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Unique Types of Angel and Ghost Memories in Low-Income, Diverse Pregnant Women

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Abstract

This study examined the associations between three types of angel memories, defined as recollections of loving moments with childhood caregivers, and pregnant women's reported childhood adversity and current PTSD symptoms. Angel memories were coded from the Angels in the Nursery Interview (Van Horn et al., 2008) into three subtypes: protection in the context of harm, rupture in the protective shield, and sensory memories. Participants were 175 ethnically-diverse pregnant women (*M* age = 28.07, *SD* = 5.68, range = 18-40 years; 61.1% non-White) who completed the Angels Interview, the Adverse Childhood Experiences scale (ACEs; CDC, 2021) for childhood adversity, and the PCL-5 (Weathers et al., 2013) for PTSD symptoms. Results indicated that 36.6% of women (*n* = 64) recalled an angel memory characterized by either protection in the context of harm or a sensory experience, while only 9.1% of all women had angel memories reflecting rupture in the protective shield. Post-hoc analyses examined ghost memories, defined as intrusive reminders of traumatic experiences, and revealed that 36.6% of women (*n* = 64) had ghost memories involving their mother, and 20.0% (n = 35) had ghost memories involving their father. Compared to women who did not have ghost memories involving their mother, women who did had significantly higher levels of childhood maltreatment, but not family dysfunction nor current PTSD symptoms. There were no significant differences between women who had versus did not have ghost memories with their father on childhood adversity, or PTSD symptoms. Findings underscore high potential for resilient caregiving, as many pregnant women had angel memories characterized by loving care that were free from traumatic intrusions. Findings also suggest that women whose childhood memories contain trauma reminders involving their own mother may benefit from additional screening for childhood maltreatment and interventions to recover from unresolved childhood trauma.

Trauma-informed interventions delivered during the perinatal period may have optimal power to disrupt cycles of intergenerational trauma and help expectant women draw upon loving memories with childhood caregivers as templates for positive parenting of infants. The Angels Interview can identify markers of psychological risk and resilience and inform clinical efforts to promote caregiving resilience.

Key Words: angels in the nursery, ghosts in the nursery, childhood maltreatment, pregnancy, resilience

Angel memories are memories from childhood that involve feeling loved, understood, or safe. They are recollections of positive experiences with caregivers that support the intergenerational transmission of benevolent parental influences, and they often serve to disrupt intergenerational cycles of maltreatment (Lieberman et. al, 2005). Angel memories provide a model for how parents with histories of negative or abusive caregiving may relate to their offspring and create a context of nurturance. They are embedded within us and are often retrieved when parents are encouraged to reflect upon their childhoods, when they begin to bond with a newborn, or when they anticipate caring for a new baby (Lieberman et al., 2005; Narayan et al., 2017, 2019). Angel memories may also serve as a protective tool when used clinically in perinatal, infant, and early childhood mental health interventions (Narayan et al., 2016).

The Angels in the Nursery Interview (Van Horn et al., 2008) is a semi-structured instrument that assesses angel memories. The interview includes seven questions that encourage adult respondents, often parents, to recall positive and supportive caregiving experiences from their upbringings, as well as the degree to which they hope to recreate these interactions with their children. The first question is, "*Do you have a memory of a time when you were little when you felt loved, understood, or safe?*" The second question pertains to sensory experiences associated with the memories and asks, "*Do you remember any smells, sights, sounds, or other sensations that are connected with the memory?*" Subsequent questions ask about memories of feeling loved, understood, or safe with anyone else, and hopes and concrete plans or practices involving recreating the positive memories with one's own offspring (Narayan et al., 2017; Van Horn et al., 2008). Narrative responses to angel memories are audio-recorded, transcribed, and coded by trained raters on a 0–5-point scale based on quality of angel memories, including positivity, specificity, and vividness. Memory narratives are also evaluated for the presence of

trauma reminders, or ghosts in the nursery (Narayan et al., 2015).

It is common for parents with histories of childhood trauma, such as maltreatment and other interpersonal adversities (e.g., exposure to parental domestic violence, parental mental or physical illness or death, or other forms of caregiver loss and abandonment) to experience trauma reminders, particularly when traumatic experiences from childhood are unresolved. These traumatic reminders from the past are known as "ghosts in the nursery" or ghost memories (Fraiberg et al., 1975). Scary, threatening, frightening, or traumatic experiences with childhood caregivers may shape the way that individuals learn to relate to others. These individuals may feel haunted by the painful relational styles of their pasts upon becoming pregnant or making the transition to parenthood.

The pregnancy period often elicits these trauma reminders due to this very phenomenon of traumatic relational styles being re-introduced and questioned as expectant parents anticipate parenthood (Atzl et al. 2019; Davis & Narayan, 2020; Slade & Cohen, 1996; Sperlich & Seng, 2008). When asked about benevolent childhood memories, parents with histories of unresolved childhood trauma often have difficulty inhibiting the intrusive trauma reminders that arise. In other words, their ghost memories intrude upon their angel memories at varying levels of severity (Narayan et al., 2017; 2019).

Previous findings on angels in the nursery show that higher levels of angel memories are especially protective against maternal PTSD symptoms, comorbid psychopathology (e.g., clinical levels of both PTSD and depression symptoms), and offspring trauma exposure in the next generation in parents who have histories of childhood maltreatment (Narayan et al., 2017, 2019). High quality angel memories, meaning those that are more positive, specific, and elaborated, that are recalled in the absence of ghost intrusions, are associated with the lowest

PTSD symptoms. Nonetheless, the presence of any ghost memory intruding into consciousness may render mothers more vulnerable to this psychopathology (Narayan et al., 2017). Ghost memories may serve as a barrier to creating healthy new relationships, such as with one's own children (Narayan et al., 2017). Trauma-informed perinatal, infant, or early childhood mental health interventions for the parent-child dyad may be warranted to mediate and prevent intrusions and promote adaptive ways of relating to young children (Muzik & Rosenblum, 2017; Narayan et al., 2016; 2021).

There are two common types of ghost memories that frequently occur as intrusions into angel memories. One type is referred to as "protection in the context of harm" and the other type is referred to as "rupture in the protective shield." Protection in the context of harm occurs when the angel memory is characterized by harm befalling the respondent that was perpetrated by a person (e.g., abuse) or that resulted from a traumatic event or injury (e.g., a fire, car accident, or broken bone). Then, the experience of harm is met with an experience of being rescued, reassured, or comforted by a different person, often the source of the angel memory. Alternatively, rupture in the protective shield occurs when the same person responsible for providing love, safety, or protection to the respondent also causes them harm. Several examples are provided below from pregnant women. The following example illustrates "protection in the context of harm," as this respondent begins by recalling a memory of feeling loved and safe with her parents, two primary caregivers, and then discloses abuse by her grandfather, a separate caregiver whom she refers to as "a person of trust."

> "[My angel memory involves] going on a walk with my parents. There were lots of walks…just going to the park as a family, and the sunset would be out, and we're all holding hands. I would be in the middle, and my dad would be on this side, and my mom would be on this side, and they'd do the whole, 'one, two, three swing thing.' That was probably at an early age. I could do that over and over and over, again and again and again, you know? That was just ultimate bliss as a kid, like, 'I am so free, and I can

> laugh, and I can sing and my parents are going to let me fly, but I'm not going anywhere either, you know?' It was just weirdly cool…
>
> …When [my parents] found out about the first event and incident related to the childhood abuse, as grimly dark as that was, it was like a load of bricks off my shoulders. And I could let a bunch of walls down, and I could bear all raw emotion that I'd been holding in without even realizing it. And they were both, like, 100 percent there, in every way. And I knew it was going to be okay.
>
> …The abuse situation happened... That's why it was, I think, so devastating. Because, you know, [my grandfather] was a person of trust, he was in a role of trust, and so that, really, um, was a hard hit."

The following memory illustrates another example of "protection in the context of harm" and similarly depicts a care-receiving experience from this respondent's grandmother while simultaneously illustrating harm inflicted by her father, a separate primary caregiver.

> "…When my dad was acting crazy with my grandma, and had me and my grandma at knife point, I felt safe with her because no matter what, even though how big my dad was, she still protected me from my dad and was able to get to the telephone. So, that's a time in my life when I was little when I felt protected from anything or anybody because my grandma was there."

Of note, the first narrative is much lengthier than the second, which is only a few sentences long. It is quite possible, and often common, for respondents to share rich and detailed angel memories, including those that vividly illustrate protection in the context of harm, in only a few sentences.

The next memory from a different respondent illustrates an example of "rupture in the protective shield," as this respondent describes her father as loving and supportive, yet her memory also delves into his relationship with drugs, which ultimately led to child protective services deeming him unfit to be her caregiver.

> "…He was always very loving and supportive of my singing and my theater and whatever I wanted to do. Dancing and stuff like that. He was very involved in that kind of thing…

> I was always his little girl. You know, Daddy always loved me, but drugs always came first.
>
> And then as my father got more into drugs and stuff, it got worse over time. So, there was really never that safety net.
>
> He started on marijuana, moved to alcohol, and then moved to pills. Then he went to methamphetamine and was addicted. [We] tried to put him in a treatment center. I was probably really young. I was probably about eight years old. He was only there for 30 days, he got out, and started doing the same thing again. [He] got into meth and it just got worse over time, but then when I turned 11, my dad ended up losing us, and we ended up going out to Ohio to stay with my aunt…"

The following memory illustrates another example of "rupture in the protective shield." Unlike the above example, this respondent begins by describing that her parents often frightened her, and then also recalls their ability to make her feel safe.

> "I feel like my sister definitely helped me to feel safe. Whenever my mom and my dad were going through…whenever things were getting really violent, she used to take me and hide me from it. She used to take me to the neighbor. And she just kind of kept me away from all that. And my sister saw more of what happened in the divorce, so I feel bad that she almost did that for me, because she was shielding me from that. But it also made her more receptive to what was happening. I can't imagine the way that I would feel if my sister hadn't, like, helped me.
>
> …Both my mom and my dad, at different times, definitely made me feel very safe.
>
> My mom made me feel safe in the whole basically most of the years. Because I got really teased, I was a really weird kid, so she just made me feel safe during those times, because I felt like I was completely alone."

This respondent felt both protected and harmed by her mother and father; at times they were sources of danger, and at other times they were sources of solace. This coexistence of angel and ghost memories likely blurs the line between safety and threat throughout her upbringing, with the ghost memories now serving as an intrusion when she is pregnant. Of note, this example illustrates the dual presence of both "rupture in the protective shield" (pertaining to her parents) and "protection in the context of harm" (pertaining to her sister) in the same angel memory

narrative.

In addition to protection in the context of harm and rupture in the protective shield, angel memories may also receive higher scores when they involve sensory experiences. That is, the memory contains specific references to tactile sensations (e.g., feeling warm, hearing music, smelling food) that augment the vividness of the memory itself. The following memory depicts a rich sensory experience, as this respondent recalls tastes, sounds, and types of touch that were linked to strong positive memories of feeling loved, understood, or safe.

> "[My angel memory is with] my grandma. She always held my hand when we walked to the store, and she always walked me down the stairs to wait for the bus for kindergarten. We always spent time together. She was always there. And we always played together. And she cooked and cleaned the house, but I just feel like she was my best friend. She was always there for me.
>
> She always cooked the fried rice, because I was really picky. The only thing I would eat fried rice with was ketchup and eggs, and that's what she would cook for me every night.
>
> Every night before I went to sleep, she would read me stories, and then we would go to sleep together, and I remember I'd kiss the back of her hand, because I'd feel loved."

The following memory illustrates another sensory experience that is shorter than the first example but comparably vivid.

> "In the mornings when it was cold, my dad would make me this cream of wheat. I was little, it was before school, and it would have a cinnamon stick in it. It tasted like love. When he would cook, it tasted like love."

Parental PTSD symptoms often began as part of the pathway from childhood adversity to adulthood and prenatal psychological functioning (Narayan et al., 2021; Sperlich & Seng, 2008). Studies to date have also documented that mothers with higher levels of ghost memories, even in the presence of high angel memories, report elevated levels of current PTSD symptoms (Narayan et al., 2016), suggesting that PTSD symptoms are a psychological marker that ghost memories are indeed associated with disruptions in the parental psyche. Furthermore, when a mother is

experiencing PTSD symptoms, she may have a distorted ability to read her child's cues and needs, perhaps leading her child to feel less protected within the caregiving relationship (Davis & Narayan, 2020; Fraiberg et al., 1975). Thus, parental PTSD symptoms may be an important link between maternal prenatal functioning and caregiving in the next generation. To date, studies have not examined whether the above subtypes of angel memories characterized by rupture in the protective shield or protection in the context of harm are associated with higher levels of PTSD symptoms. Clarifying whether certain high-scoring angel memories are more strongly associated with PTSD symptoms would further inform the protective mechanisms and nuances of angels in the nursery.

The Current Study

The above examples reflect the three types of angel memories, protection in the context of harm, rupture in the protective shield, and presence of a sensory experience, that are currently under investigation. While previous research has found that higher angel scores are protective against both PTSD and intergenerational trauma from mothers to offspring, (Narayan et al., 2019) no study has investigated the different types of memories that characterize these higher scores. Given that higher quality angel memories are protective, it is now important to understand what characterizes similarities or differences in memories that have this protective function, the frequencies at which they occur, and their associations with PTSD symptoms. This understanding might help to inform future research or clinical endeavors that investigate whether certain subtypes of high-quality memories have stronger protective functions (e.g., those that involve sensory experiences) than others (those that involve protection in the context of harm but also rupture in the protective shield). Trauma-informed mental health providers who work with traumatized parents could then use this information clinically when assessing angel memories,

with potential knowledge that all higher-quality angel memories may not be equivalent in their ability to protect against the transmission of trauma. Research is first needed, however, that describes the frequencies of these memory subtypes in a large sample of women with high levels of childhood trauma exposure.

This paper aimed to characterize how many pregnant women's angel memory narratives reflect each of these three memory subtypes. This study described the percentage of the sample that has protection in the context of harm, the percentage of the sample that has rupture in the protective shield, and the percentage of the sample that has sensory experiences within all angel memories that received higher angel scores. While it is known that higher quality angel memories are meaningful (Narayan et al., 2016; 2019), an understanding of the unique types of angel memories and the frequencies at which they occur is crucial in advancing the fields of perinatal and infant mental health, as well as leveraging resilience in early childhood mental health.

Method

Participants

Participants (at times referred to as "respondents" below) were 175 ethnically-diverse pregnant women (*M* age = 28.07, *SD* = 5.68, range = 18-40 years; 38.9% White, 25.7% Latinx, 16.6% African American, 12.0% biracial/multiracial, 6.8% other) in their second (67%) or third (33%) trimester of pregnancy (*M* weeks = 23.71, *SD* = 7.29, range = 13-39 weeks) who were drawn from a prospective longitudinal study of the intergenerational transmission of risk and resilience through the pregnancy period. Inclusion criteria were that women were at least 18 years old, spoke English, were in their second or third trimester, and were planning to have their baby at Denver Health Hospital & Authority, the public general hospital that serves low-income

and medically-uninsured families. Women were recruited from advertisements on Craigslist, and from fliers and announcements posted in the hospital's OB/GYN clinic and in satellite community clinics and programs that serve pregnant women.

The University of Denver's Institutional Review Board (IRB) approved all study procedures. Participants provided informed consent before enrolling in the study, which included three waves of interviews (during pregnancy, three- to four-months postpartum, and 12- to 14-months postpartum). All interviews gathered information on women's demographic information, life experiences, mental health symptoms, and relationship functioning, and postpartum interviews also collected information on infants' experiences and development. During pregnancy and three- to four-months postpartum, women completed the Angels in the Nursery Interview. Data for this study was drawn from the pregnancy interview.

Measures

Women completed the Angels in the Nursery interview (Van Horn et al., 2008), which was audio-recorded, transcribed, and later coded by a pair of trained raters. Raters score the quality of overall angel memories on a 0- to 5-point scale (interclass correlation coefficient, *ICC* = .91), where lower scores pertain to memories that are more vague, hollow, or non-specific. Alternatively, higher scores pertain to memories that are more elaborated, specific, and vivid. To receive a score of at least a 4, the memory must contain elements of either "protection in the context of harm" or a "sensory experience." Raters also score the quality of ghost memories on a 0- to 3-point scale (*ICC* = .91), where lower scores pertain to intrusions that occur briefly. Higher scores, on the other hand, pertain to intrusions that either occur in multiple places or partially or completely override the quality of the memory. Intrusions are typically characterized by recollections that are considered frightening, threatening, or traumatic. The following

variables were generated as part of the Angels in the Nursery scoring system (Narayan et al., 2015) and used in the present study.

Protection in the context of harm is present in the memory narrative when the respondent describes a specific recollection of feeling unsafe, afraid, upset, or another negative emotion, followed by feeling safe, protected, or reassured. The person associated with providing the positive feelings must be a different person than the one who is associated with causing or contributing to the negative feelings.

Sensory experiences are present in the memory narrative when respondents describe sensations involving smells, sights, sounds, tastes, or forms of touch that enhance the quality of the memory (e.g., the smell of food being cooked or baked, a loved one's perfume, the feeling of being hugged or having one's hand held).

Rupture in the protective shield is present in the memory narrative when the respondent describes direct or indirect harm (e.g., a caregiver perpetrating maltreatment that is emotionally, physically, or sexually abusive or neglectful; condoning maltreatment by another; or abandoning the respondent) towards the speaker by a primary caregiver who has also made the respondent feel loved, understood, or safe. In other words, the same person responsible for the providing the respondent's loving care, reflected in the angel memory, reemerges in the narrative as the source of harm. Rupture in the protective shield is coded independently of the overall angel memory score and can be present regardless of whether the angel memories are considered "high-scoring" (i.e., 4 or 5) or not. Rupture in the protective shield can occur anywhere throughout the memory narrative regardless of any protection in the context of harm or sensory experiences, or in addition to these phenomena.

Mother or father as source of ghost memories is present in the memory narrative when reminders of negative or traumatic past events that specifically involve their own mother or father intrude upon the respondent's angel memory narrative. While not all angel memories include reference to these primary caregivers caregivers, when this parental intrusion occurs, it is characterized by the respondent's memory of their mother or father as being upsetting, frightening, threatening, or traumatic.

Childhood adversity. The ACEs scale is a 10-item checklist of life adversities between birth and age 18 with good reliability and validity according to other gold-standard retrospective reports of childhood trauma (CDC, 2021; Felitti et al., 1998; Schmidt et al., 2018). The first five items assess childhood maltreatment (emotional abuse, physical abuse, sexual abuse, emotional neglect, physical neglect) and were added to calculate a maltreatment-specific score. The last five items are associated with household and family dysfunction (parental separation or divorce, domestic violence, substance use, mental illness, and incarceration) and were added to calculate a family dysfunction-specific score.

Current PTSD symptoms. The PTSD Checklist for the DSM-5 (PCL-5; Weathers et al., 2013) is a 20-item checklist that assesses frequency of symptoms over the past month on a scale from 0 to 4 (Not at all to Extremely). A total score, indicating higher levels of symptoms is calculated by summing responses from all 20 items.

Results

Descriptive results revealed that 36.6% (n = 64) of the 175 women recalled an angel memory classified as a 4 or a 5 (considered a "high score"), which signifies a memory that either includes protection in the context of harm or a sensory experience, or both. Of the 64 women who received a high score on angel memories, 75.0% (n = 48) had a memory that reflected

protection in the context of harm, and 59.4% (*n* = 38) recalled a sensory experience. Of these 64 women, 34.4% (n = 22) had a memory characterized by both protection in the context of harm and a sensory experience. Of the total 175 women in the sample, only 9.1% (*n* = 16) recalled memories characterized by rupture in the protective shield.

Given the unexpectedly small frequency of rupture in the protective shield, a post-hoc analysis was also conducted to examine the extent to which participants described any ghost memories specifically involving their mothers or fathers. This phenomenon, in which reminders of negative or traumatic past events intrude upon the respondent's recollection of their mother or father, is another approximation of rupture in the protective shield. For most individuals, mothers and fathers are typically sources of safety and protection, so the inability to describe a positive childhood memory without a negative reference to one's mother or father may indicate a disrupted representation of one's mother or father as a source of safety. Of the 175 women in the sample, 36.6% (*n* = 64) had ghost memories involving their mother or their relationship with her, and 20.0% (*n* = 35) had ghost memories involving their father or their relationship with him.

We further explored the association between ghost memories involving the respondents' mothers and the respondents' experiences of childhood maltreatment, family dysfunction, and total childhood adversity, as well as respondents' current PTSD symptoms. We also explored the association between ghost memories involving the respondents' fathers and the respondents' experiences of childhood maltreatment, family dysfunction, and total childhood adversity, as well as respondents' current PTSD symptoms.

Independent t-tests show that women's total childhood adversity was marginally significantly associated with ghost memories of their mothers, $t(-1.91) = 171$, $p < .10$. Women whose angel memory narratives contained any reference to a ghost memory involving their

mother had marginally higher total ACEs (M = 4.79, SD = 2.63) than women whose angel memory narratives did not (M = 3.97, SD = 2.74).

Independent t-tests show that women's level of childhood maltreatment was significantly associated with ghost memories of their mothers, t(-2.48) = 173, p < 0.5. Women whose angel memory narratives contained any reference to a ghost memory involving their mother had significantly higher levels of childhood maltreatment (M = 2.13, SD = 1.51) than women whose angel memory narratives did not (M = 1.50, SD = 1.65).

Independent t-tests show that women's level of childhood family dysfunction were not significantly associated with ghost memories of women's mothers, t(-1.07) = 171, p = n.s. Women whose angel memory narratives contained any reference to a ghost memory involving their mother did not have significantly higher levels of family dysfunction (M = 2.73, SD = 1.53) than women whose angel memory narratives did not (M = 2.47, SD = 1.51).

Independent t-tests show that women's total PTSD symptoms were marginally significantly associated with ghost memories of their mothers, t(-1.71) = 172, p < .10. Women whose angel memory narratives contained any reference to a ghost memory involving their mother had marginally higher PTSD symptoms (M = 23.68, SD = 16.44) than women whose angel memory narratives did not (M = 19.51, SD = 14.86).

Independent t-tests show that women's total childhood adversity was not significantly associated with ghost memories of their fathers, t(-.84) = 171, p = n.s. Women whose angel memory narratives contained any reference to a ghost memory involving their father did not have significantly higher total ACEs (M = 4.62, SD = 2.84) than women whose angel memory narratives did not (M = 4.18, SD = 2.70).

Independent t-tests show that women's level of childhood maltreatment was not significantly associated with ghost memories of their fathers, $t(-1.10) = 173$, p = n.s. Women whose angel memory narratives contained any reference to a ghost memory involving their father did not have significantly higher levels of childhood maltreatment ($M = 2.00$, $SD = 1.78$) than women whose angel memory narratives did not ($M = 1.66$, $SD = 1.58$).

Independent t-tests show that women's level of childhood family dysfunction was not significantly associated with ghost memories of their fathers, $t(-.62) = 171$, p = n.s. Women whose angel memory narratives contained any reference to a ghost memory involving their father did not have significantly higher levels of family dysfunction ($M = 2.71$, $SD = 1.55$) than women whose angel memory narratives did not ($M = 2.53$, $SD = 1.51$).

Independent t-tests show that women's total PTSD symptoms were not significantly associated with ghost memories of their fathers, $t(-.95) = 172$, p = n.s. Women whose angel memory narratives contained any reference to a ghost memory involving their father did not have significantly higher PTSD symptoms ($M = 23.29$, $SD = 15.85$) than women whose angel memory narratives did not ($M = 20.47$, $SD = 15.46$).

Discussion

Findings revealed that more than one third (36.6%, $n = 64$) of women in the sample of 175 low-income, ethnically-diverse pregnant women recalled a high-scoring angel memory. Within this group of 64 women, 75.0% of them ($n = 48$) had a memory that reflected protection in the context of harm. This indicates the coexistence of risk and resilience, as three-fourths of these 64 women were able to recall an experience of nurturance as a follow-up to an intrusion. Resilience is not possible without first encountering risk, and women who accessed this resilience may hold protective qualities as they become parents to the next generation (Narayan

et al., 2021). Of the 64 women who received a high scoring angel memory, 59.4% recalled a sensory experience. Sensory experiences are unique in that they represent a whole-body positive experience, as opposed to a cognitive experience colored by a rupture. The ability to report on a purely positive experience that warrants a high scoring angel memory demonstrates potential for intergenerational transmission of benevolent experiences, as well as hope for future relationships. Of note, only 9.1% of the sample of 175 women reported rupture in the protective shield in their memory narratives. This number is much smaller than anticipated. Perhaps respondents tried to focus on protective experiences, as they were searching for models of safety to re-enact with their babies during this major time of transition.

We then conducted a post-hoc analysis to examine the extent to which participants described any ghost memories specifically involving their mothers or fathers, as well as the association between these ghost memories and experiences of childhood maltreatment, family dysfunction, total childhood adversity, and current PTSD symptoms. From this, we learned that women who had a ghost memory involving their mothers had significantly higher reported childhood maltreatment but not family dysfunction nor PTSD symptoms. Alternatively, we also learned that having a ghost memory involving one's father was not significantly associated with a history of childhood maltreatment, family dysfunction, or PTSD symptoms.

The significant association between childhood maltreatment and ghost memories of one's mother is an interesting phenomenon, as shared identities of women and mothers are at play. Perhaps gender roles intersect with ghost intrusions superimposed upon angel memories, as societal and cultural norms typically deem mothers to be safe, warm, and nurturing. Accordingly, deviations from the anticipated role of mothers as nurturing are difficult for expectant women to reconcile, leading respondents to recall memories of trauma and pain more easily with their

mothers. It is also possible that different expectations are placed on men and fathers, or that respondents' fathers were not present as caregivers at the time that the childhood maltreatment occurred, therefore leading to fewer intrusions involving participants' fathers.

As a follow-up to the above finding regarding ghost memories of mothers, we discovered that of the 64 respondents who had ghost memories involving their mothers, 39.1% (n = 25) of these respondents reported experiencing maltreatment that was perpetrated directly from their mother, whereas the remaining women reported experiencing maltreatment perpetrated by their fathers (20.3%, n = 13), or their mothers' romantic partner (7.8%, n = 5), versus by another individual (32.8%, n = 21, e.g., another family member or a different household member). These observations illustrate the tendency for respondents to recall ghost memories involving their mothers even when their mother did not directly perpetrate harm, but rather, may have stood by when harm was befalling the participant.

As a clinician administering Angels in the Nursery interviews to pregnant women, it is recommended to note when women describe ghost memories involving their mothers. Clinicians may consider providing a follow-up questionnaire specifically to assess childhood maltreatment at these times. If pregnant women have experienced ruptures with their own mothers, they may need more space to process the meaning of motherhood, as well as their overlapping identities with their mothers who may serve as both angels and ghosts in their narratives of childhood.

It is also noteworthy to consider how respondents' perceptions of their mothers during pregnancy may lead to the ways in which they anticipate relating to and interacting with their babies. Due to an underlying fear of reenacting one's own childhood, recreating ghost memories in the next generation, and perpetuating harmful cycles, mothers may find themselves reflecting on their own childhood experiences, as well as on the ways they wish to be as a parent. This

phenomenon is captured in the following quote that echoes the voice of Selma Fraiberg, the pioneer of ghosts in the nursery: "*The 'ghosts' are the emotions of fear and rage that a small child cannot allow herself or himself to experience toward frightening, abusive parents for fear of losing or alienating them, or being hurt by them. These emotions instead become redirected to the self and may be unconsciously transmitted to the next generation through elevated PTSD symptoms and situations when the now-grown child becomes a parent and reenacts with her baby the seemingly forgotten painful and punitive ways of relating that she learned during her formative years*." (Narayan et al., 2017, p. 463). The coexistence of memories of nurturance mixed with memories of fear often clouds the ability to retrieve purely positive or protective memories when anticipating the transition to parenthood.

Intervention is warranted for mothers with childhood maltreatment histories who reenact the painful and punitive ways of relating described above. Intervention helps facilitate a healing process and promotes the exploration of family values, core belief systems, strengths, and areas of growth, all while preventing the continuation of intergenerational cycles of maltreatment. Clinicians may consider identifying mothers with childhood maltreatment histories as those in particular need of trauma-informed therapeutic support in order to enable mothers further explore their perceptions of their own mothers, as well as the ways in which these perceptions affect their transition to parenthood, their shared identities, and their inner wishes.

Findings revealed that in this sample, it was almost three times more likely to have narratives characterized by protection in the context of harm than rupture in the protective shield. These findings are important, as they have the potential to inform trauma-informed, evidence-based interventions, and particularly those with a dyadic framework. For instance, Child Parent Psychotherapy (CPP) is an intervention modality aimed at healing behavioral and mental health

problems of infants, toddlers, and preschoolers whose caregiving relationships are disrupted by maltreatment, violence, and other forms of trauma that prevent the child from developing trust in the safety of attachments (Lieberman et al., 2015). The first phase of CPP, known as the assessment phase, includes the joint creation of a "triangle" of expectations by the clinician and the family. This triangle includes the experience of what happened that brought the family to therapy, the behaviors and feelings of the child that occur in response to this experience or event, and the role of therapy in helping the child, parent, and attachment bond heal, as well as guidelines for what to expect during sessions.

Typically, the clinician and the caregiver co-create the triangle before presenting it to the child. This process may look very different depending on whether a caregiver has themselves had a childhood experience of protection in the context of harm as opposed to rupture in the protective shield. Caregivers with protection in the context of harm may have a model for nurturance and safety within a caregiver-child relationship. These individuals may have experienced adversity as a child, but they also may be able to identify the ways in which adults protected them or made them feel safe, therefore creating a roadmap for their own journey of helping their own child recover from trauma. These caregivers may be able to take their children's perspectives and see themselves as integral in their child's healing process and sense of safety. On the other hand, caregivers with their own rupture in the protective shield from childhood may find it overwhelming or difficult to co-create their child's triangle, as their own experiences of not receiving adequate protection in the midst of danger may rise to the surface and interfere with their ability to validate their child's trauma exposure. Caregivers' lack of being nurtured as children may create psychological barriers when they wish to protect their child and empathize with their child's experiences and emotions but have no model or

framework of themselves as being protected.

It is essential that clinicians support caregivers in understanding their childhood experiences of nurturance and fear and the ways in which they intersect with those of their offspring. Clinicians should also consider which caregivers need more time in the assessment phase of CPP before entering the core intervention phase, as this time provides a meaningful opportunity to ask caregivers what their inner child needs in order to be heard and seen. Perhaps the needs of their inner child must be met before parents with childhood trauma histories are able to embody nurturance as effective caregivers to their own children. Caregivers may consider the elements of a safe parent that they wish to put forth, as well as their own ghosts in the nursery of trauma, grief, and loss.

Limitations of this study include the focus on pregnancy only. A larger sample size of pregnant as well as postpartum women may have revealed additional unique or significant associations, and current results should therefore be interpreted with caution. Future research may also investigate the role of fathers' angel and ghost memories, and the frequencies at which the three unique types of memories occur. Future research could also investigate whether men who have ghost memories involving their fathers have significantly higher rates of childhood maltreatment than men who do not have such memories. Understanding and exploring the angels and ghosts in our lives promote safety, nurturance, and hope for generations to come.

References

Atzl, V. M., Narayan, A. J., Rivera, L. M., & Lieberman, A. F. (2019). Adverse childhood experiences and prenatal mental health: Type of ACEs and age of maltreatment onset. *Journal of Family Psychology, 33*, 304-314. http://dx.doi.org/10.1037/fam0000510

CDC. (2021). Adverse childhood experiences (ACEs). https://www.cdc.gov/violenceprevention/childabuseandneglect/acestudy/index.html

Davis, E. P., & Narayan, A. J. (2020). Pregnancy as a period of risk, adaptation, and resilience for mothers and infants. *Development and Psychopathology*, 32, 1625-1639. http://dx.doi.org/10.1017/S0954579420001121

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., ... & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine, 56*, 774-786. http://dx.doi.org/10.1016/j.amepre.2019.04.001

Fraiberg, S., Adelson, E., & Shapiro, V. (1975). Ghosts in the nursery: A psychoanalytic approach to the problem of impaired infant-mother relationships. *Journal of the American Academy of Child & Adolescent Psychiatry, 14*, 387–421. http://dx.doi.org/10.1016/S0002-7138(09)61442-4

Lieberman, A. F., Ippen, C. G., & Van Horn, P. (2015). *" Don't Hit My Mommy!": A Manual for Child-Parent Psychotherapy with Young Children Exposed to Violence and Other Trauma (2nd Edition.)* Zero to Three.

Lieberman, A.F., Padron, E., Van Horn, P., & Harris, W.W. (2005). Angels in the nursery: The intergenerational transmission of benevolent parental influences. *Infant Mental Health Journal, 26,* 504–520. https://doi.org/10.1002/imhj.20071

Muzik, M., & Rosenblum, K.L. (Eds.). (2017). *Motherhood in the face of trauma: Pathways towards healing and growth.* Springer.

Narayan, A. J., Ghosh Ippen, C., Harris, W. W., & Lieberman, A. F. (2019). Protective factors that buffer against the intergenerational transmission of trauma from mothers to young children: A replication study of angels in the nursery. *Development and Psychopathology, 31,* 173-187. http://dx.doi.org/10.1017/S0954579418001530

Narayan, A.J., Ghosh Ippen, C., Harris, W.W., & Lieberman, A.F. (2017). Assessing angels in the nursery: A pilot study of childhood memories of benevolent caregiving as protective influences. *Infant Mental Health Journal*, *38*, 461-474. http://dx.doi.org/doi: 10.1002/imhj.21653

Narayan, A. J., Ghosh Ippen, C., & Lieberman, A. F. (2015). Coding manual for angels and ghosts in the uursery. University of California, San Francisco, Department of Psychiatry.

Narayan, A. J., Lieberman, A. F., & Masten, A. S. (2021). Intergenerational transmission and prevention of adverse childhood experiences (ACEs). *Clinical Psychology Review, 85*. https://doi.org/10.1016/j.cpr.2021.101997

Narayan, A.J., Oliver Bucio, G., Rivera, L.M., & Lieberman, A.F. (2016). Making sense of the past creates space for the baby: Perinatal Child-Parent Psychotherapy for pregnant women with childhood trauma. *Zero to Three Journal*, *36*, 22–28.

Schmidt, M. R., Narayan, A. J., Atzl, V. M., Rivera, L. M., & Lieberman, A. F. (2018). Childhood Maltreatment on the Adverse Childhood Experiences (ACEs) Scale versus the Childhood Trauma Questionnaire (CTQ) in a Perinatal Sample. *Journal of Aggression, Maltreatment & Trauma*, *29*(1), 38–56. https://doi.org/10.1080/10926771.2018.1524806

Slade, A., & Cohen, L. J. (1996). The process of parenting and the remembrance of things past. *Infant Mental Health Journal, 17*, 217-238. http://dx.doi.org/10.1002/(SICI)1097-0355(199623)17:3<217::AID-IMHJ3>3.0.CO;2-L

Sperlich, M., & Seng, J. S. (2008). *Survivor moms: Women's stories of birthing, mothering and healing after sexual abuse*. Eugene, OR: Motherbaby Press.

Weathers, F.W., Litz, B.T., Keane, T.M., Palmieri, P.A., Marx, B.P., & Schnurr, P.P. (2013). The PTSD Checklist for *DSM-5* (PCL-5). https://www.ptsd.va.gov/professional/assessment/adult-sr/ptsd-checklist.asp

Van Horn, P., Lieberman, A.F., & Harris, W.W. (2008). The Angels in the Nursery Interview. University of California, San Francisco, Department of Psychiatry.

Table 1

Means and Standard Deviations of Childhood Adversity and PTSD Symptoms in Women who had Ghost Memories involving their Mothers and Fathers

	Mother		**Father**	
	Any Ghost Memory	**No Ghost Memory**	**Any Ghost Memory**	**No Ghost Memory**
Total Childhood Adversity	4.79 (2.63)†	3.97 (2.74)†	4.62 (2.84)	4.18 (2.70)
Childhood Maltreatment	2.13 (1.51)*	1.50 (1.65)*	2.0 (1.78)	1.66 (1.58)
Childhood Family Dysfunction	2.73 (1.53)	2.47 (1.51)	2.71 (1.55)	2.53 (1.51)
Current PTSD Symptoms	23.68 (16.44)†	19.51 (14.86)†	23.29 (15.85)	20.47 (15.46)

*$p < .05$, †$p < .10$