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Experience of Parents Attending a Perinatal Lullaby Program

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EXPERIENCE OF PARENTS ATTENDING A PERINATAL LULLABY PROGRAM

A Master's Thesis

Presented to

The Graduate College of

Missouri State University

In Partial Fulfillment

Of the Requirements for the Degree

Master of Science, Early Childhood and Family Development

By

Emily J. Skeers

May 2024

EXPERIENCE OF PARENTS ATTENDING A PERINATAL LULLABY PROGRAM

Teaching, Learning and Developmental Sciences

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Master of Science

Emily J. Skeers

ABSTRACT

Previous research performed with mother–infant dyads has demonstrated that infant–directed singing may make significant contributions to mother–infant attachment, may reduce infant stress, reduce maternal stress, assist mothers and babies with emotional regulation, improve mother–infant interactions, prevent colic, and improve infant sleep. Despite these benefit potentials, parents of today are much less likely to sing to their infants than parents of previous generations. Attendance of postnatal lullaby education programs has been associated with increased maternal singing at home and confidence in their parenting role. Perinatal lullaby programs are not represented in the literature. This qualitative study explored the lived experiences of parents attending a perinatal lullaby program through a phenomenological lens. Parents attending a Lullaby Circle reported on their experiences singing in class and at home in the perinatal period. Parents described experiences of bonding and connection with their babies, a sense of connection to a larger community, and increased singing at home. Parents also reported using singing as a parenting tool and self-care practice. Parents enjoyed and valued their experience in the current perinatal lullaby program. Community music outreach programs such as this could help parents feel better supported and empowered to meet the demands of pregnancy and parenting. Infant–directed singing may be a preventative measure for parental well-being and prenatal and postnatal attachment by having positive impacts on parent well-being. Lullaby singing may be a unique attachment intervention in that it can be performed in the prenatal and postnatal periods.

KEYWORDS: perinatal, lullaby, attachment, prenatal attachment, infant–directed singing, parent–infant attachment

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In the interest of academic freedom and the principle of free speech, approval of this thesis indicates the format is acceptable and meets the academic criteria for the discipline as determined by the faculty that constitute the thesis committee. The content and views expressed in this thesis are those of the student-scholar and are not endorsed by Missouri State University, its Graduate College, or its employees.

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I dedicate this thesis to my family.

To my husband Jacob, who supports me in pursuing my passions and made this project possible.

To my children Drew and Clara, who revealed the wonders of perinatal singing to me.

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INTRODUCTION

Across time and in all cultures, parents have sung to their babies. Singing to infants is a uniquely human practice and may have been one of the earliest parenting tools in evolutionary history. The lullaby may even be the melodic form from which all other human music was born (Mehr & Krasnow, 2017). It has long been believed that mother–sung lullabies can facilitate mother–infant attachment. Researchers began investigating this assumption in earnest in the early 1990’s (Brisola et al., 2019). Their findings have affirmed not only the original belief that mother–infant singing can make significant contributions to mother–infant attachment (Persico et al., 2017), but also that lullabies may reduce infant stress (Cirelli & Trehub, 2020), reduce maternal stress (Persico et al., 2017), assist mothers and babies with emotional regulation (Cirelli & Trehub, 2020), improve mother–infant interactions, prevent colic, and improve infant sleep (Persico et al., 2017).

More recently, researchers and clinicians have begun exploring the use of mother–sung lullabies in the prenatal period to produce similar benefits and prepare mothers to use lullabies with their babies as soon as they are born. To date, there is some evidence to support that lullabies sung in the prenatal period may reduce maternal stress (Carolan et al., 2012b) and serve as a nonpharmacological treatment for mental illness in the prenatal period (Carolan et al., 2012a; Friedman et al., 2010). There is also an emerging hope that prenatal lullaby programs could allow mothers to better implement singing practices with their infant after birth to enhance early mother–infant bonding (Baker & Mackinlay, 2006).

With the potential benefits of prenatal and postnatal parental singing in mind, the current study explored the experiences of parents who participated in a perinatal lullaby program.

Parents attending the lullaby program were either expecting a child or parenting an infant up to one year old. Parents' experiences of participating in the program were explored qualitatively through a phenomenological lens.

LITERATURE REVIEW

Uniqueness of Infant–Directed Lullabies

Infant–directed singing is a traditional, possibly instinctual practice of a parent or caregiver singing to an infant or young child. This style of singing is multi-modal in nature, enhanced by touch, movement, and eye contact (Vlismas et al., 2012). The gendered term *mother* will appear throughout the review of the literature, due to the historical prevalence of mothers as primary caregivers and lullaby performers. Existing lullaby research has been performed almost exclusively with mother–infant dyads.

Babies prefer the sound of their mothers’ voices to any other source of music (Mehr et al., 2016) and singing interactions tend to be higher in quality than similar, non-singing play activities (Mualem & Klein, 2012). Mothers also experience the act of singing differently than they experience other play activities (Creighton et al., 2013). Maternal singing practices hold rich benefit potentials for both mothers and babies (Brisola et al., 2019) and yet modern life and technological advances seem to be eroding the practice and benefits of maternal song (Kaya & Ozkut, 2016).

Fetuses begin responding to music at about 28 weeks gestation (Kisilevsky et al., 2004), and infants are interested in vocal music produced by their mother and other caregivers at birth (Trehub & Trainor, 1998). Infants prefer simple, unaccompanied vocal melodies (Ilari, 2009) and have a marked preference for the singing voice of their mother above all other sources of music (Mehr et al., 2016). Live infant–directed music is far more effective in sustaining babies’ attention than recorded singing/music (de l’Etoile, 2006). Mother–sung lullabies are also more

effective in delaying the onset of infant distress than spoken maternal responses (Corbeil et al., 2016).

Lullabies and play-songs influence infants in particular ways. Lullabies tend to decrease infant arousal, while infant arousal tends to remain stable during play-songs, and infants pay more active attention to play-songs (Cirelli et al., 2019). When compared to non-singing mother–infant activities, singing activities appear to have unique benefits. These include better facilitation of positive mental and emotional states, and more validation in modulating the infant’s state of arousal (Creighton et al., 2013). When comparing musical (sung) to nonmusical activities, musical activities facilitated more physical interactions, longer eye contact, greater range of emotions expressed by infants, more positive emotions expressed by mothers, and longer communication chains experienced during sung activities. Essentially, mother–infant singing creates ideal attachment promoting relational experiences between mothers and infants (Mualem & Klein, 2012).

Existing lullaby research explores both lullabies and play-songs, with some research examining them together and other approaches making clear distinctions between the two. A lullaby is defined in the literature as a slow, soothing, traditionally unaccompanied vocal melody, usually performed to calm a baby and help them fall asleep. Lullabies are characterized by repetitive, descending melodic lines and are usually paired with holding, rocking, swaying, or other soothing movements (Trehub & Trainor, 1998). In contrast, play-songs are rhythmic, repetitive, up-tempo songs sung for babies and children in contexts of play. Play-songs are often paired with movements such as expressive hand gestures, dancing, or bouncing (Trehub & Trainor, 1998). The current study utilized both lullabies and play-songs in a perinatal program without making a clear distinction between the two to allow for overlapping use of these

practices, and because parents' singing should be based on parents' desired singing activity at the time rather than prescribed by the researcher.

Demonstrated Need for Lullaby Programs

Modern life and technological advances have greatly altered the lullaby experience for parents and babies. Family media use patterns indicate today's mothers sing to their babies less frequently than past generations of mothers (Brooks, 2016). Television, mobile device apps, YouTube, and digital music sleep aids have replaced mother-sung lullabies to a large degree, partially or totally removing personal interaction from the experience (Brooks, 2016; Young, 2008). In one study, only 20% of mothers reported singing babies to sleep (Young, 2008). Children's television programming and recordings of adult-directed music are the greatest sources of musical experiences for infants (Fancourt & Perkins, 2018a; Young, 2008). Music for infants is now commonly presented with other stimuli such as videos, images, and light up toys (Brooks, 2016; Young, 2008). Many of these sources are not developmentally appropriate for infants (Brooks 2016). Additionally, none of these presentations provide personal interaction or the unique benefits present in the context of mother-infant or parent-infant singing.

The literature on current family musical practices is limited. No studies have been performed to date to specifically analyze the frequency of mother-infant or parent-infant singing. However, the few available studies on childhood musical experiences make a strong case that musical experiences for children have become impoverished from what they once were, and most likely occur with less frequency than in previous decades (Brooks, 2016; Kaya & Ozkut, 2016). Every available study reveals that the quality and frequency of musical experiences for children warrant supportive family music education programs (Custodero et al., 2003; Fancourt & Perkins, 2018a; Kaya & Ozkut, 2016).

Benefits of Infant–Directed Lullabies

Perinatal lullaby programs are not represented in the literature. However, a few studies have explored mothers' experiences in prenatal lullaby programs, and lullaby programs offered to healthy mother–infant dyads in the postpartum period report positive results and suggest a need for lullaby programs during the prenatal period. First-time mothers found a lullaby education program to be meaningful and beneficial. These mothers valued learning about lullabies as a parenting tool and some mothers expressed a desire to have learned the material sooner, possibly during the prenatal period (Baker & Mackinlay, 2006). Mother–infant dyads who received a music and movement education program experienced benefits such as increased reciprocity, improved attachment scores, increased frequency of musical activities, enhanced maternal enjoyment in play/musical activities (Vlismas et al., 2012).

Infant–directed singing holds unique benefits in part because it is distinctly different in quality than non-singing play activities. Mualem and Klein (2012) found that mother–infant singing activities facilitated greater duration of mother–infant eye contact, more physical touch, greater emotional expression from both mother and infant, and longer durations of communication chains between mother and baby than similar, non-singing activities. Overall, the singing interactions were richer in content than the non-singing interactions and exemplified the type of high-quality interactions that drive infant development. As such, infant–directed singing carries the unique potential of maximizing the generative quality of parent–infant interactions, though there is little research on prenatal experiences. Thus, the study examined parents' experiences in a perinatal lullaby program.

Parent Experience

Lullaby programs offered to mother–infant dyads experiencing risk factors such as postnatal depression, other mental health concerns, and incarceration show promise regarding mothers’ experiences. Infant–directed singing is beneficial and effective even when mothers have depression. This could make mother–infant singing an especially helpful intervention for mothers experiencing postpartum depression (de l’Etoile, 2012). Mother–infant intersubjectivity increased following a five-week intervention in a residential mother baby unit (MBU) for postnatal depression patients (Van Puyvelde et al., 2014). Women in another MBU study reported feeling significantly more relaxed, cheerful, and clear headed immediately following lullaby program sessions. Visual analog scores improved positively as well. Mothers highly valued the sessions as part of their experience in the MBU (Reilly et al., 2019). A mother–infant singing and community music experience intervention in a prison setting resulted in improved mother behaviors, increased self-confidence, new social bonds, and improved quality of mother–infant interactions. Results diminished over time when intervention was completed (Rodrigues et al., 2010), yet this may be due to the methodology employed. The current study took a phenomenological approach to explore parents’ lived experiences in a perinatal lullaby program.

Prenatal Attachment

Infant–directed singing may have evolved to support the crucial parent–infant bonding process. There is reason to believe that lullabies and play-songs continue to be uniquely effective in promoting mother–infant attachment (Fancourt & Perkins, 2018b). Mothers who sang to their infants on a regular basis reported significantly higher levels of perceived closeness to their infants compared with mothers who participated in comparable talking and playing activities (Fancourt & Perkins, 2017; Persico et al., 2017). Parent–infant attachment is founded on

reciprocity. In one study, mother–infant music and movement activities improved first-time mothers’ reciprocity with their infants while comparable non-singing activities brought a decline of reciprocity in the control group (Vlismas et al., 2013).

Much of the research conducted to date on maternal–fetal attachment is exploratory in nature, and disagreement regarding the construct persists. However, there is a degree of consensus on a few key points. It has been established that the maternal–fetal bond grows over the length of gestation (Tichelman et al., 2019) and becomes more pronounced when a mother can sense fetal movement (Cataudella et al., 2016). It is predictive of the later mother–infant attachment relationship (Branjerdporn et al., 2020, Cataudella et al., 2016; Tichelman et al., 2019), is relevant to researchers and clinicians who serve women and children (Brandon et al., 2009), and may predict developmental outcomes into early childhood (Cildir et al., 2020).

The maternal–fetal attachment construct was born out of John Bowlby and Mary Ainsworth’s theories of human attachment. Bowlby’s mother–infant attachment construct focused on the evolutionary drive to establish a mother–infant bond to promote the survival of human and many other animal species (Bowlby, 1958). Ainsworth expanded on Bowlby’s model by positing that the infant’s connection to its mother had more than a biological basis, and that the infant and mother were cocreators of the attachment bond (Ainsworth, 1979). Beginning in the late 1960’s, nurses began adapting Bowlby and Ainsworth’s theories to fit what they were observing between women and their newborns. These nurses believed they were witnessing a mother–infant relationship that had already been established during pregnancy, and they began exploring the potentials of a prenatal attachment relationship, or maternal–fetal attachment (Brandon et al., 2009).

Maternal–fetal attachment remains a poorly defined construct due to the enduring legacies of four quite different definitions and corresponding measures. The first official definition of maternal–fetal attachment was created by a nurse named Mecca Cranley in 1981. Cranley’s definition centered on maternal behaviors that demonstrated attachment to and care for the developing fetus. In 1992, researcher Mary Müller disagreed with the focus on maternal behavior, and created a definition based on a mother’s cognitive processes and feelings related to her unborn child throughout pregnancy (Brandon et al., 2009). In 1997, researcher John Condon created his own definition focused on the love bond between mother and unborn child, calling maternal–fetal attachment “the emotional tie or bond which normally develops between the pregnant parent and her unborn infant” (Condon & Corkindale, 1997, p. 359). In 2003, Doan and Zimmerman created an integrated construct that incorporated the previously separate behavioral, cognitive, and emotional models into one framework. All four of these definitions and their corresponding measures are currently in use for maternal–fetal attachment research (Brandon et al., 2009).

Another way in which conceptions of prenatal attachment can differ is on the directionality of the maternal–fetal attachment relationship. Some researchers view the relationship as unidirectional and entirely focused on a mother’s actions and feelings toward her fetus. Others embrace a bidirectional model, believing that the fetus can act and influence the maternal experience too (Cataudella et al., 2016).

At this time, researchers and clinicians working with maternal–fetal attachment must decide which definition of maternal–fetal attachment to adopt, or how to synthesize the definitions into a relevant theory for their purposes. They must also decide whether they view the maternal–fetal relationship as unidirectional or bidirectional, and whether maternal–fetal

attachment will be considered as a unique construct, or if it will be conceptualized as part of a larger attachment progression or construct. Before discussing prenatal lullaby programs and their possible contributions to maternal–fetal attachment, it is important to highlight relevant pieces from the current maternal–fetal attachment definitions and create a working construct.

Of the four theories, Doan and Zimmerman’s (2003) integrated prenatal attachment model would work best as a theoretical foundation for prenatal and perinatal lullaby programs. Not only does the model acknowledge the behavioral, cognitive, and emotional aspects of the maternal–fetal relationship, it also places pregnancy and the maternal–fetal relationship in a developmental sequence. Doan and Zimmerman define maternal–fetal attachment as “...an abstract concept, representing the affiliative relationship between a parent and fetus, which is potentially present before pregnancy, is related to cognitive and emotional abilities to conceptualize another human being, and develops within an ecological system.” (p. 110). This definition allows for a wide interpretation of maternal–fetal attachment and leaves room for diversity of experience among mothers in prenatal lullaby programs. It also emphasizes that lullabies are a communication tool that can be used to accomplish goals relevant to the prenatal period, and then transition to a new usage and relevance in the next developmental phase of mother–infant attachment after birth. Depending on the emphasis of the specific prenatal lullaby program, it could also be appropriate to include some of Condon and Corkindale’s (1997) emphasis on the core love relationship present within maternal–fetal attachment, as maternal–infant singing can be a pathway for mothers to experience love and connection with their unborn child (Carolan et al., 2012b).

When considering the maternal–fetal attachment construct in application to prenatal and perinatal lullaby programs, it is important to work within the framework of the bidirectional model, because mothers can expect their fetuses will respond to their singing. It has been

established that fetuses demonstrate a response to music as early as the start of the third trimester, or 28 weeks gestation. At first, this response is measured as a change in heart rate and becomes a motor response closer to 37 weeks gestation (Kisilevsky et al., 2004). Mothers can expect to feel the fetus move in response to maternal–fetal singing as they approach their due dates. A 2010 survey of the literature related to the bidirectional nature of the maternal–fetal relationship found that fetuses displayed behavioral responses to mothers’ levels of anxiety, stress, and relaxation. Fetal movements have also been found to create a small rise in maternal skin conductance (DiPietro, 2010). Teaching parents to sing to their babies in utero involves an expectation that the unborn child will respond to the parent’s actions, so the bidirectional model is an appropriate lens from which to view this work. Though the current study did not directly examine fetal response to parental singing, the study included qualitative interviews to capture parents’ descriptions of the potential bidirectionality of prenatal attachment development.

Parent Well-Being

Mother–infant singing may work double time as both a positive parenting and self-care practice for mothers based on its ability to bring mothers and infants into states of emotional regulation and infants into states of physical homeostasis (Creighton et al., 2013; Shenfield et al., 2003). Play-songs stabilize mother and infant arousal, while lullabies decrease mother and infant arousal, as measured by skin conductance (Cirelli et al., 2019). Mothers may experience greater increases in positive affect and decreases in negative affect while singing to their infants (Fancourt & Perkins, 2017). One study found that infant–directed singing had immediate positive effects on maternal well-being of first-time mothers (Wulff et al., 2021). Increased positive affect for mothers can then be transferred to their infants through what Creighton et al. (2013) defined as a flow of influence or spiral of happiness, which in turn modulates infant arousal.

Singing can decrease mothers' stress levels and may have a positive impact on maternal mental health. Fancourt and Perkins (2018b) demonstrated that singing produced decreases in psychological and biological stress markers to a greater degree than talking/playing. In another study, Fancourt and Perkins (2017) found singing was associated with lower symptoms of postpartum depression, greater well-being, and enhanced self-esteem. Case studies performed by Mackinlay and Baker in 2005 suggest that lullaby singing could be used preventatively to disrupt a "spiraling cycle of negative feelings leading to the potential for postnatal depression..." (p 89). Further studies are necessary to determine if a relationship can be found between maternal singing and improved mental health outcomes such as maternal stress and mood.

Though postnatal lullaby programs have a greater presence in the literature than prenatal lullaby programs, there is growing interest in bringing lullaby education to pregnant women (Baker & Mackinlay, 2006). The few prenatal lullaby studies available are positive, especially in their reception by mothers, underscoring the importance of assessing mothers' experiences. These programs were developed and implemented to address some of the maternal–fetal attachment risk factors identified earlier, especially prenatal anxiety, depression, mental illness, and stress (Carolan et al., 2012b; Friedman et al., 2010).

Friedman et al. (2010) developed a pilot lullaby program for pregnant women experiencing mental illness called "Lullaby 101." The program model combined a music therapy approach to lullaby education with other mental health disciplines. The program was preventative in nature, acknowledging that symptoms of mental illness can impede mother–infant attachment after birth. The study included a general population as well as an at-risk population, which is an ideal research practice for prenatal attachment studies (Cataudella et al., 2016). Program goals for the general population included teaching mothers to use music as a

coping strategy and a source of self-expression and inspiration during pregnancy, as well as teaching mothers lullaby singing as a skill to be used to calm their babies after birth. Mothers were also educated on the importance of eye contact and responsivity to their babies to promote a healthy mother–infant bond in the postnatal period. Additional goals for program participants with mental illness included using music to help them identify difficult emotions and increase self-awareness and the intention to reduce maternal anxiety in the prenatal period (Friedman et al., 2010). All participants reported an increase in relaxation and a decrease in anxiety.

Carolan et al.’s “Limerick Lullaby Project” (2012) offered lullaby education courses to pregnant mothers as part of their routine prenatal care. The project was aimed at reducing maternal stress, promoting relaxation, and teaching skills that could enhance maternal–fetal attachment bonds and ultimately the mother–infant attachment bond (Carolan et al., 2012b). The six women involved in the study reported overwhelmingly positive experiences with the program. They felt it was beneficial to themselves and their babies and would recommend the experience to friends (Carolan et al., 2012a). Participants also reported a decrease in stress, an increase in relaxation, an enhanced sense of connection to their unborn babies, a sense of connection to other women in the program, and the acquisition of a new skill set for communication with their coming babies (Carolan et al., 2021b).

Both programs reported success in reducing maternal anxiety, one of the primary risk factors for impaired maternal–fetal attachment. Each program also focused on teaching skills to be used in the postnatal period to strengthen maternal–infant attachment bonds. The design of both programs put forth an assumption of the inseparability of maternal–fetal attachment and later maternal–infant attachment. This indicates an acceptance of maternal–fetal attachment as an important precursor to maternal–infant attachment, and possibly even embraces the two being

connected as part of a larger attachment construct. Mothers reported enjoying and valuing the experience of lullaby education and viewed lullaby singing as a helpful tool not only for managing the prenatal experience, but also as a meaningful preparation for greeting their babies and navigating the postnatal period.

This limited view of prenatal lullaby programs in the literature demonstrates that mothers enjoy these programs, learn important self-care and mothering skills, and may experience reductions in stress and anxiety and increases in relaxation. At this time, with the limited research available, it is reasonable to say that prenatal lullaby programs may contribute to maternal–fetal attachment by reducing maternal stress and anxiety and by teaching communication skills that may strengthen mother–infant bonding after birth. A synthesis of the research examining postnatal lullaby programs indicates improvements in maternal–infant attachment, and maternal well-being; thus, the current study explored parents’ lived experiences in a perinatal lullaby program.

Lullaby Singing as a Parenting Tool

Lullaby singing may also be used by parents to assist in coping with the many demands of modern family life, to help them grow into the role of parenthood, and to ultimately conceptualize themselves as “good enough” parents. When lullaby education programs teach the ways in which lullabies can be effectively used to soothe babies, encourage sleep, and facilitate deeper parent–child connections, parental confidence may increase (Mackinlay et al., 2015).

Lullaby singing has been shown to help mothers with parenting tasks that may feel stressful, such as settling their baby down for the night. Singing may also increase mothers’ mindful attention to the parenting task at hand and assist in managing stress levels related to thoughts darting through a list of other tasks needing attention (Baker & Mackinlay, 2006).

The positive feelings generated through parent–baby singing interactions may counteract negative feelings and give a parent the sense that they are doing well enough. An overview of the literature published in 2021 found that singing was a tool that helped mothers engage more positively with daily baby care and domestic tasks, which led to feelings of accomplishment and improved self-esteem (Brisola & Ilari, 2021). Case studies of first–time mothers performed by Mackinlay and Baker in 2005 indicated that lullaby singing did indeed provide them with a sense of pride and confidence in their capabilities. These mothers also felt that singing interactions provided respite from daily stresses in mothering. While singing at home is linked to positive self-concept in parenting, singing in community with other mothers may also add to a mother’s sense of competence in her role (Brisola & Ilari, 2021).

The Current Study

Previous research demonstrates that traditional infant–directed lullaby practices hold benefit potentials for mothers and their babies. Research is beginning to indicate that lullaby education programs taught prenatally and postnatally are valued by mothers and provide benefits related to mother–infant attachment and maternal well-being. This study expanded on mother–infant singing to explore parent–infant singing in both the prenatal and postpartum periods in a perinatal lullaby program. The current study was guided by the following research questions:

1. How do parents describe the experience of attending a perinatal lullaby program?
2. How do parents describe singing to their baby during pregnancy?
3. How do parents describe singing to their baby after birth?

METHODOLOGY

For this study, I held a perinatal lullaby class series for expectant parents and caregivers of babies up to one year old. The class met once a week for eight weeks, for a total of 8 class sessions. This qualitative study assessed the parents' in-class and at-home experiences of singing lullabies to their babies. An in-depth interview with each participant was held following the conclusion of the course series.

Participants

Participants were 12 parents who attended at least one Olympia Lullaby Circle class between September 18, 2023, and November 2, 2023. Participants were recruited prior to the first meeting of the Olympia Lullaby Circle through a local midwifery office and a free pregnancy clinic. Then, the study opportunity was presented to all parents who attended an Olympia Lullaby Circle class during the eight-week study period. Three participants consented to the study prior to attending their first Olympia Lullaby Circle class. Nine participants consented to the study upon learning of the opportunity in class. In total, the opportunity to participate in the study was presented to 13 Olympia Lullaby Circle attendees over the course of eight weeks; 12 attendees opted to participate in the study.

Participants included 10 mothers and two fathers between the ages of 25-40. Ten of the participants were first-time parents, one was a second-time parent, and one was a third-time parent. The two fathers were partners of two mothers who attended the group before inviting them to join. Nine mothers attended classes with their babies, one mother was expecting her child in her first two classes, delivered her baby, and resumed attending classes five weeks later. All participants had experienced the birth of their child prior to completing their interview.

Participants were primarily white; one participant was Asian, and one participant was a first-generation German immigrant. The participants were primarily from middle-class backgrounds, with some variation in their current socioeconomic status. All participants were in heterosexual partnerships, 10 were married and 2 were cohabitating and became engaged after the study. Both fathers who participated in the study took up to 3 months of parental leave from work to help care for and bond with their new babies. Three of the mothers who participated in the study took 3-6 months parental leave following the births of their children. Four mothers took extended, unpaid leave from work. One mother identified as a stay-at-home mother without plans to return to work. One mother was a stay-at-home mother and part-time graduate student.

Procedure

I created the Olympia Lullaby Circle, a song circle and supportive community for pregnancy and postpartum, after communicating with local leaders in parent and childbirth education and assessing parent needs in my community. The class was offered to expectant parents and caregivers of babies up to one year old on a pay-what-you-can basis, with a suggested contribution of \$0-\$20 per class. The eight-week session of the song circle was offered free of charge to study participants. Anyone who attended at least one class during the eight weeks was eligible to join the study. Thirteen parents attended classes during the eight-week session, 12 of whom opted into the study and completed interviews.

The Olympia Lullaby Circle met weekly on Monday mornings for 90 minutes. The curriculum was highly emergent, and participant led. Participants were encouraged to request their favorite songs and lullabies as soon as they had registered for the class series. Participant selected songs and lullabies appeared in the course song books from the very first class. At each weekly meeting, I reiterated that our classes were a community endeavor and solicited feedback

about song choices and class structure. I facilitated a collaboration between participants to develop our regular class rhythm at the close of our third weekly meeting. From week four on, classes have followed that same rhythm.

Classes began with introductions and a check-in that included sharing one recent challenge in parenting or pregnancy, and one recent joy in parenting or pregnancy. Singing began with our class welcome song, which included the name of every parent/caregiver and baby in the circle. Classes progressed to upbeat play-songs, then moved into mantra and self-care songs for parents, and then lullabies and slower paced infant-directed singing. After about 50 minutes of singing, the class opened once again to sharing about the struggles and joys of pregnancy and parenting. The Olympia Lullaby Circle continued to meet following the eight sessions covered in this study. All participants in the study continued their involvement in the circle beyond the initial eight weeks. This means that by the time of their interview, a participant may have attended more than eight sessions.

Individual interviews were scheduled with parents following completion of the first eight weeks of classes. All interviews were audio recorded for phenomenological coding, further described in the analyses section. All participants completed informed consent procedures; all protocol was approved by the Institutional Review Board (see Appendix A).

Measures

At the end of the program, parents engaged in individual interviews (see Appendix B). These interviews were semi-structured and guided by the participant. Each interview lasted about 20 to 30 minutes and focused on the participants' experiences with Olympia Lullaby Circle classes, previous musical experiences, experiences during pregnancy, and the joys and stresses of

parenthood. With only one exception, interviews took place in participants' homes, with babies present and involved in the experience.

Reliability and validity of phenomenological data was assessed through various methods. First, the researcher reflected on her own social position and experiences with the content (see Positionality Statement and Role of the Researcher, below). Additionally, this study utilized rich description, peer-reviewing, and soliciting feedback from participants on the accuracy of the final descriptions of the perinatal lullaby program experience (Creswell, 2007). Participants received the full results section via email, and to date, participants have affirmed the study results and have not offered changes.

Analyses

A hermeneutical phenomenological approach was used to assess parent responses in individual interviews. Hermeneutical phenomenology was deemed most appropriate for this study in that it focused on the lived experiences of participants attending the perinatal lullaby program (Creswell, 2007).

Parent interview responses were transcribed from audio recordings using online transcription software that adheres to the U.S./EU Data Privacy Framework. After reading each interview transcript several times, I developed a list of significant statements from individual interviews that exemplified the experience. I then organized significant statements into clusters of meaning (Creswell, 2007), or themes. Three main themes emerged from 232 significant statements. I then returned to each original interview and marked these themes and subthemes so I could track how often each theme occurred across participant interviews. Textural and structural descriptions were created using the themes. Next, the textural and structural descriptions were synthesized into a composite description of the experience of parents

participating in a perinatal lullaby program. Finally, program participants were asked if the final descriptions match their experience (Creswell, 2007). Participants have not yet recommended any modifications.

Positionality Statement

I am a white woman, married to a white man, raising two young children in a traditional male-breadwinner, female-homemaker family structure. Our household income is above average for our area, where most households are dual income. Most middle- and upper-middle class mothers in my community do not take extended breaks from their careers to be home with children. My decision to become a full-time, at-home mom was guided by the fact that I live with multiple chronic illnesses. My health conditions require daily management and are occasionally debilitating. Prior to the birth of my first child, my desire was to work part-time outside the home while fulfilling the responsibilities of motherhood. However, I am unable to balance paid work outside the home with being my children's primary caregiver. The reality behind my status as a full-time, at-home mother serves as a continual reminder to me that all families have their own limitations that shape their daily lives. Experiences with my personal challenges have helped me be more understanding and accepting of family structures that are different from my own.

I was born into a working-class family and experienced extended periods of family instability and poverty during childhood. I was raised in a rural, conservative area in Washington state. My family was active in fundamentalist, evangelical Christian churches throughout my childhood. Church culture dictated that men hold all positions of authority within the church and unquestioned power in the home. Wives were expected to maintain traditional standards of femininity while embracing a submissive position in marriage. I broke from that Christian

tradition in my early twenties, explored other spiritual paths, and now identify as an interfaith Christian. I attend an interfaith spiritual community with my husband and children. We celebrate Christian holidays and practice Zen Buddhist principles in our home. I went from being raised to believe there was only one way to practice faith and have a successful family to coming to understand that there are many ways to conceptualize family, raise healthy children, and honor spirituality. I identify as a stay-at-home mom, music teacher, early childhood and family educator, and lullaby circle leader. I emphasize the importance of attachment relationships in my work and utilize music as a means for parents to connect with their children while also nurturing themselves.

Role of the Researcher

I had powerful experiences singing to my children in my third trimesters of pregnancy and beyond. My lullaby classes acknowledged this and invited parents to find their own ways of using song in pregnancy, birth, and parenting. In the first two classes included in this study, I shared my personal experiences with singing in pregnancy and after birth in detail. Part of the purpose of Olympia Lullaby Circle is to educate parents on the benefits of singing to children starting in utero, and I felt sharing examples from my own life was an ideal way to begin the class series. From the third class through the eighth class, the focus shifted to the experiences of participants. From that point forward, my experiences were shared in smaller ways to build rapport and a sense of community.

In my role as the leader of Olympia Lullaby Circle, I selected songs based on participant requests and encouraged participants to make selections to add to our song sheets. I facilitated participant collaboration of creating our weekly meeting structure and regularly solicited feedback about the feel and content of the classes. I led singing for 40-50 minutes of each class,

always asking for participant requests or offering choices between songs. I chose to lead singing with simple, rhythmic accompaniment only. I used either an egg shaker, a rain stick, or clapped my hands. This was intentional, to model an accessible level of singing performance, as well as to align with research findings that babies prefer simple, unaccompanied vocal melodies (Ilari, 2009). I engaged with parents and babies as I sang, often asking questions or commenting on babies' responses between songs.

I also facilitated group discussions after singing. These discussions lasted at least 30 minutes, often more. My goal was to allow for a variety of opinions and perspectives to be expressed in a space that honored and respected many ways of being and parenting. I often stated “take what you like and leave the rest” at the close of our discussions to remind participants that no one in the circle is an authority over their lived experiences or parenting choices. My intention was for participants to feel that this was their group, and that they are in charge of their experience in our circle. I positioned myself as a mother who may or may not have something to offer them from my lived experience. I also acknowledged that I may or may not have something to offer from my perspective as an M.S. in Early Childhood and Family Development student. For example, I offered information about the potential benefits of perinatal singing, answered questions on that topic, and encouraged them to explore their own experiences with singing to decide what it meant to them and their families.

I also took notes during discussions and recorded the ideas and resources offered by participants. I compiled these into two email newsletters. The newsletters also included some information from me on singing during pregnancy and early childhood and links to recordings of featured songs. By the end of the eight-week session of Olympia Lullaby Circle included in this

study, I was part of a community of parents who were nurturing themselves, their children, and each other through song and community. We grew it together.

RESULTS

Twelve participant interviews resulted in 232 significant statements, which were grouped into three main themes: Experience in Olympia Lullaby Circle, Experience Singing at Home with Baby, and Experience of Prenatal Singing, Voicing, and Music. The first two themes include several subthemes. Within Experience in Olympia Lullaby Circle, participants described Parent Intention, Community, and Shared Musical Experience in Class. In Experience Singing at Home with Baby, participants discussed Connection and Bonding, Shared Musical Experience at Home, and Singing as a Parenting Tool. As this was a highly participant-led class, the structure of the experience evolved through our work together and is thus described throughout this section as part of the results of the co-developed experience.

Experience in Olympia Lullaby Circle

The Olympia Lullaby Circle met on Monday mornings from 9-10:30 at True Self Yoga, a yoga studio and wellness center in Olympia, Washington. The circle met in a large room with a beautiful mandala mural on the front wall, a calming, backlit Himalayan salt wall on one side, padded floors, and dimmable overhead lights. The room was arranged with me as the circle leader in front of the mural, and floor chairs placed with ample room between them in a wide circle for participants. Yoga blankets, bolsters, and baby toys were available in the middle of the circle for participant use. Participants were provided with song lyric pages and a plastic egg shaker to use at each class and were encouraged to take the lyric pages home with them. Participants described the class environment as welcoming and comfortable. As one mother said, “You make a very welcome place and space. It was not intimidating at all.” A father described his first impression of the circle:

I was totally at ease. The group felt very intimate. You're obviously very attentive to everybody in the group, the adults, and the little ones. And it's a nice big space so when kids want to scoot around, they can scoot around, but it doesn't feel big. It feels right. It feels close in. It felt like the spacing was nice. I didn't necessarily know what to expect because it was my first time there, but having the lyrics on the sheets was great.

Olympia Lullaby Circle participants worked together to create the structure of a typical class. Each class would begin five to 10 minutes past the hour to allow everyone to settle comfortably into their places around the circle. Class would begin with introductions that included sharing parents' names, names and ages of babies, and one challenge and one joy encountered in pregnancy or parenting in the past week. This portion of sharing became known as our weekly check-ins.

When check-ins were complete, singing would begin with the group *Welcome Song*, sung to the tune of *Frere Jacques/Are You Sleeping*. After the first verse welcomed the whole group to class, subsequent verses would welcome each parent and baby in the circle:

Welcome, welcome!
Welcome, welcome!
Welcome, friends!
Welcome, friends!
We're so glad you're here
and it's so nice to see you,
welcome friends!
Welcome, friends!

Welcome, welcome!
Welcome, welcome!
Welcome, Emily!
Welcome, Clara!
We're so glad you're here
and it's so nice to see you,
welcome friends!
Welcome, friends

Older babies would go wild with recognition of the song and the thrill of having their names mentioned, which set the stage for the upbeat play-songs next on the agenda. Parents and babies would playfully interact while we sang favorites such as *Shake Your Sillies Out*, *It's Raining Like Magic* and *Baby Beluga*.

After the high energy play-songs, the circle would flow to singing what participants chose to call "self-care songs," songs selected and sung specifically for parent well-being. The

idea was that we would not only be singing to nurture the connections between parents and babies, but that we would also be taking time to intentionally nurture ourselves with music:

Breathing in, breathing out,
Breathing in, breathing out,
I am strong as a mountain, I am firm as the earth,
And I feel there is space, deep inside of me,
I am free, I am free, I am free.
I am free, I am free, I am free. (Plum Village, 2013)

Finally, with overhead lights dimmed, the class would flow to slow songs and traditional lullabies:

I behold you, beautiful one,
I behold you, child of the earth and sun,
Let my love wash over you,
Let my love watch over you. (Ringle & Kelly, 2013)

When singing concluded — with sleepy babies in arms, and older babies playing happily — participants could again connect in supportive conversation with others in the circle. I would often facilitate longer conversations on themes that had come up during our check-in time.

Parent Intention

Each participant in the lullaby circle came to class with either a natural desire to sing to their child, an awareness of the benefits of singing to babies, a meaningful personal connection to music, or some combination of the three. One father said, “The desire to sing, and to sing to him, has always been there.” Another parent said, “I think it’s a good, important thing – singing to him.” In the words of another, “I know it’s really good for his brain development.”

Parents expressed a desire to expose their children to music from an early age and referenced that as one of their main reasons for joining the group. As one parent said, “We love music and it’s important.” In the same vein, a mother said, “We value music in our family.” Another parent expressed, “We want our kids to feel comfortable with music and expressing

themselves. It will be part of what we do, raising them.” One mother reflected on her own childhood and shared:

I remember in my family; we had a cleanup song. And we just danced around the house singing that song. I’m excited for him to have songs like that. Just to get him going, and to enjoy things like that. And have that internal soundtrack always going, and not to be cautious or shy about his vocal ability.

While singing to their babies may have felt instinctual to some parents, others acknowledged that singing came less naturally to them, and was a skill they wanted to practice. Several parents mentioned that they did not know many lullabies before joining the circle and felt motivated to attend and learn more. As one mom said:

I didn’t know a lot of lullabies. I felt like song was important, but I hadn’t applied it to my life that way yet. I was very grateful to have been handed a piece of paper at the midwifery saying, ‘Here’s this thing, if you want to do it’, and then I had the guts to show up, I guess.

Another mother shared:

I really wasn’t singing as much to him. My mom would sing *Five Little Ducks* to him. So that was our song before *Baby Beluga*. I was ready to learn new songs, and I’m like ‘Where do I start?’

One father expressed that learning lullabies is not as easy as picking up your smartphone and searching for a song:

We can look up baby songs, we can look one up really, really quick. But then, like getting the rhythm and cadence and all of that. That is a different feeling, or art to getting it the way it’s supposed to sound.

Parents looked to the lullaby circle as a place to learn new, developmentally appropriate songs and grow in their ability to sing with their children. Most participants remembered their mother or father singing a couple of songs to them, so they knew parts of one or two lullabies, but wanted to learn more. As one mother shared, “I love the songs you have. It’s good for me to

kind of learn new songs because I'm kind of stuck with one song." As another mom put it, "Mama needs help remembering the words."

Some parents also hoped that coming to the circle would expose their babies to other adults and infants, to possibly help with the transition to infant care when parental leave came to an end:

He's not in care yet. He will be soon, and this is kind of his first experience of being around other babies, hearing them call out, hearing them cry. I really want to believe that him experiencing that in the calmness of the singing is kind of like an easy way to be socialized, make him feel a little bit more comfortable."

Other parents echoed the sentiment of hoping for positive socialization for their babies through the group, with one mother saying, "It's great socialization with other babies." Another shared, "It's important to expose him to other people. And it's fun to watch him look at everyone else, listening to other voices."

Most participants hoped the lullaby circle could provide a learning experience for their babies and be the start of a lifelong love of music. "You're providing them with something they can grow with, experiencing music. That's a learning opportunity."

Community

The Olympia Lullaby Circle became so much more than a music class – it became a community of parents supporting one another. Participants shared that the collaborative spirit of the classes helped them feel a sense of belonging. As one mother said, "It's kind of like a mutual experience, like we're doing this together. Not as a set class, not as 'this is how we're doing it.' I like that you're asking us for feedback. I appreciate that, I like that. We're making it, we're part of it too." Another parent said, "We can contribute. I like the shared space, where we can talk about things. It's not just music."

Parents valued the supportive community aspect of the circle as much as they valued the singing experience. As one parent said, and several parents echoed, “It’s been really great to get to know other mommas and see other babies.” Another parent shared, “I feel like that connective aspect where you’re coming together, people are parenting together in a different place, is really healing.”

Participants noted that there is a lack of activities for parents of newborns in our area. One mother commented: “The lullaby class has been amazing, because, you know, having a newborn baby, there’s not a lot of places to go.” Participants valued having an indoor space to gather, and the opportunity to connect with other parents over a shared activity – lullaby singing. Parents felt that attending the circle was less intimidating than joining a more generic or traditional type of parent group. As one mother described:

It is hard to find groups and resources. You don’t realize, I think, how much you’re going to need the support of other moms. And then how isolating it is, too, to be at home with a newborn all the time. It’s hard to get out, and it’s so incredibly awkward. It’s like the weirdest blind date. Where you’re like ‘We’re just getting together because we have babies.’

Another mom shared, “Connecting over something like a lullaby can be less intimidating than joining a mom group.” Another mother spoke of her experience with a mom group that met in a clinical setting and stated that she preferred the lullaby circle setting because, “The lullaby class feels more natural – more of a natural community.”

Every lullaby class began with introductions and the prompt “share one joy and one challenge from parenting or pregnancy this week.” These introductions became known as our weekly check-ins and became a highlight of the experience for some participants. As one mother said, “I like how you try to combine the singing with also sharing how we’re all doing and doing check-ins.” Hearing highs and lows from other parents on a weekly basis helped participants feel

connected to one another. As one mother shared, “It’s nice hearing from everyone. It’s like a weekly check-in with people in class. Just that sense of regularity and community is nice.”

These check-ins also helped parents feel less alone on their parenting journey. As one mother shared:

I think it has been nice to see other moms and their babies. I’m like, okay, you guys are going through this, we’re doing it together. I don’t just see moms out and about all the time. I don’t really know, is anyone else going through this? It’s been nice to hear what’s going good for people and what’s a challenge. Because then it doesn’t feel like it’s just me, you know?

Another mother shared:

It just puts it all into perspective. And you step back and think, ‘Yeah, I’m actually doing okay. So, everything’s all right.’ And there’s a common struggle and ups and downs. And it’s good to just hear that again, and have a reminder, that’s just a normal cycle of having a newborn, and a little baby, and there’s going to be those continuous changes and challenges.

Parents had the opportunity to share more openly at the conclusion of the singing portion of class. Conversations would often return to issues or concerns mentioned during check-ins. For some parents, this type of sharing helped them feel more confident in their parenting role. As one mother shared, “It’s nice to be able to spend some time with other moms and get insight and offer insight, so it can be both helpful and empowering.” Another mother shared, “Being in a group of other moms and babies has been really helpful for me as a new mom. It’s been really sweet.”

Parents shared that they felt safe in the lullaby circle community. As one parent shared, “It feels like a really nice safe group of people to gather with.” When facilitating these discussions, I emphasized there are many ways to be a good parent, and that our gathering supported all parents. This approach resonated with parents in the circle. As one mother stated:

It’s so important...finding really nurturing circles like this that are like, putting this out there, take it if it resonates with you, but nobody’s trying to talk anybody into doing

something a specific way. Or saying, ‘this is the only way to do it. And if you don't do it this way, the outcome is going to be bad for your kid.’ ‘We're for you and your family.’ So that's really cool. I think that's a great environment that you've created.

Another aspect of the lullaby circle community that participants valued was the sense of routine and regularity it brought to their lives. As one parent shared, “It’s giving us something to do with our time and something every week we get to look forward to.” Participants expressed appreciation for having a place to take their very young infants, and an activity they could do with them on a regular basis. “Every week we have this plan, we’re going to this and we’re meeting other parents,” said one mother. Coming to the lullaby circle every Monday morning made them feel capable as parents and connected to something beyond their home experience. One mother said, “It’s like, ‘Hey, I got out and did something.’ Even my husband will say ‘Good job getting out to song circle. Because he understands it’s hard for me.’” Another parent shared, “We’re building that routine with him, that we go and do something together that’s centered around something.”

Shared Musical Experience in Class

Parents described the lullaby circle as “very sweet”, “very enjoyable”, “a good, good experience”, “really fun”, “just lovely”, “very comfortable”, “healing”, and “calming.” The lullaby circle emphasized parent–infant connection by facilitating infant–directed singing. When parents reported their experience in class or their observation of their baby’s experience, the two experiences were always intertwined. One mother described the interplay between her experience and her son’s experience: “Being able to sing with him and seeing how much joy it brings him has been very healing. And so being in class with that, it’s just very calming.” Parents felt that the interconnected nature of their experiences in the lullaby circle nurtured their parent–

child bond. As one mother said, in acknowledgement of the interactive nature of the lullaby circle experience, “It’s just lovely to have that bonding time with your baby.”

Another mother shared her experience connecting with her child during the upbeat play-song portion of class:

I think we’re able to connect with the shaker, or even if she’s using her rattle. I feel like I get smiles out of her and I feel we definitely connect with the music and the interaction pieces. I really like being able to do that, it’s fun.

One mother described her baby’s in-class response to singing:

I just look at her and she’s smiling and seemingly dancing. She’s an infant, but she’s kicking both her legs and moving and looks really content and happy. It’s pretty sweet to watch her light up when she’s sung to, or music is played for her.

One mother shared of her in-class experience:

Music can help me get in touch with my emotions. The first day I came to the lullaby circle, when we sang Angel Wash, I totally teared up and was just so emotional, singing to her about how beautiful she is. I feel like it can help tap into the emotions that you didn’t know were there. You know, like bringing things forward. Special, important things.”

When parents spoke of their babies’ experiences in the circle, they expressed that their children enjoyed the experience. One mother said, “It’s been great. He loves the class. I can tell he feels really comfortable here, because the second I put him down, he’s into all the toys, rolling all around, visiting everybody.” The flow of class seemed to work well for babies and parents alike. One mother expressed, “It’s kind of like, the perfect balance, I’d say. Where there’s activity going around, but he can kind of do his thing.” Another parent stated, “I like how you create the singing to be a little bit more active and playful, and then also having the more calming songs at the end, to kind of close with that.”

One mother said, of her newborn baby’s experience with the lullaby portion of class: “I think she’s taking something along with it. I think at this point, it’s maybe just more soothing to

her, and not so much interactive. She's mostly sleeping and nursing." Another parent commented "It's calming for them." Commenting on her own in-class experience, the same mother shared:

Whatever part of the body that is - the soul - it just gives something back. That's nice to take along home. It can fill an empty cup. It just brings...serotonin release? I don't know. It just brings good emotion.

Other parents agreed that the class generated something positive within them that they could take along home. One mother commented:

I definitely feel more energized, there's definitely a serotonin boost. I feel like I have more energy and I'm ready to start my day. I've had my coffee and then the class, and okay, we are good to go! We're all happy and now we're gonna take a nice little nap while I drive around or something. I definitely feel an improved mood.

A father commented on his in-class experience:

I wish I could have attended more sessions. We sing to him every day, so it was nice to hear a variety of new songs and practice them in a social context. It's an hour drive for us, but we feel it's entirely worth it—afterward, my mood was positive, and my stress was low. I hope you continue the group as long as possible.

Parents also felt that the lullaby circle was a positive learning environment for them, and they enjoyed learning new songs there. As one father said, "Having you model the way songs would go was very helpful and it all felt very accessible." A mother commented, "Learning new songs is exciting," and another remarked, "Learning new songs that benefit babies is great, because I wouldn't say I have known a lot of songs." Parents also expressed appreciation for the song choices in the circle, as one mother said, "We've learned so many good songs that we sing at home now, all the time, that he likes."

Parents found a sense of comfort in group singing. The lullaby circle setting helped them feel less self-conscious about their own voices and gain more confidence in singing over time.

As one parent shared:

Sometimes I'm a little shy when it comes to singing. But then when you're in that group setting, no one cares. You're just singing to your babies, you know. So, it's like a comfort level – not just being on my own."

Another mother acknowledged that singing to her baby and other babies in the circle was helping her confidence, "They don't care what your voice sounds like. It's the best audience.

In time, for some, the increased comfort level in group singing became an increased comfort with singing in general. A mother shared, "I do feel like song and dance are going to be something I can do with him that I feel comfortable doing." Exposure to new songs, plus the increase in comfort and confidence in singing led to parents singing with their babies more often at home. As one mother said, "If I didn't have the lullaby circle, I would probably sing a few things here and there. But I don't think that I would do it as consistently or with as much confidence as I do." Another mom shared, "I'm trying to do more. It really opened my eyes. This is really powerful. This is really powerful for him." Another parent shared, "I think the lullaby circle is inspiring me to learn more songs. And therefore, sing more." Another mother shared, "I find myself just sing-songing everything. Everything is a song now."

One mother shared how attending the circle weekly reminded her how good it felt to sing with her baby, and encouraged her to sing more at home:

I think I'm singing more. I think the group thing really helps me remember how good it feels. I have that weekly touchstone of like, 'Yeah, this feels really good. This is important.' And then that can carry me through a few days.

Singing at Home with Baby

Connection and Bonding

Participants described singing at home as an important way to bond and connect with their child. A mother shared:

It helps with our bond and our connection because it's not just me in my own space, it's me really getting behind her eyes and looking at them deeply and smiling. And she'll smile back and look at me and yeah, we're connecting during that time.

When comparing singing to other activities, another parent shared, "It feels like we connect more with the singing." Several parents echoed the sentiment of singing being a special way to connect, making statements such as "It connects me to my baby when I'm singing," and "It's been a really sweet way to connect." A mother described how it felt for her to sing at home with her two children:

I think it just feels natural. You know, they love the noise. The womb was very noisy. And it just feels natural to sing something with rhythm and harmony, as you kind of sway and move your body to that.

Two mothers expressed that singing felt like a more natural way to connect with their young babies than speaking did. As one of these women shared:

I grew up in a family with a German immigrant background, it's very stoic, we don't use a lot of words. We don't share a lot of feelings. So, the whole idea of, 'Oh, talk to your baby, tell them how much you love them!' It feels weird and foreign to me even if it's true. I do feel like singing songs that show love and care is easier. It feels more natural than the alternative.

The other mom shared that singing was an easier way to extend the length of voiced interactions with her baby, because one-sided conversations did not come naturally to her. She stated:

It's not always that easy for me to talk a lot to her. I know some people can sort of chat one sided but for me, singing is an easier way for me to look at her and connect with her. Having a whole long conversation feels harder.

A few participants reported that singing with their baby at home brought back memories of their parents singing to them as children and helped them feel more connected to previous generations. One mother shared, "My dad would play The Beatles a lot when I was a kid. And I always loved The Beatles because of that." Memories of parents singing The Beatles was common enough that several Beatles songs appeared in our lullaby circle song sheets. Another

mom shared, “It brings me back to those ties of old school parenting in a sense, that parents used to sing to their children, and we pass this on from generation to generation. It connects to kind of older ways of doing things.”

Shared Musical Experience at Home

Parents described singing to their infants as a special and unique experience. One mother shared, “He’ll just look at me with these big eyes and stare in wonder. It really makes me feel important in a way that I never have before.” Several parents described the feeling and experience of singing to their babies as “special” and shared that singing could evoke a variety of emotions for them. One mother shared, “It feels really sweet and exciting. Like, ‘Wow. This is really powerful.’ It’s very powerful, very special.” Another parent stated, “It just feels good, for both of us.”

Parents enjoyed their babies’ responses to their singing and noticed their babies had musical preferences. One mother noticed, “He really likes repetition, intense repetition. Or really high and then really low.” Another mom noticed that her son loved the rhythm of the egg shaker when she used hers at home. “I was given one of the egg shakers, but I wasn’t really using it until we used them in class. Now, I’m using it. Not that I have any rhythm or anything, but he loves it.” One father shared, “He really likes it when I sing, I’ve noticed. Even if I just sing a few words like ‘I’m gonna go cook’ or something and make that into a song...he’ll smile or pay more attention.”

Several other parents remarked on their tendency to invent songs to sing with their babies. One mother shared, “I like to take songs and put his name in them. Or make up little songs even if they’re not the best one.” One father shared how he had set the three syllables of

his son's name to a simple melody, "I used to sing that to him when he was really little. Like, (singing his son's name) kind of a sound with each syllable."

Parents tended to describe singing to their children in two different ways, one that was upbeat and playful and another that was calming, used either to soothe a fussing child or help their baby go to sleep. As one mother described:

Well, he really lights up when he's awake. When he's awake, it's more playful, sort of like fingerplay songs. And then, you know, when I'm rocking him, I can tell his body just kind of sinks down in my arms.

Two parents articulated their awareness of using music in these two ways. One father shared:

I sing in two different ways. I sing *Sound of Music* style, the doors are open, the sun is shining, out loud, full throttle, celebration, and he's good smiles and we're spinning around and he loves that, or the quiet, soothing, resting tones. And when I sing like that, it's barely a whisper.

A mother shared:

When I sing to her, I sing in two different ways. In a silly, playful way when she's crying and I can't pick her up. And then at night...it's usually more deep and rhythmical.

Singing as a Parenting Tool

Parents described how they used singing at home in service of specific parenting goals and tasks, including teaching values and skills, shifting their babies' mood, managing their own moods and stress, moving through daily routines, and assisting their baby with sleep.

One mother of two spoke to how she believes the songs she sings with her children will shape their character and who they become:

Those kinds of things (songs) are sending messages to my child that I want them to carry through their life. Because if it's something you're singing, daily it's really integrating that into your psyche. I feel like it's very serious.

Another parent acknowledged that music can be instructive when it comes to values, saying, “I really like some (songs) that have a message. That feels good.”

Another mom shared that she hoped singing interactive songs with her baby would help her child build skills and meet milestones. “So, if I’m singing and showing her the clapping, I feel like it is eventually going to teach her those skills. And what better way to do that than with music? I like that.”

Several parents remarked that singing was a powerful way to create a shift in their babies’ moods. Many times, this was referenced in relation to calming the baby before sleep. One mother shared, “She just instantly calms, her nervous system, instantly just relaxes and she can just surrender to sleep or whatever she needs to surrender into. Especially at the start and the newborn fussy times, it was a great tool.” Parents also spoke to using song to shift the mood of a cranky, fussy baby during waking hours. One parent shared, “He’d be really fussy, and I’d sing to him, and he’d get really quiet and calm again.” Another shared, “When he’s been having big cries, I just start singing to him. And almost instantly, he stops crying.” Parents were often amazed at how effective songs could be in these moments, with the same mom saying, “Seeing his total mind shift when I start singing, it’s just like, ‘Oh my God, this is so extremely powerful.’”

One father described in detail how he sings to calm his son:

I don’t sing to quiet him down. I sing so quiet that he has to be quiet to hear it, and he responds really well to that. I won’t try to sing over him, I’ll sing under him, and I find that he calms down for that. I’ll do the same thing when he’s fussy, he’s tired, wherever he’s at. I’ll sing super, super, super quiet and he calms to that.

A mother shared that a certain song would usually bring her son out of a bad mood, and if it did not work, it meant there was a bigger need she had to attend to. In her words:

We were having pictures done, and he was in such a grumpy mood. The Happy Song usually brings him out of it, but that day he was just not having it. I'm like, 'Okay, The Happy Song isn't doing it, I think we're just done.'

Parents enjoyed bringing songs into their daily routines to help with challenging tasks and assist with transitions. One mom shared, "We'll sing when we're exploring something or we'll sing when we're changing his diaper or, anything that I feel like I just want to bring, a calmness to or an extra bit of energy to." Another mom shared how she loved bringing a sense of calm to bottle feedings with her daughter:

When I'm bottle feeding her, I'm trying to learn and sing the *Tender Shepherd* song. It's so sweet and calming. Why not do it when she's calm and eating? I can just look at her and sing. I really enjoy doing that."

Another mom shared, in relation to singing her son through transition times, "I feel like the way he looks at me, it's like, 'I know what's happening, I trust what's happening, and I feel good.

Singing during diaper changes was a common theme. One mom described a common experience of singing to help her baby relax into allowing herself to be changed:

When I do her diaper changes, I sing the *Loosen Baby* song quite a bit because, she will shoot out her legs and I am like 'Child, I can't put your diaper on that way.' So, usually I'll sing that and move her legs a little bit, and then she does actually relax them.

Parents mentioned singing during other times that their babies felt stressed. One parent shared about singing when her daughter experienced stress, "When she had high stress, then she would totally relax into it. Overall, her temperament was a lot more content and at ease."

Nearly all parents described singing as a positive part of their nightly bedtime routine. As one mom said, "I really feel like it helps him transition from whatever we were doing before and whatever space or place he was in. It's a really good part of the going to sleep routine." Several parents felt that their baby took lullaby singing as a cue that it was time to go to sleep, and others hoped that their child would form that sleep association with time. One mother shared, "I've

used lullabies to help him get to sleep at night or even for naps, so I have tried to make some consistency and signal to him that it's sleep time." Another stated, "I don't do a lot of singing to sleep yet, but I would like to see if I can get on a kick with a couple of songs. Maybe she will really enjoy that and get that sleep association."

Another common way parents utilized singing was when they needed their fussy baby to wait before they were able to pick them up and soothe them or attend to another need. For example, one mother shared:

There will be times when I have to do something. If I can at least be within his eyesight and sing to him while I'm asking him to wait, like while I'm folding laundry, if I sing, he will wait longer for me to pick him up.

Another mother shared a similar experience, "When she's crying and I can't pick her up, I'll do some silly rhyming songs. It's really silly nonsense singing, but somehow, it helps her to be distracted." The same mother shared that singing in this way reduced her own stress those moments:

Honestly, it helps me also to not be so in distress. It helps me to just kind of breathe better and be okay. Like, 'Look, I just have this hot dish I have to deal with right now in the kitchen or I have to clean up, or I have this other thing to do. And I see you, I can pick you up, but helps me to just let it go to like, you're gonna be okay, I'm gonna get you in a few minutes.' So, it's both ways.

She added, about singing and parenting in general, "I think singing in general makes me more calm and happy. I feel more grounded, usually. It just fills something."

Prenatal Singing, Voicing, and Music

Some participants described having felt connected to their babies during pregnancy through singing, speaking, or experiencing music. Both mothers and fathers described a desire to sing to, talk to, and connect with their babies before birth. One father shared, "I read whole books to him when she was pregnant." The same father shared that he encouraged his wife to

sing to their baby in utero. “I told her when she was pregnant that I’ve always liked listening to her sing and that I know he’s going to like it too.” A mother shared, “It was nice to have an excuse to talk out loud all the time. I talked to him when he was still in utero, and we played music.” As the same father said, “You’re just building your relationship to the most special person ever and it starts before they’re born.”

Parental singing was sometimes used with an intention to connect spiritually with their baby, nurture their connection and bond, or deliver some other perceived benefit. A mother shared, “During pregnancy, I took the time to really nurture myself with music, which in turn nurtures her. I just really meditated on her growing, and her body, and her mind and her spirit, knowing that music is so healing.” Another mom shared, “We definitely listened to music. They say it’s been debunked, but my husband is still a big believer in classical music for baby while in utero. I just think if nothing else, it’s very calming for moms.” Another parent described herself experiencing live music during her pregnancy before the point at which she could feel fetal movement as, “Giving him all my love and energy through music.” Another mother recalled placing headphones on her belly and playing music for her son, saying “I would play him music, because I knew how important it was.”

A mother who was quoted earlier saying that singing to her baby after birth felt easier than holding one-sided, spoken conversations, shared that her experience during pregnancy was similar:

I feel like when I was pregnant, it was hard again, similarly. It was hard for me to really talk to her. Or to think of her as an actual human, so I do feel like singing was easier and it was a helpful way to feel more connected.

In later stages of pregnancy, parents experienced fetal responses to parental singing and speaking, as well as live and recorded music. One mother recalled her singing experiences while her daughter was in utero:

I feel like there were times where she was really responsive. I would feel movement, but oftentimes it was just more of a spiritual connection to her. And really sending these healing songs to her in that way or singing mantras to help.

A mother who worked as a kindergarten teacher during her pregnancy had especially vivid memories of her baby's responses in utero to her spoken and singing voice during her workdays:

I remember when I was reading a couple of read-a-louds, which my voice changes in different pitches and tones, she would respond to. And then I would say, some of the chants or things I would do, she would like kick me or something. So, I would say she was pretty responsive to books and songs, which, I'm saying, the books I like, acted out. And there were some song aspects in them. And she really enjoyed it. And they hear and everything and, you know, some of them were definitely hiccups, but I knew when she was kicking me. I'm like, 'Okay, you really liked that part of the story.' Or the song or whatever it may be. Or maybe it's too loud in here. Ya know, like, 'What is happening, Mom?'

Parents who played recorded music frequently recalled fetal responses to songs. One mother shared, "I feel like he would get more energized with certain songs. I remember texting my husband at work, 'Oh, I found a new song that he likes. He's moving a lot to this one.'"

One mother recalled her experience at a live concert during her third trimester of pregnancy:

I took him, when he was in utero, to the Queen concert down at The Olympia Center. I could feel him moving around in there. I was surprised. I just enjoyed knowing that he was in there and there with me too, experiencing it. And I know that I went to a Rolling Stones concert when I was in utero with my mom. And she said she could feel me moving around.

Parents described events of fetal responsiveness to music, speaking, or singing as special, surprising, powerful, and strengthening of their bond and connection to their child. As one mother described:

I loved feeling her and seeing her kick. I remember I'd be in bed, and I would talk to her, and I would play lullabies. I would put the phone speaker up to my tummy, and she would kick me. And I'm like, 'You like this song?!' So then we started doing a nighttime routine where I'd put the phone to my belly. It was just some baby lullabies. No voices, just instrumental. And she loved it! So, I'll play those baby instrumental lullabies and she still loves it.

Several parents described an experience of their baby recognizing a song after their birth that was sung to them or played for them repeatedly while in utero. This experience was one of awe and deep connection. A mother recalled her experience:

I feel like what we really noticed after her birth was, she would recognize songs. So, it was less so having this experience while pregnant and more so when she was out of the womb, I noticed she calmed right away. She recognized that or she would get this look in her eye. I was like 'Wow.' She would smile, and I was so sensitive after birth too, that I would laugh watching her recognize that. I knew she just recognized it, where I'd burst into tears and you know, 'You're such a divine, intelligent being.' It's crazy.

One mother had watched a video of childbirth educator Penny Simkin describing how babies in utero who hear parents singing the same song repeatedly will recognize it and be calmed by it after birth (PSfromPenny, 2013). This mother described her experience of choosing a song, singing it during pregnancy and after birth:

I watched that video, while I was pregnant. So then I was like, 'Oh, I want to have certain songs.' So, we ended up singing *The Way Knows The Way* a bunch because she was breech, and she wasn't turning around. I really didn't want a Cesarean and I ended up having one. So, I was just singing that song to myself a lot and to her. And I definitely had some moments of singing that and sort of like, her calming down or you know, seeming to remember it. It feels really sweet and exciting. This is really powerful. It's very powerful, it's very special.

DISCUSSION

The current study examined parents' experiences attending a perinatal lullaby program. Participants attended the Olympia Lullaby Circle and completed interviews following their class experience that explored their experience attending the program and singing to their baby during pregnancy and/or after birth. Results indicate that parents experienced a combination of new songs learned, increased comfort and confidence in singing, and the weekly touchstone of class seemed to encourage increased singing at home during the week between classes. Parents reported feeling especially connected to their babies while singing and described infant-directed singing as special and powerful. Parents also described how they integrated singing at home into daily routines and parenting tasks. Some parents described the experience of connecting with their babies through singing, speaking, or experiencing music during pregnancy. A few parents experienced a continuation of prenatal singing or experience of music after their babies' birth, through apparent infant recognition of familiar songs.

Parent Intention and Experience

Whereas several studies have explored parent experience with lullaby education programs, the current study is unique in that it also revealed parental intention for attending such a program. Parents in the current study expressed an intention to expose their children to music with the desire for the lullaby circle to serve as a starting point for a lifelong love and appreciation of music. Some parents also hoped that experiencing music in a group setting would have positive impacts on their children's cognitive and social development.

Participants in the perinatal lullaby program expressed that they valued the time spent in the program and had a positive experience, which is consistent with what has been reported in

studies of other prenatal and postnatal lullaby programs (Baker & MacKinlay, 2006; Carolan et al., 2012b; Mackinlay et al., 2015). Participants voiced their desire to learn more songs that were well suited for infant-directed singing but did not know where to start. Participants felt there was an art to singing to their children that could not simply be achieved by picking up their smartphone and doing a quick search. This was part of why parents valued the class offering.

Participants reported increased comfort and skill in singing as well as an increased number of memorized songs they could sing spontaneously with their infants at home. Parents reported that attending the lullaby circle increased the frequency with which they sang at home. Another study reported that a music and movement education program for mothers and infants had a similar association with increased singing outside of the program (Vlismas et al., 2012).

The current study is unique in that it blended support-group style check-ins and discussions with a musical experience that was equal parts song circle and early childhood music education class. Participants valued our time spent together sharing in the joys and struggles of parenting as much as they valued their shared musical experiences in the lullaby circle. A 2021 review of the literature acknowledges that singing in community has distinct benefits from singing alone at home with baby, and the current study corroborates those benefits, which include mothers feeling more connected to other parents and learning new songs that translate into parenting tools (Brisola & Ilari, 2021).

Participants described a desire for the lullaby circle to continue so they could continue to feel supported in parenting, continue to learn new songs to sing at home, and continue to have the connected, in-class experience with their babies and other parents. This is consistent with the reported experience of women in a lullaby education program administered to expectant mothers (Carolan et al., 2012b).

Singing as a Parenting Tool & Support for Parental Well-Being

Parents in the current study described singing with their babies in two distinct ways, one upbeat and playful, and the other slow, rhythmic, and calming. These descriptions are consistent with the literature examining the qualities of lullabies and play-songs, respectively (Cirelli, et al., 2019). Parents also reported utilizing lullabies and play-songs in pursuit of specific outcomes for their babies and themselves. Lullabies were used by parents to soothe their babies in times of stress, which mirrors the finding of another study that suggested lullabies may reduce infant stress (Cirelli & Trehub, 2020). Parents utilized lullabies to soothe themselves alongside their babies, which corresponds to findings in another study demonstrating that lullabies may reduce maternal stress (Persico et al., 2017). Parents utilized play-songs to modulate their own stress level and mood while achieving similar results for their infants, which aligns with previous findings (Cirelli & Trehub, 2020).

Parents in the current study often described their singing interactions with their babies as special. This seemed to acknowledge the uniqueness of singing when compared to spoken interactions or other play interactions with their infants. A 2013 study found that mothers experienced singing activities differently than other play activities with their infants (Creighton et al.). Another interpretation of why parents may describe singing experiences as special could be reflected in a 2012 study that found singing interactions to be higher in quality than similar, non-singing play activities (Mualem & Klein).

Several parents reported that attending the perinatal lullaby program and/or singing with their baby at home influenced their mood in a positive way or mitigated stress levels. This aligns with the findings of a 2021 study that found infant-directed singing had an immediate positive impact on maternal well-being (Wulff et al., 2021). Additionally, participants overwhelmingly

reported that singing was an effective way to calm an upset baby, which aligns with previous findings that lullabies may reduce infant stress (Cirelli & Trehub, 2020). Some parents reported they were often able to get their fussy baby to wait for them a bit longer when they sang, which aligns with another study's finding that mother-sung lullabies were more effective in delaying the onset of infant distress than spoken responses (Corbeil et al., 2016).

Other studies have shown that infant-directed singing can assist both mothers and infants with emotional regulation (Creighton et al., 2013; Shenfield et al., 2003). Parents in the current study expressed that singing to a distressed infant seemed to have a calming effect for their baby and themselves. With this knowledge, these parents were able to utilize singing as a parenting tool to reduce stress for themselves and their baby while also accomplishing a task. In this way, singing became what previous studies described as a positive parenting and self-care practice (Creighton et al., 2013; Shenfield et al., 2003). Another study demonstrated that play-songs stabilized mother and infant arousal, while lullabies decreased mother and infant arousal, as measured by skin conductance (Cerielli et al., 2019). Parents in the current study seemed to know this intuitively and utilized lullabies and play-songs to evoke desired effects for themselves and their babies.

Infant-Directed Singing and Reciprocity

In the current study, parent descriptions of singing experiences were intertwined with descriptions of baby responses to singing, indicating reciprocity, which is the foundation of parent-infant attachment (Bowlby, 1958; Ainsworth, 1979). Parents described their babies paying more attention when they sang to them compared to when they spoke to them. This is congruent with descriptions of reciprocity described in the literature on infant-directed singing (Vlismas et al., 2013).

Existing literature espouses that the reciprocity inherent in infant–directed singing is what drives its significance in nurturing the parent–infant bond. In the current study, parents described singing to their baby as a special way to connect and said that they felt more connected during singing than they did in other interactions. This may be due to what previous studies have found about the benefits of infant–directed singing. A 2012 study found that when compared to other, non-singing play activities, infant–directed singing facilitated greater duration of mother–infant eye contact, more physical touch, and greater emotional expression. Sung interactions also tended to last longer than non-singing interactions (Mualem & Klein). Parents in the current study remarked that their infants would pay more attention when they sang and that there was a distinct and special quality to these interactions. The parent–infant interactions described in the current study are of a nature that could strengthen the parent–infant bond and attachment constructs.

Connection and Bonding in Prenatal and Postnatal Periods

Increased reciprocity in parent–infant interactions may explain why parents in the current study described singing to their babies as a special way to connect. This increased sense of connection may lead to enhanced parent–infant bonding, which is the strongest theme present in existing literature regarding benefits of infant–directed singing and lullaby education programs. One important contribution of the current study is the possibility that prenatal singing may strengthen postnatal bonding by serving as an early continuum of the parent–infant bonding process. The experience of parents in the current study makes a case for a bidirectional model of prenatal attachment as well as reinforces the assertion that prenatal attachment is a significant precursor to postnatal attachment. If prenatal attachment is predictive of postnatal attachment (Branjerdporn et al., 2020; Cataudella et al., 2016; Tichelman et al., 2019), and if lullabies can be

seen to influence positive attachment generating experiences (Persico et al., 2017), it can be argued that perinatal lullaby programs may be an especially beneficial way to strengthen parent–infant attachment through song in that they work across the prenatal and postnatal attachment continuum.

Parents in the current study described singing to their baby or playing music for their baby during pregnancy and after the birth of their child. Some parents described their infant seemingly recognizing music they had been exposed to prenatally and calming quickly when presented with familiar music that had been played or sung for them prenatally. This continuum of prenatal experiences of singing, music, and connection extending postnatally affirms a bidirectional model for prenatal attachment and parent–fetal experience (Cataudella et al., 2016).

Limitations

The lack of diversity in the sample was not ideal. All participants were from middle-class backgrounds and while they had varying current financial situations, all had access to excellent perinatal care. Most participants were white, and all were in heterosexual married or cohabitating partnerships. All participants entered the program with an awareness of possible positive impacts of sharing musical experiences with their children as well as the desire to learn new songs and sing at home.

Researcher positionality was a limitation. The lullaby circle offering was deeply intertwined with my own experiences as a mother, parenting and singing to my children. These personal experiences undoubtedly influenced me in selecting and arranging significant statements from interviews. My dual role as the song circle leader and researcher also created limitations. Participants may have only wanted to discuss positive experiences with the program, as I completed each of the interviews.

Implications

Community music outreach for parents during pregnancy and postpartum is worthwhile and should be expanded. Lullabies have a place in the process of parents growing into their roles and conceptualizing themselves as “good enough” parents. As such, perinatal lullaby education should be integrated into existing pregnancy, childbirth, and parenting education programs. The nature of lullabies – unaccompanied vocal melodies – lends them to be easily incorporated into existing curriculums.

I plan to initiate awareness of the significance of lullaby education by advancing a grassroots lullaby renaissance, establishing parent communities like Olympia Lullaby Circle globally. These community-based and led programs will be headed by individuals trained to lead song circles and facilitate support-group style discussions. Aspiring Lullaby Circle leaders will need to know how to sing a simple tune, use a rain stick and egg shaker, and encourage diverse groups of parents to come together in support of one another. To promote accessibility, leaders will be supported in pursuing community partnerships for classroom space. For example, Olympia Lullaby Circle was held in a yoga studio and wellness center that provided the room for a fraction of participant donations per class session. This partnership enabled a pay-what-you-can class model that ensured access to individuals regardless of financial status.

Future Directions

While prenatal and postnatal lullaby education programs have been explored, perinatal programs have not. Perinatal lullaby programs hold promise and should be explored as a means of reaching a wider audience with lullaby programs. More studies are needed which explore the experiences of fathers and other primary caregivers, in keeping with the norms of modern parenthood. Further exploration is needed to better understand associations with perinatal singing

and perinatal mood, stress, and attachment; quantitative studies on these topics would be illuminating. Long-term follow-ups with families attending lullaby education programs would be beneficial. More studies with comparison groups – singing vs. non-singing – are needed. It would also be worthwhile to explore the benefits of lullaby singing within as well as outside of a community experience. For example, comparing the experiences of participants in a group like the Olympia Lullaby Circle with those of participants enrolled in an at-home, independent study course. More research can be done to explore the bidirectionality of prenatal attachment and the potential influence of singing. Additionally, more research should be conducted on postnatal recognition of familiar songs.

Conclusion

Parents enjoyed and valued their experience in the current perinatal lullaby program. Community music outreach programs such as this could help parents feel better supported and empowered to meet the demands of pregnancy and parenting. Infant-directed singing may be a preventative measure for parental well-being and prenatal and postnatal attachment by having positive impacts on parent well-being. Lullaby singing may be a unique attachment intervention in that it can be performed in the prenatal and postnatal periods. The current study corroborates previous research, demonstrating that parents enjoy lullaby education programs and experience a variety of benefits from singing in class and at home. Parents reported that attending the perinatal lullaby program encouraged them to sing with their babies more frequently at home.

REFERENCES

- Ainsworth, M. D. S. (1979). Infant-mother attachment. *American Psychologist*, 34(10), 932-937.
<https://doi.org/10.1037//0003-066x.34.10.932>
- Baker, F., & Mackinlay, E. (2006). Sing, soothe and sleep: A lullaby education programme for first-time mothers. *British Journal of Music Education*, 23(2), 147–160.
- Bowlby, J. (1958). The nature of the child's tie to his mother. *International Journal of Psycho-Analysis*, 39, 350-373.
- Brandon, A. R., Pitts, S. Denton, W. H., Stringer, C. A., & Evans, H. M. (2009). A history of the theory of prenatal attachment. *Journal for Prenatal & Perinatal Psychology & Health*, 23(4), 201-222.
- Branjerdporn, G., Meredith, P., Wilson, T., & Strong, J. (2020). Prenatal predictors of maternal-infant attachment. *Canadian Journal of Occupational Therapy*, 87(4), 264-277.
<https://doi.org/10.1177/0008417420941781>
- Brisola, E. B. V., Cury, V. E., & Davidson, L. (2019). Mother–infant relationships mediated by singing. *The Humanistic Psychologist*, 47(3), 273–284.
<https://doi.org/10.1037/hum0000119>
- Brisola, E. B. V., & Ilari, B. (2021). Can mothers just ‘sing their troubles away?’: An integrative review of singing and maternal mental health. *Cadernos Brasileiros de Saude Mental*, 13(35), 16-42.
- Brooks, W. (2016). Putting lullabies to bed: The effects of screened presentations on lullaby practices. *Australian Journal of Music Therapy*, 50(2), 83-97.

- Carolan, M., Barry, M., Gamble, M., Turner, K., & Mascarenas, O. (2012a). Experiences of pregnant women attending a lullaby programme in Limerick, Ireland: A qualitative study. *Midwifery*, 28, 321-328. <https://doi.org/10.1016/j.midw.2011.04.009>
- Carolan, M., Barry, M., Gamble, M., Turner, K., & Mascarenas, O. (2012b). The Limerick lullaby project: An intervention to relieve prenatal stress. *Midwifery*, 28, 173-180. <https://doi.org/10.1016/j.midw.2010.12.006>
- Cataudella, S., Lampis, J., Busonera, A., Marino, L., & Zavattini, G. C. (2016). *Life Span and Disability*, 19(2), 185-219.
- Cildir, D. A., Ozbek, A., Topuzoglu, A., & Orcin, E. (2020). Association of prenatal attachment and early childhood emotional, behavioral, and developmental characteristics: A longitudinal study. *Infant Mental Health Journal*, 41, 517-529. <https://doi.org/10.1002/imhj.21822>
- Cirelli, L.K., Jurewicz, Z.B., & Trehub, S.E. (2019). Effects of maternal signing style on mother–infant arousal and behavior. *Journal of Cognitive Neuroscience*, 32(7), 213-1220. https://doi.org/10.1162/jocn_a_01402
- Cirelli, L.K., & Trehub, S.E. (2020). Familiar songs reduce infant stress. *Developmental Psychology*, 56(5), 861-868. <https://doi.org/10.1037/dev0000917>
- Condon, J. T., & Corkindale, C. (1997). The correlates of antenatal attachment in pregnant women. *British Journal of Medical Psychology*, 70, 359-372. <https://doi.org/10.1111/j.2044-8341.1997.tb01912.x>
- Corbeil, M., Trehub, S. E., & Peretz, I. (2016). Singing delays the onset of infant distress. *Infancy*, 21(3), 373-391. <https://doi.org/10.1111/infa.12114>

- Creighton, A.L., Atherton, M., & Kitamura, C. (2013). Singing play songs and lullabies: Investigating the subjective contributions to maternal attachment constructs. *The Australian Journal of Music Therapy, 24*, 17-44.
- Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed.) Sage Publications, Inc.
- Custodero, L.A., Britto, P.R., & Brooks-Gunn, J. (2003). Musical lives: A collective portrait of American parents and their young children. *Applied Developmental Psychology, 24*, 553-572. <https://doi.org/10.1016/j.appdev.2003.08.005>
- de l'Etoile, S. K. (2006). Infant behavioral responses to infant-directed singing and other maternal interactions. *Infant Behavior & Development, 29*, 456-470. <https://doi.org/10.1016/j.infbeh.2006.03.002>
- de l'Etoile, S. K. (2012). Responses to infant-directed singing in infants of mothers with depressive symptoms. *The Arts in Psychotherapy, 39*(5), 353–366. <https://doi.org/10.1016/j.aip.2012.05.003>
- DiPietro, J. A. (2010). Psychological and psychophysiological considerations regarding the maternal-fetal relationship. *Infant and Child Development, 19*, 27-38. <https://doi.org/10.1002/icd.651>
- Doan, H. M., & Zimmerman, A. (2003). Conceptualizing prenatal attachment: Toward a multidimensional view. *Journal of Prenatal and Perinatal Psychology, 18*(2), 109-129.
- Fancourt, D., & Perkins, R. (2017). Associations between singing to babies and symptoms of postnatal depression, well-being, self-esteem and mother-infant bond. *Public Health, 149*-152. <https://doi.org/10.1016/j.puhe.2017.01.016>

- Fancourt D., & Perkins, R. (2018a). Maternal engagement with music up to nine months post-birth: Findings from a cross-sectional study in England. *Psychology of Music*, 46(2), 238-251. <https://doi.org/10.1177/0305735617705720>
- Fancourt, D., & Perkins, R. (2018b). The effects of mother–infant singing on emotional closeness, affect, anxiety, and stress hormones. *Music & Science*, 1, 1-10. <https://doi.org/10.1177/2059204317745746>
- Friedman, S. H., Kaplan, R. S., & Rosenthal, M. B. (2010). Music therapy in perinatal psychiatry: Use of lullabies for pregnant and postpartum women with mental illness. *Music and Medicine*, 2(4), 219-225. <https://doi.org/10.1177/1943862110379584>
- Ilari, B. (2009). Music listening preferences in early life: Infants’ responses to accompanied versus unaccompanied singing. *Journal of Research in Music Education*, 56(4), 357-369. <https://doi.org/10.1177/0022429408329107>
- Kaya, S. O., & Ozkut, B. (2016). The influence of developing technology and mothers’ songs; lullabies. *International Journal of Human Sciences*, 13(1), 778-786. <https://doi.org/10.14687/ijhs.v13i1.3586>
- Kisilevesky, B. S., Hains, S. M. J., Jacquet, A. -Y., Granier-Deferre, C., & Lecanuet, J. P. (2004). Maturation of fetal responses to music. *Developmental Science*, 7(5), 550-559. <https://doi.org/10.1111/j.1467-7687.2004.00379.x>
- Mackinlay, E., & Baker, F. (2005). Nurturing herself, nurturing her baby: Creating positive experiences for first-time mothers through lullaby singing. *Women and Music*, 9, 69-89. <https://doi.org/10.1353.wam.2005.0010>

- Mackinlay, E., Baker, F., & Westerman, N. (2015). Becoming a 'good enough' mother: The importance of singing for baby, singing for self. *International Journal of Birth & Parent Health*, 2(2), 26-29.
- McDowell, I. *Measuring health: a guide to rating scales and questionnaires*. Oxford: Oxford University Press; 2006.
- Mehr, S. A., & Krasnow, M.M. (2017). Parent-offspring conflict and the evolution of infant-directed song. *Evolution and Human Behavior*, 38, 674-684.
<http://dx.doi.org/10.1016/j.evolhumbehav.2016.12.005>
- Mehr, S. A., Song, L. A., & Spelke, E.S. (2016). For 5-month-old infants, melodies are social. *Psychological Science*, 27(4), 486-501. <https://doi.org/10.1177/0956797615626691>
- Mualem, O., & Klein, P. S. (2012). The communicative characteristics of musical interactions compared with play interactions between mothers and their one-year-old infants. *Early Childhood Development and Care*, 1-17.
<http://dx.doi.org/10.1080/03004430.2012.688824>
- Müller, M.E., 1993. Development of the Prenatal Attachment Inventory. In Turriff. (2004). Use of prenatal testing, emotional attachment to the fetus, and fetal health locus of control. Master thesis, *Western Journal of Nursing Research*, 15: 199-21.
- Persico, G., Antolini L., Vergani, P., Constantini, W., Nardi, M.T., & Bellotti, L. (2017). Maternal singing of lullabies during pregnancy and after birth: Effects on mother–infant bonding and on newborns' behavior. *Women and Birth*, 30(5), 214-220.
<https://doi.org/10.1016/j.wombi.2017.01.007>
- Plum Village. (2013). Breathing in, breathing out [Song]. *Basket of Plums Songbook*. Parallax Press. (2013, June 15).

- Reilly, N., Turner, G., Taouk, J., & Austin, M.P. (2019). Singing with your baby: an evaluation of group singing sessions for women admitted to a specialist mother-baby unit. *Archives of Women's Mental Health*, 22, 123-127. <https://doi.org/10.1007/s00737-018-0859-5>
- Ringle, A., & Kelly, A. (2013). Angel wash [Song]. From *Fairy & Human Relations Congress*. SoundCloud. <https://soundcloud.com/fairycongress/angel-wash-song>
- Rodrigues, H., Leite, A., Faria, C., Monteiro, I., & Rodrigues, P.M. (2010). Music for mothers and babies living in a prison: A report on a special production of 'BebéBabá'. *International Journal of Community Music*, 3(1), 77-90, <http://doi.org/10.1386/ijcm.3.1.77/1>
- Shenfield, T., Trehub, S.E., & Nakata, T. (2003). Maternal singing modulates infant arousal. *Psychology of Music*, 31(4), 365-375. https://doi.org/10.1162/jocn_a_01402
- PSfromPenny. (2013, February 19). *Singing to the baby* [Video]. YouTube. <https://www.youtube.com/watch?v=gsdEK6OxucA&t=12s>
- Tichelman, E., Westerneng, M., Witteveen, A. B., van Baar, A. L., van der Horst, H. E., de Jong, A., Berger, M. Y., Shellevis, F. G., Burger, H., & Peters, L. L. (2019). Correlates of prenatal and postnatal mother-to-infant bonding quality: A systematic review. *PLoS ONE*, 14(9) <https://doi.org/10.1371/journal.pone.0222998>
- Trehub, S.E., & Trainor, L. (1998). Singing to infants: Lullabies and play songs. *Advances in Infancy Research*, 12, 43-77.
- Van Puyvelde, M., Rodrigues, H., Loots, G., De Coster, L., Du Ville, K., Matthijs, L., Simcock, D., & Pattyn, N. (2014). Shall we dance? Music as a port of entrance to maternal–infant intersubjectivity in a context of postnatal depression. *Infant Mental Health Journal*, 35(3), 220–232. <https://doi.org/10.1002/imhj.21431>

- Vlismas, W., Malloch, S., & Burnham, D. (2012). The effects of music and movement on mother–infant interactions. *Early Childhood Development and Care, 183*(11), 1669-1688. <http://dx.doi.org/10.1080/03004430.2012.746968>
- Wulff, V., Hepp, P., Wolf, O. T., Fehm, T., Schaal, N. K. (2021). The influence of maternal singing on well-being, postpartum depression and bonding – a randomised, controlled study. *BMC Pregnancy and Childbirth, 21*(501). <https://doi.org/10.1186/s12884-021-03933-z>
- Young, S. (2008). Lullaby light shows: Everyday musical experience among under-two-year-olds. *International Journal of Music Education, 26*(1), 33-46. <https://doi.org/10.1177/0255761407085648>

APPENDICES

Appendix A: Human Subjects IRB Approval



To:
Elizabeth King
School of Teaching, Learning & Developmental Science

RE: Notice of IRB Approval
Submission Type: Renewal
Study #: IRB-FY2023-319
Study Title: Experience of First-Time Mothers Attending a Prenatal Lullaby Program
Decision: Approved

Approval Date: January 11, 2024
Expiration Date: --

This submission has been approved by the Missouri State University Institutional Review Board (IRB). You are required to obtain IRB approval for any changes to any aspect of this study before they can be implemented. Should any adverse event or unanticipated problem involving risks to subjects or others occur it must be reported immediately to the IRB.

This study was reviewed in accordance with federal regulations governing human subjects research, including those found at 45 CFR 46 (Common Rule), 45 CFR 164 (HIPAA), 21 CFR 50 & 56 (FDA), and 40 CFR 26 (EPA), where applicable.

Researchers Associated with this Project:
PI: Elizabeth King
Co-PI:
Primary Contact: Emily Skeers
Other Investigators:

Appendix B: Interview Questions

1. Tell me about your experience in the lullaby classes.
2. What is it like to sing to your baby?
3. What is/was it like to sing to your baby during pregnancy?