**

A final theme of the first research question was that teachers feel emotional and unprepared when working with children experiencing toxic stress. For each participant, these feelings had increased since they started teaching. T 3 AB described her current awareness, "I think now versus 20 years ago when I first started, you can see a change in their behavior because of the toxic stress that kids are under now." T 4 CD shared similar

thoughts, “I think more children have more stress on them than you really realize. I’ve seen it in this field.” Finally, T 4 AB shared insight into how stress is more noticeable to her:

> I think it [toxic stress] is real. I have become more aware how common it is now. It is out there a lot more than what people realize that children are going through, and we just really never know the amount of children that are going thorough toxic things in their life.

For over half of the participants, their awareness of children experiencing toxic stress led to emotional thoughts, feelings, and responses. T 2 AB said, “at times I get frustrated, and it is sad because you want to give them all this love and attention.” T 1 CD shared:

> I know you can’t fix all the problems, you really can’t, you know but I’ve found sometimes when that kid has so much going on and wrong, you think I’m going to fix their problems, no we can’t fix them. All we can do is just love them and that’s what makes a difference. I try to see both sides now.

T 1 AB wrote in her journal entry twice that seeing children in stress was, “so sad.” She also wrote that “I feel helpless” and “it totally wears everyone out” when working with children experiencing stress. In similar comments, T 2 AB said “it is different [now] and to me it is sad” and T 3 CD commented “it is really sad [and] honestly, it is harder than I thought it would be.”

For all eight teachers, they expressed an awareness that training was an area of need in working with children experiencing toxic stress. Teachers felt unprepared to

work with children. The teachers also identified that most of the trainings that they had attended were focused on behaviors and not really on working with young children experiencing stress and toxic stress. Several teachers mentioned that child abuse and neglect classes were the only trainings that they had received, that mentioned stress in young children.

T 2 AB said:

> Child Abuse and Neglect, but that does not tell your how to work with the children. It tells you what signs to look for, so for this or that. So, for helping [with toxic stress], this would be a really good topic to have a training on. For a lot of us. Maybe we start recognizing it and realizing what is going on and it would be helpful to all of the teachers. I would just like to have some information [on] how to help them cope with their stress and so they don't stress me out.

T 4 AB shared:

> I guess the biggest one that I would say that I can think of right off is the child abuse and neglect classes. You know that we are required to take. And I think there has been a few behavior classes throughout the year. We had a positive behavior support class.

Others commented on training opportunities such as T 4 CD in her example said, "they talked about how to help those kids that are stressed. It was not specifically for that, but we talked about it and how you could help." T 1 AB shared "I do not know of one, that is specific to toxic stress" and she also wrote in her journal that "I'm not equipped without the training to handle them."

Several of the participants did offer comments about supports that they did have for working with children experiencing toxic stress. PBIS training was mentioned by three teachers and T 4 AB mentioned a "positive behavior support class" and commented that having a "variety of teachers" in the center was helpful and T 1 AB wrote in a journal entry that "lower numbers are easier to handle, so I imagine I'd be better equipped to care for kids with stress with a lower ratio."

The second research question was about teachers' classroom practices being used with students experiencing toxic stress.

Research Question 2:

What classroom practices are teachers using in the early childhood classroom when working with students experiencing toxic stress?

One theme emerged to support this question.

**Theme 4 – Teachers use consistent routines and frequent communication to support students experiencing toxic stress.**

All eight of the participants identified consistent routines and frequent communication to support children with social and emotional skills and protected relationships that they had formed with the children. T 1 AB wrote in journal entries about using "emotion charts", "breathing exercises", and teaching "proper coping mechanisms" to support children in stress. Six participants referenced "redirection" as a communication practice. T 4 CD shared during the interview that "you can always lead them into another direction when it [stress] happens." T 3 AB commented that she uses "lots and lots of redirection." T 3 AB also wrote about using redirection as a practice

four times in her journal. T 1 AB, T 2 AB, and T 3 AB were all observed during the classroom observations using redirection with children. Other practices mentioned that supported children and communication was individualization, reassurance, comforting, talking, and listening. T 1 AB wrote in her journal three times that reassurance, one on one talks, and comforting the child were practices she used for individual children. T 2 AB also listed in her journal multiple times, reassurance and talking as practices used with children in stress. In the three classroom observations, I observed T 1 AB, T 2 AB, and T 3 AB using communication practices such as reassuring, talking to, and comforting individual children. T 1 CD said "you have to make sure and reassure them they are ok and listen and engage in the conversation" with them. In a similar thought, T 1 AB shared her practice of talking with and being interested in a child, "sometimes [they] will just talk to me and [we] will just sit. They want your attention and they want to know that you are interested in what they are doing."

The participants all expressed the importance of having a routine and schedule with children experiencing toxic stress. All eight teachers also commented on the use of planned activities in the routine to support children in toxic stress. T 1 CD commented that a key was "having structure, a really good schedule, and planned activities." T 1 AB, T 2 AB, and T 3 AB all mentioned multiple times about following a routine and schedule in their journals. T 2 AB also shared that "we have a schedule and we do follow it [and] we are strict about the routine." During the three classroom observations, T AB, T 2 AB, and T 3 AB followed a posted routine and schedule.

## Evidence of Trustworthiness

Trustworthiness, credibility, transferability, dependability, and confirmability were critical to the research study. Thick description, triangulation, and peer review were all used for trustworthiness, validity, and credibility (Creswell, 2012). I supported thick description by using thematic analysis. I recorded written notes and reflections during the data collection stage in a reflective journal. These personal notes and reflections provided information about local phenomenon, cultural considerations, and societal issues. Triangulation was considered throughout the data collection. I used three methods of data collection for validity, including interviews, journals, and observations. Triangulation, with multiple data collection methods supported the trustworthiness and dependability of the study. The thematic data and initial themes were peer reviewed for agreement and understanding. The peer review helped to establish trustworthiness and credibility to the data analysis process. For confirmability and transferability of the study, there was a clear audit trail with a defined process for data gathering and step-by-step thematic analysis procedures.

## Summary

The qualitative study included two research questions: (a) What are teachers' perceptions of toxic stress in young children they work with? and (b) What classroom practices are teachers using in the early childhood classroom when working with students experiencing toxic stress?

Teachers working with young children were the participants. I used data collection and thematic analysis of the data to determine four themes, answering the two

research questions. The results of the final study indicated that teachers describe challenging, aggressive, and/or withdrawn behaviors in students experiencing toxic stress. Teachers indicated concerns about the home environments of young children experiencing toxic stress. Teachers felt emotional and unprepared when working with these children and use consistent routines and frequent communication to support students experiencing toxic stress. The study had evidence of trustworthiness, with credibility, transferability, dependability, and confirmability established throughout the data collection and data analysis.

In Chapter 5, I provide interpretations of the findings, describe limitations, recommendations, and implications. Interpretations of the findings for each theme are discussed in detail and connected to the literature. Limitations of the study are discussed in detail. Recommendations for addressing the limitations and topics for further research are provided. Implications for the study are discussed and possible opportunities for social change are included. I provide a conclusion and final thoughts on the study.

# Chapter 5: Discussion, Conclusions, and Recommendations

## Introduction

The purpose of this study was to explore teachers' perceptions of toxic stress in young children and the classroom practices used to assist students experiencing toxic stress. The research paradigm was grounded in a social constructivist approach, with a qualitative case study design. The research study was necessary because of the identified gap in the literature on teacher perceptions when working with young children experiencing toxic stress. There was a consensus in the reviewed literature that more research was needed in understanding toxic stress in the school environment (Holmes, Levy, Smith, Pinne, & Neese, 2015). The study had the potential to provide teacher insight that could inform the early childhood field on perceptions of toxic stress. The study could also help to inform the local community about toxic stress and the influences on growth and learning for young children dealing with toxic stress.

The participants in the study provided insight into their perceptions of working with young children experiencing toxic stress. The teachers also shared common classroom practices that they found useful when working with these children. Each participant was able to bring her personal experiences as a teacher working with young children experiencing toxic stress to the research results. The chapter will provide information on the interpretation of the findings. Limitations, recommendations, and implications will all be discussed in detail. A conclusion of the study is included.

## Interpretation of the Findings

In interpreting the findings, I considered the research results, the literature review in Chapter 2, and the conceptual framework. The conceptual framework included Bronfenbrenner's (1994) ecological model of human development, the social constructivist theory (Piaget, 1936; Vygotsky, 1978), and the report on toxic stress from the CDCHU (2016). The study was performed to answer the following research questions: (a) What are teachers' perceptions of toxic stress in young children they work with? and (b) What classroom practices are teachers using in the early childhood classroom when working with students experiencing toxic stress?

Four themes emerged from the results of the study. The results indicated that teachers describe challenging, aggressive, and/or withdrawn behaviors in students experiencing toxic stress. Teachers indicated concerns about the home environments of young children experiencing toxic stress. Teachers felt emotional and unprepared when working with these children and use consistent routines and frequent communication to support students experiencing toxic stress.

### Theme 1 – Teachers describe challenging, aggressive, and/or withdrawn behaviors in students experiencing toxic stress.

In the study, all eight teachers responded with descriptions of behaviors as being challenging and aggressive in children experiencing toxic stress. The teachers used words such as "loss of control", "meltdowns", and "aggression" to describe behaviors they had observed in children. T 4 AB shared in her interview "I think toxic stress in a child, one way or the other comes out [in] behavior." T 2 CD stated that "you see [stress

in] their behavior." T 1 AB wrote in her journal that she saw stress in a child through the "challenging behaviors." T 3 AB shared that "you can see a change in their behavior because of toxic stress." Several participants also described children as isolated and withdrawn as another sign of behavior in children experiencing toxic stress. T 4 AB talked about stress making some "withdrawn, usually [it is] the anger but a lot of times it can be withdrawn too." T 2 CD commented that some children experiencing stress just "want to be by their self." The participant observations of children's behaviors and responses were consistent with the literature findings reviewed. The findings suggested that the impacts of stress and trauma would vary for all children depending on the type of experience and the continual exposure to the stress (Chesney, 2015; National Scientific Council on the Developing Child, 2014; Overstreet, 2015; Perry 2016; Rosenbaum & Blum, 2015; Ryan et al., 2017). Paccione-Dyszelwski (2016) showed that most children were affected by the trauma they experienced during their early childhood years. De Jong (2016) also stated impacts seen in children included changes in behaviors, less emotional control, differing moods such as increased irritability, and changes in the neuroendocrine system. In the literature reviewed, the National Scientific Council on The Developing Child (2014) found that young children could potentially respond to situations differently due to the changes in the brain and could identify harmless events with fear and behavioral responses that are not typical.

The teachers in the study also expressed concerns with the social and emotional development for young children experiencing toxic stress. T 1 CD stated that stress "disrupts the emotional balance" of the child. T 1 AB commented in her journal that

children in stress have “unhealthy emotions.” De Jong (2016) and Ryan et al. (2017) also found that a child’s growth and learning were impacted, and potential brain connections were altered due to the consistent exposure to toxic stress. Perry (2016) found that teachers were seeing children entering school with delays in brain development, including development in cognition, social skills, and emotional skills. McWhirter et al. (2017) also found that stressors were causing some children to suffer in their social and emotional development, resulting in children potentially being labeled with behavioral concerns and facing challenges in their learning. The study results were consistent with the conceptual framework and the report from the CDCHU (2016) where information was provided about toxic stress and the developmental changes, including social and emotional development caused by toxic stress.

All eight teachers appeared to understand that these certain behaviors were something that they would observe in children experiencing stress. The teachers’ understandings were consistent with the literature from Overstreet (2015) that found teachers should understand that behavior can be a sign that a child is experiencing stress. Overstreet’s findings were similar to Holmes et al. (2015) in showing the need for staff to recognize when behavior may be fueled by the effects of toxic stress. The responses from all eight teachers indicated an understanding and recognition that behavior can reflect toxic stress in young children.

**Theme 2 - Teachers are concerned about the home environments of young children experiencing toxic stress.**

Most of the teachers expressed concerns about the home environments of the children in their classrooms experiencing toxic stress. Many of the teachers felt that the environmental factors at home caused the stress they were seeing in children. The teachers expressed concerns about specific events and triggers that could influence toxic stress in the children. Examples of home events and impacts shared included abuse, neglect, violence, divorce, addiction, and food insecurity. T 1 AB stated that it is the "stress-filled environments at home [that] cause stress" for the children in her room. T 1 CD shared a similar thought that it is the "dynamics of home" that impact the children experiencing stress. The results from the study about home impacts were similar to Bronfenbrenner's (1994) ecological model of human development where he described the influences of systems on an individual child. He explored the influences of connected systems on the development of humans from birth throughout their life. These connected systems are the microsystem, mesosystem, exosystem, and macrosystem. The microsystem includes the child's family environment and home environment. The results were consistent with the findings in the literature where many children were experiencing constant stress that derived from unbalanced microsystems and family supports that were entrenched with abuse, neglect, and trauma (Blitz et al., 2013; DeJong, 2016; Dowd, 2017; Edwards & Hans, 2015; Fisher et al., 2016; Hornor, 2015; Knowles et al., 2016; Puff & Renk, 2014; Rijlaarsdam et al., 2013; Romen et al., 2014; Statman-Weil, 2015). Rosenbaum and Bloom (2015) found that the effects of the stress for children depend on the type of experiences they have. The teachers were concerned about the experiences and home environments of the children experiencing stress. Over half of the teachers in

the study felt strongly that the events of the home impacted and resulted in the stress that they were observing in young children.

Most of the teachers felt that they had children experiencing food insecurity at home and that this was a possible cause of their stress. T 2 AB commented that a child experiencing stress did "not get enough food at home" and T 3 AB shared in her journal that children in stress "may not always get enough food." These teacher comments were consistent with the reviewed literature. Knowles et al. (2016) made similar connections in their study of families that faced hardships such as food insecurity. Their research found that food insecurities were a cause of toxic stress and represented additional concerns for young children. Knowles et al. also found that the lack of proper food and nutritional requirements had real impacts to the optimal growth and health of young children experiencing toxic stress.

An unexpected result was that seven of the eight teachers did not consider poverty when describing the impacts of the home environment. Even though home experiences and food insecurities were considerations, most of the teachers expressed that they did not usually consider the family income status of the children in their care. All teachers shared that they did not use poverty as an indicator of stress in young children. Seven of the eight teachers commented that they would not know the poverty status of children. T 1 CD and T 4 CD specifically stated they would have to get income information from a "director" or "owner" of the center. T 2 CD was the only teacher to comment that "sometimes you know" if a child is experiencing poverty. These findings were unexpected because in the literature reviewed, Blitz et al. (2013)

recommended that early childhood caregivers must understand families and poverty to truly support these children facing generational toxic stress. Similar research findings suggested that children living in poverty are exposed to many additional stressors (Dijk, 2018; Fisher, 2016; Jensen, 2013; Lantos & Halpern, 2015; McEwen & McEwen, 2017; Perry, 2016; Richards et al., 2016; Rosenbaum & Blum, 2015). Poverty not only impacts the child, but it also has negative consequences for the family and the child's entire microsystem as seen in the conceptual framework from Bronfenbrenner (1994) and in the report on toxic stress from the CDCHU (2016). In looking at the final results, I am not suggesting that the findings reflect a lack of teacher understanding of the impacts of poverty, rather the findings indicate that teachers do not use poverty as an indicator of toxic stress in young children.

Another study finding was that most of the teachers felt they had good communication and relationships with parents and families; however, the findings suggested that the communication with parents and families did not include talking about the home environment or stress. Even though parent communication was important to the teachers, most of them described the communication as being general in nature, positive, and mostly occurring during drop-off and pick-up times. T 4 CD shared "I don't say anything negative" and T 4 AB commented that during parent communication she mostly was "sharing with them about their [child's] day." During the three classroom observations, I observed two of the teachers using opportunities for parent communication during drop-off times. The communication shared was positive and centered around the upcoming events of the child's day. While these examples are

reflective of parent communication, the literature that I reviewed showed a stronger need for parent communication and involvement in children experiencing toxic stress. The findings in the literature included research on how parent involvement was crucial in supporting the health and development of a young child (Blitz et al., 2013; DeSocio, 2015; Garner, 2015; Holmes et al., 2015; Shonkoff et al., 2012; Swick et al., 2013). In connection with the conceptual framework, Bronfenbrenner (1994) also reflected the importance of the strong family connection as a part of a child's strong microsystem.

**Theme 3 - Teachers feel emotional and unprepared when working with young children experiencing toxic stress.**

Most of the teachers expressed feeling more emotional now in working with children experiencing toxic stress than they did when they first started teaching. Their thoughts and comments reflected strong emotions. The teachers used words like "frustrating", "sad", and "overwhelmed" to describe their feelings. T 1 AB shared in her journal "I feel helpless" when working with children experiencing toxic stress. Several teachers shared feelings of sadness for their children experiencing stress. T 4 AB said, "I think it is very sad". T 2 AB shared about the difference from when she started teaching, "it is different and to me it is sad." These descriptions of feelings and emotions were supported by the literature I reviewed from Statman-Weil (2015) whose research showed that teachers working with children in toxic stress were dealing with strong feelings, some including feelings of defeat and frustration.

In thinking about these feelings of defeat and frustration, teachers in the study did express feeling unprepared when working with young children experiencing toxic stress.

All eight teachers felt that they did not have appropriate training for working with children experiencing toxic stress. Over half of the teachers referred to child abuse and neglect training and behavior training as the only trainings that they had participated in that even mentioned children and stress. Many of the teachers expressed a need for more training in toxic stress and in working with young children experiencing this type of stress. T 1 AB wrote "I'm not equipped without training" to work with children in toxic stress. T 2 AB shared similar thoughts, "I would just like to have some information [on] how to help them." The findings were consistent with the literature I reviewed where research indicated that teaching staff felt that more assistance and communication was needed in knowing how to work with children experiencing trauma and stress. I found support in the literature for school staff and teachers to be trained in toxic stress and the impacts of stress to young children (Anderson et al., 2015; Day et al., 2015; Driessen, 2018; Holmes et al., 2015; Overstreet, 2015; Perry & Conners-Burrow, 2016; Statman-Weils, 2015; Wherry et al., 2013). The conceptual framework supported the results with the CDCHU (2016) report on toxic stress. The report included findings for more teacher training and professional development in working with children experiencing toxic stress.

**Theme 4 – Teachers use consistent routines and frequent communication to support students experiencing toxic stress.**

All eight teachers expressed using consistent routines and frequent communication to support students experiencing toxic stress. Routines were commented on by each teacher and the three journals and three observations reflected routines being used in the classrooms. All the teachers commented on having a "routine" and

"structure" as being important for children experiencing toxic stress. T 1 CD said that having "a really good schedule" was a must for children in stress. In all three journal entries (T 1 AB, T 2 AB, and T 3 AB) routine was referenced as something they used to help children in stress throughout the day. During the three classroom observations for T 1 AB, T 2 AB, and T 3 AB, posted routines were observed in the classrooms and all three teachers utilized the routine and planned activities with their children. All eight teachers also commented on the use of planned activities in the routine, such as play to support children in toxic stress. In the literature reviewed, I found similar research findings. The literature included the benefits of using classroom routines, staff responses, and planned activities supporting children with delays in language, communication, regulation, play, and forming relationships; all of which are concerns for children experiencing toxic stress (Gerwin, 2013; Holmes et al., 2015; Jensen, 2013; Perry & Conner-Burrow, 2016; Statman-Weil, 2015; Swick et al., 2013; Walkey & Cox, 2013). The results were also similar to the conceptual framework and the constructivist theory of Piaget (1936) with the importance of planning for play and active learning.

The findings included all eight teachers commenting on consistent communication practices to support children experiencing toxic stress. Over half of the teachers commented on redirection as a practice. T 3 AB stated that "lots of redirection" helped to support children with toxic stress. In all three classroom observations, I observed T 1 AB, T 2 AB, and T 3 AB using redirection as a practice to support children. Most of the teachers also referenced "comforting," "listening," and "talking" to the children as positive practices for children with toxic stress. These results were similar to

the literature reviewed from Jensen (2013) which provided specific recommendations for activities in the classroom, to include language opportunities, giving positive comments and encouragement to children, and helping children to develop coping skills. Perry and Conners-Burrow (2016) also recommended active listening, positive talking points, eye contact, and supportive attention as positive supports for children with toxic stress. The teachers' thoughts about their classroom practices were supported by the conceptual framework and the social constructivist theory. Social constructivism guides the process of learning and helps to guide educators and teachers in ways to help students throughout the learning process (Kretchmar, 2018; Vygotsky, 1978). Many of the teacher practices described were examples of scaffolding learning for young children, such as the scaffolding practices from the work of Vygotsky's social constructivist theory.

Throughout the interpretation of the study findings, I continued to review and reference the study results, the literature reviewed, and the conceptual framework. The findings of the study were consistent with the information included in the literature review in Chapter 2 and in the conceptual framework that included the work of Bronfenbrenner, the social constructivist theory of Piaget and Vygotsky, and information from the CDCHU.

## Limitations of the Study

The study had several limitations. I applied several strategies to help address the limitations. One limitation was that the study was limited to two rural early childhood centers in an eastern state in the United States, making the number of available teacher participants low. Another limitation for consideration was that the study focused only on

early childhood centers; therefore, generalization might not be able to occur. Another limitation was that the participants had varied degrees of education, knowledge, and experience with toxic stress. A final limitation to the study was the impacts to the original plan for data collection due to COVID-19.

For the limitations identified, transferability and the dependability of the design was considered throughout the study. The results from this study might not be suitable for generalization to all early childhood classroom settings; including preschool, Pre-K, and family homes. The research results were specific to the selected early childhood centers and reflective of the participants working at those centers and their experiences. Dependability of the study was supported by triangulation and the plan for data collection. Triangulation included three different methods for the collection of data including interviews, journals, and observations. Multiple methods of data collection provided dependability to the study.

Researcher bias was a consideration, one bias being the selection of early childhood centers due to the limited availability of potential sites. My role as an observer during the classroom observations was a potential bias, especially in ensuring that I only captured objective information on classroom practices. I addressed the limitations and biases by having the selection of locations remain consistent with the planned study. The selection of participants was consistent. Another measure was that the participating locations and the teacher participants were well-informed about the purpose of the study and the parameters to individual participation throughout the research. A final measure to address the limitations and potential bias was to have the data collected reviewed by a

second source not related to the study. The peer review did take place and the reviewer had no connections to the participants or the selected locations in the study. I maintained a reflective journal during data collection. I recorded written notes and reflections. These personal notes and reflections provided information about local phenomenon, cultural considerations, and societal issues. The journal offered me the opportunity to identify any potential biases during the data collection stage.

A final limitation to the study was the limited data collection due to COVID-19. During the data collection phase, the global pandemic COVID-19 impacted the original plan. I had completed three teacher interviews, received three teacher journals, and conducted three classroom observations prior to COVID-19. While the interviews were being scheduled for the remaining five teachers, COVID-19 statewide restrictions were put into place by the governor. The two early childhood centers in the study were impacted and had to close. The unexpected limitations from COVID-19 were addressed by me revising the plan for data collection. I determined that I could have the remaining five teacher interviews completed by phone. However, I was not able to complete the remaining journals or observations for the five teachers due to the classroom closures. I determined that the study could be completed with all eight teacher participants being interviewed, the completed three teacher journals, and the completed three teacher classroom observations.

## Recommendations

I have several recommendations that could address some of the limitations of the study and some thoughts for further research. One recommendation is to replicate the

study with a larger sample size and population. The study was limited to only a certain number of early childhood centers and a limited pool of potential teacher participants. According to Malterud et al., (2016) the selection of five to 10 participants should provide sufficient information to answer the research questions. I had eight participants in this study and did obtain results that answered the research questions. However, having more centers and teacher participants, could provide more data on teacher perceptions of toxic stress in young children and the classroom practices being used to support children experiencing toxic stress. Having more locations would be helpful and could include other types of early childhood settings. The study focused on early childcare locations. Including other settings such as Head Start, Early Head Start, state supported preschool programs, private and public preschools, and family childcare providers would increase the population. The increase in the population could capture additional information to inform the identified gaps in the literature.

Another recommendation is to replicate the study in different geographic locations. The study was limited to a rural area in one state in the United States. It would be interesting to have the study replicated in other states and other settings, such as urban localities. A further replication of the study could include additional information to help fill the gaps in the literature on teacher perceptions of toxic stress in young children.

Another recommendation is to replicate the study and include more teacher journals and classroom observations. Due to the COVID-19 pandemic and the closure of the centers, the study could not be completed with the original plan for eight teacher journals and eight teacher observations. Replicating the study with additional journals

and observations could provide more data on teacher perceptions of toxic stress in young children and the classroom practices being used to support children experiencing toxic stress.

A final recommendation is from the findings of the study. In the findings, the teachers shared feelings of being unprepared to work with young children in toxic stress. The teachers shared thoughts of needing additional training. Additional research opportunities could help to inform supervisors and administrators of potential topics for continued professional development. The professional development might focus on supporting teachers in working with young children experiencing toxic stress. Other focused topics could include training on supporting families with young children experiencing toxic stress.

## Implications

Information on teacher perceptions of toxic stress in young children and the classroom practices that teachers use with young children experiencing toxic stress was provided in the study results. In the literature, Jensen (2013) recommended that early childhood teachers and staff know their students and their needs, including knowing about health conditions, family life, individual stress responses, and nutritional concerns. The findings from the study included eight teachers sharing perceptions about their students experiencing toxic stress. Information was shared on behaviors, home environments, and consistent classroom practices. Other teachers and early childhood professionals could benefit from reviewing the study and thinking about their own work with students experiencing toxic stress. Teachers could also find it helpful to review

what the teachers in the study had observed in the behaviors of young children experiencing toxic stress. Teachers could benefit from the specific examples shared on the routine and communication practices that the teachers in the study used with young children experiencing toxic stress.

Administrators of early childhood programs and centers might benefit from the study by reviewing the information and insight into what the teacher participants were feeling and thinking when working with young children experiencing toxic stress. The findings of the study included information about teachers feeling strong emotions and feeling unprepared when working with students experiencing toxic stress. Positive social change could occur if administrators could utilize this information in planning for professional development for teachers of young children. Administrators could consider additional supports for teachers working with young children experiencing toxic stress such as specific training, coaching, and teacher wellness activities. Administrators could also consider ways to support staff in strengthening parental communication and family engagement for the children experiencing toxic stress.

Positive social change could be a result of the study, especially in the local community and to the local providers of early childhood education and care. The study could help to inform the local community about toxic stress and the influences on growth and learning for young children dealing with toxic stress. Local childcare providers could possibly use the information to have further conversations with each other and to discuss ways to support centers and staff in providing early childcare services to young children experiencing toxic stress. Local childcare providers might look at planning joint

professional development and even coordinating services with others in the local community that might also be working with young children experiencing toxic stress. Additional research and a larger study could provide the early childcare community even more information on teachers' perceptions of toxic stress in young children and the classroom practices used to assist students experiencing toxic stress.

## Conclusion

The purpose of this study was to explore teachers' perceptions of toxic stress in young children and the classroom practices used to assist students experiencing toxic stress. Teacher participants were provided the opportunity to share information on their perceptions of toxic stress in young children. The teachers described challenging, aggressive, and withdrawn behaviors in young children experiencing toxic stress. Teachers commented on their concerns about the home environments of young children experiencing toxic stress. All eight teachers shared personal feelings about being emotional and unprepared when working with young children experiencing toxic stress. These feelings had increased for the teachers since they started their professional career. Finally, the teachers offered consistent routines and frequent communication as their consistent classroom practices used to support students experiencing toxic stress. The results offered real observations, experiences, feelings, and practices from teachers currently in the field of early childhood education. The study could also continue to support positive social change by giving teachers, administrators, and other early childhood professionals additional insight into what educational and family considerations are needed when working with young children experiencing toxic stress.

# References

Adams, P. (2006). Exploring social constructivism: Theories and practicalities. *Education 3-13, 34(3),* 243-257.

Anderson, E. E., Blitz, L. V., & Saastamoinen, M. (2015). Exploring a school-university model for professional development with classroom staff: Teaching trauma-informed approaches. *School Community Journal*, *25*(2), 113-134.

Berry, D., Willoughby, M. T., Blair, C., Ursache, A., & Granger, D. A. (2014). Early childcare, executive functioning, and the moderating role of early stress physiology. *Developmental Psychology, 50*(4), 1250-1261. doi.org/10.1037/a0034700

Blitz, L. V., Kida, L., Gresham, M., & Bronstein, L. R. (2013). Prevention through collaboration: Family engagement with rural schools and families living in poverty. *Families In Society, 94*(3), 157-165. doi:10.1606/1044-3894.4306

Block, R. W. (2015). Recognizing the importance of the social determinates of health. *Pediatrics*, *135*(2), e526-e527. doi:10.1542/peds.2014-3656

Bogdan, R. C., & Biklen, S. K. (2007). *Qualitative research for education: An introduction to theories and methods* (Custom ed.). Boston, MA: Pearson Education.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3,* 77-101.

Bree, R., & Gallagher, G. (2016). Using Microsoft Excel to code and thematically

analyze qualitative data: a simple, cost-effective approach. *All Ireland Journal of Teaching and Learning in Higher Education, 8*(2), 2811-28114.

Brightman, M. A., Thompson, L., Esernio-Jenssen, D., Alford, S., & Shenkman, E. (2015). Primary care pediatricians' perceived prevalence and surveillance of adverse childhood experiences in low-income children. *Journal of Health Care for The Poor and Underserved, 26*(3), 686-700. doi.org/10.1353/hpu.2015.0080

Bronfenbrenner, U. (1994). Ecological models of human development. *International Encyclopedia of Education, Vol. 3, 2nd. Ed.* Oxford: Elsvier.

Buss, K. E., Warren, J. J., & Horton, E. (2015). Trauma and treatment in early childhood: A review of the historical and emerging literature for counselors. *Professional Counselor: Research & Practice, 5*(2), 225-237. doi:10.15241/keb.5.2.225

Chesney, M. L. (2015). PNPs needed to influence and leverage resources to confront threats to children's health and well-being. *Journal Of Pediatric Health Care, 29*(2), 123-125. doi:10.1016/j.pedhc.2014.11.008

Child Care Aware® of America. (2017). *2017 State Fact Sheets* [Data files and fact Sheets]. Retrieved from https://usa.childcareaware.org/advocacy-public-policy/resources/research/statefactsheets/

Center on the Developing Child at Harvard University (2016). *From best practice to breakthrough impacts: A science-based approach to building a more promising future for young children and families.* Retrieved from www.developingchild.harvard.edu

Center for Evaluation and Research. (2014). *Coding qualitative data* (Tips & Tools #18). Tobacco Control Evaluation Center, UC Davis: Author. Retrieved from http://programeval.ucdavis.edu/documents/Tips_Tools_18_2012.pdf

Centers for Disease Control and Prevention. (2016). *CDC-Kaiser ACE Study* [Data files, graphic, and statistics]. Retrieved from https://www.cdc.gov/violenceprevention/acestudy/

Cox, K. S., Sullivan, C. G., Olshansky, E., Czubaruk, K., Lacey, B., Scott, L., & Van Dijk, J. W. (2018). Critical conversation: Toxic stress in children living in poverty. *Nursing Outlook, 66(2),* 204-209.

Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Boston, MA: Pearson Education.

Day, A. G., Somers, C. L., Baroni, B. A., West, S. D., Sanders, L., & Peterson, C. D. (2015). Evaluation of a trauma-informed school intervention with girls in a residential facility school: student perceptions of school environment. *Journal Of Aggression, Maltreatment & Trauma, 24*(10) 1086-1105. doi:10.1080/10926771.2015.1079279

De Jong, A. R. (2016). Domestic violence, children, and toxic stress. *Widener Law Review, 22*(2), 201-213.

DeSocio, J. (2015). A call to action: reducing toxic stress during pregnancy and early childhood. *Journal Of Child & Adolescent Psychiatric Nursing, 28*(2), 70-71. doi:10.1111/jcap.12106

Dijk, J. W. (2018). Critical conversation: Toxic stress in children living in poverty. *Nursing Outlook, 66(2),* 204-209.

Dowd, M. D. (2017). Early adversity, toxic stress, and resilience: Pediatrics for today. *Pediatric Annals*, *46*(7), e246-249. doi:10.3928/19382359-20170615-01

Driessen, G. (2018). Early childhood education intervention programs in the Netherlands: Still searching for empirical evidence. *Education Sciences.*

Edwards, R. C., & Hans, S. L. (2015). Infant risk factors associated with internalizing, externalizing, and co-occurring behavior problems in young children. *Developmental Psychology, 51*(4), 489-499.

Escamilla, I. M., & Meier, D. D. (2018). The promise of teacher inquiry and reflection: Early childhood teachers as change agents. *Studying Teacher Education: Journal Of Self-Study Of Teacher Education Practices, 14(1),* 3-21. doi:10.1080/17425964.2017.1408463

Fisher, P. A., Beauchamp, K. G., Roos, L. E., Noll, L. K., Flannery, J., & Delker, B. C. (2016). The neurobiology of intervention and prevention in early adversity. *The Annual Review of Clinical Psychology, 12,* 331-357. doi:10.1146/annurev-clinpsy-032814-112855

Fleury, S. F., & Garrison, J. W. (2014). Toward a new philosophical anthropology of education: Fuller considerations of social constructivism. *Interchange (0826-4805), 45(1/2),* 19-41. doi:10.1007/s10780-014-9216-4

Forkey, H., Morgan, W., Schwartz, K., & Sagor, L. (2016). Outpatient clinic identification of trauma symptoms in children in foster care. *Journal Of Child*

*& Family Studies, 25*(5), 1480-1487. doi:10.1007/s10826-015-0331-3

Garner, A. A. (2013). Home visiting and the biology of toxic stress: Opportunities to address early childhood adversity. *Pediatrics*, S65-S73. doi:10.1542/peds.2013-1021D

Gershoff, E. T. (2016). Should parents' physical punishment of children be considered a source of toxic stress that affects brain development? *Family Relations, 65*(1), 151-162. doi:10.1111/fare.12177

Gerwin, C. (2013). Center on the Developing Child at Harvard University, *Tackling Toxic Stress* series. Retrieved from https://developingchild.harvard.edu/science/key-concepts/toxic-stress/tackling-toxic-stress/innovating-in-early-head-start-can-reducing-toxic-stress-improve-outcomes-for-young-children/

Golding, P., & Fitzgerald, H. E. (2016). Trauma and boys, birth to 3. *Zero To Three, 36*(5), 12-19.

Grasso, D. J., Ford, J. D., & Briggs-Gowan, M. J. (2013). Early life trauma exposure and stress sensitivity in young children. *Journal of Pediatric Psychology, 38*(1), 94-103. doi.org/10.1093/jpepsy/jss101

Holen, S. H., Waaktaar, T., Lervag, A., & Ystgaard, M. (2013). Implementing a universal stress management program for young school children: Are there classroom climate or academic effects? *Scandinavian Journal of Educational Research, 57*(4), 420-444. doi:10.1080/00313831.2012.656320

Holmes, C., Levy, M., Smith, A. A., Pinne, S., & Neese, P. (2015). A model for creating a supportive trauma-informed culture for children in preschool settings. Journal Of Child & Family Studies, 24(6), 1650-1659. doi:10.1007/s10826-014-9968-6

Hornor, G. (2015). Childhood trauma exposure and toxic stress: What the PNP needs to know. Journal Of Pediatric Health Care, 29(2), 191-198. doi:10.1016/j.pedhc.2014.09.006

Humphries, M. M., Williams, B. V., & May, T. (2018). Early childhood teachers' perspectives on social-emotional competence and learning in urban classrooms. Journal Of Applied School Psychology, 34(2), 157-179. doi:10.1080/15377903.2018.1425790

Jensen, E. (2013). How poverty affects classroom engagement. *Educational Leadership, 70*(8), 24-30. Retrieved from http://www.ascd.org/publications/educational-leadership/may13/vol70/num08/How-Poverty-Affects-Classroom-Engagement.aspx

Jutte, D. P., Miller, J. L., & Erickson, D. J. (2015). Neighborhood adversity, child health, and the role for community development. *Pediatrics, 135*(Suppl 2), S48-S57. doi:10.1542/peds.2014-3549F

Kletter, H., Rialon, R. A., Laor, N., Brom, D., Pat-Horenczyk, R., & Shaheen,…, Carrion, V. G. (2013). Helping children exposed to war and violence: Perspectives from an international work group on interventions for youth and families. *Child Youth Care Forum 42*:371-388.

doi:10.1007/s10566-013-9203-4

Knowles, M., Rabinowich, J., Ettinger de Cuba, S., Cutts, D., & Chilton, M. (2016). 'Do you wanna breathe or eat? *Economics Of Education Review*, 33154-170.

Kretchmar, J. (2018). Constructivism. *EBSCO Research Starters Education*: EBSCO Information Services, Inc. Retrieved from http://connection.ebscohost.com/c/essays/27577758/constructivism

Kuehn, B. M. (2014). AAP: Toxic stress threatens kids' long-term health. JAMA: *Journal Of The American Medical Association*, *312*(6), 585-586.

Lantos, J. D., & Halpern, J. (2015). Bullying, social hierarchies, poverty, and health outcomes. *Pediatrics*, 135(Suppl2), S21-S23. doi:10.1542/peds.2014-3549B

Maguire, M., & Delahunt, B. (2017). Doing a thematic analysis: A practical, step-by-step guide for learning and teaching scholars. *All Ireland Journal of Teaching and Learning in Higher Education*, *8*(3), 3351-33514.

Malterud, K., Siersma, V. D., & Guassora, A. D. (2016). Sample size in qualitative interview studies: Guided by information power. *Qualitative Health Research*, *26*, 1753-1760. doi:10.1177/1049732315617444

McEwen, C. A., & McEwen, B. S. (2017). Social structure, adversity, toxic stress, and intergenerational poverty: An early childhood model. *Annual Review Of Sociology, Vol 43*, 43445-472.

McLeod, S. A. (2018, June 06). *Jean Piaget's theory of cognitive development*. Retrieved from https://www.simplypsychology.org/piaget.html

McLeod, S. A. (2018, Aug 05). *Lev Vygotsky*. Retrieved from https://www.simplypsychology.org/vygotsky.html

McRae, P. (2013). How our brains are built. *ATA News, 48*(7), 6.

McWhirter, J., McWhirter, B., McWhirter, E., & McWhirter, A. (2017). *At risk youth.* (2nd ed.). Boston, MA: Cengage Learning.

Meadows, S. O., Beckett, M. K., Bowling, K., Golinelli, D., Fisher, M. P., Martin, L. T.,…., Osilla, K. C. (2015). Family resilience in the military. RAND Corporation, Retrieved from www.rand.org/t/rr470

National Resource Center For Health and Safety In Child Care and Early Education. *Caring for Our Children, 3rd Edition* (CFOC3) [Glossary and Data files]. Retrieved from https://www.nrckids.org/CFOC/

National Scientific Council On the Developing Child (Producer). (2013). *Building Adult Capacities to Improve Child Outcomes – Theory of Change* [Video file]. Harvard University: Center On the Developing Child, Frontiers of Innovation: Author. Retrieved from http://developingchild.harvard.edu/innovation-application/key-concepts/theories-of-change/

National Scientific Council On the Developing Child. (2014, January). *Excessive stress disrupts the architecture of the developing brain.* (Working Paper 3). Harvard University: Center On the Developing Child. doi.org/10.1108/jcs-01-2014-0006

Overstreet, S. (2015). Bringing trauma informed schools to life. *Communique* (0164775X), *44*(1), 29-30.

Paccione-Dyszlewski, M. R. (2016). Trauma-informed schools. A must. *Brown University Child & Adolescent Behavior Letter*, *32*(7), 8. doi:10.1002/cbl.30139

Perry, B. D. (2016). The brain science behind student trauma: Stress and trauma inhibit students' ability to learn. *Education Week, 36*(15), 28. Retrieved from https://www.edweek.org/ew/articles/2016/12/14/the-brain-science-behind-student-trauma.html

Perry, D. F., & Conners-Burrow, N. (2016). Addressing early adversity through mental health consultation in early childhood settings. *Family Relations, 65*(1), 24-36. doi:10.1111/fare.12172

Piaget, J. (1936). *Origins of intelligence in the child*. London: Routledge & Kegan Paul.

Puff, J., & Renk, K. K. (2014). Relationships among parents' economic stress, parenting, and young children's behavior problems. *Child Psychiatry & Human Development, 45*(6), 712-727. doi:10.1007/s10578-014-0440-z

Richards, M., Lewis, G., Cornelli Sanderson, R., Deane, K., & Quimby, D. (2016). Introduction to special issue resilience-based approaches to trauma intervention for children and adolescents. *Journal Of Child & Adolescent Trauma, 9*(1), 1-4. doi:10.1007/s40653-016-0081-4

Rijlaarsdam, J., Stevens, G. M., Van Der Ende, J., Hofman, A., Jaddoe, V. V., Mackenbach, J. P., & …Tiemeier, H. (2013), Economic disadvantage and young children's emotional and behavioral problems: Mechanisms of risk. *Journal Of Abnormal Child Psychology, 41*(1), 125-137.

Romens, S. E., McDonald, J., Svaren, J., & Pollack, S. D. (2014). Associations between early life stress and gene methylation in children. *Child Development*, 1-7. doi.org/10.1111/cdev.12270

Rosenbaum, S., & Blum, R. (2015). How healthy are our children? *Future Of Children, 25*(1), 11-34.

Ryan, K., Lane, S. J., & Powers, D. (2017). A multidisciplinary model for treating complex trauma in early childhood. *International Journal Of Play Therapy, 26*(2), 111-123. doi:10.1037/pla0000044

Shern, D. L., Blanch, A. K., & Steverman, S. M. (2016). Toxic stress, behavioral health, and the next major era in public health. *American Journal of Orthopsychiatry*, 86(2), 109-123. doi:10.1037/ort0000120

Shonkoff, J. P., & Bales, S. (2011). Science does not speak for itself: Translating child development research for the public and its policymakers. *Child Development*, 82 (1), 17-32. doi:10.1111/j.1467-8624.2010.01538.x

Shonkoff, J. P., & Garner, M. D., The Committee on Psychological Aspects of Child And Family Health, Committee on Early Childhood Adoption and Dependent Care, and Section on Developmental and Behavioral Pediatrics. (2012). The lifelong effects of early childhood adversity and toxic stress. (Technical Report) The American Academy of Pediatrics, Retrieved from: www.pediatrics.org/cgi/ doi/10.1542/peds.2011-2663

Sigler, M. K. (2016). Expanding transition redefining school readiness in response to toxic stress. *Voices in Urban Education*, (43), 37-45.

Statman-Weil, K. K. (2015). Creating trauma-sensitive classrooms. *YC: Young Children, 70*(2), 72-79.

Swick, K., Knopf, H., Williams, R., & Fields, M. M. (2013). Family-school strategies for responding to the needs of children experiencing chronic stress. *Early Childhood Education Journal*, 41(3), 181-186. doi:10.1007/s10643-012-0546-5

The Institute for Child, Youth and Family Policy, The Heller School, Brandeis University (2016). Diversity Data - Children in Poverty [Data files and statistics]. Retrieved from http://www.diversitydatakids.org/

United States Census Bureau. (2016). [Fact tables, data, and statistics]. Retrieved from: https://www.census.gov/quickfacts/fact/table

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Walkey, M., & Cox, T. L. (2013). Building trauma-informed schools and communities. *Children & Schools*, 35(2), 123-126. doi.org/10.1093/cs/cdt007

Wherry, J. N., Corson, K., & Hunsaker, S. (2013). A short form of the trauma symptom checklist for young children. *Journal Of Child Sexual Abuse, 22*(7), 796-821. doi:10.1080/10538712.2013.830667

Yin, R. (2013). Validity and generalization in future case study evaluations. *Evaluation. 19*(3), 321-332. Retrieved from http://journals.sagepub.com.ezp.waldenulibrary.org/doi/10.1177/1356389013497081

# Appendix A: Interview Questions and Guidance

Participant and Center Code: _____

Date and Time of Interview: _____

Interview Guidance:

- Review purpose of the study and participation requirements.
- Review informed consent and confidentiality.
- Explain interview process, including audiotape recording process.
- Answer any questions and begin the interview.
- Start the audio recorder, ask the first question, and take notes as needed.
- Continue with each question until finished.
- If an answer needs clarification, follow-up with the person being interviewed. Ask another question to gather additional information.

Interview Questions:

- How would you describe your current perceptions of toxic stress in young children?
- How have your perceptions changed since you started teaching?
- How would you describe a child experiencing toxic stress? Actions? Behaviors? Health Concerns?
- What specific classroom practices do you use to support students who may be experiencing toxic stress?
- What classroom practices do you find the most effective for students in stress?

- What specific professional development opportunities have you participated in that have supported your work with students and toxic stress?
- How do you identify students living in poverty in your classroom?
- How do you communicate with families about their children in your classroom?

Follow-up Interview Questions:

I plan to use follow-up interview questions as needed. These questions will be used after the main interview question has been answered. The questions will be used to gain more information and details from the participants, especially if the initial answers are short or vague. I will also use the questions to ask for additional clarification of an answer. The follow-up questions will include:

- Can you explain that further?
- What else can you tell me about this?
- Can you provide more information and/or detail to the answer?

# Appendix B: Journal Form and Guidance

Participant and Center Code: _____

Date and Time of Journal: _____

Journal Guidance:

- During a two week period, complete one journal form, for each day worked in your classroom. Journal entries can be hand-written or typed.
- Please only include your general thoughts and perspectives about toxic stress and classroom practices with the students in your classroom.
- Please do not include comments on individual children and do not include any personally identifiable information.
- Keep the forms until time for your classroom observation. During that time, the forms will be collected by the researcher.

Journal:

1. My perceptions from today on the students in my room who may be experiencing toxic stress.

_____

_____

_____

_____

_____

_____

_____

_____

2. Classroom practices that I used today that may have supported students in toxic stress.

3. Other thoughts from today to share on toxic stress and my classroom.

# Appendix C: Classroom Observation Form and Guidance

Participant and Center Code: _____

Date and Time of Observation: _____

Observation Guidance:

- During the hour observation, complete one observation form, for each teacher. Entries can be hand-written.
- Record objective notes; highlighting only teacher practices.
- Do not include comments on any children and do not include any personally identifiable information.

Observation Notes:

1. Teacher practices observed:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Appendix D: Coding Information

***Research Question 1***

***Theme 1 – Teachers describe challenging, aggressive, and/or withdrawn behaviors in students experiencing toxic stress.***

Category – Challenging Behaviors

Codes:

| | | |
|---|---|---|
| Behaviors | T 1 AB | "Like their behaviors" |
| | T 1 AB | "Every behavior has a reason" |
| | T 1 AB | "His behaviors are off the charts" |
| | T 2 AB | "They are wide-open" – "They freak out" |
| | T 4 AB | "Comes out behavior wise" |
| | T 1 CD | "There has to be a cause and effect" |
| | T 2 CD | "You see their behavior" |
| Change | T 3 AB | "See a change in their behavior" |
| | T 1 AB | "It is a lot more behavior" |
| | T 3 AB | "You can see a change in their behavior because of toxic stress" |
| Challenging | T 2 CD | "It's hard for them to deal with things" |
| | T 2 CD | "They get more frustrated" |
| | T 4 CD | "Stress in children cause meltdowns, challenging behaviors – Journal |
| | T 4 CD | "Children who can't control their emotions" – Journal |
| | T 1 AB | "Stress can be too much for children and sometimes it causes them to have serious emotions/reactions, unhealthy emotions" - Journal |

Category – Aggression

| | | |
|---|---|---|
| Aggressive | T 1 AB | "Bangs his head" – "Flips things over" |
| | T 1 CD | "Confrontation, you know just ready to blow a fuse, you know the anger was so high and intense" |
| | T 2 CD | "Pulling hair" – "throwing something–being really loud" |
| | T 1 AB | "They don't know how to communicate with their own peers without getting physical" – Journal |
| | T 3 AB | "Very aggressive – hitting (another child) – Journal |
| | T 2 AB | "He lost it, screaming at me…and even kicking at me" -Journal |
| Hostile | T 2 AB | "They kick" – "They scream" |

| | | |
|---|---|---|
| | T 3 AB | "Throw" |
| | T 4 AB | "It is going to make them angry and they lash out" |
| | T 1 CD | "I would say 80% lash out" |
| | T 1 AB | "They act hostile" |
| Hitting/Pushing | T 2 CD | "Slapping themselves" |
| | T 4 CD | "Some kids have problems with hitting" |
| Bad language | T 1 CD | "Their language" |
| | T 1 CD | "It is the aggression, the language" |
| Biting | T 1 AB | "Biting her fingernails" |
| Isolation | T 3 AB | "She needs her own space" |
| | T 1 CD | "We have one that does not talk, because of the bad things that have happened to her" |
| Reactions | T 2 CD | "They want to be by their self because it is just sometimes because of things going on at home" |
| | T 4 CD | "Be by their selves and have a moment to cool down" |
| Crying | T 1 AB | "They get emotional quickly – crying"- Journal |
| Modeling | T 2 AB | "He has older siblings, maybe [this] is why [he] is being aggressive" - Journal |
| Withdrawn | T 4 AB | "It makes them withdrawn" |
| | T 4 AB | "Usually the anger but a lot of times it can be…withdrawn too" |
| Attention | T 1 AB | "They want your attention" |
| | T 2 AB | "She is wanting attention" |
| | T 1 AB | "Children with stress act out for parent's attention" - Journal |
| Triggers | T 1 AB | "Reminds them of something traumatic that they have experienced " |

***Theme 2 – Teachers are concerned about the home environments of young children experiencing toxic stress.***

Category – Home Events

| | | |
|---|---|---|
| Divorce | T 1 CD | "The dynamics are so scattered…different parents…have other families" |
| | T 1 AB | "They've gone through divorces, fighting parents and so much more" – Journal |
| Death | T 4 CD | "Someone in their family might have passed away" |
| Violence/Abuse | T 4 CD | "Been abusive to them" |
| Drugs | T 1 AB | "Maybe drug abuse…maybe alcoholism" |

| | | |
|---|---|---|
| Home life | T 2 AB | "The one that is [stressed], it is his home life" |
| | T 1 CD | "Dynamics of their home" – "They don't have the stability" |
| | T 2 CD | "Foster home" |
| | T 4 CD | "Something going on family wise" |
| | T 1 AB | "Stress filled environments at home causes stress at daycare, school" – Journal |
| | T 2 AB | "I wasn't supportive to his stress because I didn't realize what happened at home" – Journal |
| | T 2 AB | "The stress the children are dealing with at home is effecting them at school" – Journal |
| Environment | T 1 CD | "A child has brought baggage with them" |
| Food Insecurity | T 2 AB | "I don't think he gets enough food at home" |
| | T 1 CD | "Being hungry" |
| | T 1 CD | "There is something about not being fed or the anxiety from not being fed" |
| Neglect | T 1 AB | "Personal hygiene" |
| | T 1 AB | "They are worried about their personal hygiene" – Journal |
| Poverty | T 2 AB | "I really don't pay attention to that" |
| Health | T 1 CD | "10% have medical problems" |
| Category – Parents Codes: | | |
| Communication | T 1AB | "I usually contact them by phone or text message" "You don't have the support to be able to communicate with the family" |
| | T 2 AB | "I either try to text or call" |
| | T 3 AB | "We have a folder that I do daily" |
| | T 4 AB | "Sharing with them about their day" |
| | T 1 CD | "I took time to get to know them and talk with them" |
| | T 2 CD | "I think if you have a good relationship with the parents, it makes you have a good relationship with the child" |
| | T 4 CD | "She just talks to the parents" (owner) |
| | T 4 CD | "I don't say anything negative" |
| | T 2 AB | "I've been communicating with parents and it seems to be helping" – Journal |
| Family | T 4 AB | "We have relationships with families" |
| Parents | T 1 AB | "A single parent home" |

| | | |
|---|---|---|
| | T 2 AB | "He does not have real attachment" |
| | T 3 AB | "You have single moms" |

***Theme 3 – Teachers feel emotional and unprepared when working with young children experiencing toxics stress.***

Category – Awareness

Codes:

| | | |
|---|---|---|
| Thought Change | T 2 AB | "Way different" |
| | T 2 AB | "It definitely has changed; the times have changed" |
| | T 4 AB | "I think it is very real" |
| | T 4 AB | "I have become more aware of how common it is" |
| | T 1 CD | "I underestimated children completely" |
| | T 1 CD | "You think I'm going to fix their problems, no we can't fix them" |
| | T 3 CD | "Honestly, it is harder than I thought it would be" |
| | T 4 CD | "More children have more stress on them than you really realize" |
| Experience | T 2 AB | "I have been doing this for 29 ½ years" |

Category – Teacher Emotions

| | | |
|---|---|---|
| Emotions | T 1 CD | "Disrupts the routine or the emotional balance" |
| | T 2 AB | "It is different and to me it is sad." |
| | T 3 CD | "It is really sad" |
| Feelings | T 1 AB | "I feel helpless" – Journal |
| | T 1 AB | "Sad to see" |
| Responses | T 1 AB | "Toxic stress comes in many forms and it can be hard to talk about it" – Journal |
| Concerns | T 1 CD | "Anything that keeps a child from having a happy place" |
| | T 1 AB | "It totally wears everyone out" |

Category – Feeling Unprepared

| | | |
|---|---|---|
| Training | T 1 AB | "We did PBIS training" |
| | T 3 AB | "Six modules on behavior" |
| | T 4 AB | "Child abuse and neglect |
| | T 4 AB | "There have been a few behavior classes throughout the year" |
| | T 2 CD | "WVIT" |

| | | |
|---|---|---|
| | T 4 CD | "I did take one training" |
| | T 3 AB | "Positive behavior…using Tucker Turtle" |
| | T 4 AB | "We had a positive behavior support class" |
| Unprepared | T 2 AB | "This would be a really good topic to have a training on" |
| | T 3 CD | "I don't think I have been in any classes for toxic stress yet" |
| | T 1 AB | "I'm not equipped with the training to handle them" – Journal |
| | T 2 AB | "It would be helpful to all of the teachers" |
| | T 2 AB | "I would just like to have some information, how to help them cope with their stress" |
| Supports | T 1 AB | "We partner with Head Start" |
| | T 4 AB | "A variety of teachers" |
| | T 1 CD | "I would have to go to the director" |
| | T 4 CD | "The owner, to ask them how to go about the situation" |
| | T 1 AB | "Lower numbers are easier to handle, so I imagine I'd be better equipped to care for kids with stress with a lower ratio" – Journal |

***Research Question 2***

***Theme 4 – Teachers use consistent routines and frequent communication to support students experiencing toxic stress.***

Category – Social/Emotional Practices

Codes:

| | | |
|---|---|---|
| Relationships | T 4 AB | "You build relationships" |
| Practices | T 1 AB | "We also talked about feelings" – Journal |
| | T 1 AB | "Emotion charts" - Journal |
| Coping skills | T 1 AB | "Breathing exercises" - Journal |
| | T 1 AB | "Children need proper coping mechanisms" – Journal |
| Redirection | T 2 AB | "Something to get them refocused" |
| | T 3 AB | "Redirection" |
| | T 1 CD | "Redirection definitely" |
| | T 2 CD | "Get their mind on something else" |
| | T 4 CD | "Lead them into another direction" |
| | T 3 AB | "Redirection and reminding that hands are not for hitting"- Journal |
| | T 1 AB, T 2 AB, T 3 AB – Observed redirection | |
| Observations | T 2 AB | "I do keep a journal on one of them" |

Category - Relationships

| | | |
|---|---|---|
| Reassurance | T 1 AB | "I just count – 1, 2, 3…" |
| | T 2 AB | "Reassuring words" – Journal |
| | T 2 AB | "Talking calmly, reassuring" - Journal |

| | | |
|---|---|---|
| Talking | T 1 AB | "Comforting and talking" |
| | T 1 AB | "One-on-one talks" – Journal |
| | T 2 AB | "Encouraging children to talk about their feelings" – Journal |
| | T 1 AB, T 2 AB, T 3 AB - Observed | |
| Listening | T 1 AB | "I just try to hear them out" |
| | T 1 CD | "Ask them a question and really…listen and engage in the conversation" |
| | T 1 AB, T 2 AB, T 3 AB - Observed | |
| Comforting | T 1 AB | "I touch him on the shoulder…it calms him down" |
| | T 1 CD | "A hug" |
| | T 1 CD | "You have to make sure and reassure them they are ok and sometimes it is just a pat on the back" |
| | T 3 CD | "I just hug them and tell them it is ok" |
| | T 1 AB | "Comforting – hugs, talks" - Journal |
| Positive Attention | T 2 AB | "Positive attention" – Journal |
| Individualize | T 3 AB - Observed individual activities for children | |
| Flexibility | T 3 AB | "You…just have to be flexible…we are really flexible" |
| Interaction | T 1 AB, T 2 AB, T 3 AB – Observed positive interactions | |
| Language/words | T 1 AB, T 2 AB, T 3 AB – Observed positive language/words | |
| Questions | T 1 AB, T 2 AB, T 3 AB – Observed open-ended questions | |
| Category - Routine | | |
| Schedule | T 2 AB | "We have a schedule and we do follow it" |
| | T 1 CD | "Planning things for them to do" |
| | T 1 CD | "Having structure, [a] really good schedule and planned activities" |
| Routine | T 2 AB | "We are strict about the routine" |
| | T 2 AB | "I like my routine and I think they do too" |
| | T 1 AB, T 2 AB, T 3 AB – Observed routines/posted routine | |
| Play | T 1 CD | "Go outside…active play" |
| | T 1 CD | "Playing a physical game with them" |
| | T 2 AB | "Trying to alleviate stress by doing more active play" – Journal |
| Quiet area | T 4 CD | "Work in a quiet area" |
| Rules | T 1 AB, T 2 AB, T 3 AB – Observed posted class rules | |
| | | |
| Music | T 2 CD | "We can do music, let them stand up and dance" |
| | T 2 CD | "Music time, it just brings out the happiest time" |
| | T 1 AB, T 2 AB – Observed music | |

| | | |
|---|---|---|
| Family pictures | T 3 AB – Observed family pictures in the room | |
| Puzzles | T 4 CD | “Puzzles” |
| | T 3 AB | “I spent some one-on-one time with her playing puzzles” – Journal |
| Pictures | T 2 AB | – Observed pictures posted |
| Art | T 2 CD | “I do a lot of artwork” |
| | T 4 CD | “A lot of them like to color” |
| Puppets | T 2 CD | “Use puppets for play” |
| | T 4 CD | “Puppets” |
| Books | T 2 AB | “So read you a book” |
| | T 3 AB | “Reading a book” |
| | T 4 AB | “Reading a book about certain things and situations” |
| | T 2 CD | “I use books” |
| | T 3 AB | Observed using books |
| Transitions | T 1 AB | “They do not get picked up by the same person everyday” |
| | T 2 AB | “When it is time to transition, he just goes bonkers” |