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Caregivers' Attachment Relationships with Infants and Toddlers During the COVID-19 Pandemic

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Walden University

College of Education and Human Sciences

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Rebecca E. Roth

has been found to be complete and satisfactory in all respects,
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the review committee have been made.

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Walden University

2024

Abstract

Caregivers' Attachment Relationships with Infants and Toddlers During the COVID-19

Pandemic

by

Rebecca E. Roth

MA, California State University, Bakersfield, 1992

BA, California State University, Bakersfield, 1991

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Education

Walden University

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Abstract

Health and safety protocols related to the COVID-19 pandemic and its variants continue to influence practices in infant–toddler programs one western state in the United States; caregivers in the state are concerned about attachment relationships with infants and toddlers. The purpose of this basic qualitative study was to explore caregiver perceptions of attachment relationships related to the COVID-19 pandemic and its variants and the influence of health and safety protocols on caregiver practices. The conceptual framework combined attachment and biobehavioral theories. Data from interviews with four infant and six toddler caregivers were recorded, transcribed, and analyzed by searching for patterns and categories. Data analysis revealed four emergent themes, three of which encompass requirements for caregiver–child attachment relationships: (a) coordinated forms of communication with expanded use of technology, (b) intentional relationship building with families supported by observations and evaluations, and (c) sensitive caregiving due to safety protocols and fear of illness. The last theme, (d) intentional creative adaptations in the infant–toddler environment, curriculum, and pedagogy, encompasses requirements for caregiver practices. Findings from this study have the potential to contribute to positive social change by furthering knowledge in the field related to caregiver–child attachment relationships and how infant–toddler caregiver practices can be strengthened during both typical times and in emergencies, such as during a pandemic. This may lead to a change in future policies and procedures by government officials and leaders in the field.

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Dedication

I would like to dedicate my work and study to my parents, who have always fiercely protected and supported me in every decision I made and the goals I set. Without them, I do not know where I would be. I know that my passion for education and love for children and families come from them.

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Table of Contents

List of Tables	vi
Chapter 1: Introduction to the Study.....	1
Background.....	3
Problem Statement.....	8
Purpose of the Study	11
Research Question	11
Conceptual Framework.....	12
Nature of the Study	13
Definitions.....	15
Assumptions.....	16
Scope and Delimitations	17
Limitations	19
Significance.....	21
Summary.....	22
Chapter 2: Literature Review	24
Introduction.....	24
Literature Search Strategy.....	24
Conceptual Framework.....	25
Attachment Theory	26
Biobehavioral Theory	27
Combination of Attachment and Biobehavioral Theories	28

Literature Review Related to Key Variables and Concepts.....	28
Attachment and Relational Care	30
Biobehavioral Synchrony.....	32
Caregiver-child Relationships.....	36
Attachment Behaviors.....	38
Caregiving Practices	44
Summary and Conclusions	50
Chapter 3: Research Method.....	53
Introduction.....	53
Research Design and Rationale	53
Role of Researcher	54
Methodology	55
Participant Selection Logic	55
Instrumentation	56
Procedures for Recruitment, Participation, and Data Collection	57
Data Analysis Plan.....	59
Issues of Trustworthiness.....	61
Credibility	62
Transferability.....	62
Dependability	63
Confirmability.....	63
Ethical Procedures	64

Summary	64
Chapter 4: Results	66
Introduction	66
Setting	66
Demographics	67
Data Collection	68
Data Analysis	69
Step 1: Clarification of Focus and Purpose of the Study	69
Step 2: Participant Knowledge and Experience	70
Step 3: Identification of Codes and Patterns	70
Step 4: Time to Step Back	72
Step 5: Review of the Findings	74
Step 6: Development of Categories and Emergent Themes	74
Evidence of Trustworthiness.....	75
Credibility	76
Transferability	76
Dependability	77
Confirmability	77
Results.....	77
Theme 1: Coordinated Forms of Communication With Expanded Use of Technology	78

Theme 2: Intentional Relationship Building With Families Supported by Child–Family Observations and Evaluations.....	82
Theme 3: Sensitive Caregiving Due to Safety Protocols and Fear of Illness	86
Theme 4: Intentional Creative Adaptations in the Infant–Toddler Environment, Curriculum, and Pedagogy.....	91
Discrepant Cases	98
Summary	98
Chapter 5: Discussion, Conclusions, and Recommendations	102
Introduction.....	102
Interpretation of Findings	103
Theme 1: Coordinated Forms of Communication With Expanded Use of Technology	103
Theme 2: Intentional Relationship Building With Families Supported by Child–Family Observations and Evaluations.....	105
Theme 3: Sensitive Caregiving Due to Safety Protocols and Fear of Illness	107
Theme 4: Intentional Creative Adaptations in the Infant–Toddler Environment, Curriculum, and Pedagogy.....	110
Findings and the Conceptual Framework	113
Limitations of the Study.....	114
Recommendations.....	115
Implications.....	116
Conclusion	117

References.....	119
Appendix A: Research and Interview Questions	138
Appendix B: Interview Protocol	144

List of Tables

Table 1 <i>Participant Demographics</i>	67
Table 2 <i>Open Codes and Illustrative Participant Responses</i>	71
Table 3 <i>Open Codes, Categories, and Illustrative Participant Responses</i>	73
Table 4 <i>Research Questions, Categories, and Themes</i>	74

Chapter 1: Introduction to the Study

Adult–child interactions are critical to a child's healthy development in all learning domains: cognitive, language, social, emotional, and physical (Romo-Escudero et al., 2021; Witt et al., 2023). Researchers have discussed the importance of supportive caregiver–child relationships during children's first 3 years (Bratsch-Hines et al., 2020; Kerker et al., 2023; Suggate et al., 2018) and their influences on infants' and toddlers' abilities to form healthy attachments with caregivers (Cekaite & Bergnehr, 2018; Kammermeier et al., 2020). They have, however, noted a gap in research on the interactions between caregivers or teachers and infants and toddlers than between caregivers or teachers with children in care during their preschool years (Recchia & Fincham, 2019). Attachment, the ability of infants or young children to trust their primary caregivers to care for them and meet their needs when distressed (Bowlby, 1969), is essential to quality interactions between caregivers and young children. Since Bowlby (1968) and Ainsworth (1988) published their seminal work, numerous researchers have studied attachment in infant and toddler care and education. These studies have offered attachment theories to enlighten parents and caregivers about the importance of attachment to quality caregiving (Cekaite & Bergnehr, 2018; Kammermeier et al., 2020; Schein et al., 2023).

Many infants and toddlers are in nonparental childcare in the United States and continued to be in care during and following the COVID-19 pandemic and its variants. The COVID-19 pandemic and its variants can potentially increase stress in primary caregivers, which can influence young children's development and difficulty reaching

developmental milestones (Imboden et al., 2022). There have been multiple changes to the environments of infant and toddler programs, including having caregivers conduct home visits to support parents in forming attachment and biobehavioral relationships with very young children (Schein et al., 2023). Researchers have noted the influences of health and safety practices and procedures like mask wearing and social distancing on natural communication between caregivers (Carnevali et al., 2021). The consequences of the COVID-19 pandemic and its variants remain a concern because the outcomes of mandated health and safety procedures and practices of caregivers on infants and toddlers are unknown. More broadly, the influences of the pandemic on the physical and emotional environments for caregivers, teachers, and infants and toddlers in their care since the onset of the COVID-19 pandemic are not known (Carnevali et al., 2021; Dugger et al., 2023; Mantovani et al., 2021). Carnevali et al. (2021) and Mantovani et al. (2021) recommended closely monitoring infant and toddler programs and early childhood education center-based programs to be aware of the outcomes of the procedures on young children. Some researchers have suggested that leaders of childcare organizations carefully evaluate the unknown influences of COVID-19 safety protocols and precautions on children (Dugger et al., 2023).

This study focused on caregiver perceptions of caregiver–child attachment relationships related to the COVID-19 pandemic and how the COVID-19 pandemic influenced the practices of caregivers regarding the formation of caregiver–child attachment relationships in infant and toddler programs. In this basic qualitative study, I interviewed four infant and six toddler caregivers were interviewed using open-ended

interview questions. I followed an interview protocol based on the conceptual framework and relevant literature in the field. Findings from this study may result in positive social change because they may lead to a greater understanding of the influences that COVID-19 pandemic protocols have had on the development of caregiver–child attachment relationships in light of the mandated restrictions and related practices in infant–toddler programs. This can potentially affect change in caregiver behavior in times of emergency and caregiving practices in general. In Chapter 1, I provide background on caregiver–child attachment and the COVID-19 pandemic; present the problem statement, the purpose of the study, and the research questions (RQs); and explain the conceptual framework that grounded my research. In addition, I introduce the nature of the study; define key terms; and discuss the assumptions, scope and delimitations, limitations, and significance of the study.

Background

The COVID-19 global pandemic has affected education at every level (Barnett et al., 2021; Mantovani et al., 2021). According to a 2022 report from the Centers for Disease Control and Prevention (CDC), early care and education programs are an essential part of the infrastructure of communities because of the vital resources they provide to children and families (Simmons-Duffin et al., 2022). Schools and early care and education programs support cognitive, social, emotional, and physical development and provide children and families with behavioral, social, and mental health services (National Association for the Education of Young Children, n.d.). Educational programs provide a safe and secure base for many children, and the COVID-19 pandemic disrupted

that, mainly for groups that were disproportionately affected (CDC, 2022). Due to the pandemic and its variants, children and caregivers have struggled with the challenges of learning and teaching in nontraditional ways (Ford et al., 2021). Because of COVID-19 and its variants, traditional settings have been altered to meet safety protocols—for instance, by reducing class size and ratios and enforcing social distancing and/or mask wearing (Carnevali et al., 2021; Green et al., 2020).

Early childhood professionals stressed the importance of creating safe and secure environments, establishing trusting relationships, and providing a sense of community among their staff and families (Cornejo, 2018; Kammermeier, 2020; United Nations, 2020). Swadener et al. (2020) interviewed caregivers about COVID-19 policies to gain their perspectives on how the pandemic affected the emotional aspects of care for caregivers. Swadener et al. determined that reciprocal relationships found in classroom communities were transformed by the pandemic and advocated for reimagining a new community of ethical and equitable care due to disparities revealed by the pandemic. Imboden et al. (2022) stressed that more awareness and education are needed about the critical role of primary caregivers in young children's development and the essential nature of nurturing all relationships in the community. Swadener et al. found that the COVID-19 pandemic exposed several deeply ingrained issues in early care and education. Further, they and other researchers (Imboden et al., 2022; Kammermeier, 2020) determined that infant and toddler programs and caregivers have been impacted in emotional and material ways by the pandemic yet stayed connected to serve children and families.

Although the federal government and some states in the United States provided support for childcare during the pandemic, funding was scarce and programs serving young children and families experienced challenges in operating their programs (Yoshikawa et al., 2020). Some researchers suggested that due to the pandemic, infants' and toddlers' physical and emotional environments changed in multiple ways (Carnevali et al., 2021). Carnevali et al. (2021) found barriers to natural communication because procedures like mask wearing, and social distancing were practiced. This remains a concern because the outcome of such procedures for infants and toddlers is unknown (Carnevali et al., 2021). Mantovani et al. (2021) recommended closely monitoring early childhood education center-based programs to be aware of the outcomes of the procedures on young children. Specifically, Mantovani et al. suggested that children should be observed to track the effects of COVID-19 as they return to caregiving settings when restrictions are lifted. However, data compiled by the state's department of social services and released in August 2022 show that the COVID-19 pandemic and its variants still affected children and families and the early care and education programs that supported them. The agency reported 56,331 cases of COVID-19 in childcare centers and family childcare homes during August 2022. This report may shed light on whether mask wearing and social distancing disrupt caregiver–child attachment relationships.

As I note in Chapter 2's literature review, researchers have discussed the importance of caregiver–child synchronicity between the caregiver and the child. Caregiver–child attachment and synchronicity have been studied extensively in early care and education; the findings indicate that developing attentive and responsive relationships

is imperative to the healthy growth and development of infants and toddlers (Cadima et al., 2022; Hammond, 2021). Synchronicity, or getting into sync, is vital in developing loving relationships. Researchers refer to synchronicity as a loving dance and a smooth combining of two temperaments and personalities that learn to move together rhythmically. They suggest this is good for the caregiver and the child as they gaze, touch, smile, and coo to communicate rhythmically (Yaniv et al., 2021). Perone et al. (2020) pointed out that this exchange between caregiver and infant has a dance-like quality. According to Hammond (2021), human touch and individual attention provide the infant with the energy or fuel to explore and learn. Positive touch is an integral part of building affectionate relationships. Still, more importantly, touch and early physical contact affect the nervous system and have implications throughout the life span (Hammond, 2022). Touch is not merely done because it feels good or is required to change and feed infants and toddlers; the brain responds to and is stimulated by gentle touch (Tuulari et al., 2019). Tuulari et al. (2019) examined brain responses during gentle skin stroking in young infants. They found that the neonates' brains are very responsive to gentle skin stroking, which confirms that interpersonal touch is essential to brain development. Skin-to-skin contact, or social touch, is necessary for sensory processing, attachment quality, and socioemotional development early in life (Norholt, 2020; Tuulari et al., 2019).

COVID-19 pandemic protocols such as mask wearing and social distancing have been studied (Carnevali et al., 2021; Green et al., 2021; Hashikawa et al., 2020); however, caregivers' perceptions of caregiver-child attachment relationships with infants

and toddlers related to the COVID-19 pandemic have not been the focus of studies, according to my review of the literature. Harding et al. (2021) indicated that it is impossible to predict the consequences of changes in practice with infants and toddlers due to the COVID-19 pandemic. Interviewing caregivers may shed some light on this issue. Researchers have found that mask wearing limits babies' abilities to determine caregivers' facial expressions (Green et al., 2021). Because babies depend on facial expressions and tone to regulate their reactions toward others, the practices of mask wearing and social distancing should be carefully monitored (Green et al., 2021). The potential implications are unknown for young children because caregivers and parents wear face masks when caring for babies for safety reasons (Green et al., 2021).

Barnett et al. (2021) studied the impact the COVID-19 pandemic had on early childhood education (ECE) in the United States. They determined that early-care caregivers struggle to document, understand, and learn from what is going on with restrictions such as mask wearing and social distancing. Barnett et al. noted a gap in the literature and a need to understand the consequences of pandemic-induced changes such as mask wearing and social distancing for early learning experiences and how they affect children's well-being. Other researchers have also noted the need for further research. Kammermeier et al. (2020) investigated the association between attachment security and attention to facial emotional expressions between mothers and young children. They saw the need for future studies of children's reactions to facial emotional expressions with infant and toddler caregivers. Barrett et al. (2019) explored the assumption that emotion can be inferred by observing facial expressions and found that people worldwide express

and recognize emotions in facial expressions. Because of limited studies on facial expressions and perception across various contexts, Kammermeier et al. recommended further research on how facial expressions convey emotions. This study was needed because there are gaps in the literature about the influences of practices and protocols related to the COVID-19 pandemic on caregiver–child attachment relationships due to such procedures as caregivers wearing masks and using social distancing when working with infants and toddlers. There are unknowns about caregiver abilities to develop caregiver-child attachment relationships because of practices related to the COVID-19 pandemic (Carnevali et al., 2021; Green et al., 2021; Mantovani et al., 2021). Exploration of caregivers' perceptions of caregiver–child attachment relationships related to the COVID-19 pandemic was needed.

Problem Statement

The issue that prompted this study was that caregivers were required to provide care and education to infants and toddlers while wearing masks and practicing social distancing during the COVID-19 pandemic and its variants. A video published in 2020 on YouTube by the target state's early childhood mentor program indicated that caregivers in the state were concerned about caregiver–child attachment relationships with infants and toddlers in their care due to the practice of mask wearing and social distancing during the COVID-19 pandemic. This problem is current and relevant to the discipline. Despite the belief that the COVID-19 pandemic appears to be under control, global statistics tell a very different story. As reported by Simmons-Duffin et al. (2022) on National Public Radio, the COVID-19 pandemic surpassed 600 million infections globally in September

2022. Although guidelines for reducing the spread have been modified due to vaccination rates, the CDC continues to recommend mask-wearing indoors, especially in counties where the number of COVID-19 cases is high (Simmons-Duffin et al., 2022; Wood et al., 2022). China is facing another surge of COVID-19 infections as the government relaxes travel restrictions. CNN reported that China's crematoriums and funeral homes are packed, and workers are struggling to keep up with the number of bodies being delivered, confirming that the COVID-19 pandemic and its variants are far from over (Jeong & Chang, 2023).

Pandemics affect young children because they do not understand such events (Cowie & Myers, 2021). The COVID-19 pandemic has been coined a “mental health crisis,” and according to research, secure attachment relationships offer a protective barrier against the psychological burden posed by the pandemic (Dong & Bouey, 2020; Moccia et al., 2020; Rajkumar, 2020). Hashikawa et al. (2020) argued that the effects of safety protocols, such as exclusion policies, mask wearing, and social distancing practices, need to be reviewed because of their effect on mental health. Hashikawa et al. suggested that the medical implications of COVID-19 are still unclear but that its economic, educational, and social-emotional impacts are apparent. According to Green et al. (2021), caring for babies during the COVID-19 pandemic was fraught with challenges due to wearing masks, which makes determining facial expressions complex for this age group. Green et al. noted that the eyes and mouth are the areas that provide the most information when communicating and that concealing the mouth can be problematic when trying to appear happy and engaged.

Green et al. (2021) noted that babies depend on facial expressions and tone to regulate their reactions toward others. Araujo et al. (2021) found that epidemics can lead to high-stress levels in adults and children and that the COVID-19 pandemic has produced high-risk factors for healthy growth and development in children. Using current research, Carnevali et al. (2021) found that mask wearing impacts language learning and development and emotional and social development. The findings of Carnevali et al. are substantiated by Green et al., who noted Darwin's 1872 research on facial expressions and the ability of infants to read them, giving them an evolutionary advantage of creating social bonds and helping social groups function peacefully. Finally, Green et al. noted that educators and health professionals need to understand mask-wearing's potential effects on infant development. Carnevali et al. echoed this finding and recommended further investigations on the consequences of caregiver mask wearing on social and communication development in infants and toddlers.

Witt et al. (2023) suggested that COVID-19 continues to negatively affect children. These are not only from the direct effect of COVID-19 but from indirect influences on children's language, socioemotional development, educational consequences, and relationship development with caregivers and family members. Based on my extensive review of literature conducted during the last 5 years, research that specifically explored caregiver perceptions of the effects that the COVID-19 pandemic has had and continues to have on the development of caregiver-child attachment relationships with infants and toddlers exists. Researchers have identified a gap in the literature; therefore, this study was needed. The research problem addressed in this

qualitative study was the gap in the literature on caregivers' perceptions of caregiver–child attachment relationships related to the COVID-19 pandemic.

Purpose of the Study

The purpose of this basic qualitative study with interviews was to explore caregivers' perceptions of caregiver–child attachment relationships related to the COVID-19 pandemic and how the COVID-19 pandemic influenced the practices of caregivers regarding the formation of caregiver–child relationships in infant and toddler programs in one state within the southwestern United States. Hains and Neuenswander (2021) explained that parents and caregivers play critical roles in children's development by nurturing and providing quality relationships. Carnevali et al. (2021) explored the effect that mask wearing by caregivers had on the information relayed to infants and toddlers about others. These researchers suggested that exposure to facial features and emotional expression is the root of social communication, cognition, and the specialization of social brain networks. The concept or phenomenon of interest included the need to understand caregivers' perceptions of how health and safety procedures and practices such as mask wearing and social distancing during the COVID-19 pandemic have more deeply affected caregiver–child attachment relationships with infants and toddlers. This study was conducted to provide vital information for professionals in the field of early care and education, as well as for families and policymakers.

Research Question

I developed two RQs to guide the study:

RQ1: What are caregivers' perceptions of caregiver–child attachment relationships with infants and toddlers during the COVID-19 pandemic and its variants?

RQ2: How has the COVID-19 pandemic and its variants influenced the practices of caregivers regarding the formation of caregiver–child attachment relationships in infant and toddler programs?

Conceptual Framework

I based the conceptual framework for this basic qualitative study on Bowlby's attachment and biobehavioral theories. The theories were also used to form the research problem, purpose, and nature of the study. Bowlby's (1958) attachment theory emphasizes the need for nurturing and sensitive caregiving practices that lead to healthy, caregiver-child attachment relationships. Bowlby suggested that the terms *principal attachment figure* and *mother figure* can be used interchangeably because the biological mother does not constantly interact with an infant.

Bowlby (1988) developed the biobehavioral theory based on his finding that attachment behaviors have predictable outcomes of increasing a child's proximity to the attachment figure. Bowlby found that attachment behaviors have a biological base and are thus biobehavioral. Biobehavioral behaviors include smiling, vocalizing, crying, and active behaviors like approaching and following. Bowlby's (1958, 1988) attachment and biobehavioral theories underpinned the study's RQs, which concerned caregivers' perceptions of caregiver–child attachment relationships with infants and toddlers during the COVID-19 pandemic (RQ1) and how the COVID-19 pandemic influenced the practices of caregivers' and teachers' formation of caregiver–child relationships (RQ2). I

also drew from both theories in developing the research design. A more thorough explanation of the conceptual framework will be provided in Chapter 2.

The conceptual framework was consistent with the basic qualitative study with interviews approach that I used. Answering the RQs may address the gap in the literature based on a need for more information about caregivers' perceptions of caregiver–child attachment relationships with infants and toddlers during the COVID-19 pandemic. The purpose of this essential qualitative study was to explore caregiver perceptions of attachment relationships related to the COVID-19 pandemic and its variants and the influence of protocols on caregiver practices related to the formation of attachment relationships in one state in the southwestern United States. Drawing from the conceptual framework, I conducted interviews to answer the study's two RQs.

Nature of the Study

Researchers choose qualitative methodology to explore and better understand individuals' experiences in a particular setting (Aspers & Corte, 2019). I chose a basic qualitative method because it was the most appropriate for exploring caregiver experiences with caregiver–child attachment related to the COVID-19 pandemic and its variants. I recruited 12 infant and toddler caregivers in the southwestern region of the United States to learn their perceptions, which revealed their individual experiences based on their settings.

This study featured a basic qualitative design that was underpinned by a conceptual framework that combined Bowlby's attachment and biobehavioral theories. Two RQs were based on this conceptual framework and literature from the field. Four

infant and six toddler caregivers who had worked full-time during the COVID-19 pandemic and had continued to provide caregiving and education for young children during the past 3 years were interviewed. I explored caregiver–child attachment relationships related to the COVID-19 pandemic and its variants. The self-created interview protocol received validation from an expert panel of professionals with doctorates in infant and toddler care and education. Merriam and Tisdell (2016) noted that qualitative research is based on the belief that people construct knowledge. According to Merriam and Tisdell, interviewing subjects is one of the primary data collection techniques used in qualitative studies because the researcher seeks to understand how people understand or perceive their world. I explored caregivers' perceptions of caregiver–child attachment relationships related to the COVID-19 pandemic and how the COVID-19 pandemic influenced the practices of caregivers regarding the formation of caregiver–child attachment relationships in infant and toddler programs. Rubin and Rubin (2012) described the qualitative paradigm as an approach that views reality through people's experiences, knowledge, and interpretations. According to Rubin and Rubin, qualitative intervention is one of the key naturalistic research methods in which researchers speak with people with knowledge or experience of the problem being explored.

I followed a qualitative interview protocol to collect authentic and in-depth data from four infant and six toddler caregivers. The caregivers provided me with rich information based on perceptions of their experiences working in infant and toddler care and education programs during the COVID-19 pandemic. Interviews were conducted

using Zoom videoconferencing or telephone. I, as the sole researcher, recorded and transcribed interviews. According to Merriam and Tisdell (2016), detailed transcriptions of recorded interviews provide the researcher with the best data for analysis. After each interview, I transcribed the interviews and began the coding process as an ongoing process. After the interview process, when data saturation was reached, I continued to analyze data to search for themes that emerged from caregivers' interviews.

Definitions

The following definitions are used in this study:

Attachment: A relational construct that varies in quantity across different types of caregiving relationships (Bowlby, 1969).

Attachment behavior: A set of socially oriented functions that applies to all mammalian species and is activated in a time of need (Long et al., 2020).

Biobehavioral synchrony: The coordination of biological processes during or immediately following social interaction (Long et al., 2020; Perone et al., 2020).

COVID-19: A disease that led to a global pandemic and that was caused by a new coronavirus, SARS-CoV-2 (Spitzer, 2020).

Emotional information processing: The processing of emotional information (Kammermeier et al., 2019).

Interpersonal synchrony: A phenomenon that occurs when the movements or behavior of one person are temporarily aligned or in sync with those of another person or persons (Cirelli et al., 2018).

Relational care: The use of touch, empathy, and compassion in caregiving situations to establish closeness with a caregiver (Cekaite & Bergnehr, 2018).

Relationship dance: A phenomenon that occurs when a mother or caregiver matches their behaviors, emotions, and biology with that of the infant in their care (Perone et al., 2020).

Sensitive period: A period of rapid and tremendous neural growth, also known as a “critical period” (Cozolino, 2020).

Social distancing: The practice of imposing distance between people (approximately 1.5 meters) to prevent the spread of infectious diseases (Qian & Jiang, 2022)

Social synchrony (or *behavioral synchrony* or *synchronicity*): The coordination between a caregiver and their child's nonverbal behavior and communicative signals during social interactions that allow the caregiver and child to engage in reciprocal and positive ways (Yaniv et al., 2021).

Still-face paradigm: An emotion regulation task between mother and infant during which stress is heightened due to the mother's reduced emotional availability (Perone et al., 2020).

Assumptions

In this study, I assumed that participating caregivers would answer open-ended questions based on their experiences and, therefore, the responses would reflect a subjective reality. The research and open-ended interview questions were designed to explore caregivers' perceptions of caregiver–child attachment relationships related to the

COVID-19 pandemic, creating an ontological assumption and, possibly, an epistemological assumption due to my role as the researcher and my relationship to and interaction with the caregivers. Another assumption was that the role of infant and toddler caregivers would be understood regardless of the degree held by the individual. To simplify, when recruiting from accredited programs that require a degree, I recruited using the roles of caregivers or teachers, in my invitations and interviews. Another assumption was that volunteer participants would be forthright and honest about their perception of developing attachment relationships with infants and toddlers. I assumed that participants adhered to the COVID-19 pandemic protocol requirements established by their local and state governments and local licensing agencies. My final assumption was that participants wore masks while working with infants and toddlers during the COVID-19 pandemic. The assumptions were necessary due to the nature of the study, the risks associated with a qualitative approach, and the risk of bias. In a study such as this, emotions can be very raw and leading, and as the researcher, it is essential to remain objective.

Scope and Delimitations

I used a basic qualitative approach featuring interviews of four infant and six toddler caregivers who had worked in an infant and toddler caregiving setting for the last 3 years. I conducted interviews to determine participants' perceptions of developing attachment relationships with infants and toddlers related to the COVID-19 pandemic and its variants, and how the COVID-19 pandemic influenced the practices of caregivers regarding the formation of caregiver–child attachment relationships in infant and toddler

programs. The criteria for volunteers were as follows:

- currently working in a licensed center-based or family childcare program with infants and toddlers,
- having a minimum of 3 years of experience working with infants and toddlers, and
- having an associate degree in early childhood education or child development or the equivalent (24 units).

Caregivers who did not meet these requirements were not included in my study. I also excluded from the study individuals who did not work in a licensed, center-based, or family childcare program with infants or toddlers; individuals who had fewer than 24 units of child development or early childhood education; and those with fewer than 3 years working with infants and toddlers. I used professional early care and education organizations, email listservs, and snowball approaches to identify infant and toddler caregivers. According to Merriam and Tisdell (2016), snowball or network sampling is among the most common selection forms. It involves locating a few key participants to interview who meet the specific criteria established for participation in the study.

Qualitative interviewing provided authentic and in-depth data from caregivers who could provide rich information based on their experiences working with infants and toddlers in family and center-based childcare during the COVID-19 pandemic. Rubin and Rubin (2012) described the qualitative paradigm as an approach that views reality through people's experiences, knowledge, and interpretations. According to Rubin and Rubin, qualitative interviewing is one of the critical naturalistic research methods in which

researchers speak with people with knowledge or experience of the problem being explored.

The delimitations of a study area are in the researcher's control and are used to focus the research, essentially representing the boundaries and the limitations set by the writer (Theofanidis & Fountouki, 2019). The delimitations of this study limited the type of caregivers interviewed. I decided that infant and toddler caregivers would be interviewed rather than other caregivers, such as parents. Although parent–infant attachment relationships are central to children's healthy growth and development, COVID-19 pandemic protocols, such as mask wearing and social distancing, are not generally followed between parents and their children. Building attachment relationships is directly related to children's healthy social-emotional growth and well-being (Jeon et al., 2021; Lang et al., 2020). Outside the family members, the primary caregiver or teacher in infant and toddler care establishes an attachment relationship with the child. The findings from this study have potential transferability. Merriam and Tisdell (2016) described transferability as the ability to generalize findings or apply information across various contexts or situations. Individuals reading this study may find the findings applicable or transferable to their setting.

Limitations

According to Theofanidis and Fountouki (2019), the limitations of a study are factors that are out of the researcher's control and tied to the study in some way. I am aware of three limitations in this study. The first limitation is related to the sample size. The research group included four infant and six toddler caregivers or teachers employed

by center-based or family childcare programs in the southwestern part of the United States. Although I could have generated more data with a larger sample size, according to Burkholder et al. (2019), a small sample size is appropriate when participants are knowledgeable about the phenomenon being studied. The second limitation pertained to the inclusion only of caregivers in one state in the southwestern part of the United States. Their perceptions may not reflect the broader perceptions of the early care and education community members. External validity or transferability is the ability to generalize findings or apply information across various contexts or situations (Merriam & Tisdell, 2015). Caregivers for this study had at least 3 years of work experience and an associate degree in early childhood education or child development. However, specific courses of study, professional development, and educational level were not stipulated and may have influenced their responses. A third limitation included participating caregivers' personal bias about mask wearing and the COVID-19 pandemic. Biases are almost inevitable when the researcher is the primary data collection and analysis tool. As Merriam and Tisdell (2016) pointed out, the subjectivity of both the participants and researcher has, at times, been seen as a benefit, and rather than trying to eliminate human subjectivity, it is better to monitor it, reflect on it, and to deal with the potential influences of it. According to Anney (2014), a reflective journal can be used to observe limitations or biases. Therefore, I practiced reflexivity and kept and referred to the journal during the data collection and analysis processes (see Burkholder et al., 2019).

Significance

This study may contribute to the field of early care and education by addressing gaps in the literature. The information that participating caregivers provided about their perceptions of developing attachment relationships with infants and toddlers related to the COVID-19 pandemic and how the COVID-19 pandemic influenced their practices may prove very important. It can be shared and used for further study, explicitly addressing strategies for building positive relationships while managing the challenges associated with the COVID-19 pandemic and future pandemic protocol. This can potentially affect change in caregiver behavior in times of emergency and caregiving practices in general. Long et al. (2020) cited the theories of Bowlby and Ainsworth, noting that early interactions with significant caregivers support the emergence of the self and affect future relationships if a dedicated and responsive caregiver is available to the infant or toddler.

Long et al. (2020) identified that humans are equipped with strategic attachment behaviors such as seeking proximity to get the attention and support needed as part of a more extensive attachment system, biobehavioral or social synchrony. Because faces are the infant's primary stimulus for interaction and learning, the effect of mask wearing and social distancing needs to be better understood (Carnevali et al., 2021). This view is reinforced by Barrick et al. (2021), who recommended further research be conducted to track the long-term implications of the COVID-19 pandemic on socialization.

Attachment and attachment relationships have been researched at length, but not in a context such as the COVID-19 pandemic, and caregivers' perceptions related to the

use of protocols such as mask wearing and social distancing need to be further studied (Rajkumar, 2020). This study is significant because it addressed a gap in the research about caregiver–child attachment relationships during the COVID-19 pandemic. Findings may make a contribution that could potentially advance practice and identify specialized strategies to address deficiencies because this is an underresearched area; experts have called for studies on infant–toddler caregiver attachment relationships (Barnett et al., 2021; Barrett et al., 2019). Barnett et al. (2021) noted that the COVID-19 pandemic has impacted early childhood education and care. They stated that more research is needed to understand the consequences of pandemic-induced changes on young children's early learning, development, and well-being. Researchers have noted a lack of knowledge of the impacts of pandemic-induced changes on those who work with infants and toddlers (Barrett et al., 2019; Green et al., 2021).

This basic qualitative study with interviews was warranted and necessary. It is meaningful to the field and makes an original contribution by addressing a gap in the research. This study's findings may contribute to positive social change because data collected from interviews with four infant and six toddler caregivers may provide information on infant–toddler caregivers' perceptions of caregiver–child attachment relationships related to the pandemic that enhance caregiver–child attachment relationships during periods of emergency and in caregiving practices in general.

Summary

In Chapter 1, I identified the problem related to a gap in the literature on caregivers' perceptions of caregiver–child attachment relationships related to the COVID-

19 pandemic and how it influenced the practices of caregivers regarding the formation of caregiver–child attachment relationships in infant and toddler programs. I described the purpose and nature of this study and presented the conceptual framework, RQs, assumptions, and scope and delimitations. The purpose of this basic qualitative study was to explore caregiver perceptions of attachment relationships related to the COVID-19 pandemic and its variants and the influence of protocols on caregiver practices related to the formation of attachment relationships in one state in the southwestern United States. I interviewed four infant and six toddler caregivers in center-based and family childcare programs using an interview protocol. In Chapter 2, I present an extensive overview and synthesis of current literature related to attachment theories. An in-depth discussion of the conceptual framework is included.

Chapter 2: Literature Review

Introduction

The purpose of this basic qualitative study was to explore caregiver perceptions of attachment relationships related to the COVID-19 pandemic and its variants and the influence of protocols on caregiver practices related to the formation of attachment relationships in one state in the southwestern United States. Caregivers are concerned about caregiver-child attachment relationships with infants and toddlers in their care due to the practice of mask wearing and social distancing during the COVID-19 pandemic (State Early Childhood Mentor Program, 2020). The research problem addressed through this qualitative study was the gap in the literature on caregivers' perceptions of caregiver-child attachment relationships related to the COVID-19 pandemic and its variants. In Chapter 2, I addressed the literature search strategy to ensure saturation, provided the conceptual framework that grounds the study, and provided an exhaustive review of the relevant literature.

Literature Search Strategy

I searched the literature extensively using Walden's databases, including Education Source, Education Resource Information Center, Sage Journals, and nursing and psychology databases. I also used Google Scholar and professional organizations such as Resources for Infant Educators, the Program for Infant/Toddler Caregivers, Zero to Three, the National Association for the Education of Young Children, and the National Institute for Early Education Research. The search terms included *early childhood education, attachment, attachment relationships, caregiver, social distancing, relational*

care, synchronicity, emotional information processing, still-face paradigm, touch, massage, biobehavioral synchrony, emotional integration, sensitive periods, infants and toddlers, and COVID-19 pandemic. As I read the articles, I kept a matrix that included common themes, including studies that recommended further studies on caregiver-child relationships and attachment in nonparent infants' and toddlers' care. I followed an iterative search process for a year and a half to stay current with literature that was focused on infant and toddler care and education with the onset of the COVID-19 pandemic. When I began my search, research was scarce; however, when the early childhood education and care researchers sought data from health and educational databases and the global community networks, more studies became available (Jalango, 2021). I continued to search until now by focusing on scholarly articles available through Google Scholar.

Conceptual Framework

The conceptual framework grounded this study is a combination of attachment and biobehavioral theories. Bowlby's (1958) and Ainsworth's (1978) theories on attachment focused on the attachment relationship between caregiver and child. According to Bowlby, while a child's primary caregivers are their parents, children form attachment relationships with those who care for them outside the home. Bowlby's (1988) biobehavioral theory emphasized that the biological aspects of attachment behaviors between the child and caregiver are for survival but also allow the infant to explore the environment while remaining in close proximity to the source of protection and care, both of which are important to development and learning (Bowlby, 1969). Additionally,

Feldman (2021) grounded her research in a conceptual framework for the neurobiology of human attachment, taking Bowlby's theory further with science and current technological capabilities. Feldman emphasized that infants and caregivers are biologically connected and thus designed to attach, supporting the growth and development of the young in their care. Caregivers of infants and toddlers in caregiving and educational settings are the primary source of protection and comfort when parents are unavailable. In the current study, Bowlby's initial and revised theories on the key factors associated with developing attachment relationships, along with Ainsworth's contributions of a secure base and Feldman's work on biobehavioral theory and social synchronicity, were used as the infant and toddler caregivers shared their perspectives on the challenges of developing and maintaining attachment relationships during the COVID-19 pandemic.

Attachment Theory

Attachment theory is the foundation and conceptual springboard for this study. According to Bowlby (1988), attachment occurs because of a biologically driven interaction between baby and caregiver. The two moved through phases of animated social exchange using facial expressions and vocalizations. Attachment can occur between two people engaged in a rhythmic communication dialogue that both find enjoyable.

Bowlby (1988), the "founding father" of attachment theory, explained that attachment behaviors, such as smiling, vocalizing, crying, and physical proximity, are used by children and caregivers when building attachments and that attachment and

attachment behaviors are biologically driven. He also emphasized that behaviors such as smiling, vocalizing, and crying increase the proximity of caregivers and the building of attachment relationships (Bowlby, 1988). Stevenson-Hinde (2007) reviewed the work of John Bowlby's attachment theory and found that Bowlby emphasized the critical role emotion plays in relationships. That psychological well-being is as important as physical well-being, and there is a biological drive to support both. Barrett et al. (2019) found that additional research is required to examine infants' and toddlers' emotional expressions across situations that vary physically, psychologically, and socially. Secure attachment relationships between infants and toddlers with their caregivers have been directly linked to healthy social-emotional development and emotional regulation (Perone et al., 2020; Riendl et al., 2018). Wilson-Ali et al. (2019) found that caregivers' understanding and application of attachment theory were varied and that if the quality of relationships is an indicator of a quality program, more is needed to ensure that educators understand attachment theory and how to practice it in an early childhood education setting.

Biobehavioral Theory

Research studies have increased during the previous 5 years, primarily due to technological advances, which shifted researchers' focus from only behavioral indicators to physiological ones (Carollo et al., 2020). Carollo et al. (2020) concluded that attunement, behavioral synchrony, and biobehavioral synchrony depend on rhythmical social signals. Attunement is an alignment of neural activity between an adult and a child, and it involves such behaviors as face-to-face interactions used during communicative exchanges that stimulate reciprocal behavior.

Combination of Attachment and Biobehavioral Theories

Children seek to stay close to the attachment figure when attachments are formed and usually show distress when separated (Granqvist, 2021). According to Granqvist, positive attachment behaviors include smiling and vocalizations used to engage the attachment figure, or what Ainsworth coined the secure base. Furthermore, according to Granqvist (2021), Bowlby identified this attachment figure as the person who protects the infant in times of danger. Bowlby (1988) suggested that positive attachment is biologically or genetically driven to ensure survival.

Literature Review Related to Key Variables and Concepts

The COVID-19 pandemic profoundly influenced early childhood education and care and has implications for young children and their families (Pattnaik & Jalongo, 2021). Long before the onset of the COVID-19 pandemic, the critical importance of quality early care and education was recognized (National Association for the Education of Young Children, n. d.; Zero to Three, n. d.). Maternal and children's health, including children's social and emotional wellbeing and families' access to childcare and early learning, were a priority for research (Fisher et al., 2020). The implications for the caregivers in infant and toddler programs to provide responsive, nurturing care are heightened (Jolango, 2021). Infants and toddlers, as the youngest group of children in nonparent care, need strong caregiver and teacher support during this critical time when development proceeds rapidly, as the architecture of the brain and the structure of their body are being formed (Jalongo, 2021; Perone, 2021). Parents and caregivers play critical roles in nurturing young children through attachment practices that build caregiver-child

quality relationships and stimulate children's optimal brain development (Hains & Neuenswander, 2021).

Relationship building is reciprocal or a point-in-time exchange with a dance-like quality (Perone et al., 2020). In 1999, seminal research by Siegel introduced the concept of interpersonal neurobiology. According to Siegel, technological advances have led to new research on the neurobiology of attachment relationships and the biological integration between caregiver and child (2020). Today, researchers investigating interpersonal neurobiology take the stance that relationships shape a person's brain development in several ways (Siegel, 2020). These include synchronous relationships, touch, and love. Synchronous connections are associated with children's use of caregiver proximity to reduce anxiety (Feldman, 2021). Feldman found that very young children who experienced sensitive, synchronous relationships showed more significant signs of resilience during childhood's middle and later stages. Carozza and Leong (2021) found that touch may play a role in interactional and neural synchrony and may serve as a mediator for social cues used in synchrony. Feldman (2017) explained that further research on the scientific measurement of love and the brain might provide crucial information on caregiver-child attachment and neuroscience. The theory of attachment has been extensively studied, and more recently, with strides in neuroscience research, more information on the biological implications of attachment is available, stressing the importance of attachment and relational care.

Attachment and Relational Care

There is abundant research confirming that healthy attachment relationships are vital to children's overall health and well-being at every age (Kammermeier et al., 2020; Feldman, 2021; Romo-Escudero et al., 2021). Kammermeier et al. (2020) found that attachment security between caregiver and child predicts children's emotional information processing. Ferrajão (2022) builds on this by stating that attachment theory is a model for explaining cognition, behavior, and emotion regulation. Caregivers must know or learn how to read infant and toddler cues to build an attachment relationship (Romo-Escudero et al., 2021). Romo-Escudero et al. (2021) explored toddler caregivers' ability to notice interactions and development as they relate to and predict the quality of the caregiver's interactions with toddlers. Romo-Escudero et al. found that while caregivers' abilities were low in both their ability to notice effective caregiver-child interactions and toddler development, there is evidence that the ability to notice effective caregiver-child interactions is predictive of caregivers' effective interactions. A plethora of research establishes the connection between effective child interactions and learning and development and that adult-child interactions are critical to classroom quality and healthy development (Romo-Escudero et al., 2021). Wilson-Ali et al. (2019) surveyed 488 educators to glean their perspectives on attachment theory. They found that 91% of caregivers knew what attachment was, 60% had moderate or extreme familiarity, and 42% were either moderately or highly familiar with the stages of attachment. Additionally, when asked about the role of a primary and secondary caregiver, rather than indicating the parent was primary and the caregiver secondary, the caregivers noted that

both are primary caregivers in their care space. Likewise, Romo-Escudero et al. argued that the field would benefit from further research on toddler caregivers' ability to notice effective interactions between caregivers and toddlers and the social-emotional development of toddlers in their classrooms and whether it predicts their ability to interact with them effectively. Further, there is a lack of research on caregiver-toddler interactions, and the field would benefit from a deeper understanding of the experiences, knowledge, and skills that affect caregivers' effective interactions with toddlers in their care because adult-child interactions are critical to classroom quality and healthy development (Romo-Escudero et al., 2021). Cekaite and Bergnehr (2018) determined that relational care should be integrated into early childhood education and care. While Bowlby supported this notion, he emphasized that the relationship provides a base from which infants and toddlers can explore and learn.

Attachment also supports identity development (Handa & Umemura, 2023; Kerpelman & Pittman, 2018). In a contributing article, Kerpelman and Pittman (2018) suggested that Erikson's theory of identity development and "the self" are closely tied to Bowlby's theory of attachment and attachment security in early childhood. For infants and toddlers, the attachment relationship with a significant other is central to healthy growth and development, and sensitive, responsive caregivers are the key to this relationship (Handa & Umemura, 2023). Further, Handa and Umemera (2023) argued that positive quality relationships lay the foundation for secure attachments and a sense of basic trust.

Touch is another vehicle for supporting attachment relationships and a host of other benefits, both social and emotional. Researchers found that relational care that included a variety of touches to support children's development of emotional regulation during times of distress was able to mildly control the child's bodily conduct and mitigate verbal disciplining (Cekaite & Bergnehr, 2018). Carozza and Leong (2021) explained the important role that positive touch plays in establishing social relationships, developing emotional bonds, and psychosocial behavior, as well as its impact on interactional synchrony. Pratt et al. (2018) found that children's brains responded to attachment cues across brain areas, like how adults' brains react to attachment cues. Researchers noted that "social synchrony," the mutual adaptation of mother and child to each other's cues, is linked to social functions, empathy, and mental action (Pratt et al., 2018). Researchers determined that while it is difficult to articulate the needs of infants. Employing additional caregiving methods may help. They also noted that for infants to develop and thrive, they need opportunities to build relationships and interact with familiar caregivers, and masks and other protective gear could disrupt this (Harding et al., 2021). Further, researchers stressed that protective equipment could reduce skin-to-skin contact, reduce learning, and interrupt understanding of early feeding cues (Harding et al., 2021).

Biobehavioral Synchrony

It has been established that caregiver responses and interactions influence the neural development of the child they care for (Gee & Cohodes, 2021). According to Hoch et al. (2021), young infants and their caregivers engage in face-to-face synchrony using facial expressions and vocalizations in a type of "social dance." When the dance is

disrupted, infants can become very distressed. At the same time, Hoch et al. studied the process of locomotor synchrony, which supports infants' interaction with the physical world, finding that infants were often the leaders in the interactions (2021). This behavioral synchrony is critical to the development of social interaction in which two partners, or even friends, work together to accomplish a shared goal (Hoch et al., 2021). Feldman (2021), biobehavioral synchrony is the neurobiology of relationships. She maintained that a child's resiliency is grounded in coordinated social behaviors, often found in synchronous relationships between mother and child (Feldman, 2021). Cirelli et al. (2018) used an interpersonal synchrony framework. They noted that interpersonal synchrony is when the movements of one person become temporally aligned or "in sync" with the movements of others. An example of biobehavioral synchrony is the association between mother and child when the child seeks proximity to the mother or caregiver to reduce anxiety (Feldman, 2021). Feldman found that children who experienced sensitive, synchronous relationships showed more significant signs of resilience during childhood and adolescence.

The research and analysis of biobehavioral and social synchrony have just exploded in early care and education (Carollo, 2021). Carollo et al. (2023) concluded that research has increased on interpersonal synchrony, primarily due to technological advances, shifting from behavioral to physiological, and suggested several considerations for the research conducted. Carollo et al. undertook an analysis of documents that included content related to biobehavioral synchrony, behavioral synchrony, and attunement because they wanted to identify important contributions and research trends

that were impacting the field regarding mechanisms of synchrony and attunement, offering a summary and analysis of current research. In addition, Carollo et al. concluded that the research on attunement and biobehavioral synchrony indicated that an alignment of neural activity between an adult and a child seems to depend on rhythmical social signals, such as face-to-face interaction used during communicative exchanges, stimulating reciprocal behavior to occur between a child and caregiver. Long et al. (2020) reviewed current social neuroscience data on how differences in attachment are associated with brain anatomy and activity throughout the lifespan. These researchers explained that within the biobehavioral synchrony model and attachment, there is evidence of behavioral, physiological, and hormonal secretion attunement within attachment relationships throughout life (Long et al., 2020). Social synchrony at 3 to 4 months also predicts attachment security, self-regulation, behavior adaptation, and empathy through adolescence (Djalovski et al., 2021; Long et al., 2020; Yaniv et al., 2021). Pan et al. (2021) examined whether learning can be enhanced by externally synchronizing brain activity between teacher and learner during a task and found that inter-brain synchrony improved social learning and suggested that neural alignment might enhance the transfer of information between teacher and learner. In a similar study, Djalovski et al. (2021) examined how various attachment relationships lead to accomplishing social goals through neural and behavioral synchrony and found that brain-to-brain synchronization occurs in affiliative relationships when engaged in motor tasks and empathy-giving interactions. In a similar study, Pan et al. examined whether learning during social interaction can be enhanced by brain synchronicity. Researchers

delivered electric currents to both a teacher and a learner to measure behavior and social learning. They found that inter-brain synchrony improved social learning and suggested that neural alignment might enhance the transfer of information between teacher and learner.

Kerr et al. (2019) reviewed current literature and perspectives from various disciplines (neuroscience, developmental psychology, clinical psychology, and family science) to shed light on the neural systems that influence emotion regulation (ER). Researchers suggested that infant and toddler interactions with caregivers affect brain development, structure, and function. According to Kerr et al. (2019) Functional Magnetic Resonance Imaging (fMRI) technology used to examine parent-child interactions allows for concurrent scanning or hyper scanning of two individuals interacting socially. This offers an opportunity to study brain activity related to emotional regulation during social interaction between a caregiver and a child. Similarly, Schmidt et al. (2021) conducted an fMRI study, analyzing brain activation across participants, and asserted that mirror neurons (MN) are the basis for all social-cognitive processes. Schmidt et al. (2021) used the theory of embodied stimulation as a platform for their study. These researchers determined there is evidence of a shared neural basis for social-cognitive processes and that interpersonal knowledge or understanding might occur through embodied stimulation or mirror neurons (Schmidt et al., 2021).

Researchers found stress can influence social synchrony (Azhari et al., 2019; Cornejo, 2018). Azhari et al. (2019) suggested parental stress reduces mother-child brain synchrony, and fMRI is used to identify specific brain regions affected by stress. Cornejo

(2018) explained that cultural shifts in parent-child engagement, increased digital exposure, and limited play opportunities influence children's health, school readiness, and executive functioning skills. Cornejo concluded that caregivers could provide alternative models for play and social learning by establishing safe and nurturing relationships to decrease the stress and anxiety experienced by children and offer opportunities for free and guided play. There are implications about the importance of providing children with more opportunities for exploration and free play with caregiver support to decrease parental stress (Arantes de Araújo et al., 2020; Imboden et al., 2022). Thus, the caregiver-child and teacher-child relationships are essential in children's development (Cornejo, 2018; Imboden et al., 2022).

Caregiver-child Relationships

Building healthy caregiver-child relationships or attachments goes beyond what Bowlby initially theorized as a dependency for survival (1958). The caregiver-child relationship served a host of development needs, including closeness and security (Marmarosh, 2022; Verschueren & Koomen, 2021). A child's secure attachment to caregivers supports healthy socioemotional development (Tabachnick et al., 2022). According to Tabachnick et al. (2022), secure attachment increases the likelihood that children will exhibit positive emotional expressions more than those with insecure attachments. Researchers stressed the importance of continued caregiver attunement to infants' and toddlers' needs and support for their social and emotional development (Perone et al., 2020; Riendl et al., 2018). Still, this critical relationship takes time to develop.

Quality interactions happen throughout the day. Cadima et al. (2022) examined and compared the quality of teacher-infant interactions in play and caregiving routines and found the quality of teacher-infant interactions varied depending on the type of activity being conducted and that interactions during play were of higher quality. Ereky-Stevens et al. (2018) determined that attachment security did not improve during the first 4 months of childcare and that it takes a minimum of 9 months to occur. Researchers also noted that one-on-one care did not seem as important as caregiver sensitivity in group care, and those children who appeared to feel included scored better (Ereky-Stevens et al., 2018). Further, research findings suggested that attachment relationships are also a vehicle for adaptation to community contexts, imitation, and cultural transmission (Granqvist, 2021). Like Granqvist, Thompson (2021) determined that cultural transmission is one of the many benefits of healthy caregiver-child relationships. However, these researchers recommended further research to explore how various cultures view and develop attachments and use attachment tools (Granqvist, 2021; Thompson, 2021).

During the lockdown period of the pandemic, when non-essential workers were home from work or worked from home, many parents also did not have access to childcare. Russell et al. (2020) found that there was a correlation between caregiver burden and depression during the COVID-19 pandemic with a perception of children's stress and had an impact on the parent-child relationship. Parents and children in the home during the lockdown period used social media and technology to connect with others and reduce their anxiety (Drouin et al., 2020). The use of technology with young

children during isolation and social distancing is well documented as caregivers also share time with children to increase their trust and sense of well-being (Goldschmidt, 2020).

Attachment Behaviors

Attachment and attachment behaviors are reciprocal, and the relationship or attachment to the infant or toddler is biologically driven and designed; both the caregiver and child exhibit and respond to attachment behaviors (Cozolino, 2020; Feldman, 2021; Siegel, 2020). Cozolino (2020) stressed that through evolution, humans automatically communicate through their bodies, emotions, and minds, physiologically connecting to others, and that internal organs are linked to facial expressions, providing information on biological states. Like other researchers, Cozolino explained the importance of the mirror neuron, which essentially creates an internal picture or representation of the behaviors or feelings of others. For example, the area of the brain used to complete a function or task in one person will also light up in the person watching, and in the case of a caregiver, often the infant or toddler. Infants and toddlers mirror or copy what we do, and it's not a controlled choice but an automatic, physiological response. Bowlby's theory supports the idea that attachment is biologically driven (1958). Bowlby (1958) theorized that sucking, clinging, following, crying, and smiling make up attachment behavior and is instinctual.

Facial Expression and Configuration

The face provides invaluable information, such as who is a stranger and who is a loved one; it is how cues for social interaction are transmitted; it is how the process of conversation is learned and how emotion in others is inferred (Barrick et al., 2021).

Stanbouly and Chuang (2021) reviewed current research on the physical features of the face used for communication. They determined that the internal features (nose, mouth) provide more helpful information than external features (face shape, hair, chin, ears) on social inferences such as safety, trustworthiness, and approachability. Cozolino (2020) examined infants' communication practices and facial expressions with their caregivers in early care and education settings. Cozolino (2020) determined that infants have a rich capacity for engaging and negotiating with caregivers in early childhood settings and actively contribute to developing the relationship. Those relationships affect responses in the brain. Murray and Palaiologou (2018) outlined research contributions, noting that emotional development is the ability to form close and secure relationships with peers and adults and that they are environmentally mediated. Additionally, Murray and Palaiologou explained that emotional health and development are closely tied to the communities in which they live and that it affects every domain of development. Furthermore, emotional capital refers to children's skills to relate to and interact with their environment.

Barrett et al. (2019) explored the assumption that emotion can be inferred by observing facial expressions. They found that people around the world express and recognize emotions, while Cozolino (2020) further emphasized that there is increasing evidence that facial expressions and eye contact connect us to those around us. The eyes, as much as they are a part of the whole face when expressing and receiving information, are the focus of expression when wearing masks. This is reinforced by Barrick et al. (2021), who concluded that the COVID-19 pandemic changed how people socialize and

that participants wearing a mask increased the use of visual cues and the visible area of the face to communicate.

The impact on emotional regulation development is another consideration. Perone et al. (2020) examined infants' and mothers' emotional regulation development and brain activity during mother and infant interactions to explore the stillface procedure. Researchers found that frontal alpha asymmetry readings indicated that during the stillface procedure, infants displayed emotional negativity with a desire to withdraw and presented less emotional control as the infants' stress increased from viewing a still face (Perone et al., 2020). Kadooka and Franchak (2020) found age-related differences in how an observer prioritizes different stimuli because younger infants focus on salient features, and older infants focus on faces. Faces, while seemingly crucial to the development of attachment relationships, were partially covered in response to the COVID-19 pandemic as part of a strategic plan suggested by the World Health Organization in February 2020 (Jee, 2020).

Touch

Infants and toddlers take information through all their senses, including the skin. The skin is the largest organ of the body, providing infants and toddlers with a physical connection to the outside world (Della Longa et al., 2019). It provides protection and sensory input, and researchers suggested it may be an evolutionary component that supports learning and bonding (Cascio et al., 2019; Della Longa et al., 2019) It is the primary organ for communication between human caregivers and their young, and according to Della Longa et al. (2019), it affects how infants and toddlers look at

caregivers' faces. Being touched or stroked, provides an intimate opportunity for gazing into one another's faces, creating a potential for social and cognitive development and impacting brain circuitry (Della Longa et al., 2019). As with other learning opportunities, touching, gazing, and connecting, offer even more. Talari et al. (2019) found that the neonates' brain is very responsive to gentle skin stroking. This confirms that interpersonal touch is vital to brain development and skin-to-skin contact, or social touch, is important to sensory processing early in life. Teicher et al. (2019) presented findings that an infant's interactions with the mother or primary caregiver during the 1st year include a positive image of the mother's face. It is imprinted in the prefrontal cortex's circuitry, making a case for close physical contact essential (Teicher et al., 2019). Della Longa et al. found no significant difference in the visual scanning of faces during touch and non-touch situations; they determined that touch may support the learning of facial information. Touch also teaches children something about themselves. Svinth (2018) outlined caregivers' descriptions of how nurturing touch can enhance their sensitivity and how toddlers seem more attentive to their bodies, are more relaxed, and are more flexible.

Tracking and Following

Communication in the beginning years of life requires infants to learn to engage with their social environments and the people in them through eye gazing, facial expressions, and vocalizing; it is the period when learning comes from adults and the social environment (Piazza et al., 2019). Piazza et al. (2019) simultaneously measured infant and adult brains using functional near-infrared spectroscopy while they communicated and played with each other, finding a relationship between neural

activation (activity) and the moments the two participated in mutual gazing, joint attention, emotion, and communication. Boyer et al. (2020) used eye-tracking to investigate how infants and adults choose their focus of attention while observing a caregiving interaction, explicitly looking for factors that affected joint attention. Researchers determined that adults' and older infants' visual attention was affected by gaze cues and action, but this was not true of younger infants. Boyer et al. (2020) noted that attention to others' eyes, faces, and actions is central to communicating and establishing attachments.

Smiling

Smiling conveys an important message when communicating with others and is a key factor in developing attachment relationships (Bowlby, 1958; Piazza et al., 2019). According to Piazza et al. (2019), facial expressions, gazing, and language create a sense of common ground or commonality that is important in developing social relationships early in life. Krol and Grossmann (2020) noted that social cognition forms impressions to determine if a person or situation is safe as a part of human survival. Krol and Grossmann used functional near-infrared spectroscopy to examine infants' neurodevelopmental regions when forming impressions about individuals to decide whether they are friendly or threatening. These researchers determined that infants used their medial prefrontal cortex to distinguish between frowning and smiling faces during eye contact and consequently determined their personal preferences (Krol & Grossmann, 2021).

Crying and Vocalizing

Like most living things, infants depend on caregivers to meet their needs; they depend on them for survival, and survival depends on the infant's ability to communicate (Piazza et al., 2019). Zukow-Goldring (2012) presented the importance of interactions with caregivers (social interaction) to language development. Specifically, she addressed the situated, culturally embodied, emergent, and distributed model of early language development. She determined that the natural interactions between caregivers and infants are the catalyst for early language development and that infants learn to participate with people and objects in the environment, through opportunities for assisted imitation and communication. Essentially, communication between babies is supported by caregiver practices. Müller (2021) conducted an ethnographic study to analyze the interactions between 21 babies between 4 and 11 months of age and demonstrated that crying is an important resource in communication and is a cooperative and interactive tool used among babies not yet verbal. Müller also established that crying is used by babies for monitoring behavior and morality and that infants could determine the different emotions associated with crying and, subsequently, identify babies by their cries.

According to Byrne et al. (2023), infants born during the COVID-19 pandemic seemed to have social communication deficits, based on a parental report. The infants were born during the first 3 months of the pandemic and followed for the 1st year of development (Byrne et al., 2023). Byrne et al. suggested that the pandemic may have impacted social communication skills and that further scientific study be conducted.

Caregiving Practices

Very young children are increasingly being cared for by caregivers outside the home, and the quality of care varies widely despite what we know (Recchia & Fincham, 2019). Research on infant and toddler care and education highlighted the importance of the early years and those who care for them (Eschelmann et al., 2020; Recchia & Finchman, 2019). During the pandemic, childcare outside the home changed for many families, and home visiting services continued virtually or by home visitors (Schein et al., 2023). In some cases, interventions were needed to help families with attachment and biobehavioral relationships that targeted parents' sensitivity to the effects of the pandemic. Parents were more likely to form attachment relationships with such interventions as the Attachment and Biobehavioral Catch-up (ABC) program (Schein et al., 2023). Eschelmann et al. (2020) recognized the importance of caregivers continuing to provide care in hybrid formats or as home visitors. One of the most essential roles of a caregiver is the facilitator of relationships, finding consistent ways to engage infants in reciprocal relationships (Eschelmann et al., 2020; Schein et al., 2023).

The caregiver-parent relationship is a critical component of healthy caregiver-child relationships and children's socioemotional well-being (Jeon et al., 2021; Lang et al., 2020). Bronfenbrenner's bioecological systems theory posed that the interactions between systems or microsystems (home, school, etc.) are essential to the development of children, as they are affected by the systems or agents surrounding them. The most important relationship is that of the parent and child but given the amount of time children spend in out-of-home care, the teacher-child relationship has also become very

important. According to Jeon et al. (2021), the relationship between the teacher and family can provide a deeper understanding of the child.

According to Recchia and Fincham (2019), very young children are being reimagined because research on brain development has provided insight into their cognitive and emotional capabilities. This reimagining provides new understanding that should guide the curriculum, influence the physical environment and emotional climate, and affect caregiving practices (Recchia & Finchman, 2019). Quality caregiving practices lay the foundation for optimal growth and development throughout the life span (Gee & Cohodes, 2021; Recchia & Fincham, 2019). As discussed previously, research establishes the connection between effective child interactions and learning and development, and caregiver-child interactions are one of the most critical components of a quality program, as infants' and toddlers' communication and social skills are dependent on caregivers' responses (Eshelman et al., 2023; Romo-Escudero et al., 2021). Eshelman et al. (2023) examined toddler communication and teacher responsiveness in three Early Head Start Programs and determined that children's communication was better when caregivers' responses were higher.

Proximity Seeking

Caregiver-child communication also relies on proximity. Bowlby and Ainsworth (1978) first introduced the importance of proximity-seeking as part of the attachment process. This is when infants and toddlers move away from what Ainsworth coined the "secure base" to explore the environment in their drive to learn about the world around them. Hammond (2022) noted that Gerber, the founder of Resources for Infant Educators,

also spoke to this. Gerber used Bowlby and Ainsworth's theories as a pillar of her philosophy and practice, but she had an expression all her own. Gerber coined the term "educarer," noting the balance between dependency on the adult caregiver and the right of the infant/toddler to independence and respect (Hammond, 2022). Gerber believed that a respectful, responsive, and reciprocal relationship is the foundation of healthy development, and like Ainsworth and Bowlby, she believed that the infant moves away from the caregiver to explore the environment and learn.

Hashikawa et al. (2020) recommended that children's social-emotional health be considered when establishing mask-wearing guidelines because facial expressions are critical for healthy development and encourage young children to seek out caregivers. Green et al. (2021) suggested that during the COVID-19 pandemic, there were potential implications for young children that are not known due to caregivers and parents wearing face masks when caring for babies. Researchers found there are challenges for infant and toddler caregivers due to mask wearing, which limits babies' abilities to determine facial expressions from the wearers of masks; further, because babies depend on facial expressions and tone to regulate their reactions toward others, this phenomenon should be carefully monitored (Green et al., 2021). Kammermeier et al. (2020) investigated the association between attachment security and attention to facial emotional expressions between mothers and young children. They recommended future studies about children's reactions to facial emotional expressions with infant-toddler caregivers.

Barnett et al. (2021) studied the impact of the COVID-19 pandemic on early childhood education in the United States. They determined that the field of early care

needs help to document, understand, and learn from what is going on with restrictions such as mask wearing and social distancing. Dong and Bouey (2020) concluded that mental health needs to be integrated into emergency response plans. Barnett et al. (2021) noted that research is necessary to understand the consequences of pandemic-induced changes such as mask wearing and social distancing for early learning experiences and how they affect children's well-being and explored the assumption that emotion can be inferred by observing facial expressions and that people worldwide express and recognize emotions in facial expressions. Research is limited, and further research is recommended on how facial expressions convey emotions. Exploring caregivers' perceptions of the development of caregiver-child attachment relationships during the COVID-19 pandemic is needed (Barnett et al., 2021; Green, 2021; Kammermeier et al., 2020).

Mask Wearing

In April 2020, the COVID-19 pandemic brought the world to a stop. The CDC and the World Health Organization started recommending social distancing practices and face coverings and issued stay-at-home orders (Barrick et al., 2021; Ruba et al., 2020). To comply with the CDC and World Health Organization, leaders of educational programs across the United States implemented protocols to keep teachers, caregivers, children, and families safe. Ruba et al. (2020) noted children's inferences while they looked at different facial configurations while covered with sunglasses or masks and determined that while there may be some challenges for children when other people are wearing face masks, overall, children were able to make accurate inferences about most emotions when additional contextual information was available. Still, the feeling most

difficult to infer was fear, often being identified as a surprise. The researcher recommended that future research be conducted with younger children, especially infants learning about emotion-associated expressions (Ruba et al., 2020). Mask wearing was also part of the safety protocols required by early childhood care and education programs in combatting the spread of the COVID-19 pandemic. According to Spitzer (2020), masks reduce the ability to communicate, empathize and relate to others. He determined that positive emotions are less recognizable, and negative emotions are amplified. While communication is complex and may not impact interpretation, emotion can also be conveyed through gestures and body movement. Still, it would be assumed that mask wearing causes some disruption in communication or, at the very least, confusion. Carnevali et al. (2022) determined that mask wearing disrupts the infant's ability to process faces and that there is lower accuracy in emotion and identity recognition. Furthermore, while the eyes may be used, face masks reduce the availability of communication cues for infants, making it difficult for infants to read emotions, and negative interpretation by an infant could affect communication. In support of this position, Campagne (2021) determined that covering the mouth and nose hampers communication and increases stress, affecting physical and psychological well-being, and research conducted by Kastendieck et al. (2022) notes emotion recognition is not as difficult for some emotions. Still, emotional intensity is more difficult to identify.

Social Distancing

Educational programs, whether for younger or older children, are the primary settings for creating social ties with others (Melchior, 2020). Social distancing may be

detrimental as it works against what it means to be human (Abel et al., 2020; Melchoir, 2020). According to Melchoir (2020), refraining from social contact is usually considered unnatural, or a sign of behavioral challenges, and research indicates that social isolation in childhood predicts psychological issues in adulthood. This is not to say that distancing is the same as isolation. Still, a reminder that humans are social by nature, and what works to counter what is natural is rarely a good thing, a concept also introduced by Aristotle (Melchoir, 2020). Abel et al. (2020) supported the findings of Melchoir and noted that limiting contact or pushing social distancing may lead to mental health issues, including depression and anxiety. With concerns as a result of the pandemic, Marmor et al. (2023) conducted a systematic review of the literature with questions regarding the consequences for children that revealed child maltreatment was often an outcome of depression and anxiety in women caregivers (Marmor et al., 2023). Similar in nature is the discussion of caregiver-child separation, which started in the 1950s, with Harlow's seminal research on infant primates, determining that "comfort contact" is imperative to the development of attachment and further studied by Ainsworth (Harlow, 1953). Social distancing can impede communication efforts (Goelman et al. 2019; Green et al. 2021; Hashikawa et al. 2020). Goelman et al. (2019) tested the theory that joint-attention interactions require bidirectional communication and determined that their hyper scanning fMRI study confirmed the hypothesis that joint attention involved the flow of information in both directions between partners. Goelman et al. suggested further studies on social interactions and the mechanisms involved be conducted due to the potential impact on subjects who may suffer from social impairments.

Summary and Conclusions

In Chapter 2, I explained the literature search strategy and identified the theoretical foundation for the current study. An exhaustive review of recent research and seminal work on attachment theory, attachment relationships, and attachment behaviors of infants, toddlers, and caregivers was presented. Studies on attachment, biobehavioral synchrony, and attachment behaviors of children to gain a positive response from a caregiver, such as touching and clinging, tracking and following, crying, smiling, vocalizing, and synchronicity, are included in the literature review. Additionally, I reviewed current research on caregiver attachment behaviors, specifically the need for nurturing and sensitive caregiving. Finally, I presented research on mask wearing and social distancing related to the development of attachment relationships during the COVID-19 pandemic, its variants, and its influence on caregiver practices after the pandemic.

The importance of secure attachment described in the theories of Bowlby and Ainsworth was noted by Long et al. (2020), Carnevali et al. (2021), and Barrick et al. (2021). Researchers stressed that early interactions with significant caregivers support the emergence of the self and affect the child's future relationships and success throughout life (Long et al., 2020). Humans are equipped with strategic attachment behaviors such as proximity seeking to get the attention and support they need as part of a more extensive attachment system.

Attachment and attachment relationships have been researched at length, but not in a context such as the COVID-19 pandemic and its variants, and caregivers' perceptions

related to the use of protocols such as mask wearing and social distancing need to be studied further (Rajkumar, 2020). This study is significant because it will fill a gap in the research about caregiver-child attachment relationships during the COVID-19 pandemic. Researchers have called for more research in this under-researched area of infant-toddler caregiver attachment relationships (Barrett et al., 2019; Barnett et al., 2021). Barnett et al. (2021) suggested that the COVID-19 pandemic has impacted early childhood education and care. They noted that more research is needed to understand the consequences of pandemic-induced changes on young children's early learning, development, and well-being. Researchers suggested that it is not known what pandemic-induced changes may pose for those who work with infants and toddlers (Barnett et al., 2021; Green et al., 2021).

What was not known and became the focus of this basic qualitative study with interviews was to explore caregivers' perceptions of caregiver-child attachment relationships related to the COVID-19 pandemic and how the COVID-19 pandemic influenced the practices of caregivers regarding the formation of caregiver-child attachment relationships in infant and toddler programs. Findings from this study will fill a gap in the literature and extend knowledge about caregiver-child attachment in infant and toddler programs by providing information to caregivers. Data can be shared and used for further study, explicitly addressing strategies for building positive relationships while managing the challenges associated with the COVID-19 pandemic and future pandemic protocol. Because faces are the infant's primary stimulus for interaction and learning, the effect of health and safety procedures and practices as a result of the

COVID-19 pandemic and its variants need to be better understood (Barrick et al., 2021; Carnevali et al., 2021; Jalongo, 2021; Pattnaik & Jalongo, 2021). This is reinforced by Barrick et al. (2021), who recommended further research be conducted to track the long-term implications of the COVID-19 pandemic on socialization.

This basic qualitative study with interviews was warranted and necessary. It has the potential to be meaningful to the field and may make an original contribution by addressing a gap in the research. This study's findings can contribute to positive social change. Data collected from interviews with four infant and six toddler caregivers will provide information on infant-toddler caregivers' perceptions of caregiver-child attachment relationships related to the pandemic that may enhance caregiver-child attachment relationships. In Chapter 3, I addressed the research method used to explore the gap in the literature. I presented the basic qualitative research design and rationale for why it was the most appropriate choice for this study. My role as the sole researcher is discussed. The procedures for recruitment that I followed along with participant selection are outlined: data analysis, issues of trustworthiness, and ethics. Detailed information and processes for data collection, transcription of interviews, and data analysis were included in Chapter 3.

Chapter 3: Research Method

Introduction

The purpose of this basic qualitative study was to explore caregiver perceptions of attachment relationships related to the COVID-19 pandemic and its variants and the influence of protocols on caregiver practices related to the formation of attachment relationships in one state in the southwestern United States. In Chapter 3, I describe the research design and rationale, explain the role of the researcher, and address the methodology. I discuss participant selection, instrumentation, procedures for recruitment, participation, data collection and analysis, and trustworthiness issues.

Research Design and Rationale

The research design for this study was a basic qualitative study with interviews using an open-ended technique. A basic qualitative approach is based on the idea that knowledge comes from people as they make sense of their lived experiences (Merriam & Tisdell, 2015). I also used purposeful sampling, which Patton (2015) regards as a strategic approach to selecting cases that will provide rich data and shed light on the problem being researched. Standardized open-ended interview questions require the researcher to word each question carefully and thoroughly in an open-ended format before the interview begins (Patton, 2015). I considered conducting a quantitative study. However, I recognized that with a quantitative study, I would not have the opportunity to gain rich data that revealed caregivers' or teachers' perceptions of attachment relationships related to the COVID-19 pandemic and its variants and the influence of protocols on their practices related to the formation of attachment relationships (see

Patton, 2015). I considered a case study, but the rationale was to get multiple caregivers' perceptions of attachment relationships related to the COVID-19 pandemic rather than focusing on one caregiver's perception or using multiple sources of information to analyze an event (see Patton, 2015). Another methodology I considered was the use of focus groups, but rather than providing a forum for caregivers to discuss the effect of the COVID-19 pandemic on the development of attachment relationships with each other and having to facilitate, I wanted to glean the perception of individual caregivers (see Rubin & Rubin, 2012). I used purposeful sampling, interviewing four infant and six toddler caregivers using the following RQs:

RQ1: What are caregivers' perceptions of caregiver-child attachment relationships with infants and toddlers during the COVID-19 pandemic and its variants?

RQ2: How has the COVID-19 pandemic influenced the practices of caregivers regarding the formation of caregiver-child attachment relationships in infant and toddler programs?

Role of Researcher

As the researcher, I was responsible for interviewing, recording, transcribing, and analyzing data provided by four infant and six toddler caregivers from early care and education programs throughout the southwestern United States. While I was previously an infant and toddler program supervisor and currently teach early care, education, and family studies at a community college, I frequently contact early care and education teachers and caregivers. I did not interview caregivers I knew personally or professionally. As the primary instrument for data collection, my role and experience

could have influenced my judgment when asking interview questions and analyzing data. Merriam and Tisdell (2016) warned that the human instrument is not without bias and that the researcher needs to recognize and monitor them rather than trying to eliminate them. As with any human interaction, each person's lens plays a part in the outcome. For this reason, I used a reflective journal throughout the process, and an early care and education professional was used for oversight. I did not foresee any ethical issues. I offered a gift card to participants who volunteered for the study.

Methodology

The research design for this study was a basic qualitative study utilizing interviews to collect data from participants. A basic qualitative approach was based on the idea that people construct knowledge by sharing their experience of a specific phenomenon (Merriam & Tisdell, 2016). According to Merriam and Tisdell, qualitative inquiry allows the researcher to gather a rich description of the studied phenomenon.

Participant Selection Logic

I explored the perceptions of infant and toddler caregivers to gain detailed information through their personal experiences and stories of trying to develop attachment relationships with infants and toddlers during the COVID-19 pandemic (see Rubin & Rubin, 2012). Using purposeful sampling, a selection approach that selects people to study based on a specific phenomenon, I interviewed four infant and six toddler caregivers. Caregivers had a minimum of 3 years of experience working with infants and toddlers. They had completed 24 units in early childhood education or child development coursework. They were currently working in an early care and education setting in the

southwestern region of the United States. Caregivers needed experience and knowledge about attachment and attachment behaviors to provide detailed answers. When asked about the number of participants a study should include, Patton (2015) suggested that the study, the context, and the depth of responses are more important considerations than the number of participants. I used purposeful sampling to recruit four infant and six toddler caregivers in one state within the southwestern region of the United States. I recruited by contacting several professional organizations via social media and used snowballing as needed (Merriam & Tisdell, 2015). I followed an interview protocol for infant and toddler caregivers, which was reviewed and approved by a panel of experts in infant and toddler education. All data were collected during audio-taped interviews using Zoom videoconferencing or recorded telephone interviews. Data were analyzed by coding to identify patterns, categories, and themes that would answer the study's RQs. Saturation depended on the responses provided by participants and whether, while analyzing for patterns and themes, no new information is gleaned, or as noted by Lincoln and Guba (1985), to the point of redundancy (Patton, 2015). The relationship between saturation and sample size depends on the responses provided by interviewees, or in this case, the infant and toddler caregivers.

Instrumentation

The data collection instrument I used in this study was a self-designed list of interview questions. The source for the interview questions listed on the data collection instrument I developed came from the conceptual framework and the relevant literature. A panel of infant and toddler care experts determined the sufficiency of the data

collection instrument to address the two RQs. These expert professionals are also researchers in infant and toddler care and education. After reviewing my data collection instrument, they made suggestions, reviewed revisions, and validated the final copy. The data collection instrument is appropriate for the population I recruited. I used an interview protocol based on the instrument to gather interview data from four infant and six toddler caregivers using an internet platform, Zoom videoconferencing, or telephone. Zoom also provided audio and video recording and transcription services, which were used. If caregivers preferred to be interviewed over the phone, an audio recording application and transcription program were used. I used an interview protocol validated by an expert panel of infant and toddler professionals.

Procedures for Recruitment, Participation, and Data Collection

I followed all Walden University and IRB guidelines when recruiting and interviewing participants, organizing and analyzing data, and most especially when interacting with participants. I strived to make them feel secure, appreciated, and heard, and I shared the transcript and recording of the interviews with them. I ensured that I answered participants' questions and mailed their gift cards and thank you letters immediately after the interview. When the dissertation was complete, I offered to send them a copy.

I recruited four infant caregivers and six toddler teachers from licensed, center-based, and family childcare programs in one state in the United States's southwestern region. Teachers and caregivers were recruited through professional organizations and snowballing. According to Merriam and Tisdell, snowball sampling is a type of chain or

domino effect in which a few key people can refer the researcher to another person who fits the criteria established for participants (2016). I distributed and emailed recruitment letters that contained my contact information through various listservs. Using an interview protocol, I asked caregivers a series of interview questions to address the RQs:

RQ1: What are caregivers' perceptions of caregiver-child attachment relationships with infants and toddlers during the COVID-19 pandemic and its variants?

RQ2: How has the COVID-19 pandemic influenced the practices of caregivers regarding the formation of caregiver-child attachment relationships in infant and toddler programs?

Using Zoom or telephone conferencing, I interviewed participants (a total of four infant caregivers and six toddler caregivers) until data saturation occurred. Zoom videoconferencing offered audio and video recording and transcription; I used audio transcription only. If a caregiver preferred a phone interview, I used an audio recording and a transcription program. A panel of expert infant and toddler professionals reviewed the interview questions and data to ensure validity. Validity is the concept or assurance that the questions and protocol used will measure what is intended in the study (Babbie, 2017). Using a Snowball or networking approach, I recruited and interviewed infant and toddler caregivers using Zoom videoconferencing or telephone. Zoom videoconferencing and telephone audio transcription were checked through audio comparison, and additional verification took place using my reflective journal. Open-ended questions were asked to allow for follow-up questions and, in essence, to enable caregivers to share new and emerging information. This format provided a more open context where participants

could share new ideas (Merriam & Tisdell, 2016). If the initial interviews were not sufficient to reach saturation, recruitment of additional infant and toddler caregivers through snowballing would have occurred. As the interviews and data collection process ended, participants were provided with a two-page copy of the interview summary and a thank you letter.

Data Analysis Plan

According to Patton (2015), key things ensure a strong foundation for qualitative analysis. These included organizing the data, beginning analysis during the interviews, protecting data, and expressing appreciation to those who are providing the data. Also, part of the data analysis phase is scheduling dedicated time for data analysis, continuing to be reflective, revisiting your analysis strategy, keeping a journal and codebook, reaffirming the purpose of the research, and continuing to search for inspiration.

I interviewed infant and toddler caregivers using Zoom videoconferencing or the telephone. Interviews were audio recorded and transcribed. Once the transcriptions had been checked and verified, I coded the information by hand. According to Saldaña (2016), coding is a cyclical act that captures the essence of specific elements of a research story and can take multiple attempts to highlight salient features. Such features lead to generating categories and themes. I used a Word document with an inserted table for organizing my data and noting codes and themes (LaPelle, 2004). According to LaPelle (2004), the Microsoft Word document table structure supports qualitative data analysis (QDA) by acting as a database that allows for organizing key elements and provides features such as table sorting, the “Find” function for locating keywords or codes and

allows for adding rows and columns as codes and themes emerge. The Smith and Firth (2011) framework approach was used to note codes and identify themes as a starting point in data analysis. I planned on reporting discrepant cases and their contexts and content if they presented themselves. A follow-up interview was needed in one case with specific circumstances. Data saturation occurred during the analysis process.

Coding was used to analyze data, a cyclical process to identify patterns, categories, themes, and concepts (Saldaña, 2016). According to Saldaña, there are different types of coding methods, and determining which is appropriate can happen beforehand, during the interviews, or after the initial data review. As I coded data, I used the authentic language of participants to ensure the data was based on participant perspectives or perceptions (Saldaña, 2016). I used a journal to document the interviews to reflect on biases and conducted member checking by providing each participant with a 2-page summary of the interviews after the data collection phase ended. I then asked participants to respond with any concerns or questions within 48 hr.

Data analysis is a complex process, and according to Merriam and Tisdell (2016), it is a process in which one vacillates between seeing the whole and seeing specifics, or the forest and the trees, and it is essential to see both. I adhered to the steps in the data analysis process recommended by Merriam and Tisdell (2016):

1. Think about and remember the focus of the study. Think about the original purpose and the information needed.

2. Think about the epistemological framework or the lens of the study. Focus on the people in this research and their experiences or how they constructed their knowledge.
3. Code the data, noting patterns or insights. Think about the specifics and the connections between them. I will use naturally emerging codes.
4. Once you have collected data, it is beneficial to step back and look at the whole and remind yourself of the purpose. Look at the main themes that emerge.
5. Review the data, the codes, and the patterns noted previously in the margins to see if they support what you think is emerging in the study.
6. Develop categories using what Merriam and Tisdell (2016) identify as the constant comparative method. Combine the codes into fewer categories.
7. Use the Microsoft Word document to note the codes, patterns, or categories, identify emerging themes, and then collapse or expand these to answer the RQs.

Issues of Trustworthiness

The issues of trustworthiness are addressed in the way that the study is aligned and the research is conducted. Qualitative research is the act of producing data that are valid and reliable through research that is undertaken ethically (Merriam & Tisdell, 2016). Merriam and Tisdell also noted that ethical practices and standards are important in qualitative research because practitioners could intervene and disrupt people's lives. Shenton (2004) identified several critical strategies for researchers to ensure

trustworthiness in qualitative research. Research should be credible or measure what is intended; it should be transferable, which means it can be applied to other similar situations; it should be dependable and reliable, which means the same results would occur if the study were conducted in a similar setting; and it should be confirmable, which means that the information can be confirmed (Shenton, 2004).

Credibility

Credibility, or internal validity, is the assurance that the study measures or tests what is intended. Adopting well-established research methods, conducting interviews with multiple subjects from various organizations, becoming familiar with issues, including relevant and grounded questions with prompts, and using frequent debriefing sessions and peer feedback can lead to the credibility or internal validity of the research (Shenton, 2004). Credibility in this study was established by interviewing 12 educated and experienced infant and toddler caregivers from various licensed early care and education programs and family childcare programs in one state within the southwestern United States.

Transferability

Transferability or external validity is the extent to which the outcomes or data for a specific study can be applied to other programs or situations (Merriam & Tisdell, 2015; Shenton, 2004). The researcher can work toward the goal of transferability through participant selection, the number of participants contributing data, and their affiliations and roles (Shenton, 2004). According to Babbie (2017), transferability is the generalizability of the findings or data to real-life situations by the individual reading the

study. In this case, because purposeful sampling was done, caregivers in other infant and toddler centers may be able to relate to the interview responses (see Patton, 2015).

According to Patton (2015), sampling a small and carefully selected group of people is designed for generalizability and drives the design, which may lead to generalizability (Patton, 2015). I hope my research is relevant to caregivers in infant and toddler programs and that they may gain valuable and transferable information.

Dependability

Like transferability, dependability assumes that if situations are similar, with similar context, population, philosophy, and so forth, the results will be the same (Merriam & Tisdell, 2015). To ensure dependability, a researcher or practitioner must explain the process, context, participants, and study in detail (Shenton, 2004). Some researchers refer to this as reliability, and according to Babbie (2017), it is a reasonable part of the quality of qualitative research in which a specific measurement would yield the same data if measured several times. Explaining the process and context for this study with infant and toddler caregivers in detail helped to ensure dependability and confirmability.

Confirmability

Confirmability is the researcher's attention to the risk of bias and the effort to remain objective (Shenton, 2004). I continued reviewing the interview questions, using colleagues and an infant and toddler expert to provide feedback during debriefing sessions to ensure credibility and confirmability. I also used a research journal to reflect on my own biases, sharing any concerns with the expert secured to provide feedback.

According to Ortlipp (2008), using a reflexive approach to qualitative research allows the researcher to reflect on their own choices, experiences, assumptions, and actions during the process and is now widely accepted. A reflective journal provides another layer of visibility and transparency in the research process (Ortlipp, 2008).

Ethical Procedures

I took various measures to ensure that the procedures used in conducting this basic qualitative study with open-ended interview questions were ethical. According to Babbie (2017), ethics is often associated with morality or what is considered suitable, and in social research, specific agreements are honored. I used and adhered to the Walden IRB approval process. Participants provided informed consent via email and verbally before beginning interviews. I used the Walden required consent forms, ensuring participants willingly volunteered for the study. There were no ethical concerns related to data collection, but a journal was used to reflect on interview protocols, timelines, and any concerns noted by the caregiver or me. Participants were not harmed, and their involvement and responses to the interview questions were confidential. Participants were treated with the utmost respect and provided specific information before, during, and after the interviews. Interview responses and documentation were destroyed after the dissertation approval process.

Summary

In summary, this basic qualitative study explored caregiver perceptions of attachment relationships related to the COVID-19 pandemic and its variants and the influence of protocols on caregiver practices related to forming attachment relationships

in one state in the southwestern United States. In Chapter 3, I described the research design and rationale, explained the role of the researcher, and addressed the methodology. Additionally, I discussed participant selection, instrumentation, procedures for recruitment, participation, data collection and analysis, trustworthiness issues, and the ethical procedures I took to ensure the protection of subjects and the reliability of the study. Chapter 4 outlined the research results, specifically the codes and themes presented through careful analysis.

Chapter 4: Results

Introduction

The purpose of this basic qualitative study was to explore caregiver perceptions of attachment relationships related to the COVID-19 pandemic and its variants and the influence of protocols on caregiver practices related to the formation of attachment relationships. I recruited four infant caregivers and six toddler teachers from licensed, center-based, and family childcare programs in one state in the United States's southwestern region. Teachers and caregivers were recruited through professional organizations and snowballing. As required by Walden University, I distributed an invitation email, and if a caregiver responded, I sent an email thanking them, along with a consent form. If I received their consent, I responded with another email to confirm their eligibility, outline the participant requirements, and ask for the most convenient dates and times for the interview. Interviews took place via Zoom videoconferencing or phone with an audio recording that was transcribed using a word processing program. I analyzed the transcriptions for open codes to determine themes provided by infant and toddler caregivers. In Chapter 4, I give the study results, describe the setting and demographics, and explain data collection and analysis. I also included the evidence of trustworthiness and outlined the results.

Setting

I conducted Zoom videoconferencing or phone interviews using an open-ended approach from my personal office. I ensured there were no interruptions, and the door remained closed to ensure participants' identities and information remained confidential.

During the Zoom interview, I urged participants to do the same and asked that they turn off their screens and remove their names. In the written documentation, I used alphanumeric codes to identify participants: infant caregiver 1 (IC1), toddler teacher 1 (TT1), and so forth for all 12 participants. Interviews were recorded and transcribed through Zoom videoconferencing and then were coded using a word processing program. To my knowledge, no personal or organizational conditions influenced participants or their experience during the study.

Demographics

In this section, I present the demographic data for the 10 participants in the study (see Table 1). I used an open-ended approach when interviewing the four infant caregivers and six toddler teachers.

Table 1

Participant Demographics

Participant identifier	Position	Years working in ECE	Education	Program type
IC1	Infant caregiver	22	BA in ECE	FCC
IC2	Infant caregiver	26	AA in ECE	C-B
IC3	Infant caregiver	12	EdD in ECE	FCC
IC4	Infant caregiver	20	MA in ECE	C-B
TT1	Toddler teacher	4	BA in CAFS	C-B
TT2	Toddler teacher	12	BA minor in ECE	C-B
TT3	Toddler teacher	17	36 units in ECE	FCC
TT4	Toddler teacher	20	28 units in ECE	FCC
TT5	Toddler teacher	10	AS in ECE	C-B
TT6	Toddler teacher	24	AA in ECE	C-B

Note. ECE = early childhood education; BA = bachelor of arts; FCC = family childcare; AA = associate in arts; C-B = center based; EdD = doctor of education; MA = master of arts; CAFS = child, adolescent, and family studies; AS = associate in science.

Caregivers and teachers had at least 3 years of experience working with infants and toddlers and were working in a center-based or family childcare program. Each participant completed a minimum of 24 units in early childhood education or child development, and the majority had degrees ranging from an associate in arts degree to an EdD in Early Childhood Education (see Table 1).

Data Collection

After obtaining approval from the Walden University Institutional Review Board (no. 08-28-23-0749337), I recruited four infant caregivers and six toddler teachers through early childhood contacts, listservs, social media teacher groups, professional organizations, and snowball sampling. To collect data for this basic qualitative study, I conducted interviews using an open-ended technique. I conducted approximately one to three interviews a week for 6 weeks (see Appendix A for the questions). At the time of the interview, I entered the Zoom session early to ensure that the technology was working. I kept a journal and used an interview protocol (see Appendix B) to ensure that I followed the approved process. I explained to participants that I would be recording the interview using the Zoom recording tool and that I needed them to turn off their screens and remove any identifier noted in Zoom to ensure privacy and confidentiality. Once the recording began, I reminded participants that their participation was appreciated and

voluntary and that they could stop the interview at any point. Additionally, I explained that the Zoom tool created transcripts that I would download and analyze, using a coding technique to ensure their privacy. I would provide the transcript if they desired.

Each interview proceeded without interruption for approximately 45–60 min and featured the interview questions approved by the Walden IRB (see Appendix A). After completing the interviews, I thanked the participants. I reminded them that I would send a two-page summary after data analysis and that they would have 48 hr to review the summary and respond with questions or comments. There were no variations in the data collection from the plan presented in Chapter 3, and I did not encounter any unusual circumstances in data collection.

Data Analysis

To conduct data analysis, I adhered to the data analysis process recommended by Miriam and Tisdell (2015). According to Miriam and Tisdell, data analysis is a complex process that vacillates between seeing the whole and seeing specifics, and it is essential to see both. It is a process that the researcher uses to make sense of the data provided by participants. In this study, data analysis involved creating categories or themes from the answers participants gave to a series of interview questions. Based on my findings, I was able to answer the RQs. The method recommended by Miriam and Tisdell includes six steps.

Step 1: Clarification of Focus and Purpose of the Study

The purpose of this basic qualitative study was to explore caregiver perceptions of attachment relationships related to the COVID-19 pandemic and its variants. It was also

to explore the influence of protocols on caregiver practices related to the formation of attachment relationships.

Step 2: Participant Knowledge and Experience

The participants in my study were required to have a minimum of 24 units of early childhood education or child development and a minimum of 3 years of working in the field of early care and education. It is important to note that my participant pool was diverse in knowledge and experience, ranging from 4 years of experience to 26 years and from 28 units of child development to a master's degree in early childhood education. Participants either worked in a center-based program or owned and operated a family childcare program.

Step 3: Identification of Codes and Patterns

I began data analysis immediately following each interview. I downloaded the transcript from the Zoom recordings site and saved it to my desktop. I then copied and pasted the participant's responses to each question into a Word document for thematic analysis involving open codes and patterns. I included one column for responses and additional columns for codes, categories, and themes to conduct the analysis. Table 2 shows the open codes and examples of illustrative participant responses.

Table 2*Open Codes and Illustrative Participant Responses*

Code	Participant	Interview excerpt
Relationship	IC1	“Attachment for me is really the relationship.”
	TT1	“You start building these relationships, and then the children become attached to you because they know that they can trust you.”
Safety	IC3	“I make sure that not only is the child comfortable, safe, well fed, and all of the tasks are done in a timely manner, but also, I spend time knowing the child, and I spend time responding to the infant.”
	TT2	“We weren't being a safe place to them, like it was a little scary to them in the beginning. I'd say so for all of us, too.”
Environment	TT1	“Help them feel that they're safe and just provide that nurturing environment and just meeting their needs.”
	TT2	“When it came to like the environment, we rearranged the classroom to where, like, instead of four or six children sitting at one table, it was like three.”
Eye Contact	IC2	“So, one of the most important things is eye contact and touch to me.”
	IC1	“I did not like to have to mask honestly, and not because of the safety or protocol, or anything like that. But I felt that with you know, facial expressions, eye contact, all that stuff.”
Facial Expressions	IC2	“I feel like it could have. It might have been a little bit challenging because one, they weren't able to see our face expressions.”
	TT5	“Facial expressions were kind of hard.”
Touch	TT5	“A warm welcoming smile, hugs, if they want to receive them. A gentle touch.”
	IC2	“Babies group to each other. They, you know, look at each other. They explore their little friend by, you know, touching the child next to them.”
Proximity	TT2	“I don't know to talk like in general, but like it was kind of scary in the beginning, because we didn't know whether you know to come close the proximity wise like, how close do we get to them like we don't want to catch anything.”
	IC4	“I'm able to just kind of give them that verbal queue, or even just come over and get closer proximity.”
Parents	IC1	“Well, parent partnership and communication are super important to me.”
	IC2	“So, it wasn't only the child's relationship that got affected because parents were not allowed in the center.”
Routine	TT6	“We would still sing and do the same routines and everything.”
	IC1	“I think that that kind of affected routine, and some of that attachment especially.”
Fear	TT2	“Just the fear of like in the beginning. Yeah, it was mostly just fear because we didn't know what to expect.”
	IC4	“We didn't know much about it, but also this fear and trying to create protocols to allow students come in.”
Zoom	IC4	“So how I mentioned we did also have the children who were via Zoom.”
	TT3	“I mean my main challenge was just to get the children to participate in the Zoom.”

Note. IC = infant caregiver; TT = toddler teacher.

After the interview transcripts were copied and pasted onto the Word document, I began highlighting keywords and bolding phrases that succinctly identified each participant's perspectives, looking for similarities or patterns. Following an inductive process, I gradually discovered that their specific ideas could be organized under broader concepts. While Miriam and Tisdell (2015) recommend conducting data analysis after each interview, I found it easier to do it in chunks or after two to three interviews had been completed and transcripts downloaded and inserted into the Word document.

Step 4: Time to Step Back

Miriam and Tisdell (2015) suggested stepping back and thinking about the purpose of the study to try to see the whole as you are working through the codes. It is important to ask yourself, what themes are starting to emerge? This was a refreshing and positive process for me. As I continued to work through the interviews, highlighting codes and bolding key phrases, it was affirming to revisit the study. It was an opportunity to see connections between the parts and the whole, the patterns, categories, and the themes beginning to present themselves. I took this time to focus on which responses and codes addressed the RQs and how emerging categories aligned. See examples of codes, categories, and excerpts in Table 3.

Table 3*Open Codes, Categories, and Illustrative Participant Responses*

Category	Code	Participant	Interview excerpt
Communication	Touch	TT5	“A warm, welcoming smile, hugs if they want to receive them. A gentle touch.”
	Facial expressions	IC2	“So, I think there was just a lot more being louder so they can hear through the masks, more vocalization because of the fewer facial expressions.”
Technology	Videos	IC4	“We created videos of ourselves reading stories. We collaborated with others, and we would post these videos for the families, too, so they could see.”
	Zoom	TT3	“Yes, my main challenge was that I had Zoom classes here.”
Safety protocols	Masks	IC3	“They don’t like when the adult is wearing a mask, they cannot see the entire facial expression. They try to pull off your mask from your face.”
	Gloves	IC2	“We had to always wear gloves so there wasn't that warm touch to our body to body.”
Sensitive caregiving	Proximity	TT4	“I cannot hold, and I cannot put it close to me.”
	Trust	IC4	“I really needed to work with her on just being able to trust me, and finding a tool that would help her feel comfortable.”
	Engagement	TT1	“I see the child is just next to me, like, oh, do you want to help me clean? Here's a paper towel, and I'll put soap and water on it, and that way, engage them into what I'm doing.”
Creativity	Language	IC3	“When the child was smiling, I would say, ‘Oh, you're smiling’, or ‘Oh, you're laughing. I can see you're happy.’”
	Environment	TT2	“When it came to like the environment that we like, rearrange the classroom to where, like, instead of four or six children sitting at one table. It was like three.”
Family relationships	Parent	IC4	“It's nice having the parents come in because that's such a smoother transition.”
	Relationship	IC2	“So, it wasn't only the child's relationship that got affected because parents were not allowed in the center.”
	Anxiety	IC2	“The child feels that anxiety from the parent when they don't know what's going on behind doors.”
Child–family observations	Attachment	TT5	“I do see that there is a greater change in that attachment, even with their parents. Sometimes they're just not even a so like it's not as strong as of a bond.”
Post-COVID	Depression	IC4	“COVID did bring a different type of depression for others.”
	Behavior	TT3	“I put enrolling on hold due to their behavior you know. I had to use, Search and Serve for assistance.”

Note. TTT = toddler teacher; IC = infant caregiver.

Step 5: Review of the Findings

According to Miriam and Tisdell (2016), it is important to continue to reflect on the codes or the parts of the whole and confirm that what the researcher sees emerging is supported by the data and, in this study, by the responses from caregivers and teachers provided. Much like the previous step, this was an important component of the process and that without it, I might have overlooked necessary codes, patterns, categories, and themes. I also took the time to review my research journal and question whether I allowed my biases to affect the data process.

Step 6: Development of Categories and Emergent Themes

In Step 6, I identified four themes after reevaluating and organizing the categories (see Table 4). Reviewing the codes and categories was an ongoing process as I worked from codes to themes and then back again. There was a bidirectionality to analyzing codes, developing categories, and realizing emerging themes.

Table 4

Research Questions, Categories, and Themes

Research question	Category	Theme
RQ1: What are caregivers' perceptions of caregiver-child attachment relationships with infants and toddlers during the COVID-19 pandemic and its variants?	Communication	Theme 1: Coordinated Forms of Communication With Expanded Use of Technology
	Technology	
	Coordination	Theme 2: Intentional Relationship Building With Families Supported by Child-Family Observations and Evaluations
	Family relationships	
RQ2: How has the COVID-19 pandemic and its variants influenced the practices of caregivers regarding the formation of caregiver-child	Child-family observations	Theme 3: Sensitive Caregiving Due to Safety Protocols and Fear of Illness
	Intentionality	
	Safety protocols	Theme 4: Intentional Creative Adaptations in the Infant-Toddler Environment, Curriculum, and Pedagogy
	Fear of illness	
	Sensitive caregiving	
	Post COVID-19	
Creativity		
Adaptations		
Curriculum		

According to Miriam and Tisdell (2016), categories are developed using the constant comparative method and combining the codes into fewer categories. They view the term category the same as a theme or pattern, noting that each is an answer to a RQ (Miriam & Tisdell, 2016). My data analysis process included identifying the codes, looking for patterns, which led to identifying categories, and then expanding the categories into themes.

No discrepant cases or findings were contradicting the research identified during data analysis. Discrepant data or contradictory evidence, according to Coleman (2021), are common in qualitative research, and it is important that the researcher continually reflect on and re-examine the data to avoid discounting important information. Reflection, deep examination of data, and member checking were used to ensure credibility and that no contradictory evidence was present in the data.

Evidence of Trustworthiness

Trustworthiness in academic research relies on how the study is aligned and the research is conducted. According to Merriam and Tisdell (2016), research should ethically produce valid and reliable information. This is heavily valued because of the impact that researchers could have on the lives of study participants and ultimately on the credibility, transferability, dependability, and confirmability of the research.

Credibility

Credibility ensures that the study measures or tests what is intended, and this can be done by using well-established research methods, interviewing multiple subjects from a variety of agencies or organizations, becoming familiar with subjects, including relevant and grounded questions, and frequently reviewing the process (Shenton, 2004). To ensure credibility in this study, I conducted a basic qualitative study with four infant caregivers and six toddler teachers in center-based and family childcare programs. Before the interviews began, I thanked the participants and built a rapport by making them feel comfortable, safe, and valued. I asked a series of interview questions that answered the RQs for this study and offered prompts when needed. After the interviews, I thanked caregivers/teachers for their participation and secured peer feedback. I also used a journal throughout the process, reviewing notes while reflecting on the purpose of the study.

Transferability

Transferability or external validity is the extent to which the data for a specific study can be applied to other programs or situations (Merriam & Tisdell, 2016; Shenton, 2004;). In this study, I interviewed a small group of infant caregivers and toddler teachers working in center-based and family childcare programs so that other professionals working with infants and toddlers may be able to relate to the study's findings. According to Patton (2015), sampling a small and carefully selected group of people is designed for generalizability and drives the design, which may lead to generalizability. Additionally, the details provided should be sufficient for a reader to determine if the findings apply to their situation or program. According to, Maxwell (2021), a researcher must provide

detailed information so that a reader or user of the information can determine if the information is transferable and ultimately, useful.

Dependability

Like transferability, dependability assumes that the results would be the same if the situations were similar, with similar context, population, and so forth (Merriam & Tisdell, 2015). To ensure dependability in this study, I interviewed infant caregivers and toddler teachers from one state in the southwestern United States working in infant/toddler programs. Participants were recruited from center-based and family childcare programs, both private and public.

Confirmability

Confirmability is the researcher's attention to the risk of bias and the effort to remain objective (Shenton, 2004). To ensure credibility and confirmability in this study, I reviewed the interview questions, using colleagues and an infant and toddler expert to provide feedback during debriefing sessions. I also used a research journal to reflect on my biases, discussing concerns with a colleague, and I conducted member checking by providing participants with a two-page summary of my findings and asking them to respond with questions or concerns. Participants responded, expressing their appreciation and commendation for the research, and had no questions or concerns.

Results

The results of this study are based on data analysis of 10 recorded interviews using 10 interview questions, with an eleventh question asking participants for any additional information they would like to add (see Appendix A). Interview Questions 1–5

answered RQ1, and Interview Questions 6–10 answered RQ2. I developed the interview questions to align with Bowlby’s biobehavioral theory and with research based on attachment and attachment theory. Additionally, questions were influenced by Ainsworth’s theory of attachment and Feldman’s theory of biobehavioral social synchrony.

Theme 1: Coordinated Forms of Communication With Expanded Use of Technology

Theme 1 answered RQ1 by suggesting that caregiver-child attachment relationships involve coordinated forms of communication with expanded use of technology. Participants in the study described attachment as a relationship between two people and, in their case, building one with the infants and toddlers in their care. When expanding on this idea, they noted the importance of providing a sense of security and comfort, meeting the needs of infants and toddlers, and that attachment is built through various forms of communication, such as touch, voice, facial expressions, and eye contact.

Communication

Participants discussed various forms of communication and their importance in building attachment relationships with infants and toddlers and their families. The forms of communication described were eye contact, being at eye level, verbal and physical cues, touch, a soothing voice, and facial expressions. TT5 shared what she does to build an attachment relationship, “A warm, welcoming smile, hugs if they want to receive them., gentle touch, anything for me personally to demonstrate that I care about them

personally.” IC4 shared her approach when an infant is upset and needs support. She stated, “I’m able to just kind of give them that verbal cue, or even just come over and get closer in proximity, and then they’re able to kind of just work through it.”

Communication was essential to building attachment relationships with infants and toddlers and used to support the development of the whole child. IC4 shared the challenge of communicating with a toddler who had a hearing impairment while wearing a mask, explaining:

Over time, when we were able to take them off, I spent a lot of time outdoors, because that child was in my care group with my mask off so she could see my face so she can hear me. I relied a lot on the baby sign language with my children. I typically do it anyways, but a lot more during COVID, because I was concerned about this child and their development if they’re already hard of hearing, and now, I have to put a barrier over my mouth. It made it very challenging.

IC4 shared,

It caused me to speak more, and also train my staff to speak more because they weren’t physically able to hold the children as quickly. It was teaching the staff that you know what, you can still build relationships. You can still create that continuity. You can still create that responsive caregiving. But you need to make sure that you’re talking to the children. They may not be able to respond back to you verbally, but they’re making sense of it.

Infants and toddlers depend on communication for survival and language is just one tool to support that effort (Piazza et al., 2019). IC4 adhered to this belief by supporting a child in her care. She explained:

During COVID I had a child who spoke Farsi, so I had to work with Mom are getting common words, that were simple words, and then using those and making sure that those were posted in the classroom so they could see the print, but also, for us to be able to use that. I will always remember the word “halib,” which is milk in Arabic. But yeah, because that is just a word, you know, one is very used to milk. Use that, or we follow that. That helps them feel like, oh, you know what there's a connection there! They heard this sound. I've heard this word before. I may not know what it means right away, but I know that I heard it at home.

TT4 shared another form of communication that she and one of her children used:

How do I say baby talk? But she told me that she wants me to, and with the baby talk, and the way that she moves her hands. She told me that she wanted me to read the book and I told them you want me to read the book, and with that, she'd said, “Yes” and I told them, “Okay, come on, come on, let's go sit down over here,” and she came and sat down with me, and I started reading the book.

Technology

Participants identified expanded use of technology in their communication with infants and toddlers, coordinated among caregivers through technology during lockdown. Caregivers wished to remain in contact through technology so the infants and toddlers

would hear their voices and be soothed by the familiar speech of their caregivers and see their faces. This is further supported by IC4, who shared the following:

We created videos of ourselves reading stories. We collaborated with others, and we would post these videos for the families, too, so they could see who all our staff were. A lot of the families were also sharing. Even though we don't recommend taking videos with their children, we did it because the children could hear our voices, so they knew who we were. So then they could see what we look like.

Staff also used applications often used in the kindergarten through Grade 12 system. IC4 said, "One thing that we did to kind of counteract this social distancing, mask wearing, glove wearing, you know, us wearing the masks, is we used ClassDojo. I think the K [kindergarten] through 12 system or elementary schools use it." ClassDojo is an in-class communication application that is used to track and share student information and determine which pictures, videos, and messages can be shared (Bahceci, 2019).

Coordination

Caregivers coordinate their responses to meet the needs of the infants and toddlers in their care, following their lead and using various communication strategies to get in sync with the child. IC1 describes her approach:

If they're feeling upset, do they seek me for comfort? Yeah, if they need help with something, or if they're kind of, you know, when they start to crawl, and they start to do that kind of stuff. Are they turning to look at me, to check like, is this good,

or am I Okay? That kind of stuff. You know, eye contact. If that's something, they do that kind of stuff.

IC3 provides an example of when she is trying to support and care for two infants in her care group:

I make sure that if the infant is crying, first of all, I recognize what the cry is for, because infants have different cries for different needs, secondly, when they are crying they are attended to, even if that cry is just for attention, then if I think that it's an excessive crying, then I make sure that I teach the infant ways to soothe themselves and stop the excessive crying. If it's unnecessary. but they are, anyway, they are hurt, they are respected. They are talked to. They are treated as a very valuable human being.

Theme 2: Intentional Relationship Building With Families Supported by Child–Family Observations and Evaluations

Theme 2 answered RQ 1 by suggesting that caregiver-child attachment relationships require intentional relationship building with families supported by child-family observations and evaluations. Participants identified several ways to develop relationships with infants, toddlers, and their families, explaining that it takes time, including attending to individual needs and communicating with families. According to the participants, relationships with infants are strengthened when they also build a relationship with the family.

Family Relationships

Quality relationships with families depend on the contributions of the caregiver/teacher and family member and the commitment to work collaboratively and respectfully (Jeon et al., 2021). According to participants, parent communication and relationships with parents and their relationships with infants/toddlers were important to them. IC1 shared, “Parent partnership and communication is super important to me, and I think that can help facilitate those types of interactions or challenges, or whatever that might be.”

IC1 explained how she communicated with families. She recognized the need to request that they be open and honest about their activities due to the pandemic. IC1 said, “So, something that was important for me and our families, and because I stayed open, and I did have a smaller program, which was to request honesty with the families. This was important, especially in the beginning. As you know, we didn't know to say, “Did you have contact with anyone? Are you taking safe protocols outside?” And so, you had to request and give a little bit more information than perhaps you would in the past. You know, in the past, it's you're not necessarily saying all of the stuff I did, or who I was hanging out with on the weekend. But just, you know, for safety protocol, I felt like that was necessary. Sadly, death was common during the pandemic and caregivers dealt with this as well.”

Following that thought, IC4 shared a relationship they had with a family who lost their father and the support she and her staff provided:

Dad passed away from COVID so that was another, and I'd get teary because we've known the family forever. So yeah, that was that was tough and that hasn't really come up yet. But that's a yeah, no, no. Yeah. So, we had to deal with the middle child when Dad passed away. And of course, the other little one who ended up moving over to toddler is now is in preschool. But just, yeah being able to work with the family. So yes, COVID did bring some sort of depression, you know, behavior changes. Mom's not at her best, you know, just mentally, and then the children are not their best either. The soon-to-be a toddler and then became a toddler was missing dad. Talking about Dad, Dad, Dad, Dad. So, what we did to help with that is I asked Mom how comfortable she was with it because I also didn't want to bring more sadness to her. But I asked for pictures of Dad, so we created a book.

Child-Family Observations

Building relationships with families was supported by child-family observations and evaluations. The quality of the relationships and the significance of meeting children's and families' needs during the pandemic were carefully observed and evaluated. IC4 shared,

Something we tried to do as a positive or to counteract that, yes, once we got change, I mean, we talked to families, and this is a practice we did before COVID, and definitely during COVID, if a child has a special blanket, a special item is making sure that we have talked about it with the family. So, a lot of it I think, too, with the caregiving and the form of attachment relying on those

families. So, we communicate with them the importance of if your child's favorite blanket is the gray star one; make sure that that gray star blanket is here Monday through Friday when they're here. We will gladly send it to you every day, home if needed, but making sure that they have those little home pieces.

Caregivers shared their observations of parent-child attachments when they returned to the caregiving settings after the pandemic isolation period. IC3 shared the following example:

One of the changes I see is in those who were infants during the pandemic or who were toddlers during the pandemic. They need a lot more hand-holding. They need a lot more. It's like I have a 2-year-old, for example, or a one and a half year old, who is exhibiting behaviors of a 6-month-old. So, that child needs the caregiving of a 6-month-old because their attachment is in a different way. They only attach to the mother. Now they are having such a big separation anxiety, and part of the reason is that parents felt guilty about isolating their children, keeping them at home, and they were afraid of having anything happening to them.

Intentionality

Caregivers shared many examples of intentional practice with the children in their care, whether it was through their sensitive caregiving practices, the design of environments, or relationship-building with families. IC4 explained her response when a child in her care seeks her out or communicates a need:

Well, any child that seeks me out, whether it's crying, whether it's crawling up to me, standing up, calling me by name, they acknowledge them first. I know that if

I went to somebody else, my superior, my husband, someone, and said, “Hey”, I would expect them to respond to me so the same the thing with the children. We show that respect to those children, and we do that by acknowledging them. Let them know that you've seen them, you've heard them.

IC1 explained her approach when children are having difficulty with separation as follows:

I'm very warm and slow. So, if they're sad, if they're feeling dysregulated, then we'll just sit on the floor, and we'll have a lot of conversations and or reading, or maybe we're going to do story time by the door instead of the carpet. We'll make it work.

Theme 3: Sensitive Caregiving Due to Safety Protocols and Fear of Illness

Theme 3 answered RQ 1 by suggesting that Caregiver-child-family attachment relationships require sensitive caregiving due to safety protocols and fear of illness. Participants found using safety protocols required during the COVID-19 pandemic challenging to use while working in infant/toddler programs, especially when trying to build relationships. An added challenge was the fear of illness, primarily due to the lack of knowledge about COVID-19.

Safety Protocols

Safety protocols used during the COVID-19 pandemic included mask-wearing, 6-foot distance between caregiver/teacher and child when possible, and a 6-foot distance between children. In addition, stringent sanitation processes were in place, and according to participants, some program administrators required staff to wear gloves at all times,

place infants/toddlers away from them and each other when possible and discourage any interaction between children. IC3 explained that infants/toddlers did not like the masks, stating, “They don’t like it when the adult is wearing a mask because they cannot see the entire facial expression. They try to pull off your mask from your face.” TT3 stated,

So, during the pandemic, we were supposed to wear masks and clean our hands, and then children were supposed to be 6 feet away from each other. So that by itself was creating a barrier for attachment with other children because we were not letting them touch each other.

Protocols such as the frequent sanitizing of toys and materials, and the washing of hands impacted transitions and playtime. TT4 describes a situation with one of her toddlers:

Hold on, hold on, Poppy. I have to clean that toy first because you know when COVID is here we had to remind them constantly why we were doing that, and it was frustrating sometimes for them. Because they are little they don't, they don't understand, you know. It takes time for us to teach him and tell them how we are supposed to be doing things from now on, so there was a stressful for them.

Regarding wearing gloves throughout the day, IC2 stated, “We had to always wear gloves, so there wasn't that warm touch to our body to body. We had to wear masks, so our voices probably sounded very echo to children.”

Safety protocols such as social distancing have raised concerns. TT1 noted the following:

Because of the social distancing, it is hard because, realistically, I get the concept, but these children are just very small, and they don't understand. They're at the age where they want a hug and just loving affection. It was very hard to give it to them because of the social distancing.

She went on to say, "I know they added more policies and procedures to follow COVID-19, and I feel like that kind of made the transition longer to our next things," referring to the transition from one activity to another or from one area to another.

Additionally, the safety protocols affected the sense of security and routine. IC1 stated,

I think that in the beginning, it caused some gaps. I would say, because first, you know, when it first happened, some of the families were gone for like a month or so, and then, with quarantine, or someone did have exposure, and that added a precaution. So, they just might be gone more often, and so I think that that kind of affected routine.

Parent relationships were also affected because safety protocol for center-based programs required parents and caregivers to drop infants and toddlers off in an office or entry area; as IC2 stated, "So, it wasn't only the child's relationship that got affected because parents were not allowed in the center." She explained, "The child feels that anxiety from the parent when they don't know what's going on behind doors."

According to some caregivers, situations that required quarantine and long absences, affected routines and attachment relationships. IC1 explained her perception of the impact of quarantine on children and families as follows:

I think that in the beginning, it caused some gaps. I would say, because first, you know, when it first happened, some of the families were gone for like a month or so and then, with quarantine, or someone did have exposure and then add a precaution they just might be gone more often. I think that that kind of affected routine, and some of that attachment.

Fear of Illness

Several caregivers mentioned the added challenge of the fear of illness and the unknown, regarding the COVID-19 pandemic. TT2 shared that fear affected her interactions by noting, “Just the fear of like in the beginning. Yeah, it was mostly just fear because we didn’t know what to expect. We didn’t want them you know, up close to us.” IC4 shared her concern as it related to her center-based program, that also served as a lab school for preservice teachers:

We didn’t know much about it, but also this fear and trying to create protocols to allow students to come in. I felt like they were disadvantaged, or they got a disservice. They were not allowed to be as hands-on as we are.

TT5 elaborated on this idea and explained the challenge of meeting the needs of her children when centers first opened,

I do feel that at the very beginning of the pandemic, touching was difficult for me. I was like, “No, don’t touch me, please.” But as we kept going on, I realized, I know that’s not fair to these children. I must be okay with that. And then it just became second nature to do what we were doing pre-pandemic and hold them when they’re upset and stuff like that.

Some family childcare providers shared their fear of being infected by family members. TT4 shared her concerns:

It was hard for them. It was hard for us. It was hard because we had to keep an eye on them, on the families like be safe. Please don't be going to parties, and, especially on Mondays. It was so scary for us because we didn't know who was going to get infected.

Sensitive Caregiving Techniques

Caregivers and teachers continued to use sensitive caregiving techniques as IC2 explains, “So, I think there was just a lot more being louder so they could hear through the masks, and more vocalization because of the fewer facial expressions. We had to give them more verbal cues than physical cues.” IC4 supported this thought by stating, “We needed to help them learn how to self-soothe, whether it's using an object like a blanket or a pacifier, and then from there, move on to using just reassurance, with maybe just rubbing their back or giving them verbal acknowledgment. TT5 shared that:

Facial expressions were kind of hard. At first, the children didn't know if I was mad because my eyes were not as expressive but as the pandemic progressed, they understood. I tried to focus on my tone being positive, so they knew I wasn't angry or upset at them.

She continued to share and stated, “My boss took the approach that we are still serving children, and these children still need to be cared for, and we were available for them.” This was acknowledged and shared by IC4, who shared her work guiding other staff to continue striving to build relationships. She said, “It was teaching the staff that you can

still build relationships. You can still create that continuity. You can still create that responsive caregiving, but you're going to need to make sure that you're talking to the children.”

Parent-teacher relationships also support the critical need for dependable interactions and routines in the early years (Lang et al., 2020). IC1 elaborates on what sensitive caregiving is to her and states, “So just working on routines and conversations with their caregivers, their family members.” Participants say security, or feeling safe, is an important part of developing healthy attachment relationships. IC1 stated,

I make sure that not only is the child comfortable, safe, well fed, and all of the tasks are done promptly, but also, I also spend time getting to know the child, and I spend time responding to the infant.

Participants identified the concept of time, whether responding in a short period or spending time building a relationship, as an important component of making infants feel safe and secure. TTI explained that “infant/toddler attachment is built over time, and it builds whenever you meet that child’s needs.” She also stated,

I try to be very loving with the kids, so whenever they get there, I'll always offer a hug or just stuff like that to help them feel that they're safe and just provide that nurturing environment and meet their needs.

Theme 4: Intentional Creative Adaptations in the Infant–Toddler Environment, Curriculum, and Pedagogy

Theme 4 answered RQ2, suggesting that the COVID-19 pandemic required intentional and creative adaptations in the environment, curriculum, and pedagogy.

Despite the challenges the COVID-19 pandemic posed for developing relationships, infant caregivers and toddler teachers continued to create as much normalcy as possible through creative adaptation. IC4 shared, “We would still sing and do the same routines and everything.” In addressing drop-offs and separation from parents, TT2 explains, “I've experienced mostly attachment behaviors, and to me, like I've seen the clinging, the crying, you know when they're getting dropped off, so I usually react with like reassuring them that everything will be fine.”

Post COVID-19 Concerns

While caregivers' efforts to provide continuity of care and develop attachment relationships remained focused, they shared concerns about development in the aftermath of the COVID-19 pandemic. Caregivers cited their concerns over the isolation of children and families for extended periods and occasional disruptions in care when cases of COVID-19 surfaced in caregiving facilities. Caregivers also voiced concerns with social-emotional development, such as interaction with other children and staff and the ability to self-regulate, as well as some mention of delays in other developmental areas. IC3 explained:

After COVID-19 everybody started talking about everything, and it showed because I get toddlers, too, and I can't see the toddlers who were born during the pandemic or they were infants during the pandemic. They show behaviors that if it was at a normal time and by normal, I mean we were, we didn't go to pandemic. We would have thought they were in the spectrum and would have not thought that. They have serious problems, and they need to be evaluated. But these are

only behavior problems because when they were infants, they were not exposed to a lot of things that regularly infants are exposed to, and their attachment was limited to their parents.

IC1 shared a different observation of infants post-COVID-19:

Once we could kind of move around a little bit more, we would go on walks outside and stuff, and I think that that's important because I do know of some situations and some who they didn't do anything for a couple of years. There was no outside interaction between anybody else and no judgment. You know that's just how it was. And so, I am thankful that at least in our little group there were people outside of their family, but it does seem like some of them. We're moving past it, I think, but we're more sensitive to outside stimulus.

Still, caregivers continued working to build attachment relationships through intentional and creative means, making adaptations in the environment, curriculum, and pedagogy.

This practice was supported by IC4, who stated

So well, post would be, you know, without the masks we could smile those types of things. But we do. We did. And we currently do is as a child exploring is, you know, about the teaching pyramid. I would assume the teaching. So, using those positive, those PDAs with the children, that positive descriptive acknowledgment.

Creativity

Caregivers had to get creative in their pedagogical approach to building attachment relationships, developing curriculum, and creating environments in infant-toddler programs. TT5 shared this strategy, “I mean, during the pandemic, being at the

child's level and talking to them in a tone that reflected my emotions if that makes sense. And then, after the pandemic, still being at the child's level and warmly smiling.” Some caregivers and teachers intentionally taught emotions and used a picture chart to show emotions. IC3 explained her approach, “When the child was smiling, I would say, ‘Oh, you’re smiling’ or ‘Oh, you’re laughing. I can see you’re happy.’ So, I would put it on them instead of role modeling myself.”

Caregivers and teachers were also creative when setting up environments inside and out. TT6 described her approach to setting up environments by sharing,

We always do the yard setup. We make it inviting for them, and it's like, we set out that like the block area, whatever. And we could probably leave some blocks out or construct a little tower or something, you know, like someone was playing. There may be in the sandbox where we rake it and put some toys, or maybe we do something a little thing in there that they can come and see what's in there.

TT3 shared her use of similar strategies for communicating with children through touch and the creation of a space in the environment for children to self-soothe or find comfort,

Usually, you know you could just rub their back. And you know you're okay. You know, Mommy will be here soon. That's what I used to do before COVID, you know, rub their back. And yes, I had older kids, 3 to 4, rub their backs and be like, you know what, you're okay. You know, you want to talk about it; it's okay. Go to the quiet area.

Participants also addressed the added work associated with parent separation and the need for creative approaches in situations that, in the past, came more easily. IC4 explained,

Lots of just, I guess you could say, teaching children how to self-soothe, how to self-regulate how to trust us. Imagine you're in this new place for the first time with someone you've never met, and your parents leave you at the front door.

Your parents don't even get to come to the center.

Caregivers seemed to be aware of the need to use other means to develop attachment relationships. Attachment relationships are directly related to healthy social-emotional development in young children. (Perone et al., 2020; Riendl et al., 2018). IC3 explained,

I think it brought a lot of attention to the fact. I mean it shed a light on it. In my case, as I said, other than wearing the mask, we try to keep everything the same.

We put more effort into it because wearing masks created other ways, or we I thought about other ways of attaching correctly.

Adaptations

Adapting to daily situations with children is expected in early childhood settings, but caregivers' and teachers' perceptions were that they faced an added layer of challenges during the COVID-19 pandemic. Caregivers and teachers in family childcare programs were able to accommodate older siblings of children in their care, creating a unique situation that through their adaptations, supported the needs of children and families. IC1 shared,

I was able to take on school-age siblings, and they were able to come a little bit more often and do some homeschooling or not. I'm sorry, distance learning, and in we were able to have all of them instead of if they would have gone to like school or somewhere else we were all together because then you're also limiting

contact. And so, siblings were able to be with older siblings that they might not have been with typically.

TT3 explained how she adapted her curriculum to meet the needs of the children in her care:

So instead of doing a small group quick, you know, days of the week, you know, colors, and shapes, and we do it repetitively. I had to change it because it just turned into a sitting there. So, what I did was, I just started. We started going on walks.

Curriculum

Caregivers also had to be creative with the curriculum, especially when it came to sharing materials and supporting children's relationships and sense of security. TT1 explained her approach to using materials:

I think it would be well, obviously when it came to playdough and we were having playdough time, we had to separate. So, each child has their own tray and they owned their own tools and their own playdough. So that was one thing, and then we couldn't have our sandbox or what? For COVID? Yeah, so that was challenging, because those help in the classroom, especially in the toddler classrooms. I mean, that's another way of you know, like for them to have that group time, because sometimes, depending on what we have there, it will be like 4 children at the sand table or water table, and they're playing together. So, I feel like that, we couldn't do that anymore because of COVID. So now we went into everybody having their own.

TT2 described the challenge of separation, and how she communicates with families and created a visual schedule to help children understand when parents would return:

I think, I've experienced mostly attachment behaviors, and, as I've seen the clinging, the crying...when they're getting dropped off. So, I usually react by like reassuring them that everything will be fine. I also talk to the parents and be like, okay, let them know that you know they're in a safe place, and that you'll be back right back for them, you know, and to help them soothe. You know, I use this as a visual schedule and show them that this is what's going to be done. And then look at the end. Here Mommy and Daddy will come back and get you.

Several caregivers discuss the use of materials or objects that provided children with a sense of security. IC4 shared an experience with a child who was attached to an older toy, and the effort of the staff to keep the toy in the classroom to make the child more comfortable:

I needed to work with her on just being able to trust me and finding a tool that would help her feel comfortable. And actually, the thing that helped her feel comfortable, and we ended up keeping it the entire time she was with us is this type. It's like an older type of toy. It has balls in it, and you have like a push button on the top like a handle type of thing. You push it down and the balls pop. It's an older type of thing. But hey, it's amazing. We kept that for her the entire time she was with us because that is what made her feel comfortable.

Discrepant Cases

According to Merriam and Tisdell (2016), data that oppose or challenge a researcher's expectations are considered discrepant cases. Some researchers suggested that it can be beneficial to seek data that challenges the contributions of others to rule this type of data out (Merriam & Tisdell, 2016). It is essential that the researcher continually reflect on and re-examine the data so as not to discount important information (Coleman, 2021). During data analysis in this study, no discrepant cases were discovered.

Summary

In Chapter 4, I introduced the qualitative study and included the participants' setting and demographics, specifically, their role in working with infants and toddlers, their educational level, years of experience, and affiliation. Additionally, data collection steps and the process of data analysis were modeled after Merriam and Tisdell (2016). This included data derived from the interview participants' responses, noting codes through which patterns, categories, and themes emerged. Four themes emerged through the data analysis process of coding participant responses and identifying categories. Themes 1, 2, and 3 addressed RQ1: What are caregivers' perceptions of caregiver-child attachment relationships with infants and toddlers during the COVID-19 pandemic and its variants? Theme 1 is that caregiver-child attachment relationships involve coordinated forms of communication with expanded use of technology. Theme 2 is that caregiver-child attachment relationships require intentional relationship building with families supported by child-family observations and evaluations. Theme 3 is that caregiver-child-family attachment relationships require sensitive caregiving due to safety protocols and

fear of illness. Theme 4, addressed RQ2: How has the COVID-19 pandemic influenced the practices of caregivers regarding the formation of caregiver-child attachment relationships in infant and toddler programs? Theme 4 is that the COVID-19 pandemic required intentional creative adaptations in the infant-toddler environment, curriculum, and pedagogy. I will elaborate on the themes in the next section.

Theme 1 that emerged is that according to infant caregivers and toddler teachers, caregiver-attachment relationships involve coordinated forms of communication with expanded use of technology. Caregivers and teachers explained the importance of establishing trust and a sense of security, as well as the ways they communicate with infants and toddlers to develop attachment relationships. Some examples shared were using a soothing voice, getting down to the infant's/toddler's eye level, and acknowledging and responding to their communication. The second theme that emerged is that caregiver-child attachment relationships require intentional relationship building with families supported by child-family observations and evaluations. According to caregivers, families appreciate knowing that their children are well cared for and loved and equally enjoy the efforts of caregivers in communicating with them. Theme 3 that emerged is that caregiver-child-family attachment relationships require sensitive caregiving due to safety protocols and fear of illness. Participants described sensitive caregiving as behaviors that indicate respect for the infant/toddler, responsive actions, or words, and caring for basic and emotional needs. According to caregivers and teachers, sensitive caregiving is an important part of developing relationships with infants and toddlers as well as their families.

Caregivers and teachers also shared multiple examples of how safety protocols posed challenges to previously used relationship-building strategies. While some family childcare providers faced fewer challenges than center-based programs due to size and the family-centered approach, most participants noted that mask-wearing hindered reading facial expressions and emotions, that distance protocols posed challenges for developing relationships and that sanitation processes disrupted schedules and routines. Some participants also indicated that when they initially returned to work, fear of contracting COVID-19 could have played a part in developing relationships with infants and toddlers. They explained that tone of voice, touch, responsive caregiving, and creating family relationships were vital as they supported infants and toddlers through the changes that health and safety protocols demanded and the barriers sometimes present when trying to establish relationships. Theme 4 that emerged is that the COVID-19 pandemic required intentional and creative adaptations in the environment, curriculum, and pedagogy. Infant caregivers and toddler teachers provided numerous examples of how they build attachment relationships with infants and toddlers through communication and proximity and how they had to adapt the environment, curriculum, and pedagogy to meet the needs of children and families.

In Chapter 4, I addressed the steps taken to ensure research trustworthiness, which includes credibility, transferability, dependability, and confirmability of the data. I explain using a carefully selected, small sample of participants, gaining colleague feedback, and compiling an interview journal and codebook for reflection and self-checking. Finally, I present the results, including specific quotes from participants to

justify the emerging themes. In Chapter 5, I interpret the findings of my study, discuss its limitations, and make recommendations for further research. I also identify the implications and describe the potential impact for positive educational and social change.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this basic qualitative study was to explore caregiver perceptions of attachment relationships related to the COVID-19 pandemic and its variants and the influence of protocols on caregiver practices related to the formation of attachment relationships. I interviewed four infant caregivers and six toddler teachers using an open-ended approach. Zoom and phone interviews were conducted, with audio recording and transcription. During data analysis, four themes emerged to address the two RQs, encompassing what caregiver–child attachment relationships require: (a) coordinated forms of communication with expanded use of technology; (b) intentional relationships building with families supported by child-family observations and evaluations; (c) sensitive caregiving due to safety protocols and fear of illness; and (d) intentional and creative adaptations in the environment, curriculum, and pedagogy.

I specifically chose to study this topic because my passion for education starts with our youngest learners. I shared the concerns expressed by the infant and toddler early childhood community members for their welfare during the COVID-19 pandemic and later with the variants. It remains an issue in many areas in the southwest United States, and safety protocols are in effect. Specifically, I was concerned with the effects required protocols such as mask-wearing and social distancing would have on developing attachment relationships related to the COVID-19 pandemic and post-COVID. In Chapter 5, I present the interpretation of findings, the study's limitations, recommendations for further research, the social and educational implications, and my conclusions.

Interpretation of Findings

Following IRB approval, I conducted ten interviews using an open-ended technique. I interviewed four infant caregivers and six toddler teachers working in an infant or toddler program with a minimum of 3 years of experience and 24 units in early childhood education or child development. Interviews were conducted using Zoom videoconferencing, ranging from 45 min to 1 hr.

Infant and toddler caregivers were interviewed using 11 open-ended questions to shed light on the experience and the perceptions of the essential worker whose job involved caring for and teaching the youngest learners during the COVID-19 pandemic. Both family childcare and center-based teachers agreed to be interviewed, providing information based on experiences in two different settings. After careful analysis and the organization of codes, categories, and themes, findings strongly tie to Bowlby's attachment theory, the conceptual framework for this study, and the research presented in the literature.

Theme 1: Coordinated Forms of Communication With Expanded Use of Technology

Theme 1 emerged from participant data revealing caregiver-child attachment relationships required coordinated forms of communication with expanded use of technology. Participants' explanation of attachment, specifically an attachment relationship, mirrors that of Bowlby and other highly regarded attachment researchers.

Quality attachment relationships are important to healthy growth and development at every stage of life (Kammermeier et al., 2020; Feldman, 2021; Romo-

Escudero et al., 2021). According to Bowlby, attachment relationships are developed by using various coordinated forms of communication, which was also confirmed. The caregivers who shared their stories of developing relationships with infants and toddlers. IC2 explained, “Attachment with the caregiver is when the child reaches out to you. It is meeting their physical and emotional needs. And it is when especially with infants -- cry, hear your voice, and calm down.”

Bowlby’s biobehavioral theory introduced the biological drive to attach and the behaviors that innately support attachment relationships between child and caregiver (1988). Bowlby’s biobehavioral theory states that smiling, vocalizing, crying, and proximity-seeking are innate behaviors designed to support attachment relationships (1988). This is supported by TT4, who explains, “First of all, I go down to the level of the babies and toddlers, and then I talked to them.” IC2 supports Bowlby’s theory by sharing her thoughts. “So, one of the most important things is eye contact and touch to me. For a child who is upset, you can rub their hands or their feet. Talk to them and sing lullabies. You can use more of a gentle voice with the infant.”

According to Piazza et al. (2019), communication requires young infants to engage with people and the world around them through vocalization, eye contact, and facial expressions. Because masks caused some challenges with this interaction, caregivers employed other means of communication. TT5 explained her approach by stating:

Facial expressions were kind of hard. At first, the children didn't know if I was mad because my eyes were not as expressive, but as the pandemic progressed,

they understood. I tried to focus on my tone being positive so they knew I wasn't angry or upset at them. Stuff like that.

As a result of the lockdown period during the pandemic, non-essential workers were out of work or worked from home. Many parents did not have opportunities to access childcare; however, the need to connect with the child's caregiver remained. To maintain the caregiver-child relationship, parents, with their infants and toddlers in the home, used social media and video technology to connect. This finding of extended use of technology to maintain connection, build trust, and reduce anxiety was supported by Drouin et al. (2020). Caregivers shared their strategies for providing children with an opportunity to see their faces and hear their voices without masks through video and stayed in touch with infants and families through Zoom videoconferencing during lockdown, and through technological applications such as Class DOJO. Caregiver-child communication with ample use of technology contributed to infants' and toddlers' sense of well-being, as discussed in the literature by Goldschmidt (2020).

Theme 2: Intentional Relationship Building With Families Supported by Child-Family Observations and Evaluations

Developing caregiver-child attachment relationships requires intentional relationship-building with families, and these efforts were supported by observing the needs of children and families and evaluating the options available. Most caregivers and teachers interviewed shared stories of their relationships with the families they serve, pointing out the benefits to the child, which is supported by Hains and Neuenswander

(2021), who found that parents and caregivers play an important role in the development of young children when they are engaged in positive relationships. IC1 stated,

Sometimes at drop-off, we can talk about how transitions can be challenging, and as they get a little bit older, let's do the same, such as hug, and kiss goodbye. I'll take them, and then we'll move towards that. So, they just work on routines and conversations with their caregivers and family members.

This interaction shared by IC1 suggests that hugging and kissing goodbye is an important part of helping infants transition into the classroom. This interaction is supported by research conducted by Carozza and Leong (2021), who determined that touch may play an important part in interactional and neural synchrony. This is a good example of a caregiver supporting the relationship between the parent and child and scaffolding their transition from the home environment to the caregiving environment.

Caregivers and teachers also discussed the initial importance of building a trusting relationship with the families because of their fear and ensuring that they meet the parents' needs, as well as the needs of the children in their care. Research is overwhelmingly clear that the caregiver-parent relationship is an essential component of supportive and positive caregiver-child relationships and children's socioemotional well-being (Jeon et al., 2021; Lang et al., 2020).

Parent-teacher relationships are also supported by Bronfenbrenner's bioecological systems theory suggests that the interactions between systems or microsystems (home, school, etc.), which is identified as the mesosystem, are essential to the development of children, as they are affected by the systems or agents that surround

them. Jeon et al. (2021) also pointed out that the relationship between the teacher and family can provide a deeper understanding of the child. Even in the saddest situations, which one caregiver shared, the connection between home and school or parent and teacher may have far-reaching implications.

Schein et al. (2023) proposed that childcare outside the home during the COVID-19 pandemic was very different than before the pandemic and that in some situations, parents struggled to build attachment relationships with their children. IC4 explained that during the pandemic she was concerned with the attachment relationships between her infants and their parents and that post-COVID-19, she is starting to see an improvement:

I feel that even the attachment between the parent and the child has gotten better, whereas before, you know, they would scream, coming in and screaming, leaving because they're mad. You left me here and now you're back kind of situation. So, I feel like overall. Yes, that attachment and those relationships have gotten better.

This view is supported by Pattnaik and Jalongo (2021), who found that the COVID-19 pandemic deeply impacted early care and education with implications for children and families.

Theme 3: Sensitive Caregiving Due to Safety Protocols and Fear of Illness

According to participants, developing attachment relationships with infants and toddlers during the COVID-19 pandemic was a challenge and required sensitive caregiving approaches. Bowlby's (1958) attachment theory identifies the need for sensitive caregiving practices that lead to healthy attachment relationships. IC2 shared:

There were a lot of challenges because, I don't know if it was nationwide, or if it was just our county, but we were not allowed to put the child on us without a blanket in front of us, so there wasn't too much touch. We had to wear gloves at all times so there wasn't that warm touch to our body to body. We had to wear masks, so our voices were probably, sounding very echo to children.

Additionally, TT3 explained, “The challenge is to get a 2-year-old to wear a mask and keep it on.” In this situation, she shared her approach to using language to encourage children:

I noticed that I was able to get my 2-year-old to wear masks, but the parents couldn't. They just downright refused. But I just kind of told them, okay, if you want to go somewhere, you got to wear your mask like we got a mask up.

According to research, mask wearing reduces the infant's ability to process faces, read cues and emotions, and determine identity (Carnevali et al., 2022). Further, Campagne (2021) determined that covering the nose and mouth makes communication difficult, leading to stress and affecting emotional well-being.

Sensitive caregiving techniques were emphasized to address many of the challenges caused by safety protocols and decrease the stress experienced by infants and toddlers. According to TT5, “Touching was gentle, like a little rub on the cheek or on the side of their arm, the upper part of their arm. Stuff like that or rubbing their back gently, like, hey, you know, we're okay.” Touch is a powerful tool that has far-reaching implications, according to research. According to Cascio et al. (2019) and Della Longa et al. (2019), touch provides sensory input and protection that aids learning and bonding.

Additionally, according to Della Longa et al. (2019), it offers an opportunity for the caregiver and child to focus on one another and creates an opportunity for social and cognitive growth.

Caregivers discussed the challenges of handwashing, sanitation procedures, and distancing practices that disrupted routines and play. TT6 explained,

It's a little hard because we need to get out of our classroom to get our hands washed. So, the kids sometimes get frustrated because we have to stop and go wash our hands or go to the bathroom or whatever and sometimes that's kind of frustrating that interrupts their play or whatever they're doing.

Social distancing was an added challenge in infant and toddler programs but as TT5 explained:

My boss took the approach that we are still serving children, and that these children still need to be, that we're available for them like. So yes, we took precautions for masks, making sure if kids were sick and stuff, they were sent home, but they were still that there wasn't again we tried to practice the 6 feet distance, but with children, of course it's they are children. They only understand so much what it means to have that space and we weren't as teachers. We weren't going to refuse them. Oh, no, you can't touch me type of deal, you know. So, we had that in mind throughout the whole pandemic.

This is especially difficult with very young children because they seek to be close to the caregiver or their attachment figure and often become distressed when separated

(Granqvist, 2021). Fortunately, caregivers seemed to understand the importance of the attachment relationship and the need for closeness.

Several caregivers shared the importance of getting down to the child's level, looking children in the eyes, responding to children's vocalizations, and using touch to soothe and offer security, and the importance of this behavior as a vehicle for developing healthy attachment relationships. According to Handa & Umemura (2023), an attachment relationship with a sensitive and responsive caregiver is the key to creating an attachment relationship that supports healthy growth and development.

Safety protocols and fear associated with the pandemic initially affected caregivers' relationships with children and families, but most mentioned that as time went on, concerns subsided. Still, mask wearing, social distancing, and sanitation procedures often disrupted daily activities, social gatherings, and the ability to meet children's needs promptly. Still, it was apparent that every caregiver/teacher used sensitive caregiving techniques to build healthy relationships with children and families. This was and remains important because there is evidence that stress can influence social synchrony and the caregivers' efforts to build healthy relationships.

Theme 4: Intentional Creative Adaptations in the Infant–Toddler Environment, Curriculum, and Pedagogy

The COVID-19 pandemic has impacted early childhood education and care (Barnett et al., 2021). Despite concerns, and the mandated protocols that were in place, caregivers expressed their efforts to develop strong attachment relationships with children in their care. Some even suggested that it brought attention to the importance of

developing attachment relationships and served as an important reminder of the practices supporting it. Additionally, addressing the challenges of the COVID-19 pandemic required caregivers to make intentional and creative adaptations in the environment, curriculum, and pedagogy. IC4 shared her concerns about wearing masks but explained how she approached the challenge. She noted that,

It was more of a challenge. The thing that it did do, at least for me, was cause me to use more parallel talk, where you are talking to the child about what's going on around you. So, I feel like the children did get to hear language, even if it was a bit muffled, due to masks. It caused me to speak more, and train staff to speak more because they weren't physically able to hold children as quickly. It was teaching the staff that you can still build relationships. You can still create that responsive caregiving, but you are going to need to make sure that you're talking to the children.

Caregivers and teachers know that developing attachment relationships is an integral part of their jobs and an indicator of a high-quality environment. Eshelman et al. (2023) found that when caregiver responsiveness was high, so was infant communication. The study also indicated that high caregiver responsiveness is critical to a high-quality center and Romo-Escudero et al. (2021) claimed that there is ample research establishing the connection between child interactions and learning and development and the importance of adult-child interactions in a quality learning environment.

TT1 shared her concerns with distancing practices and the impact they had on children's play, but also explained how she adapted:

We had to separate their things. Nobody else can have can be touching someone else's playdough and stuff like that. Not so much because I feel like, even if they weren't able to kind of play together, I would still socialize with them when they had their individual trays and stuff like that. So, I feel like I would still engage so like if I had a table with 4 trays, I would still be there and you know kind of help someone to put something inside something or just yeah, I don't think so much because then I feel like I mean, I would still try to see how else I can, what I can do.

The caregiver-child attachment relationship supports several developmental needs as well as the need for security and closeness (Marmarosh, 2022; Verschueren & Koomen, 2021). The decision by TT1 to sit and socialize with the toddlers in her care because they had to be separated from each other, showed important insight. According to research, limiting contact or strict situations of social distancing could lead to mental health issues including depression and anxiety (Melchoir, 2020; Abel et al., 2020).

In the following statement, IC3 comments about her efforts to provide consistency in her program.

I consciously made the effort to make sure that nothing was missing during the pandemic with infants, but I can tell you that it brought a lot of awareness to the fact that we have to try hard to create that attachment to make sure that that attachment is done correctly, because later on in life, children who don't attach correctly have a lot of issues trusting other people in their adult lives, or even when they are older children. Caregivers and teachers were creative in developing

relationships with parents/families as well. They seemed to be fully aware that the relationships with the family afforded them important information about the child strengthened their relationship with infants and toddlers, and also reduced the stress that children felt when transitioning into the school setting.

According to Recchia and Fincham (2019), young children are being reimagined, due to research on brain development and insight into cognitive and emotional capabilities and this new understanding should guide the curriculum, the development of physical environments, the emotional climate, and caregiving practices. Caregivers shared their varied practices in meeting children's needs, adapting environments by creating quiet spaces, spacing children during gathering times, and table activities, and while transitioning from home to school. Additionally, they remained flexible when needed but strived to create consistency and stability when possible.

Findings and the Conceptual Framework

The conceptual framework supports the findings of the study. Bowlby's biobehavioral and attachment theories are grounded in the belief that attachment with a primary caregiver is established for survival and exploration. Caregivers and teachers suggested that developing a healthy attachment relationship requires developing trust, providing a sense of security, and communication through eye contact, facial expressions or smiles, voice, and touch. This is in line with Bowlby's theory of attachment, which states that infants seek to develop relationships through smiling, vocalizations, eye contact or tracking, proximity, and touch. Bowlby also theorized that infants seek

attachment relationships for not only survival but also for security which supports their need for explorations.

Caregivers and teachers shared that health and safety protocols such as mask-wearing and social distancing affected practices that support the development of attachment relationships such as response time, lack of facial expressions, poor eye contact, and less touch, especially between children. Based on Bowlby's conceptual theory, the reduction or removal of some of these behaviors would undoubtedly affect the development of attachment relationships

Limitations of the Study

The limitations of the study include sample size and researcher bias. The sample size was limited to four infant caregivers and six toddler teachers. While saturation was reached, more interviews could have provided further insight. The reality is, that caregivers/teachers are very busy caring for our youngest learners, and after the upheaval of the past several years, are tired. The COVID-19 pandemic seems to have left children and families searching for a new normal and caregivers/teachers are working hard to help provide some sense of normalcy.

The limitation of researcher bias is based on my experience working with infants and toddlers, and the risk of expectation or judgment. I have worked in the field of early care and education for more than 30 years and started my career working with infants and toddlers. I had to be mindful that I was not to critique the caregivers or teachers but to listen and understand their perception of developing attachment relationships during the COVID-19 pandemic.

Recommendations

There are several recommendations for further study that were presented during data collection and data analysis. Caregivers and teachers expressed concern for those infants born during the COVID-19 pandemic. Further study is warranted and supported by researchers. Green et al. (2021) suggested that during the COVID-19 the effects of mask wearing are still unknown and need to be studied. IC2 shared her concern about infants born during the pandemic by stating, “An infant, being moved from one person to another person, is already stressful on that child. Second, they only they were born into it so all they knew was masks. So, when anybody would take off a mask, you saw the stress in their little cries that they didn't know who we were until we put our mask back on.” Hashikawa et al. (2020) suggested that children’s social-emotional development be considered when establishing protocols, warranting further research, which is supported by Barrick et al. (2021) who recommended research be conducted on the long-term implications of mask wearing on socialization.

A second recommendation for further study is the effect that social distancing had on infants and toddlers when separated from peers in a social setting. Caregivers explained that creating safe distances between children during table and group activities was often met with confusion and required creative options for spacing children. Some concern was voiced about the effect separating peers might have had. As previously noted, social settings such as educational environments are the primary location for establishing peer relationships according to Melchior (2020), and Byrne et al. (2023)

suggested that the COVID-19 pandemic may have affected social communication skills, suggesting that further research is needed.

Finally, based on the responses of caregivers and teachers, interestingly, several noted the benefit of needing to overcompensate when communicating with children to establish attachment relationships during the COVID-19 pandemic. This was not considered and was outside of the scope of the current research conducted for this study. Still, it would be beneficial to explore if caregivers' and teachers' efforts to

Implications

There are social and educational implications for this study related to infant and toddler programs, administrators, and social policymakers. Infant/toddler caregivers and teachers provided insight into the challenges the COVID-19 pandemic posed to developing caregiver-child attachment relationships, offering center-based staff and family childcare providers the opportunity to prepare for a similar situation in the future.

There are educational implications because the information from this study is a springboard for the development of educational resources and strategies that could be employed by caregivers, teachers, and administrators during future pandemics.

Additionally, information on environmental and caregiving practices could lead to a change in social distancing procedures and mask-wearing that limit the impact on peer group interaction, socialization, and attachment relationships. The study also has social implications for policymakers suggesting they consider the ramifications of pandemic protocols on the development of attachment relationships. Additionally, further research on the developmental outcomes of infants and toddlers due to the COVID-19 pandemic is

likely to provide information that can be weighed against the health and safety protocols used and other related factors. Finally, the position and feelings of the caregivers/teachers should also be considered. The fear of illness and potential stress on the caregiver/teacher undoubtedly affects behavior and the ability to manage a learning environment and develop healthy relationships with adults and children alike. This consideration has both social and educational implications.

Conclusion

The purpose of this basic qualitative study was to explore caregiver perceptions of attachment relationships related to the COVID-19 pandemic and its variants and the influence of protocols on caregiver practices related to the formation of attachment relationships in one state, in the southwestern United States. This study addresses a gap in research. While some research has been conducted on the impact of the COVID-19 pandemic, none has explored caregiver and teacher perception of attachment relationships. Caregivers and teachers explained how the COVID-19 pandemic created barriers to developing healthy attachment relationships with not only the infants and toddlers in their care, but with the families as well. Caregivers/teachers also identified specific strategies they used to try and provide a sense of continuity for children who were enrolled in family childcare or center-based programs before the COVID-19 pandemic, and the efforts used to develop new relationships.

As evidenced by the literature in Chapter 2, and the seminal work by Bowlby and others that followed his work on attachment, the development of attachment relationships is not only necessary for survival but essential for healthy social-emotional development.

Through healthy attachment relationships, children find the security needed to explore the world around them which includes their peers. Additionally, there are specific practices that lend themselves to developing attachment relationships such as establishing trust, responsive communication, and sensitive caregiving. These practices often lead to a type of rhythmic “dance” or synchronicity that children need and are essential to the development of attachment relationships (Yaniv et al., 2021). The caregivers and teachers interviewed for this study outline the challenges they faced: the barriers created by the COVID-19 pandemic protocols and state mandates, the difficulty connecting with families, and their fears and stressors but despite this, they continued to strive to develop attachment relationships with the infants and toddlers in their care.

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Appendix A: Research and Interview Questions

RQ1: What are caregiver's perceptions of caregiver-child attachment relationships with infants and toddlers during the COVID-19 pandemic and its variants?

Conceptual Framework	Interview Questions for Infant Teachers
<p>Bowlby's Biobehavioral Theory (1958, 1988) and Ainsworth's Theory of Attachment (1969) influenced by Feldman (2012)</p> <ul style="list-style-type: none"> - Attachment behaviors are biologically driven and designed to increase proximity to the caregiver. - Attachment behaviors of child to gain a positive response from the caregiver: <ul style="list-style-type: none"> • Clinging • Touching • Tracking/Following • Crying • Smiling • Vocalizing - Emphasizes the need for nurturing and sensitive caregiving practices <ul style="list-style-type: none"> • Proximity (Pri. Ainsworth) • Nurturing Practices • Caregiving Practice 	<p>IQ: Please define infant attachment in your own words. Prompt: I heard you say...Please tell me more about...</p> <p>IQ2: Please describe sensitive caregiving practices you use when responding to infants/toddlers who display/or do not display attachment behaviors? Prompt: I heard you say, please tell me more about (clinging, touching tracking crying, smiling, vocalizing)</p> <p>IQ3: Were there challenges to responding naturally to infant/toddler attachment behaviors during the COVID-19 pandemic? Prompt: If the answer is "yes," tell me more about the challenges you experienced.</p>

Conceptual Framework	Interview Questions for Toddler Teachers
<p>Bowlby's Biobehavioral Theory (1958, 1988) and Ainsworth's Theory of Attachment (1969) and influence of Feldman (2012)</p> <ul style="list-style-type: none"> - Attachment behaviors are biologically driven and designed to increase proximity to the caregiver. - Attachment behaviors of child to gain a positive response from the caregiver: <ul style="list-style-type: none"> • Clinging • Touching • Tracking/Following • Crying • Smiling • Vocalizing • Matching/Synchronicity (Feldman) - Emphasizes the need for nurturing and sensitive caregiving practices: <ul style="list-style-type: none"> • Proximity (Pri. Ainsworth) • Nurturing Practices • Caregiving Practices 	<p>IQ1: Please define infant attachment in your own words. Prompt: I heard you say...Please tell me more about...</p> <p>IQ2: Please describe sensitive caregiving practices you use when responding to infants/toddlers who display/or do not display attachment behaviors? Prompt: I heard you say, please tell me more about (clinging, touching tracking crying, smiling, vocalizing)</p> <p>IQ3: Were there challenges to responding naturally to infant/toddler attachment behaviors during the COVID-19 pandemic? Prompt: If the answer is "yes," tell me more about the challenges you experienced.</p> <p>IQ4: Which elements from normal interactions with kids were used during the pandemic? Which ones were missing? Prompt: I heard you say, please tell me more about your use of (proximity, nurturing practices, caregiving practices)</p> <p>IQ5: How has the COVID-19 pandemic influenced the formation of caregiver-child attachment relationships in infant/toddler programs? Prompt: What behaviors typically used to develop attachment relationships were you able to use during the COVID-19 pandemic?</p>

RQ2: How has the COVID-19 pandemic influenced the practices of caregivers regarding the formation of caregiver-child attachment relationships in infant and toddler programs?

Conceptual Framework	Interview Questions for Infant Teachers
<p>Bowlby's Biobehavioral Theory (1958, 1988) and Ainsworth's Theory of Attachment (1969) influenced by Feldman (2012)</p> <ul style="list-style-type: none"> - Attachment behaviors are biologically driven (biobehavioral) and designed to increase proximity to the caregiver. - Attachment behaviors of child to gain a positive response from the caregiver: <ul style="list-style-type: none"> • Clinging • Touching • Tracking/Following • Crying • Smiling • Vocalizing • Matching/Synchronicity - Emphasizes the need for nurturing and sensitive caregiving practices. <ul style="list-style-type: none"> • Proximity (Pri. Ainsworth) • Nurturing Practices • Caregiving Practices 	<p>IQ6: How has the COVID-19 pandemic influenced how caregivers respond to behaviors that support the development of caregiver-infant attachment? Prompt: Which behaviors used to develop attachment relationships were missing during the COVID-19 pandemic? (clinging, touching, tracking, crying, smiling, vocalizing)</p> <p>IQ7: How have caregivers' practices been influenced by the COVID-19 pandemic; and how do caregivers initiate practices that support the development of attachment relationships with infants/toddlers? Prompt: I heard you say, please tell me more about your use of (proximity, nurturing practices, caregiving practices)</p> <p>IQ8: How did you respond when children exhibited attachment, an ability to learn, and/or the need for proximity and leaving proximity with confidence during the pandemic; and how do you respond in the aftermath of COVID-19?</p>

	<p>IQ9: Did children exhibit secure attachment behaviors during and after the COVID-19 pandemic such as proximity seeking when needed or exploring the environment with confidence?</p> <p>IQ10: In what way did infants/toddlers exhibit signs of distress, anxiety, or depression during or after the pandemic? Please provide examples.</p> <p>IQ11: Thank you for your interview. Is there anything else you would like to add?</p>
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Conceptual Framework	Interview Questions for Toddler Teachers
<p>Bowlby's Biobehavioral Theory (1958, 1988) and Ainsworth's Theory of Attachment (1969) influenced by Feldman (2012)</p> <ul style="list-style-type: none"> - Attachment behaviors are biologically driven (biobehavioral) and designed to increase proximity to the caregiver. - Attachment behaviors of child to gain a positive response from the caregiver: <ul style="list-style-type: none"> • Clinging • Touching • Tracking/Following • Crying • Smiling • Vocalizing • Matching/Synchronicity - Emphasizes the need for nurturing and sensitive caregiving practices. <ul style="list-style-type: none"> • Proximity (Pri. Ainsworth) • Nurturing Practices • Caregiving Practices 	<p>IQ6: How has the COVID-19 pandemic influenced how caregivers respond to behaviors that support the development of caregiver-infant attachment? Prompt: Which behaviors used to develop attachment relationships were missing during the COVID-19 pandemic? (clinging, touching, tracking, crying, smiling, vocalizing)</p> <p>IQ7: How have caregivers' practices been influenced by the COVID-19 pandemic; and how do caregivers initiate practices that support the development of attachment relationships with infants/toddlers? Prompt: I heard you say, please tell me more about your use of (proximity, nurturing practices, caregiving practices)</p> <p>IQ8: How did you respond when children exhibited attachment, an ability to learn, and/or the need for proximity and leaving proximity with confidence during the pandemic; and how do you respond in the aftermath of COVID-19?</p> <p>IQ9: Did children exhibit secure attachment behaviors during and after the COVID-19 pandemic such as proximity seeking when</p>

	<p>needed or exploring the environment with confidence?</p> <p>IQ10: In what way did infants/toddlers exhibit signs of distress, anxiety, or depression during or after the pandemic? Please provide examples.</p> <p>IQ11: Thank you for your interview. Is there anything else you would like to add?</p>
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Appendix B: Interview Protocol

Prior to Interview - Introduction

Thank you for agreeing to be interviewed.

As you know, I am currently a student in the School of Education, Ph.D. Program at Walden University, and I am conducting interviews to explore caregivers' perceptions of the development of caregiver-child attachment relationships with infants and toddlers during the

COVID-19 pandemic.

Do you have any questions before the interview begins?

If, at any time during the interview you want to stop, please let me know. This is voluntary, and

I appreciate your willingness to be a part of my study. The interview will take approximately 45-60 minutes.

RQ1: What are caregivers' perceptions of caregiver-child attachment relationships with infants and toddlers during the COVID-19 pandemic and its variants?

Interview Questions (Infant and Toddler Caregivers)

IQ1: Please define infant attachment in your own words.

Prompt: I heard you say...Please tell me more about...

IQ2: Please describe sensitive caregiving practices you use when responding to infants/toddlers who display/or do not display attachment behaviors?

Prompt: I heard you say, please tell me more about (clinging, touching tracking crying, smiling, vocalizing)

IQ3: Were there challenges to responding naturally to infant/toddler attachment behaviors during the COVID-19 pandemic?

Prompt: If the answer is "yes," tell me more about the challenges you experienced.

IQ4: Which elements from normal interactions with kids were used during the pandemic? Which ones were missing?

Prompt: I heard you say, please tell me more about your use of (proximity, nurturing practices, caregiving practices)

IQ5: How has the COVID-19 pandemic influenced the formation of caregiver-child attachment relationships in infant/toddler programs?

Prompt: What behaviors typically used to develop attachment relationships were you able to use during the COVID-19 pandemic?

RQ2: How has the COVID-19 pandemic influenced the practices of caregivers regarding the formation of caregiver-child attachment relationships in infant and toddler programs?

Interview Questions (Infant and Toddler Caregivers)

IQ6: How has the COVID-19 pandemic influenced how caregivers respond to behaviors that support the development of caregiver-infant attachment?

Prompt: Which behaviors used to develop attachment relationships were missing during the COVID-19 pandemic? (clinging, touching, tracking, crying, smiling, vocalizing)

IQ7: How have caregivers' practices been influenced by the COVID-19 pandemic; and how do caregivers initiate practices that support the development of attachment relationships with infants/toddlers?

Prompt: I heard you say, please tell me more about your use of (proximity, nurturing practices, caregiving practices)

IQ8: How did you respond when children exhibited attachment, an ability to learn, and/or the need for proximity and leaving proximity with confidence during the pandemic; and how do you respond in the aftermath of COVID-19?

IQ9: Did children exhibit secure attachment behaviors during and after the COVID-19 pandemic such as proximity seeking when needed or exploring the environment with confidence?

IQ10: In what way did infants/toddlers exhibit signs of distress, anxiety, or depression during or after the pandemic? Please provide examples.

IQ11: Thank you for your interview. Is there anything else you would like to add?

Post Interview

Thank you for answering the interview questions. As I shared in the invitation, your interview transcription is available upon request. Do you have any final questions? Again, I want to thank you for your time.