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Abstract

Infants experiencing homelessness face risk for developing mental health problems in the future.

Parents residing in shelters experience adverse events at elevated rates compared to non-homeless individuals, which can impact their infants during a time of rapid development depending on how the parent copes. For some, trauma linked to these events may manifest in an intrusive parenting style that interferes with the child's developing capacity for self-regulation. We utilized a sample of 60 parent-infant dyads recruited while residing in emergency homeless shelters to evaluate associations among parents' history of adversity, intrusive parenting behaviors, and infants' fearful distress. Observed parent intrusiveness during a free play interaction was significantly associated with infant fearfulness observed in a separate behavioral task during which infants viewed a series of masks. Furthermore, there was a moderating effect for parent history of adversity such that the association between parent intrusiveness and infant fearful distress was stronger among parents with more past experiences of adversity.

Keywords: *intrusiveness; fearfulness; infant temperament; adversity; homelessness*

Infant Fearful Distress, Parent Intrusiveness, and Adversity in Families Experiencing Homelessness

Infants residing in family homeless shelters are an understudied and vulnerable group at risk for poor developmental outcomes (Bassuk et al., 2015; Fanning, 2021). Aspects of residential instability and the shelter setting present a range of challenges for parenting and healthy infant development; however, many families show resilience. Parents and other primary caregivers play central roles in shaping their infant's well-being and developmental trajectory. A positive parent-child relationship characterized by warmth and responsiveness without harsh or intrusive interactions can help children cope with challenges associated with family homelessness, including adverse experiences (Herbers et al., 2014; Herbers et al., 2023; Labella et al., 2019). To provide this support, however, parents themselves must cope effectively with risks and challenges (Moehler et al., 2007).

Most individuals residing in shelters have experienced adverse life events, which may include traumatic experiences; parents are likely to have experienced adversity prior to or during their stay in shelter (Bassuk et al., 2020; Schuster et al., 2011). Adverse life events can have profound impacts on the parent's mental health and functioning, influencing how they perceive, understand, and interact with their children. Specifically, parents who experience traumatic stress related to histories of adversity tend to be more overbearing, overprotective, and assertive in their parenting styles (Essex et al., 2010; Moehler et al., 2007). Together, these behaviors characterize parental intrusiveness, which is known to inhibit infants' developing autonomy by overwhelming the infants or limiting their opportunities to practice self-regulation. Intrusive parenting has been

shown to impact certain aspects of child temperament, specifically fearfulness and behavioral inhibition (Barnett & Scaramella, 2017; Kiel & Buss, 2013; Wu, 2021).

Behavioral inhibition is a temperament style in which individuals display discomfort to novelty; in infants this is seen through a fearful reaction in the face of new situations, objects, and people (Chronis-Tuscano et al., 2018). Fearfulness and inhibition in infancy predict future mental health difficulties such as social anxiety (Clauss & Blackford, 2012). Examining risk factors of parents' adverse experiences and parental intrusiveness among families experiencing homelessness has potential to inform how these developmental processes unfold in contexts of psychosocial adversity while also contributing to an extremely limited literature on risk and resilience among infants who reside with their families in homeless shelters (Fanning, 2021; Herbers & Henderson, 2019).

Children in Shelters for Families Experiencing Homelessness

The first year of life is the most likely time for individuals to enter homeless shelters in the United States, and infants account for a substantial and disproportionate number of children who stay in homeless shelters (Shaw, 2019). Estimates from 2019-2020 suggest that about 416,907 people who stayed in emergency shelters at some point in the year were persons in families (Henry et al., 2022). Children under 2 years of age are estimated to make up about 12% of all persons in families staying in shelters (Shaw, 2019). Despite their prevalence, the research on health and development of infants and toddlers experiencing homelessness is extremely limited (Fanning, 2021). The information that is available comes primarily from studies of families living in emergency housing, and much of this information is based on older children. Children who stay in family shelters tend to have more physical health problems, academic difficulties, and poor socio-emotional development compared to their stably housed peers

(Haskett & Armstrong, 2019). Research has demonstrated that these children also face heightened risk for mental health problems and academic failure (Bassuk et al., 2015; Herbers, Cutuli, Keane, & Leonard, 2020; Masten et al., 2015).

In a systematic review, Bassuk et al. (2015) found that 14 to 16% of preschoolers and 24 to 40% of school-aged children who experienced homelessness met criteria for mental health issues, representing rates of 2 to 4 times that of stably-housed children experiencing poverty. Herbers et al. (2020) found that youth with a history of homelessness any time between birth and age 9 were more likely than stably-housed youth to fit mental health profiles with noteworthy elevations in anxiety and depression symptoms. While research indicates that school-aged children in shelters are at a higher risk for mental health problems and educational delays, little is known about the impacts of homelessness in infancy (Fanning, 2021).

About a quarter of all episodes of poverty within the U.S. begin with the birth of a child (Volk, 2014). The cost of living after having a child increases significantly, which may cause a family already living in poverty to lose their housing. Infancy is a period of great developmental plasticity in which the brain is rapidly growing in response to experiences such that both positive and negative experiences have lasting impacts on many aspects of child development (Shonkoff & Garner, 2012). For example, a study that examined age at the time of homelessness in relation to academic achievement indicated that children who had experienced homelessness as an infant or toddler showed worse future academic performance than those who were school-aged at the time of homelessness (Perlman & Fantuzzo, 2010).

Although conditions in emergency housing for families experiencing homelessness vary, many of these settings are designed to function as a temporary shelter and may not be suited to the developmental needs and caregiving demands of infants and toddlers (Halverson et al., 2023;

Herbers & Henderson, 2019). Some shelters may have restricted environments that provide few opportunities for this age group to safely explore novel stimuli and learn through active engagement with their physical, motor, and cognitive skills, which are central developmental tasks for very young children (Haskett & Armstrong, 2019; Perlman & Fantuzzo, 2010; Volk et al., 2022). Rigid schedules for mealtimes and curfew in shelter settings are often at odds with the needs of infants and their families (Bradley et al., 2018). Thus, the shelter context and other difficulties associated with homelessness may place infants and toddlers at heightened risk for developmental delays (Haskett et al., 2016).

Risk and Resilience in the Context of Family Homelessness

Despite the numerous challenges associated with chronic and acute risks of homelessness, there are also many factors that can support resilience in children (Cutuli & Herbers, 2014). Resilience is defined as an individual's capacity to adapt to or overcome difficulties and demonstrate healthy functioning in the face of risk. This is not a single trait that a child could possess; rather, resilience is the product of multiple interacting systems, such as a child's family, neighborhood, and broader culture (Masten, 2021). Family is a key context for children's developing resilience, and parent-child relationships are central such that positive aspects of parenting can be protective, buffering children against various threats to their wellbeing (Julian et al., 2017). When parent-child relationships lack sensitivity or involve other problematic dynamics like intrusiveness, however, they confer or amplify risk (Masten & Palmer, 2019).

Positive parent-child relationships include high levels of parental warmth and responsiveness (Herbers et al., 2014). In a study of adopted youth who had experienced multiple adverse childhood experiences (ACEs), children with adoptive parents who exhibited high

parental warmth had fewer internalizing symptoms in the face of ACEs (Anthony et al., 2019).

Parenting that involves disciplining children with positive control is associated with self-regulation skills in preschoolers (Karreman et al., 2006). Positive control occurs when parents generally allow children to lead interactions, supporting their autonomy, encouraging self-control, and using mild power assertion to set limits only when it is necessary for safety or to gently teach social norms. Other research with parent-child dyads experiencing homelessness showed that this sensitive, positive control with few negative or harsh interactions, called positive co-regulation, was associated with fewer emotional and behavioral problems in a sample of 5-6 year old children (Herbers et al., 2014).

Conversely, behaviors in which parents exert negative control, such as hostility and intrusiveness, can be harmful to developing self-regulation abilities in young children (Barnett & Scaramella, 2017; Kiel & Buss, 2013; Wu, 2021). Intrusive parenting is characterized by overly controlling or directing behaviors that are unsolicited by the child (Diemer et al., 2021). In early infancy, these behaviors include overbearing or overwhelming play with too much stimulation, stopping infants from behaviors like mouthing toys or grasping clothing, and excessively tending to infants without giving them opportunities for age-appropriate self-soothing. As infants grow and gain the ability to move around independently and communicate their intentions more explicitly, parents tend to exert more control (Feldman, 2010; Hunter et al., 2021). At these later stages of infancy, parental intrusiveness can be seen through over-assisting the child with daily activities, unnecessarily restricting their exploration and play, and inhibiting the child from trying new things on their own. In sum, it is important that parents exert a healthy level of control over their infants without interfering too often, to maintain a positive relationship and support their child's social-emotional development. When parents interfere too often and restrict

infants' engagement with the world, they may inadvertently encourage their infants to view the world as generally or globally threatening, encouraging reticence and fearfulness rather than a sense of self-efficacy (Barnett & Scaramella, 2017).

Parenting in the Shelter Environment

In the context of family homelessness, a positive parent-child relationship is considered a key protective factor to buffer against the associated risks to child development, but the stressful nature of staying in family shelters may also increase the risk for insensitive parent-child interactions straining the parent-child relationship. Parents must juggle childcare with other important tasks like searching for employment and stable housing all whilst abiding by shelter rules (Bradley et al., 2018; Shinn et al., 2015). When parents in shelters were surveyed on the hardships they faced, many expressed that the rigid rules and schedules gave them little opportunity for family time (Mayberry et al., 2014). The time that parents in shelters spend coping with poverty and homelessness can take away from the time and energy that they need to build nurturing relationships with their young children (Fraenkel et al., 2020). Parents have reported that shelter schedules revolved solely around meals and sleeping, not considering individual differences between families and what worked best for their infant's unique schedule (Bradley et al., 2018).

Parenting styles are shaped through routines and rituals, and disturbances to these processes can be challenging. The lack of consistency can also confuse children and disrupt the family dynamics. Furthermore, parents in shelters have reported that the lack of privacy caused them to feel as if they were "parenting in a fishbowl," under constant scrutiny and criticism for their behaviors and views (Bradley et al., 2018; Mayberry et al., 2014). The lack of stability and

control can be discouraging and contribute to parents' stress, which in turn can affect parent mental health, the parent-child relationship, and the child's wellbeing (Vrabitic et al., 2022).

Beyond challenges related to residing in a shelter, most parents experiencing family homelessness have exposure to other risks and adverse experiences prior to, or during, their time in emergency housing. Adverse experiences like childhood abuse, interpersonal losses, and witnessing violence in communities are associated with risk for physiological strain, emotional trauma, and maladaptive coping skills that contribute to depression, anxiety, substance use problems, and posttraumatic stress (Portwood et al., 2021). Ninety-three percent of mothers who have experienced homelessness reported experiencing at least one traumatic event, 73% described multiple traumatic exposures, and 54% met diagnostic criteria for posttraumatic stress disorder (PTSD; Schuster et al., 2011). Depression is also prevalent among parents experiencing family homelessness (Bassuk et al., 2015; Chan et al., 2021). As mentioned, the mental health of a parent has key implications for their child's wellbeing. It was found that mothers who previously had experienced domestic violence were more likely to have an infant with a difficult temperament (Quinlivan & Evans, 2005). How a parent copes with stressful and potentially traumatic experiences may moderate the link between parental adversity and child functioning. Mothers who experience depression or trauma as a result of adversity have shown elevated risk for harsh parenting, involving more punishment and a greater potential for child abuse, compared to mothers without significant symptoms (Cohen et al., 2008; Cross et al., 2018).

Adversity and resulting mental health challenges can manifest in different ways for different parents, with one outcome being problematic parenting practices. In a study comparing the emotional reactivity of mothers who had been abused to mothers with no history of abuse, sensitivity, intrusiveness, and hostility were assessed through observation of parent-child

interactions (Moehler et al., 2007). Only intrusiveness had a significant association with maternal history of abuse. This data suggests that a history of adversity may lead some parents to be more controlling in their interactions, limiting their child's exploration and developing autonomy. Symptoms of posttraumatic stress along with negative parenting attitudes can exacerbate the impact of a parent's adversity history on their child (Narayan et al., 2021). Furthermore, the findings suggest distinct roles of parenting intrusiveness apart from sensitivity and hostility, which are associated with each other but still separate constructs. Sensitivity and hostility are well established as resilience and risk factors, respectively, but may not be the key factors linking adversity and specific child outcomes like fearfulness (Masten & Palmer, 2019; Rowell & Neal-Barnett, 2022).

Intrusive parenting, specifically, has been linked to poor emotional regulation skills and fearful distress in children (Barnett & Scaramella, 2017; Kiel & Buss, 2013; Wu, 2021). One study measured intrusiveness during parent-child interactions and infant fearful distress in a behavioral task in which children viewed a series of unsettling masks intended to induce a fear response. Fearful distress was measured by rating facial and bodily fear, distress vocalizations, and escape behaviors. Children's reactions to the masks were recorded at ages 6, 15, and 24 months. It was found that the infants whose parents demonstrated intrusive behaviors during the interactions were more likely to show increases in fear across the 18 months (Wu, 2021). Barnett and Scaramella (2017) found a similar association and argued for the other direction of effect, suggesting that a parent's response to their fearful child may be to intervene more frequently. Kiel and Buss (2013) also found a positive relationship between infant fearful distress, intrusive parenting, and mothers' stress levels, suggesting that some parents experience stress in response

to child inhibition or fear, causing them to be more intrusive. In these studies, intrusiveness and inhibition were measured at the same time, making it impossible to infer causality.

Parents who respond differently to inhibition and fearfulness in their children may unintentionally reinforce fearfulness by overstepping as a way of trying to help their child. These parenting behaviors can be intrusive even when they are not negative or hostile in tone. It is possible for parents to show a great deal of warmth and sensitivity and also to be intrusive with their infants by helping too much rather than providing opportunities for the infant to explore and develop a sense of mastery over their world. In a longitudinal study from infancy to ninth grade, maternal depression, family expressed anger, parenting stress, and financial stress all predicted chronically high inhibition in children (Essex et al., 2010). Parents in homeless shelters face many of these stressors, which may encourage some to use intrusive parenting. Some parents in shelters have traumatic stress or other anxiety disorders themselves, and the tendency to feel anxious could lead to overprotective responses. In turn, they may intrude on their child's activities more than is necessary, with the goal of protecting them from harm or distress. Parents may not realize the impacts that intrusive behaviors can have, especially when they are performed with good intentions. Additionally, parents living in difficult contexts may not be accepting of negative emotional responses in children or may feel pressured to put a stop to negative emotional displays that others may view as disruptive. In these situations, parents may try to stop infants' expressions of distress immediately, as a way of protecting their family from criticism by others. Interfering too often and too readily, however, can take away the child's opportunity to understand and learn to regulate their own emotional responses (Barnett & Scaramella, 2017; Eisenberg et al., 2015). Intrusive parenting, whether it is hostile or not, diminishes the child's autonomy, which in turn can contribute to their temperamental fearfulness.

Temperamental Fearfulness as a Risk Factor for Anxiety

Fearfulness in infancy and early childhood is a potential risk factor for developing internalizing problems, such as depression and anxiety, in the future. Behavioral inhibition is a temperament style characterized by distress or withdrawal from novel situations, objects, and people. Research shows that individual differences in temperamental fearfulness can be seen in babies as young as 4 months old (Fox et al., 2005). For infants and younger children, temperamental fearfulness, also referred to as inhibition, manifests as an elevated fear response in the face of novelty. In later childhood, this can develop into social withdrawal and shyness (Chronis-Tuscano et al., 2018). Previous research has shown that children who have experienced homelessness are at an increased risk for mental health problems later in childhood and adolescence (Bassuk et al., 2015; Herbers et al., 2020; Perlman et al., 2014). Temperamental fearfulness and intrusive parenting are two factors that may be implicated in this pattern of associations. At the neurobiological level, temperamental fearfulness or behavioral inhibition is characterized by increased arousal at rest, elevated heart rate, higher cortisol levels, and amygdala hyperresponsivity, and is commonly observed in individuals with social anxiety disorder (Clauss & Blackford, 2012; Kagan et al., 1988). In a meta-analysis on studies testing the correlation between behavioral inhibition and social anxiety, the risk of developing social anxiety disorder was sevenfold higher for behaviorally inhibited children (Clauss & Blackford, 2012). Around 15% to 20% of children are temperamentally high in behavioral inhibition as infants, and over 40% of these children go on to develop social anxiety disorder (Clauss & Blackford, 2012). In another study, 50% of children with chronically high behavioral inhibition in childhood had a diagnosis of social anxiety disorder by the ninth grade (Essex et al., 2010).

A study by Suarez et al. (2021) aimed to determine how behavioral inhibition can develop into an anxiety disorder for some individuals. This longitudinal study measured behavioral inhibition in children ages 2 and 3 years using a novel stimuli task, and assessed for socially anxious behaviors at ages 10 and 13 using observational, self-report, and parent-report measures. Parenting moderated the relation between high behavioral inhibition and social anxiety, such that, the children whose parent was more overbearing and over-affectionate during the fear-evoking novel stimuli tasks demonstrated worse emotion regulation skills and increased levels of socially anxious behaviors by 13 years of age (Suarez et al., 2021).

Current Study

The current study aims to explore the associations among parents' history of adversity, intrusive parenting, and infant fearful distress among dyads within the challenging context of family homelessness. Children who experience family homelessness demonstrate elevated risk for internalizing problems including anxiety, and temperamental fearfulness in infancy predicts a greater likelihood of future internalizing problems. Many parents residing in shelters have experienced adverse and potentially traumatic events in their lifetime and are also coping with acutely stressful circumstances of homelessness. Adversity and trauma have been linked to intrusiveness in parent-child relationships, which can encourage fearfulness in children. Still, many children and parents who experience homelessness demonstrate resilience, pointing to various pathways of developmental adaptation. Since not all parents who have experienced adversity will necessarily engage in intrusive parenting behaviors, we hypothesize that a history of high levels of adversity may moderate associations of intrusive parenting and infants' fearful distress. In other words, we hypothesize that some parents reporting high levels of lifetime adversity will cope less effectively than others, and that when they show intrusive behavior, their

infants will demonstrate higher levels of fearfulness compared to infants whose parents are not as intrusive. Based on previous research, we expected associations to be specific to parent intrusiveness and not attributable to more generalized aspects of parent depression symptoms or to a lack of parental sensitivity.

Method

Participants and Procedure

Participants were part of a larger longitudinal study on risk and resilience of infants ages birth to 12 months in families experiencing homelessness. All data for this report came from the initial timepoint. Eligible parents were currently residing in a shelter for families experiencing homelessness in the Philadelphia area with an infant under 12 months of age and were fluent in English. The sample for the current study included 60 parent-infant dyads with infants between the ages of 3-12 months ($M = 6.2$ months, $SD = 3.0$), as appropriate for the measure of fearful distress. They were recruited on site from five different shelters in the Philadelphia area in two waves, with 25 recruited in 2015-2017 and 40 recruited between September 2018 and February 2020. Recruitment involved researchers talking with families in common areas of the shelters or at community meetings and with flyers distributed via each shelter's preferred communication methods. Families were not recruited until they had stayed for at least 3 days in the shelter to allow them time to acclimate. Based on available shelter census information, we estimate that about 75% of eligible families participated during the study period. Infants were 56.7% male, 78.5% Black/African American, and 18.5% Multiracial. Most caregivers were biological mothers (93.8%), with a mean age of 29.6 years ($SD = 6.8$ years). Of these parents, 56.3% were unemployed and 23.4% had less than a high school education. The average time families had been staying in the shelters at the time of recruitment was 21.5 weeks ($SD = 16.8$ weeks), and

most of the families (63.3%) had one or more other children living with them, with the number of children in families ranging from 1 to 5 ($M = 1.95$, $SD = 0.91$).

Eligible families participated in a 90-minute structured interview in a private area of the shelter where they were residing. Informed consent and all measures were read aloud to parents in English to avoid any literacy or comprehension concerns. The caregivers responded to multiple structured questionnaires assessing demographic information, their child's routine and development, parent attitudes, and parents' experiences of a range of stressful life events. Within the session, parents and infants also participated in behavioral tasks. Infants completed four episodes from the Laboratory Temperament Assessment Battery (LabTAB; Goldsmith & Rothbart, 1996) intended to evoke a stress response: car seat restraint, arm restraint, barrier box, and masks. These episodes were video recorded for later observational coding. Next, parents were given a bin of age-appropriate toys and books, and they were instructed to play with their child as they normally would for 15 minutes. This free-play session was video-recorded for later coding, and the researchers left the room for the 15-minute duration. Families received \$30 in gift cards at the end of the session in appreciation for their time. All study procedures were approved by the [Blinded Institution]'s internal review board.

Measures

Fearful distress. The Laboratory Temperament Assessment Battery (Lab-TAB) consists of twenty different standardized episodes designed to evoke a reaction to different stimuli in infants (Planalp et al., 2017). The masks episode assesses infant fear in response to a series of four increasingly frightening masks, an evil queen, an old man, a glow in the dark vampire, and a gas mask. Each mask is presented for 10 seconds, with five seconds between, through a puppet show curtain so that the researcher holding the masks cannot be seen. Parents were present

during the assessment and were instructed to remain standing quietly behind their infant, who was seated and strapped into a highchair, throughout the task. Following the established coding protocol, each 10 sec mask trial was broken down and coded in 5 second intervals. Four scales were used to measure different dimensions of fear at each interval: intensity of facial fear (0-3), intensity of distress vocalizations (0-5), intensity of bodily fear (0-3), and intensity of escape behaviors (0-3). All scores were averaged for an overall “fear” score, with higher numbers indicating higher fearful distress (Planalp et al., 2017). The average fear scores and range observed in the current sample was similar to that reported for the same assessment with other samples of infants (Diaz & Bell, 2011; Kochanska et al., 1998). Two of the study authors acted as coders, training to achieve reliability of $ICC > .70$ on practice cases then coding all cases separately with discrepancies resolved via conference. Coders did not participate in data collection and were blind to all other participant data until coding had been completed. Coders achieved an overall reliability of $ICC = .81$.

Parent Adversity. Parent’s stressful and potentially traumatic experiences were assessed with the Life-Time Events checklist (Gest et al., 1999). This inventory lists 20 different adverse events such as “death of a parent” and “you were a victim of violence.” Parents responded yes or no to each item to indicate whether it had ever occurred in their lifetime. For each item endorsed, parents were asked whether the event occurred before they were age 18, after age 18, or both before and after age 18. On average, parents had experienced 5.37 unique adverse events ($SD = 2.70$), which is consistent with previous studies of this population (Merrick et al., 2019; Narayan et al., 2017). Rates of endorsement can be viewed in Table 1. Affirmative responses were summed to form a cumulative index of parent lifetime adversity.

Intrusive parenting. Parental intrusiveness was measured using a global code from the Emotional Availability Scales (EAS; Biringen, 2000) applied to the 15-minute free play interaction. The EAS non-intrusiveness scale ranges from 1-5, with 1 being most intrusive and 5 being non-intrusive. Intrusiveness is considered whenever the parent is too interfering and/or overbearing, not allowing the child to pursue their goals or lead the interaction (Biringen, 2000). An independent team of coders who did not participate in data collection, did not code the masks episode, and were blind to all other participant data coded each video separately with reliability of $ICC = .86$. Disagreements were resolved by conference, and the final conferenced scores were reversed so that higher scores indicated the presence of more intrusive parenting.

Sensitive parenting. As a control variable in the current study, parental sensitivity was measured using a separate global code from the EAS (Biringen, 2000) also applied to the 15-minute free play interaction by the same coding team who assessed non-intrusiveness. The EAS sensitivity scale ranges from 1-9, with 1 being least sensitive and 9 being most sensitive. A parent scoring high on sensitivity would show clear enjoyment of and interest in the child as well as positive affect, awareness of timing in interactions, variety and creativity in play, and flexibility in negotiating conflict situations. Sensitivity involves attention and appropriate response to an infants' cues, which may be fussing and simple movements for very young infants or babbling and showing toys for older infants. A parent scoring low on sensitivity would show fewer of those qualities and could be either overly active, harsh, and volatile or passive, affectively flat, and non-interactive. Parents lacking sensitivity could do either too much or too little in response to infant cues. Coders achieved reliability of $ICC = .72$ on sensitivity, with disagreements resolved by conference.

Parent Depression. As a control measure, parents were asked about 14 items from the Symptom Checklist-25 (Glass et al., 1978), assessing symptoms of depression experienced within the past week. Sample items include “feeling hopeless about the future” and “crying easily.” Parents reported their experience of each symptom on a 4-point Likert scale from 1 (not at all) to 4 (extremely). Scores for all items were averaged as a continuous measure of current depression symptoms. Considering recommended cut-off scores for the depression subscale of this measure, we estimated that 43.5% of parents in the sample scored at clinical levels of depression symptoms. There was high internal reliability for the 14 items in this sample, $\alpha = .89$.

Model Covariates. Covariates for the study analyses were based on responses to structured interview questions regarding the child’s age in months, the child’s gender, and the number of weeks spent in shelter at the time of data collection. Other covariates that we considered including as controls were parent gender, parent age in years, and study wave. Preliminary analyses indicated that these covariates did not contribute to or alter the pattern of findings described in the results, and as such we excluded them to preserve statistical power.

Missing Data and Planned Analyses

Some data were missing for study measures due to incomplete interview sessions that had to be stopped early out of respect for family needs. Complete data were available for demographic measures, time spent in shelter, and adversity. One parent did not complete the depression measure because they requested to end their session early for another important appointment. Some dyads were missing data from either the observational parent-infant interaction ($n = 7$, 11.7%) or the masks ($n = 11$, 18.3%) because infants were asleep or too distressed to complete that portion of the session. Patterns of missingness were consistent with assumptions of Missing at Random, supported by Little’s MCAR test result of $\chi^2(33) = 41.59$, p

$= .145$. We used full information maximum likelihood estimation (FIML) to account for missing data in a regression analysis conducted in MPlus version 8 (Muthén & Muthén, 2017).

Our plan for analyses involved bivariate correlations to examine associations among key study variables. Next, we planned two multiple regression models to assess whether parent adversity would moderate the association of intrusiveness with infant fearful distress. The first model included mean-centered main effect terms of parent intrusiveness and parent adversity while controlling for child age, child gender, time in shelter, parent sensitivity, and parent depression. The second model included all the same main effects as well as an interaction term, the product of mean-centered adversity and intrusiveness.

Results

Descriptive statistics and bivariate correlations for study measures are presented in Table 2. Bivariate correlations revealed a significant association between parent intrusiveness and infant fearful distress, $r = .34, p = .02$. Parent intrusiveness was not significantly associated with parent adversity, $r = -.08, p = .56$, but was significantly positively correlated with child age, $r = .30, p = .02$, and with parent depression, $r = .34, p = .02$. Parent intrusiveness was also associated with the number of weeks spent in shelter, $r = .39, p = .002$, indicating that parents who had been staying in emergency housing longer at the time of assessment showed more intrusiveness when interacting with their infants. When accounting for weeks in shelter with a partial correlation, the association between child age and intrusiveness lost its significance, $r = .23, p = .096$. Intrusiveness was significantly negatively associated with parent sensitivity, $r = -.41, p = .002$. Parent adversity was not significantly correlated with infant fearful distress, $r = .02, p = .89$, or with sensitivity, $r = -.04, p = .78$, but was positively correlated with parent depression, $r = .40, p = .001$.

In the first model with only main effects, which explained 29.3% of the variance in infant fearful distress, the only significant predictors of infant fearful distress were child gender, $\beta = -.29$, $p = .005$, and intrusiveness, $\beta = .40$, $p = .01$. The second model, which included the interaction term, accounted for an additional 17% of variance in infant fearful distress. The interaction term was significant, $\beta = .34$, $p < .001$, indicating that parent intrusiveness was more strongly associated with infant fearful distress among parents who had more adverse experiences in their lives. Simple slopes analysis indicated that, at higher levels of parent adversity, there was a significant positive association for the simple slope of intrusiveness predicting fearful distress, $b = .36$, $p = .035$, whereas there was no significant effect of the simple slope for intrusiveness predicting fearful distress at lower levels of parent adversity, $b = .02$, $p = .152$ (see Figure 1). The Johnson-Neyman test for regions of significance revealed that when mean-centered adversity scores fell outside of the interval [-51.60, 0.87], the slope of intrusiveness and fearful distress was significant, $p < .05$ (see Figure 2). In terms of the observed data in the original metric, a count of adverse events, the association between intrusiveness and infant fearful distress was significant for dyads whose parents reported experiencing more than 6 adverse events in their lifetime. The full model results are presented in Table 3.

Discussion

The goal of this study was to explore the associations among parent adversity, parent intrusiveness, and infant fearful distress in the context of family homelessness, adding to the limited literature on this topic. It is important to explore possible risk factors children may be exposed to, given that children residing in shelters are at an increased risk for mental health difficulties (Bassuk et al., 2015; Perlman et al., 2014). Previous research with other populations has demonstrated an association between parent trauma and adversity and an intrusive parenting

style (Moehler et al., 2007). Intrusiveness has also been correlated with fearful temperament in infants, which is further supported by the results from the current study (Barnett & Scaramella, 2017; Kiel & Buss, 2013; Wu, 2021). We found that infants with more intrusive parents tended to exhibit more fearful distress during the LabTAB masks episode. This is evidence that intrusive parenting may limit an infant's autonomy and opportunities to develop self-regulatory capacities, which may in turn lead them to be more fearful. However, further work must be done with longitudinal assessments and more rigorous control to assess the direction of effects. In line with a transactional perspective, it is also possible that a more inhibited and withdrawn infant prompts a parent to act more overbearing and intrusive. The current study utilized a cross-sectional design that measured both constructs at the same time point, so we cannot inform the direction of the association with these data.

Contrary to our expectations, parent adversity was not significantly associated with intrusiveness or infant fear. While this may seem surprising considering the literature supporting the impact of adversity, there are other intervening processes that influence how adversity will affect an individual. Protective factors, such as social support or mental health treatment, can help a parent to be resilient in the face of adversity (Masten & Palmer, 2019). Some individuals do not cope as effectively with adverse experiences and may develop lasting trauma symptoms. This may explain why the specific cumulative count variable of adverse lifetime events used in the current study was not a significant predictor. That is, the current study did not explore any details about the lifetime adverse events which likely relate to different outcomes in terms of parent coping. For example, it would be useful to consider qualitative features of the adverse events such as the type of adverse experiences (e.g., abuse, loss of a loved one, exposure to violence), how distressing and/or traumatic they were for the parent, and whether any of the

events represent an *unresolved* trauma for the parent. Here we observed that some parents with high levels of adversity were less intrusive with their infants, perhaps because the adverse events were not as traumatic or distressing for some parents, or perhaps some parents received adequate mental health care that helped them resolve any posttraumatic stress they may have experienced as a result of their adverse life events. A parent experiencing high levels of distress related to their history may be more intrusive, given that parents with high levels of stress and anxiety tend to be more overprotective (Essex et al., 2010). Future research should consider information about parent coping strategies and current symptoms of trauma to account for individual differences in impacts of adverse experiences.

The age at which a parent experienced adversity may also impact the significance of the relationship between adversity and intrusive parenting. Experiences of adversity during childhood could play a different role compared to more recent, adulthood adversity (Herbers et al., 2023). With our small sample size, we considered only cumulative adversity, but future research with more families involved could investigate the timing of adversity in more detail. Considering partial correlations, we did find in our data that the significant association between infant age and intrusiveness decreased in size and lost significance when accounting for weeks spent in shelter. This suggests that the time spent in shelter could contribute to parent intrusiveness. Perhaps the stress of parenting in the shelter environment encourages overprotectiveness in some parents that presents as intrusive parenting (Essex et al., 2010). Parents in shelter may also feel pressured to parent in what they perceive to be a socially desirable manner of overbearing attentiveness. Future research can use longitudinal intervention designs to better examine the role of time spent in shelter environments for parenting.

We also hypothesized that parent adversity would moderate the association between intrusiveness and infant fearful distress. We found a significant interaction effect consistent with this hypothesis, showing that the association between intrusiveness and infant fearful distress was significant only for parents who reported high levels of adversity. This implies that adversity plays an important role for some dyads in these developmental processes, even though significant main effects were not apparent. The moderation effect suggests that the presence of adversity may be more meaningful when the parent is also intrusive towards their infant. This finding supports the idea explained above, that the impact of a parent's adversity on their child's functioning depends on how well the parent can cope with their adversity to demonstrate resilience. The moderator model helps depict the individual differences among parents with similar and different histories of adversity. An individual's parenting style can be affected if they have difficulty coping; for example, they may be more intrusive. However, not every parent who is intrusive or has had adverse experiences will have an infant who is temperamentally fearful. Parents who are more intrusive and have many adverse lifetime experiences are most likely to have a child displaying fearful distress. These findings emphasize the importance of parental well-being and can guide intervention efforts to support parents with children residing in shelters. Trauma-informed practices and resources focusing on mental health of parents with infants are warranted in shelter settings (Bassuk et al., 2020; Volk et al., 2022, Vrabit et al., 2022).

Parents struggling with a history of adversity may be more anxious and overprotective of their children. While their intrusive behavior may not necessarily be harsh or negative in tone, this type of intrusive and controlling behavior could harm a child's developing autonomy and preclude important opportunities to learn effective self-regulation. Future research should

examine intrusiveness more closely and further explore the different ways that a parent's behavior can be intrusive. One parent may exert too much control as an attempt to help their infant, while another might be motivated to intervene based on their own subjective anxiety. Other parents may take control in a hostile and authoritarian manner. We found a negative association between intrusiveness and sensitivity, suggesting that parents who were intrusive were likely to be less sensitive. These two constructs, however, can co-exist. A parent may be sensitive by showing a positive affect and engaging with the infant while also acting too overprotective and asserting too much control over the interaction.

It was also interesting to observe no significant association between parent sensitivity and infant fearfulness. Parent sensitivity has been well established as a resilience factor for child wellbeing more generally (Masten & Armstrong, 2019; Rowell & Neal-Barnett, 2022). In this study, we considered only one specific aspect of infant wellbeing, fearfulness, for which sensitivity may be less relevant. In the current study, each parent was assigned only one code each for total intrusiveness and total sensitivity throughout a 15-minute interaction. Looking more closely at dyadic behavioral exchanges through which parents demonstrate sensitivity or interfere to take control of interactions could provide more insight into how these parenting styles predict concurrent and future child behavior. Understanding these dyadic processes could help to aid in intervention efforts to support positive parent-infant interactions and prevent later mental health difficulties, both generally and in the shelter context.

It is also important to note that there may be an adaptive component to some instances of intrusive parenting. In contexts of threat, parents may need to be more overbearing in their parenting practices to keep their children safe. Similarly, it may be beneficial for children to approach new circumstances with more fear and caution if they are likely to experience future

adversity. It is important to consider a strengths-based approach and examine the positive factors that can stem from effective coping responses to adversity that may help individuals prevail in challenging environments (Ellis et al., 2017). Nonetheless, we would argue that intrusive parenting in response to everyday experiences, such as those that occur during free play in private spaces, may not promote competence for children because the behaviors in these contexts would signal threats when danger is absent. This could encourage children to feel more generally and persistently unsafe rather than helping them to recognize meaningful signals of threat and safety. Thus parents who have experienced adversity in their past and engage in intrusiveness in benign, everyday situations may prevent their children from developing the self-regulating capacities most helpful for success in the long term.

Strengths, Limitations, and Future Directions

In addition to our small sample size of 60 infants, there are other limitations of the present study that should be noted when considering the findings. Our sample had large variability in infant age, ranging from 3-12 months. We found an association between parent intrusiveness and infant age, showing that parents of older infants tended to be more intrusive. Parents may assert more control with older infants as they gain new locomotor abilities and capacity for self-direction that warrant more intervention for safety reasons. Though we did not find a significant association between age and fearful distress, fear may present differently at different ages, and our small sample size may have lacked statistical power to show these finer distinctions.

Although observational methods are generally preferred over parent self-report for the assessment of parent-child interactions, it is possible that the video-recorded aspect of the observational tasks could have affected how participants behaved during the study. During the

parent-child interaction, parents were aware that they were being video-recorded, and the single observation of 15-minutes did not necessarily capture how these parents interacted with their infants on a day-to-day basis. In terms of intrusiveness, parents may have been more overbearing than usual to appear highly engaged, sensitive, and attentive, if they perceived those behaviors to be socially desirable. However, it is just as likely that in their day-to-day lives, parents strive to put forth what they consider to be optimal parenting out of genuine desire to give their children the best they can, which is consistent with other quantitative and qualitative literature on many remarkable strengths associated with parenting in contexts of homelessness (Anthony et al., 2018; Bradley et al., 2018; Herbers, Cutuli, Monn, et al., 2014). We also utilized only one single code to measure intrusiveness during these interactions. Future efforts could utilize microsocial coding approaches to provide more nuanced measurement and depiction of parent intrusiveness and perhaps illuminate different types of intrusive behaviors that are most associated with parent histories of adversity or symptoms of trauma.

The parent's presence in the room during the LabTAB masks episode is another possible limitation to this study. While the parent was instructed not to engage and instructed to stand out of the infants' view, the infants were still aware that their caregiver was in the room. Previous research suggests that the presence of a parent can impact the behavioral reactions that infants have to fear and stress, even with no intentional engagement from caregivers (Sullivan & Perry, 2015). Future research should examine both conditions in the LabTAB masks simulation to distinguish if the caregiver's presence has any impact on infants' fear responses.

Another limitation is our lack of a comparison group. All dyads in the sample were residing in emergency housing. While this study provides insight into how these variables are related within shelter settings, we do not know if these findings are specific to this group. We

found that length of shelter stay was associated with intrusiveness, which could indicate that the shelter environment has an impact on parenting over time. Experiencing homelessness presents considerable stress for parents and thus could increase parental intrusiveness. Parents have reported feeling a lack of control over their life when they are living in shelters (Mayberry et al. 2014; Vrubic et al., 2022). One thing that they can control is their parenting, which may lead parents to be overbearing with their infants. That said, future work should also consider infant age as it relates to the role of the shelter environment, as it may also be relevant to this association. It would also be beneficial to explore whether these findings generalize to families experiencing other forms of homelessness, such as living doubled-up with family or friends, and to families in stable housing.

Future work on this topic should be conducted longitudinally to examine how intrusiveness and infant fearfulness change over time, given that time spent in shelter had a significant association with intrusiveness. It would be interesting to explore continuity and discontinuity in the observed patterns within families and between families related to change in housing status. Specifically, it would be worthwhile to reexamine the study measures after several months and assess change in maternal adversity, depression, and intrusiveness, and infant fearful distress in the families still residing in shelter and the families who have since secured stable housing. Longitudinal data would also allow for more causal inferences to be made regarding direction of effects for adversity, intrusiveness, and infant fear. A child of an intrusive parent may become even more fearful as time passes. This study can be extended further into childhood to see if there are any correlations with child outcomes like social-emotional wellbeing. Previous research has demonstrated that fear in infancy and behavioral inhibition are linked to social anxiety in later childhood and adolescence (Clauss & Blackford, 2012, Essex et

al., 2010). A larger study could help determine how parent adversity, parent intrusiveness, and fear in infancy are related to later mental health outcomes like social anxiety. Given that children experiencing family homelessness are at a higher risk for mental health problems (Herbers et al., 2020), exploring this pathway over time could further elucidate these important processes to inform prevention and intervention efforts.

Overall, this study informs how parent history of adversity, parental intrusiveness, and infant fearful distress interact in families experiencing homelessness. Our findings suggest that a parent's resilience to their adversity may play a key role in this pathway, highlighting the need for providers and policymakers to attend to parent wellbeing and prioritize supports that promote positive parenting and foster positive parent-infant relationships. Future research exploring the factors associated with resilience in parents with high levels of lifetime adversity to better understand how to promote caregiver wellbeing and adaptive functioning is consistent with recommendations for implementing trauma-informed approaches to care for families experiencing homelessness (Bassuk et al., 2020; Vrabitic et al., 2022). Recognizing existing strengths and providing meaningful resources to families facing risk could help address some of the challenges associated with histories of adversity. Additionally, efforts to make shelters more infant and child appropriate in terms of flexible schedules, opportunities for privacy, and child-friendly play spaces could help promote healthy development and ease caregiver stress. Future interventions could highlight how intrusiveness takes different forms, educating not only parents but also staff and others in shelter settings about how to respond with sensitivity and support exploration, learning, and mastery during the crucial developmental period of infancy.

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Table 1*Frequencies (%) of parents' adverse life experiences*

Adverse Experience	Ever	Before	After Age 18
	Age 18		
Experienced homelessness (other than currently)	61.0	10.2	57.6
Victim of violence	30.5	23.7	23.7
Lived in a foster home	25.4	25.4	3.4
Death of spouse	18.3	3.3	15
Death of parent	38.3	23.3	21.7
Death of child	13.3	1.7	11.7
Death of brother/sister	23.3	6.7	16.7
Death of another close/important family member	80.0	40	70
Divorce/separation of your parents	25.4	23.3	1.7
Lost contact with a parent	40.7	23.3	25
Had a parent hospitalized for drugs/alcohol	22.0	15	10
Had a parent hospitalized for mental health problem	13.3	5	8.3
Had a parent hospitalized for physical illness	42.4	16.7	28.3
Divorced/separated	25.4	3.3	25
Convicted of crime	8.5	1.7	6.8
Incarcerated	23.7	11.9	13.6

Hospitalized for drugs/alcohol	10.2	1.7	8.5
Hospitalized for mental health problem	22.0	13.6	11.9
Hospitalized for physical illness	28.8	8.5	23.7
Developed a handicap or disability	13.6	0	13.6

Table 2*Bivariate correlations and descriptive statistics of study variables*

	M (SD)	or %	2	3	4	5	6	7	8
1. Fearful distress	0.76 (0.36)		.34*	.02	.18	-.18	.19	-.29*	.17
2. Intrusiveness	2.78 (0.82)		-	-.08	.26*	-.41**	.30*	.19	.39**
3. Parent adversity	5.37 (2.70)		-		.40**	-.04	.13	-.07	.00
4. Parent depression	1.87 (0.68)		-		-.18	.31*	-.02	.18	
5. Parent sensitivity	5.56 (1.37)		-		-.07	-.01	-.18		
Child age									
6. (months)	6.10 (2.96)						-.07	.27*	
7. Child male gender	56.7%								.00
8. Weeks in shelter	21.5 (16.8)								-

** $p < .01$; * $p < .05$

Table 3*Estimates from multiple regression models predicting Infant Fearful Distress*

	Controls only		Model 1		Model 2	
	B (SE)	β	B (SE)	β	B (SE)	β
Child age	0.01 (0.02)	.13	0.01 (0.02)	.01	0.01 (0.02)	.03
Child gender (male)	-0.22 (0.09)	-.30**	-0.22 (0.09)	-.29**	-0.21 (0.08)	-.28**
Weeks in shelter	0.00 (0.00)	.13	0.00 (0.01)	.05	-0.01 (0.00)	-.07
Parent depression	0.04 (0.07)	.07	0.04 (0.06)	.07	0.01 (0.06)	.02
Sensitivity	-0.02 (0.06)	-.06	0.05 (0.05)	.20	0.05 (0.04)	.19
Parent adversity	-	-	-0.01 (0.02)	-.04	-0.01 (0.02)	-.06
Intrusiveness	-	-	0.18 (0.09)	.40*	0.22 (0.07)	.48**
Adversity X Intrusiveness	-	-	-	-	0.06 (0.02)	.34**
R^2	.13		.29*		.46**	

** $p < .01$; * $p < .05$

Figure 1

Illustration of interaction effect for parent adversity (centered) and intrusiveness (centered) predicting infant fearful distress.

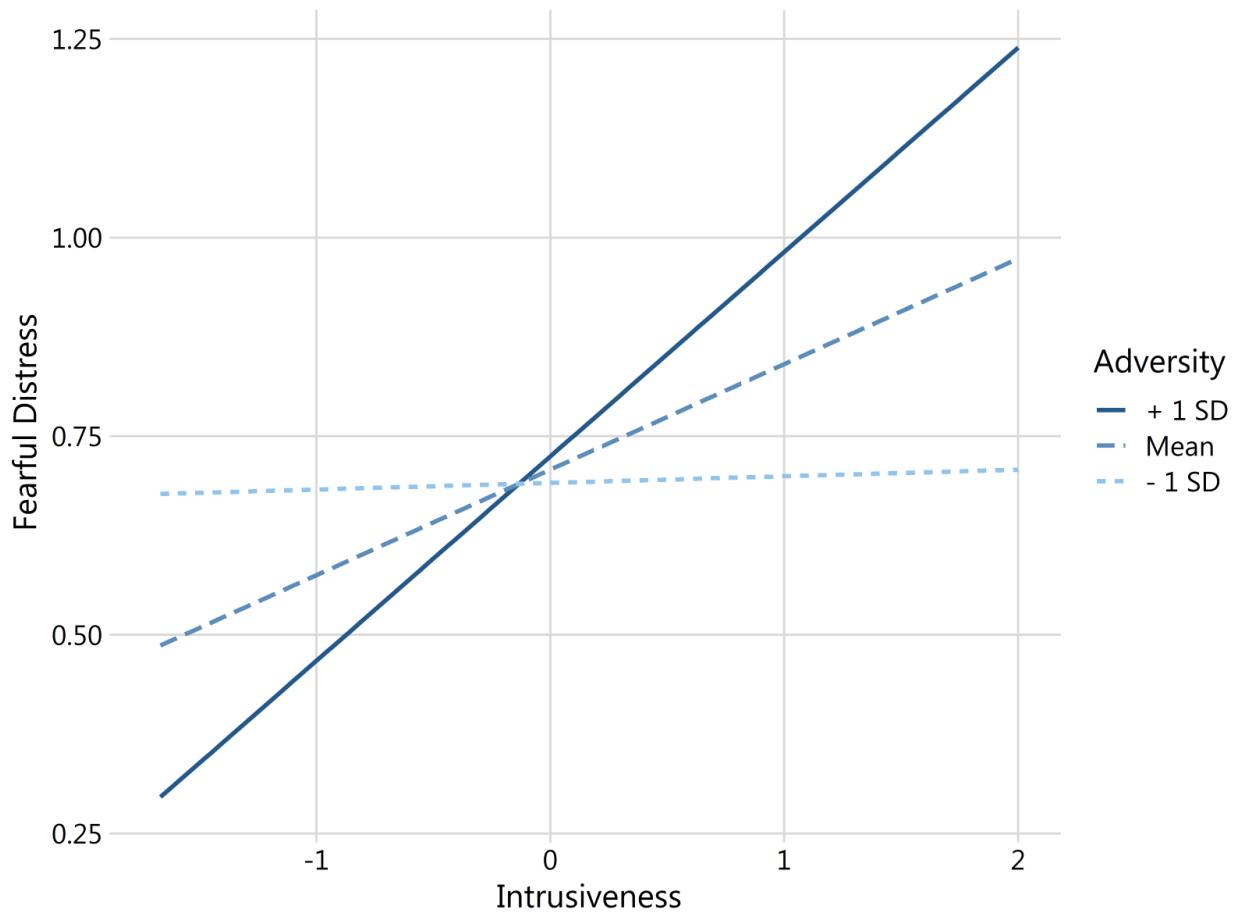


Figure 2

Neyman-Johnson plot depicting region of significance (shaded) of the interaction effect of adversity on slope of intrusiveness. Adversity is presented in the original metric of total stressful life events.

