

The Impact of Parent-Child Mother Goose: Mothers' Perceptions and Experiences of
Singing to Their Infants Aged 6 - 28 Months

by

Deborah Yvonne Weis
B.A. (CYC), University of Victoria, 1999

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ABSTRACT

Infant-directed singing is a universal phenomenon that has existed and prevailed for centuries. This study explores mothers' perceptions and experiences of singing to their infants and participating in Parent-Child Mother Goose; a community-based parent support program that (among other things) supports the use of infant-directed singing as a means to enhance the mother-infant relationship. A case study approach using both qualitative and quantitative techniques for data collection was used. Five mothers were asked to complete self-administered questionnaires relating to singing to their infants as well as participating in a Parent-Child Mother Goose Program. Each mother participant also completed an interview with the researcher. A cross-case analysis of the data revealed a number of interrelated themes including: 1) experiencing bonding/connection with one's infant, 2) infant-directed singing as a means to regulate infant and maternal emotions and, 3) infant-directed singing as a means to communicate information to one's infant. The mothers' also experienced benefits participating in Parent-Child Mother Goose.

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Model depicting the direct and indirect influences of social support (environmental variable) and intrafamily factors (person variables) on parent and family well-being, parenting styles and child behavior and development.

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Chapter One

Introduction

Balaloo

*No balloo, lammy, no balloo, my dear,
Now balaloo, lammy, ain mammie is here.
What ails my wee bairnie? What ails it this night?
What ails my wee lammy? Is bairnie no right?*

(Old Scottish cradle song, cited in Tucker, 1984)

As a young mother, I sang to my children. From their infancy, through to early childhood they heard my repertoire of traditional and made-up melodies. I would sing lullabies to sooth or comfort them in distress, playsongs to entertain or distract, and perform a variety of popular children's songs for the open road. At times, unable to contain the emotions I felt for my children or the privilege of being their mother, songs would erupt from unknown recesses - songs of love and delight. In my memory, singing to my children remains an intimate and natural aspect of motherhood.

Singing to infants occurs in every known human culture (Trehub, Unyk & Trainor, 1993b) and historical period (Tucker, 1984). While the function of infant-directed singing is not well understood, it is suggested that caregivers use music to help regulate infant states and to communicate emotional information (Trainor, 1996). Fernald (1989) writes that it is the melody itself that communicates the message, suggesting that music may be more powerful than speech itself for affective communication with infants. Communication between infants and caregivers can take various forms (e.g. touching, rocking, smiling, laughing, and singing) (Trehub, Unyk, et al., 1997). Young infants

do not understand word meanings, but they do however recognize and prefer the sound of their mother's voice over the voice of a stranger (Decasper & Fifer, 1980).

In adults, prosodic (stress and intonation of an utterance) features and vocal quality can communicate emotions such as tension, aggression, happiness, and nervousness. Research indicates that infants are also sensitive to prosody. Starting at birth and throughout infancy, infants prefer to listen to the exaggerated prosody of infant-directed speech (Cooper & Aslin, 1990; Fernald, 1985; Fernald & Kuhl, 1987; Pegg, Werker & McLeod, 1992). When mothers interact with their pre-linguistic infants, they elevate pitch, simplify pitch contours, expand pitch range, and speak slowly and repetitively (Fernald, 1991; Fernald & Mazzie, 1991). Moreover, these speech adjustments appear to be universal, having been documented in numerous languages and cultures (Fernald, et al., 1989; Greiser & Kuhl, 1988; Papousek, Papousek & Symmes, 1999).

Over the past several decades research has determined that young infants, though seemingly helpless, are able to approach and respond to their world in sophisticated and organized ways. Ethological theory contends the infant's relationship to his/her primary caregiver begins with a set of innate signals which are remarkably effective for eliciting caregiving responses. For example, when infants experience arousal that exceeds their ability to modulate, they depend on their primary caregivers to read and respond to their emotional cues in a manner that will recapture emotional equilibrium (Sroufe, 1996). As caregivers respond to the infant, it would seem that "the adults and baby are programmed from the beginning to join in a crucial social 'dance', one which forms the root of their developing relationship" (Bee, 1995, p. 88).

The “social dance” between infant and caregiver is activated by external or internal cues associated with situations that caregivers perceive as dangerous, frightening or stressful to the child. Once activated, the caregiver’s behavioral system (George & Solomon, 1989, 1999; Solomon & George, 1996) responds with a repertoire of behaviors to ensure the protection (physical and/or emotional) of the child. George and Solomon (1999) list retrieval, maintaining proximity, carrying, following, signaling to the child to follow, calling, looking, and smiling as caregiving behaviors. However, they also leave other caregiving behaviors open for consideration:

A good question raised here as to whether other maternal caregiving behaviors, also central to babies survival may be considered “parts” of this system (e.g., nursing, cleaning, behavioral thermoregulation, “affectionate” behavior, grooming, licking, washing). Whether or not these behaviors are included, it is clear that a much wider variety of maternal behaviors can and must be brought to bear (organized) to serve the goal of protection, especially when the infant is immature and immobile (p. 665).

Purpose of the Research Study

Literature related to infant-directed singing indicates that it serves a number of purposes (e.g., attracting the infant’s attention to the caregiver, regulating infant emotional states, or communicating different affective meanings to infants) (Trainor, 1996). Based on these assumptions, this study intends to explore a group of mothers’ perceptions and experiences of infant-directed singing and of their participating in a non-clinical, community-based parent support program that promotes the use of songs,

lap-rhymes and stories to enhance the mother-infant relationship. More extensive insight into this phenomenon may help to determine the role of infant-directed singing within the broad spectrum of caregiving behaviors.

Research Questions

Based on the literature related to attachment theory, the caregiving behavioral system, and infant-directed singing, this study intends to convey, from mothers subjective experience: 1) how they see the phenomenon of infant-directed singing; 2) how they interpret their experiences of infant-directed singing in relation to their infant; 3) how they account for their use of infant-directed singing and; 4) what impact, if any, did participating in a Parent-Child Mother Goose program have in their lives.

Context

Parent-Child Mother Goose Program

This research study was conducted with mothers who participated in a non-clinical, community-based parent support program. The program, Parent-Child Mother Goose, has four core areas in which it proposes to be effective in supporting parents and their infants: 1) It attempts to encourage a strong and positive bond between parent and child; 2) It seeks to support good language development in the child; 3) It seeks to help parents gain perspective and insight into the behavior of their children at different stages and; 4) It attempts to provide parents with a supportive group with which they can discuss problems and share triumphs (Celia Lottridge, personal communication, September 12, 2003). Specifically, the program teaches mother-infant dyads a variety of lap-

rhymes and songs to enhance mother-infant interaction.

Developed in 1984, the pilot project of this program was designed by Celia Lottridge (teacher, school librarian, and storyteller), Joan Bodger (Gestalt Therapist) and Barry Dickson (social worker for the Children's Aid Society of Metropolitan Toronto). The Children's Aid Society Foundation, an agency that provides seed money for projects geared at sustaining the family unit and preventing child abuse, agreed to provide initial funding. The first parent participants in the program were clients of the Children's Aid Society of Metropolitan Toronto; parents who "showed signs of what social workers called attachment disorder, a parental failing to bond with a child during the crucial three years of life" (Frampton, 1996, p. 62). When funding ended in 1985, Lottridge and another teacher transformed the program into Parent-Child Mother Goose, a non-profit, charitable agency. Lottridge stated, "By this point we'd realized this way of using rhymes to engage and emotionally connect with a baby could be useful to any parentWe wanted to take this program into the community to reach a wider range of families who may need support in parenting" (Frampton, p. 63).

Parent-Child Mother Goose now runs in various communities across Canada, and is beginning to expand internationally. In Canada, the program is offered in a variety of community-based venues (e.g., Neighborhood Houses, Family Places, and other community resource centers). In recent years, the interest in early literacy in child development has led to libraries being a popular program venue. A typical Parent-Child Mother Goose Program usually runs for ten consecutive weeks (one hour per week) and is offered for parents with young children aged birth to two years or two to four years.

Significance of the Research

Two important factors served as the impetus to pursue this research. First, several decades of research documents the considerable power of parents to influence child development (Zeanah, Larrieu, Scott-Heller & Valliere, 2000). The long-reaching effects of attachment disturbance are well documented in attachment literature (e.g., Greenburg, 1999; Levy & Orleans, 1998; Zeanah, 2000). Collectively, the research indicates that many problems common to childhood are predictive of a wide range of adolescent and adult disorders which are exacerbated by, if not the direct result of, insecure attachment relationships in infancy and early childhood (Muir, Lojkasek & Cohen, 1999). Given that research demonstrates that the quality of infant-mother attachment has considerable effects on the child's overall development, facilitating and enabling them to develop secure attachment appears to take on significant importance (Svanberg, 1998).

The second factor that drove this study relates to a joint commitment between federal, provincial and territorial governments to develop and support Early Childhood Development programs and services in Canada. Under the Federal/Provincial/Territorial Early Childhood Development Agreement, the Government of Canada agreed to provide \$289 million to British Columbia over five years (2000 - 2005) to enhance a variety of initiatives in a number of identified key action areas (British Columbia's Annual Report 2004/2005: Activities and Expenditures on Early Childhood Development and Early Learning and Child Care). In April 2003, the Government of British Columbia created an Early Childhood Development (ECD) Provincial

Partnership with United Way of BC and Savings and Credit Unions of BC to support and advance ECD through Success by 6 ®. Success by 6 ® is a community-driven, internationally branded United Way initiative, which is dedicated to helping young children and families by:

- educating the community about the importance of the early years
- encouraging community leaders to become champions of young children
- mobilizing local resources to invest in prevention-focused early childhood programs and services

Parent-Child Mother Goose is a program that funded by Success By 6 ® in a number local communities. Therefore, this research study intends to provide insight into the impact Parent-Child Mother Goose has on the relationship between mothers and their infants, as well as on their community. Research on these aspects of the program may ultimately help influence continued interest and/or funding for Parent-Child Mother Goose.

Theoretical Framework

*We are molded and remolded by those who have
loved us; and though love may pass, we are
nevertheless their work, for good or ill.*

~ Francois Mauriac (Bowlby, 1969)

Attachment theory proposes that attachment security (the infant's connection to the parent/caregiver) is dependent upon (among other things) child rearing antecedents. As infants and their preferred caregivers interact over time, the infant internalizes the

relationship between his/her own self and the caregiver. In this process, the child develops representational models of attachment. This internal working model is a dynamic mental process that influences an individual's affect, behavior, and perception of self, others and relationships. Benoit (2002) writes:

The quality of attachment in the first year of life is related to sociability with peers from toddlerhood through the teen years (Erickson et al., 1985; Liberman, 1997; Sroufe et al., 1993), cognitive development and problem solving skills (Bell, 1970; Erickson, et al., 1985) and risk of problem behaviors (Goldberg et al., 1995; Lewis et al., 1984; Renken et al., 1989) (p. 6).

In addition, Fonagy and Target (1997b) state the central aspect of a child's social competence and confidence is a secure attachment. It provides the growing child with the resilience, trust, and ability to regulate emotion and develop self-reflective capacities which may be crucial when encountering adverse life events and hazards.

Attachment and Caregiving Systems

Bowlby (1969/1982) wrote that :

Attachment behavior is regarded as what occurs when certain behavioral systems are activated. The behavioral systems themselves are believed to develop within the infant as a result of his interaction with his environment of evolutionary adaptedness, and especially of his interaction with the principal figure in the environment, namely his mother. (p.179/180)

As well, attachment behavior is coordinated to achieve specific goals and adaptive

functions. In the case of young infants and children, attachment is said to be “goal-corrected” - attachment behavior is organized around the goal of seeking protection of a particular person or people - the attachment figure. The behaviors a child uses to achieve this goal may vary by culture, family context, and the child’s age, but the internal goal remains the same for all children (Solomon, 2003).

Bowlby (1969/1982) proposed that while the attachment system functions to keep the infant or child close to the caregiver under threats of safety, a reciprocal process functions in caregivers to protect the infant/child. He implied that the mother’s desire to protect the infant and the infant’s desire to be protected are completely overlapping (Solomon & George, 1996). Internal or external cues/stimuli associated with frightening, dangerous, or stressful situations activate the attachment system. Once activated, the infant/child will engage in a repertoire of behaviors (crying, proximity seeking, etc.) meant to solicit caregiving. Similarly, in caregivers, internal or external cues associated with that which the parent perceives as frightening, dangerous, or stressful for the infant/child should activate the caregiving system. Caregivers would then engage in their own repertoire of behaviors (retrieval, maintaining proximity, calling, signaling, etc.) to ensure the protection of the infant/child (Solomon & George, 1999).

Patterns of Infant Attachment

Bowlby (1969/1982) identified three primary phases of infant attachment:

1) Undiscriminating Responses (0-3 months)

During the first months of life, infants demonstrate various kinds of responses (i.e., smiles, vocalizations, crying), but responsiveness is unselective. They react to most people in fairly similar ways.

2) Discriminating Behaviors (3-6 months)

The infant begins to focus on the preferred caregiver, typically selecting the mother.

The infant has learned which production of signals will elicit caregiver responses.

Mothers become more attuned to infant needs through infant signals.

3) Intense Attachment and Active Proximity Seeking (6-24 months)

Infant attachment to a particular person becomes increasingly intense and exclusive.

Fear of strangers develops during this phase and the infant, now more mobile, will actively follow a departing caregiver. By the end of the first year, infants will have developed their internal working model of attachment.

Internal Working Models of Attachment

The degree to which attachment can fulfil its function of physical and psychological protection is determined by the quality of the mutually responsive interactions between the infant/child and his/her attachment figure. Beyond infancy, attachment systems become additionally influenced by the internal (mental) working models the young child constructs from experienced interactions with their principal attachment figure (Bretherton & Munholland, 1999). It is assumed that children who have attachment figures who are readily available, responsive, and reliable, will develop a working

model of self as acceptable and worthwhile. Conversely, children who have inconsistent or unresponsive attachment figures are assumed to develop a view of self as unacceptable and/or unworthy (e.g., Weinfield, Sroufe, Egeland & Carlson, 1999). Working models of others are presumed to include expectations of who will serve as an attachment figure (i.e., whom to turn to when in need of security), how accessible those figures are, and how they will respond when in need (Main, Kaplan, & Cassidy, 1985).

This said, internal working models are also subject to change. Bretherton and Munholland (1999) also state that affective change in working models can result from extreme life stressors (e.g., a previously empathic and supportive parent becomes highly stressed or deeply depressed because of unemployment, chronic illness, or loss of support systems, etc.). A child in this case may lose confidence in the adult as a secure base, thereby leading the child to reconstruct his or her working model of parent and self (Bowlby, 1973). When such situations improve, and support from others and/or the parent becomes available, the child is able to reconstruct revised working models of self as valued and parents as caring.

Infant Attachment Classifications

Ainsworth, Blehar, Waters, and Wall (1978) conducted the first empirical study of attachment in which they observed the development of infant - mother attachment. Developing and using a behavioral construct named "The Strange Situation," they observed the child's exploration of a novel environment (laboratory) in the presence of a parent, the child's separation from the parent, the introduction of a stranger, followed

by the reunion of the parent to the child. Individual differences, both in the use of the caregiver as a secure base from which to explore the environment and the ability to derive comfort from the caregiver when stressed (by stranger inclusion) were assessed (Schneider-Rosen & Rothbaum, 1993).

Out of this study, three patterns of infant attachment were identified: “secure”, “avoidant” and “resistant/ambivalent.” These patterns were linked to mothers’ success or failure in responding to and meeting infants’ needs (Slade, 1999). Infants categorized as secure used their mother as a secure base from which to explore. During separation, they exhibited signs of missing the parent. Upon reunion, the infant actively greeted the parent with vocalizations, smiles, or gestures. If upset, the infant signaled or sought contact with the parent. Once comforted, the infant returned to exploration of the environment.

Infants categorized as avoidant readily explored the environment and displayed little secure-base behavior. When separated from the parent, there was minimal response, with little visible distress. The avoidant infant also tended to treat the stranger in much the same way as the caregiver, and in some cases the infant was more responsive to the stranger (Weinfield et al., 1999). Upon reunion with the parent, the infant looked away from, and/or actively avoided the parent, often focusing on toys. If picked up, the infant stiffened and/or leaned away.

Infants categorized as resistant/ambivalent were visibly upset upon entering the room. Often fretful or passive, they failed to engage in exploration. When separated from the parent, they became unsettled and distressed. Upon reunion with the parent

they alternated bids for contact with signs of angry rejection or tantrums or they appeared too passive or upset to signal or make contact with the parent. The infants also failed to find comfort in the parent (Ainsworth et al., 1989).

Replicating this study, Main and Solomon (1990) identified a group of infants who did not fit the classifications as identified in Ainsworth's original study. They defined this fourth category as "disorganized/disorientated" attachment. Infants are considered disorganized/disorientated when their behaviors lack an observable goal, intention or explanation - for example, sequential displays of contradictory behavior patterns (i.e., very strong attachment behavior followed by avoidance, freezing, or dazed behavior) or when infants display direct indications of fear/apprehension of the parent; confusion, or disorientation (Lyons-Ruth & Jacobvitz, 1999). Unresolved attachment issues in relation to the parent's own attachment history has repeatedly be found to be predictive of disorganized/disoriented infant strange situation behavior (Hess, 1999).

Cross-Cultural Perspectives on Attachment Theory

While the majority of studies on attachment classifications using the Strange Situation have been conducted in North America, a number of studies have also examined mother-infant dyads in Western Europe, Israel, Japan, China, and Africa (Solomon & George, 1999; van IJzendoorn & Sagi, 1999). van IJzendoorn and Sagi (1999) state that cross-cultural studies have been small scale, in-depth observational with a longitudinal component. However, the validity of these data can be considered high because the researchers have attempted to carefully adapt their assessments

to the particular culture (p. 730). They also maintain that “cross-cultural studies have not (yet) refuted the bold conjectures of attachment theory about the universality and normativity of attachment” (p. 731).

Internal Working Models of Caregiving

Solomon and George (1996) propose that, like the attachment behavioral system, caregiving should also be considered a behavioral system organized at the level of representation. They suggest that the caregiving representational system has similar origins, developmentally and in adulthood, with the parent’s own mental representations of attachment. However, it is a “distinct model of relationships with its own developmental trajectory” (p. 190). That is, during the process of constructing an internal working model of self in early childhood, the individual during adolescence, begins to construct a representational model of self as a caregiver/protector. This developmental transformation is believed to undergo its greatest growth during the transition to parenthood - during pregnancy and for some months following the birth of a child. The intense emotions and emotional swings that often coincide with this period have the potential for both psychological disorganization and a new organization of self (Cowan, 1991). Giving birth likely precipitates the transformation from the childhood perspective of being attached, to the caregiving perspective - being the caregiver/protector. When this transformation occurs, situations perceived by the caregiver as risky or dangerous to the child should activate the caregiving behavioral system. As well, if during these situations, the caregiver’s own attachment system is

aroused, under normal circumstances, the parent/caregiver would appeal to her own attachment figures (e.g., spouse or own parents) for protection (Berman, Marcus & Berman, 1994). It is also noteworthy to mention that Solomon and George (1999) consider these concepts “to be a work in progress and do not intend it to be a definitive statement on caregiving”..... rather it is meant to “stimulate future thinking about the development of the caregiving system” (p. 657).

Patterns of Caregiving Behaviour

In describing maternal behavior and the resulting attachment classification of the child, George and Solomon (1996) state two fundamental components of maternal representation need to be considered: content and process. Content includes evaluations of “self” along three dimensions: 1) a willingness to respond (e.g., “I am the kind of person who wants to care for this child”); 2) an ability to read and understand the child’s signals (e.g., “I know what this child needs”) and; 3) whether caregiving strategies will be effective (e.g., “I am effective at fulfilling the child’s needs”). Content includes corresponding evaluations of the child (“other”), identified as: 1) “The child wants and deserves my care and attention”; 2) “The child clearly signals what is needed” and 3) “The child needs and responds to my care.” Process refers to individual differences in information processing, including processes of defensive exclusion of information and emotion (Main et al. 1985). Defensive exclusion refers to the situation when “attachment experiences and feelings that should be attended to as information instead are treated as unintelligible or unintegrated noise

that is filtered and transformed prior to gaining access to conscious thought” (George & West, in press, p.1). George and Solomon (1989) further explain:

In theory, the quality of the information available to the conscious will determine how well the caregiving model is adapted to the current relationship, including the extent to which the model incorporates specific characteristics of the child, the caregiver, and their situation (p. 225).

Developing, then using the “Experiences of Caregiving Interview”, George and Solomon (1989, 1996) applied the representational components of content and process to mothers’ (n = 32) interview responses. A rating scale identified and defined four representational models of caregiving: secure-based, rejecting, uncertainty, and helplessness. The following (Table 1) summarizes the correspondence between maternal internal working models and their children’s attachment classification.

Table 1: Individual Differences In Mental Representations of The Caregiving System

Child Classification Group	Mother Group and brief description of mental representations
Secure (B) (Ainsworth et al., 1978)	<p>Secure Base Content: Positive evaluations of self as caregiver along three dimensions: (1) willingness to respond, (2) effectiveness of caregiving strategies, and (3) ability to read and understand signals.</p> <p>Process: Mother able to process information and affect relevant to the relationship without relying on defensive exclusion and flexible integration of the “goal-corrected” partnership (Bowlby, 1982) .</p>
Avoidant (A) (Ainsworth et al., 1978)	<p>Rejecting Content: Representation of rejection is reflected in mother’s negative evaluation of caregiving postulates.</p> <p>Process: Mental representations of rejection</p>

Table 1: continued

Child Classification Group	Mother Group and brief description of mental representations
Ambivalent or resistant (C) (Ainsworth et al., 1978)	<p data-bbox="946 506 1438 684">associated with cognitive deactivation (a defense process that excludes information from awareness).</p> <p data-bbox="837 762 1438 1209">Uncertain Content: Inability to make decisions regarding evaluation of self and child and reported opposing qualities (i.e., unable to understand origins of evaluations and integrate positive and negative thought).</p> <p data-bbox="837 1251 1438 1650">Process: Mental representations associated with cognitive disconnection (permits qualitatively opposing evaluations to be separated yet remain accessible to conscious thought).</p>
Disorganized/disoriented (D) (Main & Solomon, 1990)	<p data-bbox="837 1724 1414 1871">Helplessness Content: Evaluations described lacking effective and appropriate resources</p>

Table 1: continued

Child Classification Group	Mother Group and brief description of mental representations
----------------------------	--

to handle child's behavior and provide care. Children were described as "out of control" or "precocious or powerful". Relationships were either chaotic (out of control) or role reversed (precocious or powerful).

Process: Mental representations associated with disorganized caregiving prohibits achieving set-goal of the behavioral system (i.e., the ability to select, evaluate, or modify behavior appropriately).

The Role of Maternal Sensitivity

Of the many aspects of early infant-mother interaction that have been investigated as possible antecedents of the development of secure infant attachment, maternal sensitivity has been identified as a key variable (Meins, Fernyhough, Fradley & Tuckey, 2001). Ainsworth (1969) described maternal sensitivity as a “mother’s ability to perceive and to interpret accurately the signals and communications implicit in her infant’s behavior, and given this understanding, to respond to them appropriately and accurately” (p. 2) . Maternal sensitivity is intimately connected to the attachment-caregiving model.

A mother’s response to her child’s attachment cue has origins in the mother’s caregiving system. This is a behavioral systems interpretation of, for example, Ainsworth’s behaviors that constitute maternal sensitivity. So a mother’s ability, or inability to respond promptly, contingently, and sensitively, is organized in her caregiving system (Carol C. George, University of California - Berkeley, personal communication, February 24, 2004).

Summary

Chapter One has provided the foundation for this study. It has described the assumptions inherent to the phenomenon of infant-directed singing, the study’s purpose and significance an, the theoretical framework in which the phenomenon is conceptualized. Chapter Two provides the background for this study through a review of related literature.

Chapter Two

Literature Review

Introduction

The literature that explores the phenomenon of infant-directed singing is, at this time, limited to quantitative research studies. These studies specifically address areas related to the physiological reactions of infant listeners. The first section of this review provides a brief description of how infants respond to auditory stimuli. This section aims to provide the reader with some examples of the types of infant reactions that have been observed and measured. The second section describes a number of quantitative studies related to infant-directed singing, a new field of research study. Trehub, Unyk et al. (1997) comment that “though singing to infants is prevalent across cultures and historical periods, it has received relatively little attention from the scholarly community” (p. 500). No specific reason is presented for this oversight, but it is possible to conclude it is because most developmental research in communication development has focused on the language system (Trainor, 1996). For example, research has demonstrated that infants prefer to listen to infant-directed over adult-directed speech (Cooper & Aslin, 1990; Fernald, 1985). Trainor, however, concludes:

Infant-directed speech in most, if not all, cultures is more rhythmic, higher in pitch, and contains slower more exaggerated pitch contours than adult-directed speech (e.g., Fernald, 1991). Thus, infants’ response to speech is based on the musical qualities (Fernald, 1989) (p. 285).

The chapter concludes with the rationale for conducting a qualitative research study to increase the understanding of this emerging field of study.

Determining Infant Responses in Quantitative Research

Measuring infant responses to stimuli such as sound, typically involve behavioral observation. At birth infants possess some control over the muscles that regulate eye and (with adequate support) head movement. This muscular control, combined with an ability to coordinate vision and hearing, leads infants to turn their eyes, head, or both toward a preferred sound - if that sound lasts one second or longer (Clarkson, Clifton, & Morrongiello, 1985). Research has also identified that infants, at birth, possess good control over the muscles involved in sucking. Infants have demonstrated sucking harder and faster in response to a new, interesting sight or sound. Additionally, infants exhibit attention to sound with body movements and facial expressions that a parent or trained observer can learn to easily identify (Philbin & Klass, 2000).

Studies Related to Infant-Directed Singing

Within the limited body of research available on infant-directed singing, a number of areas have been investigated. These areas primarily relate to infant responses/ preferences to infant-directed singing, and parental performance styles. A number of these studies will be presented in this literature review. In addition, two other studies will be discussed: one that investigates the influences of parental musical experience and singing to infants, and the other that explores the relationship between vocal expressiveness in song and maternal attachment.

Studies that consider infant preferences/responses to infant-directed singing have looked at both premature and full-term infants. Coleman, Pratt, Stoddard, Gerstmann and Abel (1997) investigated the effects of male and female singing and speaking voices on selected physiological and behavioral measures of premature infants in a newborn intensive care unit (NICU). Recognizing that premature infants are high risk patients with more developed hearing than visual abilities, this study investigated whether music, particularly male and female singing voices, might draw the attention of the premature infants away from the mechanical sounds typically occurring in the NICU. These unwanted environmental sounds often exceed safe levels and create extra stress for premature infants. It was believed that music may provide the infants with a more “humanizing element” and be a natural way to help premature infants recover well and in a timely manner (Coleman et al, 1997, p.2).

Results of the Coleman, et al. (1997) study indicated that infants in the control group (n=33) and the experimental group (n=33) responded equally to male/female speaking voices. Infants in the experimental group received a 4-day intervention of three-20 minute segments of three randomly ordered periods of male/female singing/speaking and NICU noise. Singing lowered their heart rates, increased oxygen saturation, and reduced distress behaviors. Compared to the control group, infants in the experimental group left the NICU three days earlier and experienced significantly higher caloric intake and weight gain.

In another study related to physiological effects of infant-directed singing, Shenfield (1999) explored the utility of salivary cortisol as a “marker of emotional response on

the part of healthy unstressed maternal singers and infant listeners” (p. 31). Noting that cortisol is a hormone that affects various metabolic functions, Shenfield proposed that if infant-directed singing has an optimizing effect on arousal, it would be indicated by increases or decreases (depending on initial emotional state) in cortisol concentrations. Testing (taking saliva samples) of both mothers and their infants was performed, pre-and-post-singing. Mothers were asked to sing or hum one or more songs of their choice to their infant, continuing for ten minutes. A control group of non-singing mothers and their infants were also asked to provide saliva samples. Results revealed the singing and non-singing mothers did not differ in pre-to-post cortisol changes - both groups indicated decreased levels. However, when videotapes of the singing episodes were coded for maternal sensitivity, it was found that infants’ cortisol changes were evidenced. More sensitive interactions tended to raise the infants’ cortisol levels while less sensitive interactions depressed cortisol levels in the infants.

Research has demonstrated that mothers’ singing to infants closely parallels features observed in speech to infants. That is, performances of songs in an infant’s presence involves a more emotionally engaging voice quality (Trehub, Hill & Kamensky, 1997) and a more “loving” tone of voice (Trainor, 1996) compared to infant-absent sung performances. As well, mothers also produce more exaggerated rhythmic versions of playsongs and less rhythmic versions of lullabies when singing directly to their infants. The reason for this is not understood. Trainor (1996) states, “The precise differences between infant-directed and noninfant-directed singing remain somewhat mysterious” (p. 84).

Mothers also make age-appropriate adjustments in performance styles. For example, when singing to infants, they use a higher pitch and articulate lyrics less clearly when singing to preschoolers (Bergeson & Trehub, 1999).

While most research on infant-directed singing has focused on mothers' singing, some studies have examined whether fathers sing distinctly to their infants. Trehub, Unyk et al. (1997) determined that fathers also produced vocal changes (e.g. pitch, tempo) when singing to their infants. Raters also found fathers' singing to be as emotionally engaging as mothers' songs to their infants. Fathers, however, tended to gender stereotype their singing performances to their infants by generating playful song renditions to their infant sons and soothing renditions to their daughters (Trehub, Hill et al. 1997). It has also been noted that children singing in the vicinity of their infant siblings also raise their pitch and use a more "smiling" tone of voice (Trehub, Unyk, et al. 1997).

Custodero and Johnson-Green (2003) investigated the associations between musical experience and the musical repertoire sung to infants. Results revealed that parents who recalled their mothers singing to them were significantly more likely to sing lullabies, made-up songs, and popular songs than parents who did not recall this experience. Memories of fathers singing were likewise linked to parents' song choices; lullabies were prevalent, followed by made-up songs. Also, parents who recalled being sung to by fathers were not as likely to sing popular songs.

Milligan, Atkinson, Trehub, Benoit and Poulton (2003) explored the relationship between vocal expressiveness in song and maternal representations. Mothers classified

as Autonomous, Dismissing or Preoccupied (see Adult Attachment Interview, George, Kaplan, & Main, 1996) were requested to sing a self-chosen playsong in the presence and absence of their six month old infants. Results revealed that mothers, regardless of attachment classification, sang more expressively in the presence of their infants. Vocal expressiveness in songs to distressed infants did however relate to attachment classification. Mothers classified as Dismissing showed no evidence of acknowledging their infants' negative affect, rather they exhibited similar levels of playfulness or animation in performances to distressed and non-distressed infants. Mothers classified as Autonomous demonstrated the ability to respond sensitively to the positive and negative emotions of their infants by modulating the level of playfulness of their songs depending on their infants' emotional state. Similar to Autonomous mothers, mothers classified as Preoccupied, displayed high levels of playfulness to their non-distressed infants and generated less playful performances for their distressed infants. The Preoccupied classified mothers, did however, display the least lively performances for distressed infants. This suggests that while Preoccupied classified mothers are able to acknowledge infant negative affect, they may fail to assist in regulating their infants' negative experiences (Cassidy, 1994)

In summary, the literature reviewed considers a number of different aspects related to infant-directed singing. Collectively, these studies attest to the relationship between infant-directed singing and infants' physiological and/or emotional state; the voice qualities unique to infant-directed speech and singing; an association between recollections of parents singing and parental singing to one's own infant: and adult

attachment classification influences on maternal infant-directed singing styles/ behaviors. Research in this field also concludes that infant-directed singing is a purposeful means of communication, a universal form of human communication, and an important medium for emotional expression (Trehub & Trainor, 1998).

Summary

Research related to infant-directed singing, to this point in time, has been conducted using quantitative methods. Although valuable and insightful, this methodology tends to provide a fragmented and incomplete picture of the phenomenon of infant-directed singing. In isolating human behaviour, and studying only that which is observable and measurable, important human phenomena tends to be overlooked (Cudmore, 1997).

The research presented in the literature review has provided some insight into the relationship between the cause and effect variables associated with infant-directed singing. Needed to expand the current knowledge base, is a research approach that can reveal a more in-depth understanding of the phenomena and its meaning for those involved. This research study was therefore conducted asking questions that related to mothers' perceptions and experiences of the phenomenon, with the intention of deepening and enriching the existing knowledge base.

Chapter Three

Methodology

Introduction

This study was designed to explore mothers' perceptions and experiences of infant-directed singing and of participating in a Parent-Child Mother Goose Program. Section one describes the researcher's choice of research method and design. The second section describes the research procedure, which includes participant information, the data collection, the data analysis method used, and the validity and reliability of the study.

Research Method and Designs

Gall, Borg, and Gall (1996) write that different researchers make different epistemological assumptions about the nature of scientific knowledge and how to acquire it. For example, some research takes a positivist perspective which is based on the assumption that elements of the social environment represent an independent reality, which remains somewhat constant across time and space. Knowledge from this form of research is developed by collecting numerical data on observable behavior and then subjecting the data to numerical analysis. The literature currently available on infant-directed singing adopts this approach. Postpositivist research, on the other hand, is based in the assumption that elements of the social environment are constructed as interpretations from individuals. Knowledge using this research approach is developed by "collecting primarily verbal data through the intensive study of cases and then

subjecting these data to analytic induction” (Gall et al., 1996, p. 28). The merits of applying either of these approaches is debatable in the understanding of any particular phenomenon (e.g. Palys, 1997, p. 22). However, rather than viewing these two approaches as opposites, Palys concludes:

It might be more productive to see the two not as a set of mutually exclusive either/or options but as opposite sides of the same coin: despite their differences, each perspective might have valid contributions to make to understanding some broader whole. (p. 27)

In light of this perspective, this research study incorporated both a positivist (quantitative) and postpositivist (qualitative) approach in order to present a “broader whole” of the phenomenon of infant-directed singing.

Qualitative Design

Qualitative research designs have a number of common elements including: searching for meanings and essences of experience rather than measurements and explanations; obtaining descriptions of experience through first-person accounts in informal/formal conversations and interviews; and viewing experience and behaviors as an integrated and inseparable relationship of subject and object and of parts and whole (Moustakas, 1994). Upon reviewing various qualitative traditions of inquiry (e.g., grounded theory, ethnography, phenomenology), case study design (i.e., multiple case study) emerged as the most appropriate methodology to answer the research questions. The research questions focus on mothers’ subjective experience, that is, 1) how they see

the phenomenon of infant-directed singing; 2) how they interpret their experiences of infant-directed singing in relation to their own infant; 3) how they account for their use of infant directed singing and; 4) what impact, if any, did participating in a Parent-Child Mother Goose program have in their lives. Questions regarding the meaning and nature of a human phenomenon such as infant-directed singing, are directed towards a search for understanding. Case study design is a research approach that aims to gain an in-depth understanding of the experience and meaning for those involved (Merriam, 2000).

The decision to use multiple case study is based on a number of elements. Yin (2003) writes:

The first and most important condition for differentiating among the various research strategies is to identify the type of research questions asked..... “How” and “why” questions are likely to favor the use of case studies, experiments or histories. (p. 7)

Merriam (2000) also states that case study design is “chosen precisely because researchers are interested in insight, discovery and interpretation rather than hypothesis testing” (p. 28/29) and the strength of case study methodology lies in the fact that it is “anchored in real-life situations” and results in “rich and holistic accounts” of a phenomenon (p. 41). As well, case study methodology permits the use of multiple selection of cases, thereby “strengthening the precision, the validity, and the stability of the findings” (Miles & Huberman, 1994, p. 29). Merriam also concludes that the inclusion of multiple cases is a common strategy for enhancing external validity or

generalizability of research findings.

Grounded theory was ruled out as a methodological option because rather than working from a theoretical perspective, theory is generated during the research process and from the data being collected (Moustakas, 1994). This research study is firmly rooted in the theoretical perspectives of attachment theory and the caregiving behavior system. Ethnography was eliminated as a choice because it is a form of qualitative research that involves first-hand, intensive study of the features of a given culture within the natural settings in which the culture is manifested (Gall et al., 1996). The topic of this research study (the phenomenon of infant-directed singing) is not bound by a particular culture. Phenomenology was a serious contender for research methodology based on its purpose to understand the lived experience of the phenomenon. Data analysis in phenomenological research, according to Gall et al. (1996) is similar to the procedures followed in case study research - the interview data for each case are broken into segments; the researcher looks for meaning units and themes in the segments; the meaning units and themes are compared across cases and; the case findings are synthesized and validated by checking with the participants (p. 602). The departure point of using this methodology in and of itself lay in the distant relationship (i.e., time) between the phenomenon and the researcher's experience of the phenomenon. Gall et al. (1996) point out that the phenomenological researcher needs to be invested in the topic in a significant way, as "she will be collecting data on her own experience of the phenomenon as well as the experiences of her research participants" (p. 601). Thus "the puzzlement [research question] is autobiographical, making memory and history

essential dimensions of discovery, in the present and extensions into the future” (Moustakas, 1994, p. 59).

Participant Selection

Participant selection for this research study was conducted under what Patton (1990) describes as purposeful sampling, that is, “selecting cases that are likely to be information rich with respect to the purposes of the qualitative study” (p. 231). In this case, recruitment for volunteer participants was directed at a program that supports/encourages the use of infant-directed singing. Palys (1997) states however that purposive choices may “indirectly reaffirm rather than challenge” the understanding of a phenomenon (p. 137). To avoid this potential bias, one volunteer participant with a differing perspective and experience with infant-directed singing was included in the study.

The criteria for selection of volunteer participants for this research study had originally intended to focus on mothers with infants aged 0 - 12 months and on mothers who had participated in a 10 - week Parent-Child Mother Goose program. The expectation was to recruit four mother-infant dyads, who matched these criteria for the study. However, volunteer recruitment proved more difficult than anticipated. Within the time frame determined for recruitment and data collection, it was discovered there were only three Parent-Child Mother Goose programs in the geographical area from which to draw potential volunteers. Each of these programs was offered within a non-profit community-based family support agency.

One of the agencies had recently completed one program (offered for 8 weeks) and, due to funding cuts, was unable to plan and/or provide for another. The program facilitator in that agency kindly offered to telephone participants from the recently completed program and pass along the research study information and the researcher's telephone number. From this first round of personal calls, two mothers who matched the criteria volunteered to participate.

The program facilitator in one of the other agencies did not return the researcher's two telephone calls. The researcher then visited the agency to place a recruitment poster (Appendix A) on their information board. The agency's receptionist stated there was no place to hang the poster, but she would give one to the program facilitator. No response (of any kind) was received from this agency.

The third agency had a Parent-Child Mother Goose program that was just starting. The facilitator of that program permitted the researcher to present a verbal description (Appendix B) of the study to the 18 participants. Each of the participants also received a copy of a recruitment letter (Appendix C). When the program approached its end date, the researcher contacted the facilitator and asked her to remind program participants of the research study. No offers to participate in the study were received from this agency. Another attempt to recruit volunteer participants for the study was made by placing recruitment posters on a number of community bulletin boards. This method did not achieve the desired outcomes.

Under pressure of the research study's time frame, and not having recruited the desired number of participants, another call was made to the program facilitator from

the first agency. She graciously contacted more parents from her prior program and from this group, three more volunteers were recruited. As the only interested respondents were mothers of toddlers aged 18 - 28 months, the age criteria for the research study was expanded to include infants over the age of 12 months. The number of participant mothers was expanded from four to five because, as previously mentioned, one of the mothers had a different perspective and experience to share. During the recruitment telephone contact she had asked whether or not the researcher would be interested in hearing about her less than positive successes with infant-directed singing.

Participant Information

The five participant mothers ranged from ages 26 - 33 years. Four of the mothers were married, each having one child. One of the mothers was a single parent with one other child, aged 8 years. All of the mothers were either employed part-time and/or were on maternity leave. All of the mothers had participated in a Parent-Child Mother Goose program within the past 12 months prior to having volunteered for this study. The following (Table 2) summarizes participant information.

Table 2: Participant Information

Dyad Pseudonyms	Ages	Marital Status	No. Of Children
Mother: Fiona Child: Caleb	Mother: 33 yrs. Child: 10 months	Married	1
Mother: Rachael Child: Avy	Mother: 26 yrs. Child: 6 months	Single	2
Mother: Laurie Child: Sam	Mother: 32 yrs. Child: 18 months	Married	1
Mother: Melanie Child: Kristianne	Mother: 33 yrs. Child: 28 months	Married	1
Mother: Pauline Child: Christopher	Mother: 32 yrs. Child: 18 months	Married	1

Data Collection Methods

Two methods of data collection were used in this study. One of the objectives of this study was to get a sense of the “ecology of singing to infants” (Trehub, Unyk, et al., 1997) as it existed for this particular group of mother-infant dyads. By completing a series of self-administered questionnaires (Appendix D) the mother participants provided a snapshot view of their typical mother-infant singing interactions. Self-administered questionnaires were chosen as the method to collect this information because it was considered to be less intrusive than researcher observation. Using the self-administered questionnaires also gave the participant mothers some control over

the data collection process, that is, they were able to fill them out at their convenience and record the information in the privacy of their homes. It was also hoped that the questionnaires would stimulate the participant mothers' thinking on their use of infant-directed singing and how it may/may not impact their relationship with their infants.

The second method of data collection was qualitative interviewing. Kvale (1996) writes:

Interviews are particularly suited for studying people's understandings of the meanings in their lived world, describing their experiences and self understanding, and clarifying and elaborating their own perspective of their lived world (p.105).

A number of different formats exist for the purposes of qualitative interviewing including conversational interviews, general interview guide approaches, standardized open-ended interviews, structured interviews, semi-structured interviews and, unstructured interviews (Gall et al., 1996). The study's research questions directed the researcher's choice of interview format to be used: a face-to-face, semi-structured interview. According to Gall et al. (1996) a semi-structured interview involves asking a series of structured questions, but also using open form questions to probe more deeply for additional information. A semi-structured format allows the conversation to be open to aspects of the topic which are important to the interviewee. At the same time, it allows the interviewer control over the course of the interview, in case digression occurs (Kvale, 1996). This format seemed particularly well suited to the study's purpose of eliciting descriptions of mothers perceptions and experiences of singing to their infants and the possible influence of having participated in a program that

supported/encouraged the use of infant-directed singing.

The semi-structured, yet open ended interview, consisted of a set of questions arranged with the intention of taking each participant through the same sequence of questions (Appendix E). This format reduced the possible bias that may come from having different interviews with the different participants, including the problem of getting more comprehensive data from some participants while getting less data from others.

Data Collection Procedures

Program participants who volunteered to participate in the study were met individually in a convenient location of their choice to read and sign a written consent form (Appendix F). Four of the mothers preferred to meet in their homes and one of the mothers chose to meet in a small café close to her home. After reviewing, discussing, and signing the written consent forms, each of the mothers was provided with a packet containing twenty self-administered questionnaires. The mothers were instructed to record, on a day of their choice, that is, a typical, regular day, with no planned extraordinary activities, the following information:

- a) The date.
- b) The name of the song sung to the infant.
- c) The style the song was sung (e.g., slow/soothing or up-beat/active)
- d) Time of day the song was sung.
- e) The participant's intention for singing the song (e.g. to sooth, entertain, distract infant).

- f) Source of the song (e.g. own childhood, made-up, popular song, P-C Mother Goose).
- g) A brief description of the circumstance in which the participant was compelled to sing the song.
- h) A brief description of the infant's response to each song sung.

Twenty copies of the self-administered questionnaire was a randomly selected number. Each participant was instructed to record only what was most natural for a typical day of interaction with their infant. Additional copies of the questionnaire were available from the researcher if required. None of the mother participants requested additional questionnaires. The mother participants were given a time frame of two weeks to complete the questionnaires. They were instructed to contact the researcher upon completion of the questionnaires to set a time for an audio-taped, semi-structured interview, estimated to take about 90 minutes. Participant consent was verbally renewed at this point of telephone contact.

All the audio-taped interviews took place at the participants' respective homes. These interviews were approximately one hour in length. According to Gall et al. (1996), audio-taping has two main advantages: 1) taped interviews reduce the tendency for researchers to make unconscious selection of data favoring their own biases and, 2) the tape provides a complete verbal record that can be studied more thoroughly than data in the form of interviewer notes (p. 320). Three of the five mothers had their infants present during the interview. This created some distraction for the mothers, but they remained as focused as possible under these circumstances. Participant consent was again verbally renewed at this point of personal contact. Following each interview,

the researcher transcribed the interview verbatim.

Each of the participant mothers had indicated on their consent forms that they were interested in reviewing the transcripts of their data. Of the five read transcripts, three were returned with amendments. The amendments related to grammar corrections or the changing of verbs to describe perceptions and/or experiences. These amendments were incorporated into the data.

Data Analysis

The data from the self-administered questionnaires were analyzed to yield frequency and number of respondents checking each response category on each particular closed-ended question. Descriptions provided in the open-ended questions were analyzed for themes characteristic of each particular participant's experience. The data from the transcripts were analyzed as suggested by Creswell (2003):

When multiple cases are chosen, a typical format is to first provide a detailed description of each case and theme within the case, called with-in case analysis, followed by a thematic analysis across the cases, called a cross-case analysis. (p. 63)

With-in case analysis was accomplished by first reading over each transcript to gain an overall impression. The data were then re-read and notes were made on emerging categories. The categories were then labeled with a word that the researcher thought best reflected its meaning as described in the data. Next the transcripts were read again, by sentence/segments, and these were coded (by color) into the categories. Next the

process of constant comparison was applied, that is, the continual “process of comparison and revision of categories until satisfactory closure is reached” (Gall et al., 1996, p. 566). This was repeated until:

No new and relevant data are emerging relevant to the coding category, no additional categories appear to be necessary to account for the phenomenon of interest, and the relationship among the categories appear well established.
(Gall et al., 1996, p. 567)

Cross-case analysis involved taking the identified categories/themes from the with-in case analysis to compare and contrast between each case.

Validity

Gall et al. (1996) describe a number of different strategies researchers apply to assess validity and reliability in case study findings. Reporting style and triangulation were applied to this study. The first strategy refers to the researcher’s choice of reporting style and its subsequent effect on the reader’s interpretations of the findings. In order to present a credible and authentic representation of the participant’s perceptions and experiences of the phenomenon, verbatim statements are used throughout the case descriptions. The second strategy refers to the researcher’s use of multiple sources to validate information. This was achieved by checking a theme detected in the first participant’s interview with the other participants’ in their subsequent interviews.

Summary

This chapter described the methodology and procedures of the study. It has

presented the conceptualization of the research methodology and a general description of qualitative research using case study design. As well, this chapter has described the research procedure, which included the selection of participants, data collection methods, data analysis, and issues related to validity and reliability.

Chapter Four presents the participants' perspectives and experiences of infant-directed singing and participating in a Parent-Child Mother Goose program.

Chapter 4

Case Descriptions and Findings

Introduction

Chapter Three contains a description of the methodology used to obtain data that would help the researcher develop an understanding of the participant mothers' perceptions and experiences of infant-directed singing and participating in a Parent-Child Mother Goose program. Chapter Four presents the data by organizing it into two sections. In the first section, the data obtained from the five case study mother participants are individually presented by first describing their experiences and perceptions of infant-directed singing, followed by their experiences and perceptions of participating in Parent-Child Mother Goose. The second section summarizes the findings obtained from the self-administered questionnaires completed by the mother participants.

Fiona, Caleb and Singing

Fiona sings to Caleb (aged 10 months) everyday. In some instances it is spontaneous, to meet their respective needs of the moment, but is also a ritual part of their daily interactions. For example, Fiona sings Caleb a "Good Morning" song each day as she is getting out of bed. This is ritual, but it also serves another purpose. While completing the questionnaires associated with this study, Fiona recognized that she used different melodies to communicate information to her pre-verbal child. This particular song is her way of letting Caleb know that she is now awake and coming to get him from his

crib to begin their day. In her own words, she described: *“That’s the one that got me. I sing to him every morning. Singing your “Good Morning” song and now we both know that I am out of bed.”* Other times she may communicate to him a change in her intentions:

I use music to say, “O.K., I’m not going to do this anymore, I am coming to play with you.” Do you know what I mean? He is obviously excited by that and he knows we are going to play, or we are going to bump up and down for awhile, and maybe we will play tickles after that.

Fiona also uses singing as a means to engage with Caleb when she is temporarily unable to have physical contact with him, like when she is driving or preparing dinner. When preparing dinner, Fiona will place Caleb in his highchair in the kitchen with her. She stated:

What I noticed when I was cooking, he couldn’t have me looking at him. He couldn’t have me playing directly with him. Instead of having a conversation, because I am not looking and showing him things, I would sing.

Fiona contrasts singing to talking to her child as singing having a more emotional aspect to it. She described singing to Caleb as being *“mutually rewarding”* in this regard. Singing gives Fiona pleasure as well as a sense of comfort - the same feelings she believes it provides for Caleb. Fiona stated:

I also realize I sing for myself. It’s fun - but it also provides comfort. I sing special lullabies to him when he is sound asleep - a way for me to express love and feeling. Also, when he is awake I’ll sing him special “Caleb Songs” to show him he is special - this makes him happy, but it’s really for me to feel good.

Fiona does acknowledge a distinction in the types of learning that singing provides for her child. On an emotional level, she sees that singing can create and alter moods.

With the singing rituals that are integral to her relationship with Caleb, Fiona believes he is becoming attuned with the messages in the melody. She stated:

I sing when I cuddle him to get him to go to sleep. And I think two things are obvious. I am singing because he is getting quieter, but I think he is also getting quieter, allowing it, because I am singing quieter. He knows which direction the mood is going. So it shows you he is recognizing that. He will come onto my lap to cuddle and we are going to sing whispery songs. I am expecting him to learn that when you hear something soothing, you can be soothed.

On an educational level, Fiona recognizes the more cognitive benefits of singing. Fiona's communication to Caleb has naturally adjusted to support his developmental needs. She reflects: *"Part of communicating now is teaching him language. Songs provide repetition and familiarity and simple/basic concepts. For example, "Old MacDonald" reinforces cow and moo."*

Fiona also sees that singing opens Caleb to the larger context of music in culture. She explained: *"We play sing-song CD's. I'm sure he is learning from me and others singing along that songs, words and sounds, can be learned and shared."*

Fiona finds that Caleb is very responsive to her singing. She has begun to notice that some of his pre-verbal chatter has some identifiable musical segments. For example, she has recognized the sound of "E-I, E-I, E-I, O" (from the song Old MacDonald Had A Farm) in some of Caleb's pre-speech language patterns. She says: *"And there are times he is so obviously singing and that we are going to sing songs together - so he can instigate it."*

Fiona, Caleb and Parent-Child Mother Goose

Fiona participated in one 8 - week session of Parent-Child Mother Goose when

Caleb was approximately 6 months old. The program was offered at a local family support agency. Fiona had strong feelings about the benefits of participating. She found that she liked the social aspects of the program, particularly the opportunity to meet other mothers with babies of similar age as Caleb. Fiona also felt a sense of camaraderie with the other participants. She described it: *“There was automatic peers, because you belonged to the club, because you had a baby and you were allowed to come.”* Fiona also appreciated that the program was very informal/casual, free of cost, accessible and enjoyable. The casual easiness of the program also encouraged Fiona to participate for the entire length of the program. She stated, *“It was the first program I went to that I stuck with.”* Comparing this experience with other pre/post natal programs she had participated in, Fiona said: *“It was nice to be informal, not to expect too much from my brain at 9:30 in the morning”* and *“It was easy to go and sing with a bunch of mums for an hour.”*

Participating in the program also afforded Fiona the opportunity for personal learning and observation. She stated:

It let me know that it was good for me to sing to him. It was something that was really instilled in me. I think our leader [facilitator] was really good for enforcing that - that babies can thrive on their mother's voice.

Fiona also reflected that the program *“reinforced the simplicity of mothering”*, meaning that some aspects of motherhood didn't need to be complicated: *“It was just teaching you how to sing [to your baby], and that your baby likes to hear your voice. That was the take-home message everyday.”* Fiona found that participating in the group provided an opportunity to observe the development of other children:

It was a chance for me to take him, I guess, to see what other babies his age were like. And it was really good to watch the children grow in that time. I got to see crawling kids before he started crawling. And I got to see the kids that actually started walking through those weeks.

An additional benefit she discussed was: “*You got to watch how other mothers were with the kids*”, meaning it was an opportunity to learn how other mothers engaged with their children or applied discipline/guidance.

Overall, Fiona found that participating in Parent-Child Mother Goose was a positive experience. “*The kids loved it*”, and “*It is something that I really think is a great opportunity for parents.*” For herself, Fiona considered that the program was very helpful. She said: “*It was a great thing that with little investment I can always have.*”

Rachael, Avy and Singing

Rachael is the mother of 6 month old Avy. The experience of singing to her young baby is tied to its emotional aspects. It is rooted deeply in feelings - her own and Avy’s. She described that singing to her baby was a soothing and rewarding experience. For Rachael, singing is a means to connect herself emotionally with Avy and she believes it provides a reciprocal emotional experience. She discusses singing in a variety of ways:

If it is an upbeat song, I am feeling upbeat, happy, connected to her. As well, if it’s a soothing song I feel mellow, I feel comforted. There is still that connection to her - the bonding. I feel like I am bonding with her.

Reflecting on Avy’s responses to her singing, Rachael states:

I think she likes the tone of voice, the pitch. It goes high and up - I think it grabs her attention. I think she really enjoys it and if the song has gestures along with it like hand movement - she really enjoys that.

Fundamental to Rachael’s belief in this singing/ bonding process is maintaining eye

contact with her baby:

Eye contact is very important. I could be singing with her and if I'm not making eye contact then there would be no point in singing. There is nothing. I notice that when I am singing with her, I will watch her and her pupils will get big. I notice that eye connection together [with the singing].

Rachael also uses infant-directed singing to connect herself with Avy in situations where Avy is distressed and physical contact with her is not possible. She explains:

If we are driving in the car - and she does not like the car, I sing to her as I am driving. It calms me down because I get frustrated. I can't do anything [about her distress] because I am driving.

Avy does not always respond well to her singing while being in the car. Rachael feels this is because she is not visible to Avy, whose carseat is strapped on the seat behind her. Though Avy cannot always be comforted in this situation, Rachael said:

"Sometimes she will calm down because she knows my voice." Rachael is also

conscious that Avy seems to be susceptible to her own moods/feelings. She stated: *"I notice that if I am stressed out and tense, she is the same way."* In most situations singing to her baby is an effective means to help regulate both their emotions. Rachael concludes: *"That is why I enjoy singing - because it soothes me and if it soothes me, then it will sooth her."*

Rachael, Avy and Parent-Child Mother Goose

Rachael and Avy (then 3 months old) participated in one 8 - week session of the Parent-Child Mother Goose program, at a community-based family resource center located in their neighbourhood. For Rachael, the experience supported her need to stave off the isolation of new motherhood. She disclosed: *"I didn't want to fall into a*

depression actually, so the idea of going out and, forcing myself in some ways, to go out for that walk to where Mother Goose was being held - that was it." Despite the effort it took on some days, Rachael recalls: *"It always put me in a really good mood after. It also put Avy in a really good mood. I wanted to keep that routine going for both of us."*

Rachael stated she also needed and wanted an opportunity to socialize with other mothers with young babies. In this regard, she found that the program facilitated a type of connection amidst participants: *"The whole idea of being together with other moms I really enjoyed."* Rachael also commented on the informality of the program: *"They let the babies walk around that could walk, or crawl around. If babies were fussy, they would be fed and diapers were changed. It was a really good environment actually."* Rachael feels that Avy equally enjoyed the experience: *"She didn't fuss at all. She just was wide-eyed, looking at everybody, all the babies, all the mommies."*

Laurie, Sam and Singing

Music and singing has been a part of Laurie's life since childhood. She stated: *"I grew up in a home where there was singing."* With regards to her parents she explained: *"They both loved singing and they both played musical instruments"*. Laurie has been singing to Sam since his birth and recalls: *"I remember singing to him [as a newborn] in the hospital."* She feels that singing is a way to connect herself to Sam - an expression of her love for him. Sam is now eighteen months old, and in this stage of his development, Laurie finds that singing is a way for her to keep things positive when

Sam willfully asserts his developing independence. She explains that in daily interactions, singing helps maintain the balance between doing what needs to be done with Sam (e.g., diaper changes, hand washing, etc.) and keeping both their emotions from escalating:

Singing is not just for him, it's for me too - it helps calm me, and you know, connect me with what's really important, which is that he is having a good time, and I'm calm, our day is going smoothly.

Another aspect of infant-directed singing Laurie finds important is Sam's response.

She stated: *"He loves it! He likes hearing talking too, but even more, a poem style talking, or reciting "Little Mousie Brown" or whatever, with the actions. He just really loves it. He stops, he'll watch me - he's just more into singing."* Laurie also notices that Sam's emergent language accompanies her singing: *"He's always babbling. When I sing to him now, he kind of hums along."* Reflecting on the impact singing has on Sam, Laurie concludes: *"I just notice the difference. I notice him being calmer and notice him being happier."*

Laurie, Sam and Parent-Child Mother Goose

Laurie began participating in Parent-Child Mother Goose with Sam when he was between five and six months old and continued in the program until he was nearly a year old. It has been something of a family event, She explained: *"It started out that my sister did it, and then my mum started babysitting her [child], so she went. And then my [other] sister went with [her child] and we went with Sam."*

Of the benefits Laurie experienced from participating, she states: *"Connecting with*

other parents” was very important for her; and added, with a laugh: “*For my sanity.*”

The program also provided the opportunity to get out of the house regularly and meet with other mothers. In Laurie’s case, participating in the program has led to an enduring friendship. She stated:

We still get together with another family we met at the Mother Goose Program. and it’s nice for Sam because [the other family’s child] is just two months older than he is and they get along. They play well together.

Participating in the program also provided Laurie with an opportunity to discuss parenting issues and experiences with the other mothers and/or the group facilitators.

These informal discussions usually took place during the break (e.g., when snacks were provided for parents and children midway during each one and a half hour session).

Laurie said:

That was a good time to find out, “Oh, my baby’s sleeping through the night now” or “How’d you do that?” And we’d be able to talk about the different issues that were coming up for us. That was kind of interesting because something may not have been happening to Sam at the time, but later on came up. It just gave me good ideas about what to do and what not to do.

Laurie reflects that the feelings of connectedness that developed between the parents during the duration of the program were meaningful. When funding for their local program ran out Laurie recalled: “*I cried when [the agency] wasn’t going to do it anymore. We all cried on the last day, because we were totally going to miss it.*”

Overall, Laurie believes the program “*enriched our lives*” - meaning hers, her husband’s and Sam’s. She explained: “*I loved every minute of it*” and “*Sam absolutely loves it [the singing].*” With regards to her husband, Laurie said:

He came from a family that never sang. [He] never sang - ever. I never heard

him sing until we had Sam, and now he sings all the time to Sam. He came to Mother Goose with me a couple of times, and he's heard me singing the songs. Now I'll be in the kitchen, or whatever, and I can hear [him] singing to Sam. He's been converted.....he has really seen how much of a difference it makes in a challenging time, like a diaper change.

Melanie, Kristianne and Singing

Melanie is mother to 28 month old Kristianne. She describes singing to her child as being relaxing, bonding, and an enjoyable experience. Melanie has sung to Kristianne since the child's infancy. Over time, Melanie's perception of personal meaning in regards to infant-directed singing has evolved from a solely emotional connection/communication to accommodate the changing dimensions of her relationship with her daughter. She explains: *"When she was a very young baby, days old, I felt more motherly, I think. I felt I was passing on things my mother had passed onto me."* Now she mostly experiences the bonding process in the playful singing interactions (e.g., Ring Around The Rosie), she participates in with Kristianne. There remains however moments of that motherly tenderness in their bedtime singing ritual. Melanie concludes: *"Especially when she is going to sleep and I'm singing to her. It just makes me realize how lucky I am and, I guess, appreciate this time we have together."*

Melanie has also found that singing to her child eases the stresses associated with being a mother of an active toddler. She recognizes that singing provides a reciprocal benefit. She states that Kristianne responds well to singing: *"She'll be screaming, or crying and I'll just start singing and she calms right down and listens."* In moments

like these, Melanie finds that singing helps her. She explained: *“It sort of helps me deal with things too.”* Because of the positive effects singing has on her daughter, (e.g., *“When she’s upset she can relax when she hears it”*), Melanie speculates that perhaps singing helps young children learn to cope in stressful situations. She also believes singing is a more effective means of communicating in some situations (as opposed to talking) because of its emotional aspects:

If I were to say, calm down Kristianne, it’s OK, she’d keep on screaming. I think a song can bring out more emotion in you, like the different beat or rhythm, so I think it can be more soothing or uplifting or joyous.

Melanie also stated that Kristianne sings to herself on occasion while she plays (the same songs they have sung together), and uses songs and singing to express her emerging sense of humour. Kristianne will substitute words in familiar children’s songs and then laugh at her re-creations. Melanie recalled that earlier in the day they had been singing the song “This Old Man”. When it came to the chorus (“With a knick- knack, paddy-whack, give a dog a bone”), Kristianne’s version went: “Knick-knack, paddy-whack, give a dog a mummy!”

Melanie, Kristianne and Parent-Child Mother Goose

Kristianne was almost a year old when they first participated in Parent-Child Mother Goose. Melanie recalls that the first session made a profound impression on her. In her own words:

I remember the first class I went to. I felt like I was in a village, in old fashion times. I imagined that [it might be like] Native Canadians [used to] do - where everyone sits around in a circle and sings a song. And here, everyone was looking at each other and you could see their babies. I remember at one point I started

crying. It was so bonding, it was so nice - because it can be very isolating being a new mum.

Melanie appreciated that the program was informal and simple: *"Just to sit in a circle and sing with your baby was just great."* She didn't find talking to other mums about parenting during the snack break as being a particularly important aspect of participating. Rather she says: *"I find I can get that going to a play-group or to the park often and chit-chat."* Melanie's main focus was participating in the singing circle and hearing/learning the story recited at each session. She also appreciated that the program facilitator had a nurturing approach to program delivery. Melanie remembers: *"The one woman we dealt with, [name], was so warm and loving....she made you feel like having a baby [being a mother] was lovely and [to] enjoy it."*

Melanie stated that her husband participated in one session of Parent-Child Mother Goose with her and Kristianne. She knows that the program, and her own singing to Kristianne has made a significant impression on him:

My husband's family never sang anything. He didn't know any songs. He sings to [Kristianne] now. You can tell he's enjoying it too....I find it funny because he would never have done that [before]. It's just another bonding thing they have with each other.

Pauline, Christopher and Singing

Pauline has strong feelings about singing: *"I like singing. I do love to sing. Music is huge for me."* Despite these personal feelings, she stated: *"I sing to Christopher occasionally. There are sometimes that I do, but there can be a long period where I don't."* Overall, Pauline feels the effectiveness of singing to Christopher (18 months)

is “hit or miss”. She stated: “Usually for me, if he’s in a bad mood, it just doesn’t work for him.” As an example, Pauline stated “Christopher hates having his diaper changed. So I’ll resort to trying to sing to him, but it just aggravates him. It makes him angrier.” Pauline is aware that her husband’s singing to Christopher produces different results. The differences in Christopher’s responses to his parent’s singing are related, in part, to his own and his parents preferences in singing styles. Pauline explained:

Lots of times I feel silly, if they are silly songs. I enjoy singing soothing songs. I would never sing him anything that I made up. I don’t know why - maybe because my parents never did that with me. My husband on the other hand does. He makes up goofy songs and so does his Mum and Christopher loves it when [his Dad] sings to him. But I don’t have the same rapport with the singing.

Pauline’s successes when singing to Christopher come from songs that involve touch and action:

There are some songs I can sing that always work to get him happy because there is bouncing....[like the Bumpy Road]..as soon as I put him on my knee, then he’ll sit still and he’ll smile and he’ll wait for “hole”. He loves it....or the Itsy Bitsy Spider. He loves it when I’m creeping up his toes to his neck... I’m always touching him.

Pauline feels that singing to/with her child has an educational benefit. She is still able to recall bible verses she learned in childhood because they were in song form. If not in song form, she doubts she’d ever had remembered them at all.

Pauline, Christopher and Parent-Child Mother Goose

Pauline participated in one 8 - week session of Parent-Child Mother Goose when Christopher was about 12 months old. Pauline said she: “Benefitted from the social

interaction and having met other mums that were going through the same things I was going through.” She liked having a weekly outing to enjoy with Christopher and, go and do something where there were other young children Christopher’s age. The program she participated in was offered in a local community-based agency within walking distance of her home, which she found to be very convenient.

Pauline found that participating in the program gave her the opportunity to learn new songs. She also found that there was an opportunity to learn about child discipline and guidance from observing the other mother participants interacting with their children.

Findings From the Questionnaires

As previously stated, the questionnaires were designed to provide a snapshot view of the typical singing interactions occurring between each mother- infant dyad. A total of 47 songs were recorded by the five mothers on the returned questionnaires. It was learned that singing to infants accompanied other activities such as play, transporting (car/walking with child in a backpack), diaper changing, feeding, diverting attention, transitioning to other activities, and settling the infant to sleep (see Table 3). This is consistent with the findings of Trehub, Unyk et al. (1997).

Of the 47 songs sung, only two were repeated (“Way Up in the Sky” and “The Itsy, Bitsy Spider”) by different mothers. Two of the mothers repeated a same song twice on that one day of recording (i.e., one mother sang “Stay Awake” twice in the one day and the other mother sang “Creeping Caterpillar” twice in the one day). This finding reveals that among the participant mothers, no one song was more popular than another. In a survey conducted by Johnson-Green & Custodero (2002) it was determined that “the song Itsy Bitsy [aka “Eensy Weensy”] Spider is the favorite song of American babies and toddlers, and has been for at least two generations.” (p. 47)

The research findings also indicate that the majority of the songs sung by the mothers (see Table 3) originated from their own childhoods. This demonstrates that the mothers were introducing and/or passing down the song traditions in which they were raised. This finding is consistent with the results found in the Johnson-Green & Custodero (2002) survey.

All the songs sung to the infants were also children's songs. This finding demonstrates that the mothers made conscious choices about the type (as opposed to adult preferences) of music they used with their infants. This finding is also consistent with the Johnson-Green & Custodero (2002) survey.

Table 3:
Incidence of Song Context, Song Type and Source

Classification	Number
Song context	
Play	5
Transporting (car or walking)	6
Diaper changing	5
Feeding	4
Diverting attention	4
Transition of activities	6
Sleep preparation	17
Song type	
Playful/Upbeat	29
Slow/Soothing	18
Song Source	
Own childhood	23
Made Up	3
Parent-Child Mother Goose Program	14
Other (popular music from radio, CD's etc.)	7

Table 4 lists the distribution of songs as they were sung throughout the day by the mothers. Songs sung in the morning were predominantly sung in a playful/upbeat style, the exception being for the infants who had a morning nap. In these cases soothing

songs were also sung in that time period.

Table 4:
Incidence of Individual Song Distribution Throughout the Day

Dyad Pseudonym	Morning 6:00 a.m.-12:00 p.m.	Afternoon 12:00 p.m.- 6:00 p.m.	Evening After 6:00 p.m.
Fiona/Caleb	7	0	3
Rachael/Avy	2	1	1
Laurie/Sam	12	5	2
Melanie/Kristianne	2	2	2
Pauline/Christopher	6	1	1

The infants' responses to their mothers' singing, as indicated on the questionnaires, was positive in all but two incidences. A positive response was generally described in terms of infant affect, that is, the infant's mood was calm/happy, and/or the infant cooperated with the mothers' intended goals (e.g., changing a diaper, eating, playing, resting/sleeping). The two incidents; one mother's attempt to calm her infant in a car, and another mother's attempt to change a diaper without engaging in a power struggle, are discussed in Chapter Five.

Chapter 5

Cross-Case Analysis - Connecting the Data to Theory and Research

Introduction

As previously described in Chapter One, attachment is a fundamental human need with a biological basis (Bowlby, 1969/1982). Infants are born with a repertoire of behaviors that elicit adult contact, thereby ensuring their protection and survival. Reciprocal to this process is the caregiving behavior system which, when activated by the attachment behavior system, motivates adult response to perceived infant needs. These inter-related systems play a critical role in how a child develops (Solomon & George, 1999).

As the data from this study was read, re-read and coded, evidence linking infant-directed singing to attachment theory and caregiving behavior system theory was revealed. The first section of this chapter will describe the participants' perceptions and experiences of infant-directed singing and how it relates to these theories. This evidence is referenced throughout the cross-case analysis. The next section of this chapter describes participants' perceptions and experiences of having participated in a parent support program that promotes the use of infant-directed singing (playsongs, lullabies, and lap rhymes). Evidence of social systems theory is referenced in this cross-case analysis as well as research related to mother-infant communication and attachment theory.

Mothers' Perceptions and Experiences of Infant-Directed Singing

To facilitate the discussion between the descriptions and findings of this study and those found in relevant research literature, this discussion is centered around the three themes of infant-directed singing that emerged from the data analysis: 1) experiencing bonding or connection with one's infant, 2) infant-directed singing as a means to regulate infant and maternal emotions, and 3) infant-directed singing as a means of communicating information to one's infant. Although these themes are presented separately it is important to recognize that they are facets of the larger and complex contexts of infant-mother, mother-infant relationships, and are therefore, interrelated.

Theme # 1: Experiencing Bonding or Connection With One's Infant

Bowlby (1979) described the connection between parent and child as an "affectual bond" (p. 67). He stated that affectual bonding is the result of the social behavior of each individual in the pair, and the two individuals tend to remain in proximity of one another. In addition, "should they for any reason be apart, each will sooner or later seek the other out and renew proximity" (p. 68/69).

Ainsworth (1989) further defined affectual bonds as being a specific class of bonds within the larger context of other basic behavioral systems (including attachment and caregiving behavioral systems). She wrote that affectual bonds are long lasting; involve a specific person who is not interchangeable or replaceable with another; involve a need to maintain proximity; involve distress upon inexplicable separation, pleasure or joy at reunion, and grief at loss (p. 711).

While similar in criteria to those attributed to attachment bonds, there remains one critical difference. In an attachment bond, the individual seeks security and comfort in the relationship with the person. This additional criterion provides the defining distinction between parental (affectual) bonds to their children and a child's attachment to parents. Bowlby (1969/1982) concluded that parental attempts to seek security from a child are "almost always not only a sign of pathology in the parent, but a cause of it in the child" (p. 377).

Despite the abundance of attachment research literature that has proliferated since Bowlby and Ainsworth pioneered the concepts, the term "attachment" remains ambiguous, that is, it is used to describe both the infant-parent relationship and parent-infant relationship (e.g. Davis, Harold, Goeke-Morey & Cummings, 2002; Haight, Kagle & Black, 2003; Bell, St-Cyr-Tibble, Paul, Lang, & Goulet, 1998). Bell et al. (1998) also identified that within the scientific literature, "very few factors have been singled out as significantly associated with the development of a strong link between parents and their baby" (p. 1071).

Having determined a need for greater clarity for attachment concepts, Bell et al. (1998) conducted a concept analysis of relevant literature in order to define the attributes, antecedents, and consequences of "parent-infant attachment." Their conclusions regarding attributes, that is, the characteristics that must be present in order to recognize the concept in a naturalistic setting (Walker & Avant, 1995) are used in discussion with the first theme derived from this study. These attributes were identified as proximity, reciprocity, and commitment.

Proximity

Proximity is defined as the physical and psychological experience of parents being close to their infant. It is comprised of three dimensions: contact, emotional state, and individualization. Contact includes the sensory experiences of touching, holding, and gazing. Emotional states refers to the affective experiences of parents toward their infants and their parental role. Individualization refers to the parents' ability to differentiate their infants' needs from their own and respond accordingly (Bell et al., 1998).

As previously mentioned in Chapter Two, research related to attachment behaviour in infants describes how infants seek proximity with caregivers when their attachment system is activated. In very young infants, where locomotion is limited, proximity is sought through verbal cues. As a child matures, and locomotion is possible, the child will begin to physically follow the departing caregiver. Research related to the caregiving behaviour system describes caregivers as simultaneously seeking proximity with the child when this system is activated, or in incidents where danger to the infant is perceived by the caregiver (Solomon & George, 1999). Within this research study, all the mothers described incidents where they responded with singing and/or making physical contact (where possible) when their infants exhibited varying (mild to more than mild) levels of distress. The distress incidents related to the infants being frustrated at having to be artificially restrained (e.g., strapped into a carseat) during transport; emotional distress due to tiredness or illness; and distress related to competing mother-infant needs. Full proximity attainment was not possible in the incidents where

the mothers were otherwise engaged, for example, driving a car or preparing a meal. The mothers, unable to make physical contact, substituted with voice contact (i.e. singing) to sooth their infants.

Parental proximity seeking, outside the definition of an activated caregiving behavioural system i.e., “organized to serve the goal of protection”(George & Solomon, 1999), was also identified in this study. Most of the mothers described how they actively instigated or participated in playful interactions with their infants. For example, Fiona stated: “*I would start to sing when I was coming to play with him [Caleb].*” Rachel indicated on her questionnaire responses that singing to Avy was part of their “*quality time together.*” Laurie also stated on her questionnaire responses that she sang to Sam when they were playing. Melanie described how she joined in a song that Kristianne had begun singing while both were in separate rooms in their home (this implying a parental proximity seeking of an emotional rather than a physical kind).

Reciprocity

Reciprocity is described as the process by which the capabilities and behaviour of the infant elicit parent response. It has two dimensions: complementary and sensitivity. Parents who are sensitive to their infant’s cues promote his/her growth and development. The infant is considered an active participant in this interactional process by his/her ability to reinforce parental caregiving efforts, thereby contributing to the overall quality of the interactions (Bell et al., 1998).

This concept is similarly described in attachment research literature as “interactional

synchrony” (Isabella, Belsky & von Eye, 1989). Isabella, Belsky & von Eye (1989) describe it as:

The extent to which interactions appear to be reciprocal and mutually rewarding, so that its frequency of occurrence would presumably foster development of the infants’ internal working model of the mother as available, responsive and trustworthy. (p.13)

Four of the five mothers who participated in this study stated that the experience of infant-directed singing provided mutual enjoyment. Fiona stated outright that her experience is “*mutually rewarding.*” As an example she described, “*When he is awake I’ll sing him special “Caleb” songs to show him he is special. This makes him happy - but it is really for me to feel good.*” Rachael stated: “*I enjoy singing because it soothes me and if it soothes me, then it will sooth her. I will be singing and she will actually enjoy that.*” Laurie stated she sings knowing: “*It’s not just for him, it’s for me too*” and “*He loves it....he just really loves it.*” Melanie stated she liked to sing to/with her daughter because “*She [Kristianne] really responds to it....but it’s also just fun.*”

Commitment

Commitment is defined as the enduring nature of the parent-infant attachment relationship. It has two dimensions: 1) centrality - where parents place the infant at the center of their life and family, and 2) parent role exploration - the ability of parents to integrate parental identity into their self (Bell et al.,1998).

One dimension of this attribute was evidenced explicitly in dialogue with one of the

mothers. While reflecting on having participated in the Parent-Child Mother Goose Program, Pauline expressed that she would participate in the program again, for Christopher's sake, if the opportunity presented. She stated: *"He's getting older and enjoying it [singing and doing song actions] more.....I do everything for him....he's my job. I work to make him happy."*

This research study explored the experiences and perceptions of infant-directed singing as experienced by five mothers. The use of Bell's et al. (1998) attributes of "parent-infant attachment" in this first theme was meant solely to provide the reader with a "framework to increase our understanding of the phenomena" (p.1071). The attributes are therefore not intended to be a measurement to determine whether the mothers who participated in the study have an "attachment" or "bond" with their infant; or what the quality of the "attachment" or "bond" may be.

Theme #2: Infant-Directed Singing as a Means to Regulate Infant and Maternal Emotions

Research related to the development of emotions and emotional regulation, though growing, has yet to provide "a unifying theme or an encompassing definition" (Magai, 1999, p. 790). Campos, Frankel and Camras (2004) define emotion as the process of "registering the significance of a physical or mental event as the individual construes that significance" (p. 379). The nature of the significance (e.g. perceived threat, threat to life, etc) will determine the quality of the emotion. The significance of the event determines the extent of the emotional response as well as its urgency. Emotional regulation, they state, is the "modification of any process in the system that generate

emotions or its manifestations in behavior” (p. 380). Processes that modify emotions originate in the same set of processes that involve the emotion from its on-set. The exception to this internal process is when an “social agent”, often mobilized by his/her own emotions, intervenes to address the problem (e.g., when a mother soothes a hungry or frightened baby, or when an adult breaks up a fight between children) (Campos et al., p. 380).

At birth, an infant has limited abilities to regulate his/her own emotions, and depends on caregivers to help calm him/her down when upset or to keep from getting over stimulated when playing. When caregivers effectively manage infant emotional states, the infant develops the neurological and emotional foundations that gradually allow him/her to regulate his/her own emotions (Hawley, 1998). The development of emotional regulation is therefore primarily dependant upon caregiver intervention (Kopp, 1989).

In addressing the neurobiology of emotional development and attachment theory, Schore (2000) stated:

This [attachment] theory also proposes that the mother directly influences the maturation of the infants’ emerging coping capacities. In a number of writings I offer clear evidence that attachment experiences specifically influence the experience-dependant maturation of the infant’s right hemisphere. The right brain acts as a “unique response system preparing the organism to deal efficiently with external challenges,” and so its adaptive functions mediate the stress systems (Witting, as cited in Schore, 2000).

Schore also believes that the definition of emotional regulation should not be limited to the “dampening of negative emotion” in regards to attachment theory. He states:

Attachment is not just the reestablishment of security after a dysregulating experience and a stressful negative state, it is also the interactive amplification of positive affects, as in play states. Regulated affective interactions with a familiar, predictable primary caregiver create not only a sense of safety, but also a positively charged curiosity that fuels the burgeoning self’s exploration of novel socioemotional and physical environments. (p.14)

As well, Schore (2000) points out that in psychobiological (a multidisciplinary field including, but not limited to the interface between biology, psychology, chemistry, neuroscience) studies of attachment, the interactive regulation of biological synchronicity between organisms, indicate that the intimate contact between mother and infant is regulated by the reciprocal activation of their opiate systems. These elevated levels of opiate (beta endorphins) therefore increase pleasure in both (Kalin, Shelton & Lynn, 1995).

All the mothers who participated in this study recounted incidents where they employed infant-directed singing as a means to regulate their infant’s feeling states. Some of the singing interventions were used once the infant was in some level of active distress, such as being restrained in a carseat, or when actively resisting a diaper change. Some mothers also described using singing as a preventative measure. They anticipated that their infant would react a certain way (typically negative) in a particular situation, so to minimize or ameliorate the anticipated negative state, they sang playful and/or

soothing songs as judged appropriate for the situation. Rachael, for example, stated that she and Avy were participating in a Mum and Tot swimming program. One aspect of the program requires that infants get accustomed to being completely submerged under water. Rachael prepares Avy for the “dunking” by repeating the same playful song each time she is about to be submerged. For Laurie singing to Sam in transition times is particularly helpful. As Sam is entering a developmental stage that has him asserting his independence more forcefully, Laurie finds singing something playful helps him to transition when his needs compete with hers.

Most of the mothers who participated in the study also stated that singing to their infants affected them in a positive way, that is, it consistently provided reciprocal feeling states. For example, Fiona stated: “*I also realize that I sing for myself. It’s fun - but it also provides comfort.*” Rachael explained that when she sings an upbeat song to Avy then: “*I feel upbeat, happy, connected with her.*” The same is true to soothing songs she sings to Avy: “*If it is a soothing song, I feel mellow, I feel comforted.*” Laurie remarked: “*I find [that] for myself, when he is starting to flip [during a diaper change] and get cranky, my anxiety is going up. So if I say a calming little poem [rhyming chant] or something, it brings myself down too.*” Melanie also stated she found singing to be mutually beneficial:

Like she’ll be screaming or crying and I’ll just start singing and she calms down and listens. So for that part, it sort of helps me deal with things. But it’s also just fun, especially now that she’s older, she can sing too. It’s just very fun.

Exceptions to this reciprocal process occurred with two of the mothers. Rachael commented on Avy’s occasional resistance to soothing when strapped into a carseat:

She gets fussy. Even when I sing in the car, it releases my tension, but with her, I think it aggravates her because she can't see me. Sometimes she will calm down because she knows my voice.

It might be possible to speculate that, developmentally, Avy's resistance to accept her mother's attempts to soothe her in this situation relates to the concept of object permanence. Rachael's commented: "*I think it aggravates her because she can't see me,*" indicates Rachael's sensitivity to Avy's reactions.

Very young infants have no conception of objects existing outside of themselves. Various studies have demonstrated that if a person or an object leaves an infant's field of vision, they continue to look for a moment to where the person/object was last seen. If the object/person does not reappear, they go on to do something else. For the infant, out of sight is out of mind (Piaget, 1954). As infants mature, their interest in the external world increases, and they consequently gain a better sense of the permanence of external objects/ persons. For example, if objects drop from their line of vision, they will look to the place the object has fallen, and they can find partially hidden objects. Object permanence develops in stages, and by the fourth stage (between the ages of 8 and 12 months), infants are confident that objects exist and can be located even when outside their line of vision (Crain, 1992).

Based on this concept, and Rachael's observations, it might be possible to speculate that Avy is developing her sense of object permanence. Avy consistently responds positively to her mother's singing when her mother is in her line of vision - this indicates that infant-directed singing effectively regulates her emotions. When her mother is out of sight, and Avy is restrained in her carseat, she becomes "*aggravated.*"

In fact, Rachael stated on one of her questionnaires that while singing to Avy during one such incident, “*She was not impressed at all! [She] started fussing even more!*”

Pauline described that she had a somewhat “*hit and miss*” relationship with infant-directed singing. It’s effectiveness depended on Christopher’s mood, her own comfort level with singing styles, and Christopher’s apparent preference for playful/active songs.

As previously noted in Chapter 4, Pauline stated:

I would never sing him something I made up. I don't know why...maybe because my Mum and Dad never did that with me. My husband on the other hand does. He makes up goofy songs and so does his Mum and Christopher just loves it when [my husband] sings to him. But I don't have the same rapport with the singing.

I notice there is a difference between just singing and songs that have actions and touching. So if I'm just singing a song to him, it depends where he is in his mood. But there are some songs I can always sing that work to get him happy because there's bouncing around.

A number of factors can be considered when regarding the “*hit or miss*” effectiveness of infant-directed singing as Pauline experiences and describes it. First, Pauline admittedly remarked: “*I sing to him occasionally. There is sometimes that I do, and there can be a long period of time where I don't.*” The consistency of use therefore may play a role in its effectiveness. Pauline also stated that she participated in the Parent-Child Mother Goose Program when Christopher was one- year-old. Compared to three of the other mother-infant dyads in this study, this is a considerable age difference. Melanie and Kristianne also participated in Parent-Child Mother Goose when Kristianne was about one year old. However, Kristianne, from a young age, has spent part of the week in the care of her maternal grandmother while her parents work.

The grandmother had previously participated in a Parent-Child Mother Goose program with another grandchild, and she has always sung to/with her grandchildren. Kristianne, therefore, had the regular experience of being sung to within and outside her home environment prior to participating in the program with her mother.

Pauline's comment on Christopher's responses to her singing and/or choice in song styles ("*So if I'm just singing a song to him, it depends where he is in his mood*"), relates to child temperament (i.e., the characteristics/variations of a child's emotional response to physical and social objects in his/her environment). Over the past two decades, research has addressed some of the aspects concerning the "overlap between the domains of attachment and temperament, especially as they relate and co-relate to emerging personality during infancy and early childhood" (Vaughn & Bost, 1999, p. 218). A description of the complex relations between attachment theory and the different theories of temperament is, however, beyond the scope of this study. Suffice to say that, in a review of the literature pertaining to the potential connections between attachment and temperament constructs, Vaughn and Bost conclude:

It seems clear however that the existing data do not support any strong conclusion, save that attachment and temperament domains are related (to a modest degree) but clearly not isomorphic. We suggest that the nature and implications of relations between the domains remain to be worked out. (p.221)

Theme #3: Infant-Directed Singing as a Means of Communicating Information to One's Infant

The data from this study reveal that infant-directed singing is layered in its purpose. It communicates a number of different messages to infants such as love, security, and pleasure. The singing interactions between mothers and their infants evoke emotional responses in both partners, and these emotional responses can motivate subsequent behavior.

As mentioned in Chapter 4, Fiona used singing to communicate to Caleb that she was “*coming to play with him.*” Rachael sang to Avy before dunking her under water at the Mum and Tot swimming class. Laurie sang “Put Your Shoes On Lucy” to prepare Sam to go to play outdoors. From these examples, it is possible to consider that beyond purely emotional intentions, infant-directed singing also is used to communicate more practical information. With this perspective, infant-directive singing plays a role in developing the receptive language skills of preverbal infants. Bee (1995) states that an infant’s ability to understand the meaning of words occurs around 9 or 10 months of age. Citing a study conducted by Bates, Bretherton and Snyder (1988), she explains receptive language comes before expressive language, that is, “children understand before they can speak” (p.231). Both Fiona and Rachael have some understanding of this process. Fiona stated: “*Part of communicating now is teaching him language. Songs provide repetition and familiarity and simple, basic concepts - like “Old MacDonald” reinforces cow and moo.*” She also consciously chooses singing over talking in these situation because singing is more age appropriate for learning concepts.

Rachael explained that singing allows her to “*get on the same level*” as Avy - meaning it is a simple and pleasurable means of age-appropriate communicative interaction.

Of course, not all mothers sing to their infants. Research literature indicates that mothers in most cultures interact verbally with their infants in a unique and distinct manner characterized by elevated pitch contours, expanded pitch range, decreased tempo and repetitiveness (Milligan et al., 2003). Commonly referred to as “motherese”, the following are examples that typify the exaggerated stress syllables (in boldface) of this unique speech pattern:

What are you **doing**?
 Hi, **Sweetie**.
 And did you **see** the green frog?
 Are you **gonna** roll over?
 Are you gonna tell me a **story**?

(Bergeson & Trehub, 2002, p. 74)

The pitch and rhythm structure (prosody) that comprises this style in infant-directed speech is also found in singing and music - making it, in fact, more like music. It is these musical qualities that infants respond to (Rock, Trainor, & Addison, 1999).

According to Fernald (1992):

The characteristic melodies of mothers’ speech are used to elicit and maintain the infant’s attention, to modulate arousal, to communicate emotions, and to facilitate speech segmentation, with a developmental progression from the more general attentional and affective functions in the early months to linguistic functions toward the end of the first year. (p. 279)

Summary

This first section of the cross-case analysis presented the mothers' experiences and perceptions of infant-directed singing. It was discovered that the mothers:

1) experienced bonding or connecting to their infants while singing, 2) used infant-directed singing as a means to regulate their infants and their own emotions, and 3) used infant-directed singing as a means to communicate information to their infants.

Mothers' Perceptions and Experiences Participating in Parent-Child Mother Goose

As previously described in Chapter One, the Parent-Child Mother Goose program has four core precepts. It aims to: 1) encourage a strong and positive bond between parent and child, 2) seeks to support good language development in the child, 3) help parents gain perspective into the behaviour of their children at different stages, and 4) provide parents with a support group with which they can discuss problems and share triumphs.

The results of the analysis showed that, overall the mothers were very enthusiastic about participating in the program. The data revealed that some identical benefits of participating were perceived by all the mothers. These were identified as: 1) meeting and connecting with other mothers, 2) receiving support and/or information from the program facilitators and 3) observational learning and/or information sharing.

Theme #1: Meeting and Connecting With Other Mothers

Each of the mothers felt she had benefitted from meeting and socializing with other mothers. Fiona believed it was a positive experience, especially: *"Getting together with other mums with babies his [Caleb's] age."* Rachael explains: *"For me, I really enjoyed the bonding with other parents. Getting together with other parents."* Laurie's immediate response to the benefits of participating was positive. She said: *"Definitely connecting to other mums. That was really huge for me."* Melanie recalled participating in the program provided the opportunity to bond with other mothers. Pauline also said: *"I enjoyed meeting the other mothers."*

Part of the emphasis on meeting with and connecting to other parents related to the isolation some of the mothers experienced. Rachael related that the program provided the opportunity to go out: *"I was really cooped up and I needed to do something."* This was particularly significant for her as she disclosed: *"I didn't want to fall into a depression actually, so the idea of going out and forcing myself some days to go out and go for that walk down to where the Mother Goose was being held.....that was it."* Melanie recalled participating in the program *"Was so nice, because it can be very isolating being a new Mum."* Pauline also appreciated this opportunity: *"It was nice to get out of the house."*

Theme #2: Receiving Support/Information from the Program Facilitators

All of the mothers in the study felt the program was facilitated in a supportive manner. Having an opportunity to learn new songs was especially appreciated. All the

participants commented they were encouraged to contact the program facilitators if at anytime during the program they had forgotten the melodies or words to the various songs or lap rhymes. Laurie appreciated that the facilitators provided resources, as they: *“Gave us ideas of lullabies to do, or little songs to sing for [infant] massage or diaper changes [and] different ideas for what to do in transition times.”*

There was also an informal/casual approach to each session that permitted mothers to participate as fully, or not, according to the presenting needs of their infants. Fiona recalled: *“If you didn’t feel like singing songs, you [could] go crawling after your baby, and sing the next one.”* Rachael stated:

They [the facilitators] let the babies that could walk around walk, or crawl around. If the babies were fussy, they would be fed and diapers were changed. It was a really, really good environment actually.

Beyond these more practical aspects, two of the mothers expressed that the facilitators supported meaningful beliefs they each held. Fiona stated: *“[The facilitators] reinforced that it was good for me to sing to Caleb.”* Melanie said: *“[One of the facilitators] was just so warm and loving...she made you feel like having a baby was lovely and [to] just enjoy it.”*

Theme #3: Observational Learning and/or Information Sharing

All of the mothers in the study commented that participating in the program provided the opportunity to observe other infants, observe the interactions between other mothers and their infants, and/or share parenting information with other participants. With respects to observing other children, Fiona stated:

It was really good to watch the children grow too. It [the program] was only 10 weeks, but I got to see crawling kids before [Caleb] started crawling, and during the class, he started. And I got to see the kids that actually started walking during those weeks. So it was nice exposure.

For Rachael, participating in the program and watching other mothers helped her to overcome her shyness of breast-feeding in public. Laurie stated that the program's mid-point snack break provided the opportunity to observe and share. She said that during the break:

It was a good time to find out [hear from other mums] "Oh, my baby's sleeping through the night now" or "How'd you do that?" And we'd talk about different issues that were coming up for us. That was kinda interesting because something may not have been happening to Sam at the time, but later came up. It just gave me some good ideas about what to do and what not to do.

Melanie said the following in relation to observing other mothers interact with their infants: "You could pick up different phrases to use to talk to your kids and you'd think...Oh, maybe I can try that next time." Pauline's experiences of observational learning were:

You see things and you think, "I definitely want to".... "I like what she's doing"..... "I like how she's interacting with her child", or how she responds to maybe disciplining her child for hitting another child, or seeing another parent who just doesn't do anything when her child hits another.....you now.....stuff like that. It was actually very interesting to see stuff like that going on.

The Parent-Child Mother Goose program falls in with what Dunst, Trivette and Deal (1994) identify as family support programs; that is, programs which "enable and empower people by enhancing and promoting individual and family capabilities that support and strengthen family functioning (p. 31) . The concept of family support

programming is entrenched in social systems theory. Dunst et al. (1994) use Bronfenbrenner's (1979) construct of the "ecology of human development" to illustrate how four embedded and interrelated ecosystems impact person-environment transactions. Briefly described, these are: 1) microsystems - referring to the immediate settings where the child is at a particular point in time, 2) mesosystems - consisting of the interrelations between two or more of the child's microsystems, 3) exosystems - referring to the settings in which children are not active participants, but which affect one or more of their microsystems, and, 4) macrosystems - consisting of the society and its ideology in which the child grows up (Garbarino, 1982).

The main premise of this model is that events and changes in one system resonate and in turn, directly or indirectly influence the behavior of individuals in other systems. Bronfenbrenner (1979) described this model's application in terms of parenting tasks:

Whether parents can perform effectively in their child-rearing roles within the family depends on the role demands, stresses, and supports emanating from the other settings....Parents' evaluations of their own capacity to function, as well as their view of their child, are related to such external factors as flexibility of job schedules, adequacy of child care arrangements, the presence of friends and neighbors who can help out in large and small emergencies, the quality of health and social services, and neighborhood safety. The availability of supportive settings is, in turn, a function of their existence and frequency in a given culture or subculture. This frequency can be enhanced by the adoption of

public policies and practices that create additional settings and societal roles conducive to family life. (p. 7)

Dunst (2000), provides the following model (Figure 1) to illustrate how he and his colleagues understand the linkages between social support and other domains of functioning with “an eye on the influence of social support as a form of early intervention” (p. 99).

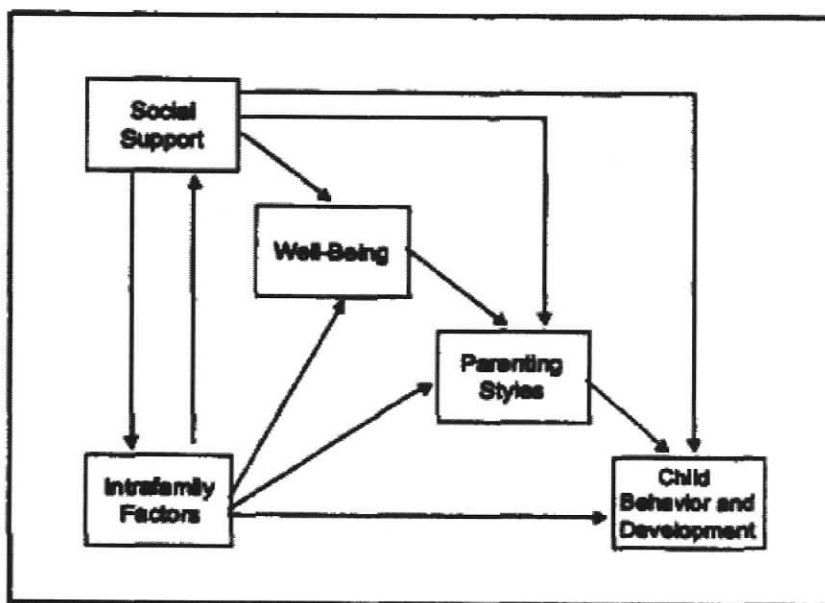


FIGURE 1. Model depicting the direct and indirect influences of social support (environmental variable) and intrafamily factors (person variables) on parent and family well-being, parenting styles, and child behavior and development.

From “Revisiting “Rethinking Early Intervention”,” by Carl J. Dunst, 2000, *Topics in Early Childhood Education*, 20(2), p. 99. Copyright 2000 by Carl J. Dunst. Reprinted with permission of the author.

He writes:

According to this model, social support and resources directly influence the health and well-being of a support recipient; both support and health/well-being influence parenting styles, and support, well-being, and parenting styles directly and indirectly influence child behavior and development. (p.99)

In this model intrafamily factors are defined as, but not limited to, family socioeconomic status, parent coping skills, and child characteristics (e.g. temperament).

In relation to contextual variables and infant-mother attachment, it has been identified that individual factors, such as maternal representations (e.g., van IJzendoorn, 1995) have an impact on the quality of infant-mother attachment. External factors, such as maternal support are also considered to influence infant attachment. According to an early study conducted by Crockenberg (1981) infants of mothers with higher levels of social support displayed significantly fewer anxious behaviors in the Strange Situation. Stern (1995) also reported that support received from other women, especially those who were also mothers, appeared to positively affect a new mother's transition to motherhood. Conversely, it has been identified that mothers in highly stressed conditions are less sensitive to infant cues, more unrealistic about expectations of infant behavior, less verbal and responsive toward the infant, more impatient, and more prone to use physical punishment (Letourneau et al., 2001).

Summary

This section of the cross-case analysis presented the mothers' experiences and

perceptions of participating in Parent-Child Mother Goose - a community-based parent support program that promotes the use of infant-directed singing to enhance mother-infant relationships. The data analysis revealed that participating in the program held identical benefits for the mothers who participated in the study. These benefits were identified as: 1) meeting and connecting with other mothers, 2) receiving support and/or information from program facilitators, and 3) observational learning and/or information sharing.

Chapter Six

Final Comments

Chapter Six presents a review of the study and the findings that emerged from the research. Implications for program delivery, further research and limitations are discussed.

Introduction

This study set out to explore, from mothers' subjective experiences: 1) how they see the phenomenon of infant-directed singing, 2) how they interpret their experiences of infant-directed singing, 3) how they account for their use of infant-directed singing and, 4) what impact, if any, did participating in a Parent-Child Mother Goose program have in their lives. Using a case study approach with interview inquiry techniques, descriptions were generated that would help to describe the phenomenon of infant-directed singing. Self-administered questionnaires were also completed by the participant mothers for the purpose of gaining some understanding of the singing interactions they shared with their infants. The narrative data was analyzed in terms of emerging patterns, using with-in case analysis followed by cross-case analysis. The questionnaires were analyzed to yield frequency and number of respondents checking each response category for each particular open-ended question. Descriptions provided in the open-ended questions were analyzed for themes characteristic of each participant's experience.

Discussion

The preceding case study analysis provides descriptions of mothers' subjective perceptions and experiences of infant-directed singing. These descriptions extend beyond the findings of previous research which primarily focus on the physiological effects of infant-directed singing on the infant, and/or infant preferences of infant-directed singing. In focusing on these particular aspects, the previous studies have provided a foundation for understanding this seemingly ageless and universal phenomenon. At the same time, the previous studies delimitate the meaning of the phenomenon, that is, they do not shed light on the interrelatedness of the infant being sung to and the mother's experience of singing to her infant. This present study therefore sought to extend beyond previous research to uncover and reveal the meaning of infant-directed singing as experienced by mothers.

The findings of this present study do however, share some assumptions of infant-directed singing as identified in previous research. For example, all the mothers in this present study used infant-directed singing to regulate or attempt to regulate their infant's emotions. Fernald (1991) states that "the prosodic features of mother's soothing melodies function directly to decrease arousal and calm the child" (p.75). Trainor (1996) writes that "the close tie between music and emotion and the cross-cultural prevalence of the lullaby suggest that infant-directed singing may function to regulate infant states" (p. 84). Trehub, Hill et al. (1997) also identified that infant-directed singing accompanied child care routines such as feeding or diaper changing, as well as when soothing and or playing with an infant. The questionnaire results of this

present study demonstrated these same findings. What is not mentioned in previous studies is the reciprocal nature of infant-directed singing, that is, how mother's emotions are also regulated during this interaction. All the mothers in this present study related how singing to their infant's impacted their own emotions in a positive manner. This particular finding suggests that infant-directed singing can also function as an intervention strategy for mothers under stress. The use of infant-directed singing as a means to communicate specific/practical information to infants (e.g., Fiona singing to Caleb to let him know that she was coming to get him from his crib; Rachael singing to Avy before she gets dunked under water) is also absent in previous research.

This study also described mothers' perceptions and experiences of participating in a Parent-Child Mother Goose program. The findings in the present study revealed the mothers found the experience of participating in this program to be positive. They appeared to benefit in terms of group process (e.g., interacting with and connecting/bonding with other mothers) and facilitator contact (e.g., receiving information and encouragement/support from the facilitators). Participating in the program also provided the mothers with an opportunity to engage in observational learning. By watching other mother-infant dyads interact, the mothers' in this study were able to gain some insight into child development and/or parenting skills.

Literature on parent support and quality of infant attachment states that external social support has a positive impact on both parenting behaviour and attachment security in infants and young children. Simpson (1999) reports that mothers who have more support from the community interact more positively with their infants. In samples

of high-risk infants, the total amount of social support mothers receive correlates positively with the subsequent attachment security of their infants. Isabella (1994) concluded that high social support significantly predicted high maternal role satisfaction, and thereby the quality of maternal care and attachment security.

Four of the five mothers reported that their husbands began singing to their infants as a result (it is presumed) of hearing the mothers sing regularly. This was an unexpected and interesting finding. Previous research has explored the differences in mothers' and fathers' singing to their infants, as mentioned in Chapter Two. This research does not, however, explore the meaning of infant-directed singing as experienced by fathers.

Implications of this Study

It was not the intent of this study to conduct an evaluation of the Parent-Child Mother Goose program. However, valuable information for future facilitator training may be considered. Additionally, implications for target program populations are another area of consideration.

PC-MG Facilitator Training

The findings of this study have practical and educational implications for mothers, fathers, and other caregivers, as well as for individuals who are involved in community-based parent-support programs. The findings revealed that mothers use infant-directed singing for a number of reasons and, for the most part, find it to be effective and satisfying. The findings also reveal that despite the success some of the mothers

experienced, infant-directed singing does not work for all parents and/or their children in all situations. Educating parents on child development and/or to explore alternative means to regulate infant emotions will better support a new parent's perceptions of self in their new role. In the instances where infant-directed singing appeared to be a less than effective means to console a distressed infant (e.g., Avy becoming frustrated while strapped in her carseat), it may be advantageous for program facilitators to discuss that as a child develops and matures, his/her receptiveness to infant-directed singing in specific situations may be temporarily changed.

In terms of maternal sensitivity, infant-mother attachment, and infant-directed singing, it would be important to discuss with program participants the necessity to follow the infant's lead, that is, respond appropriately to their situation. For example, for an infant in distress (due to illness, teething, or tiredness, etc.) singing a soothing song is more sensitive than side-stepping the infant's emotions by singing an upbeat/playful song in an attempt to change the infant's feeling state.

This study also revealed that infant-directed singing appeared to be most effective with the mother-infant dyads who used it consistently and in a variety of situations within their daily interactions. It may be less effective if used, for example, solely as "tool" for distraction when infant and mother needs compete. In such instances, the infant may learn to associate infant-directed singing with frustration/power struggles and become less receptive to its emotional regulatory benefits.

As noted by three of the mother participants, partners/fathers appeared to have been indirectly influenced by their use of infant-directed singing and/or

participation in Parent-Child Mother Goose, resulting in both parents singing to the infant. This finding demonstrates that this program, delivered in its community-based context, positively impacts parent well-being, parent-child interactions and family functioning.

Considerations for Target Populations

All of the participant mothers' had also commented that they benefitted from the opportunity to go out and meet other mothers. Participating in the program reduced the isolation they experienced as new mothers and provided the opportunity to learn new parenting skills and strategies. The program also facilitated a sense of connection between the participants. This created a supportive atmosphere where participants had the opportunity to, as in one case, build friendships and personal support networks. Based on these experiences, the program may also benefit mothers with post-partum depression, mothers living in isolated, rural communities with limited community support resources, or mothers with children with special needs. Community-based support agencies may also consider offering the program on weekends for mothers who are employed outside the home on weekdays.

Limitations of this Study

Using both a qualitative and quantitative approach, the findings of this study have provided an enriched understanding of mothers' experiences and perceptions of infant-directed singing. It also provided evidence of the impact of Parent-Child Mother Goose as a means to support mother-infant interactions. While recognizing these contributions,

it is equally important to state the limitations of this study:

1. One of the practical realities of conducting this research study was acknowledging the pressure of time it imposed on the young mother participants. All the mothers led busy/active lives and time made for the interviews was inevitably scheduled between other appointments and responsibilities. This limited the participants' focus during the interviews and reduced the researcher's ability to go deeper for meaning in responses. Despite the time pressure and its subsequent impact on level of responses, the findings reveal consistency across most responses.
2. Since all the mothers had participated in Parent-Child Mother Goose, a program that supports the use of infant-directed singing, studying mothers who had not participated in the program and who sing to their infants would offer the opportunity to explore other commonalities and variations of this phenomenon.
3. A case study approach is designed to provide a holistic description and in-depth perspective of those involved (Merriam, 2000, p. 19). Therefore, this sets limits on transferability of research findings to other settings/situations.
4. The sample for this research study is small and was drawn from one community-based family support program. There was also limited cultural representation.
5. This study was based on participant self-report. Therefore, there is always the possibility that the participant's ability and willingness to disclose personal information

may have controlled the data. Also the participant's may have said or recorded what they thought would be appropriate responses. The study did not include observations of infant-directed singing interactions.

Implications for Future Research

There are several possible areas for future research related to infant-directed singing that arise from this study. Four of the five mothers reported that their partners/husbands began singing to their infants as a result (it is presumed) of hearing the mothers singing regularly. This was an interesting and unexpected finding. Previous research has explored the differences in mothers' and fathers' singing to their infants, as mentioned in Chapter Two. This research does not, however, explore the meaning of infant-directed singing as experienced by fathers (or mothers). Further research in this area, and/or the inclusion of other family members (e.g., grandparents or siblings) would provide a richer understanding of this phenomenon.

As well, conducting a longitudinal study on infants who had been regularly sung to, and then investigating whether they engage in singing to self-regulate their emotions may increase the understanding of the development of emotional self regulation.

Summary

This research study used methodological approaches intended to encourage mothers to reflect on their experiences and perceptions of the phenomenon of infant-directed singing. Primarily using qualitative, open-ended questioning, the study therefore sought to obtain a deeper understanding of the phenomenon, rather than

simply gather information. The findings of this study offer an increased understanding of infant-directing singing and the roles it plays in mother-infant interactions. As well, the findings indicate that participation in a community-based parent-support program (Parent-Child Mother Goose) positively impacts maternal well-being, mother-infant interactions and indirectly positively impacts children's development.

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Appendices

Parent-Child Mother Goose Research Study

UVIC Graduate student is seeking past/recent participants of the Parent-Child Mother Goose Program for a research study. If you: are a mother of an infant aged 0-12 months; participated in a 8-10 week program and; are interested in describing your experiences in the program, please contact:

Deborah Weis @ _____.

Appendix B: Recruitment Script

My name is Deborah Weis and I'm a student with the School of Child and Youth Care at the University of Victoria. I am conducting a research study of mother's experiences of singing to their babies and participating in a Parent-Child Mother Goose Program, with Dr. Veronica Pacini-Ketchabaw, assistant professor at the School of Child and Youth Care and Dr. Roy Ferguson, professor with the School of Child and Youth Care.

The purpose of this project is to better understand, from mothers' point of view, the experience of singing to babies and participating in a community-based parent-support program. Singing to babies occurs across cultures and has occurred throughout history. My interest in this topic comes from my own experience singing to my children.

Individuals who are interested in participating will be asked to complete a series of questionnaires, related to singing to their baby, on a day of their choosing. They will also be asked to participate in an interview. The questionnaires are a written record of each time you sing to your baby on the pre-chosen day. The interview will be approximately 90 minutes. All information will be kept strictly confidential and will not be used in any way that will identify the persons responding to the questionnaires or interview.

If there are any questions, I will be happy to answer them at this time.

If you are interested in taking part, or would like further information, you can contact me at the phone number or e-mail address listed on the bottom of the information letter I will pass around to each one of you.

Thank-you for taking the time to consider this request.

Appendix C: Recruitment Letter

The Impact of Parent-Child Mother Goose: Mothers' Perceptions and Experiences of Singing to Their Infants

Deborah Weis, graduate student at the School of Child and Youth Care at the University of Victoria will be conducting a research study on mothers' perceptions and experiences of singing to their babies and participating in a Parent-Child Mother Goose Program. This research study will be completed under the supervision of Dr. Veronica Pacini-Ketchabaw, assistant professor at the School of Child and Youth Care and Dr. Roy Ferguson, professor at the School of Child and Youth Care.

The purpose of this study is to better understand, from mothers' points of view, the experience of singing to their babies and participating in a community-based parent-support program. I am looking for mothers with babies from 0-12 months, who participated in a 10-week Parent-Child Mother Goose Program.

Individuals who are interested in participating in the project will be asked to complete a series of questionnaires related to singing to their baby, on a day of their choosing. They will also be asked to participate in an interview. The questionnaires are a written record of each time you sing to your baby on the pre-chosen day. The interview will be approximately 90- minutes. All information will be kept strictly confidential and will not be used in any way that will identify the persons responding to the questionnaires or interview.

If you are interested in participating or would like further information concerning this project, please contact Deborah Weis @ _____ or _____.

Appendix D: Self-Administered Questionnaire

Singing To Your Infant Questionnaire

Date: _____

Code #: _____

Please answer questions 1 through 6. Use a separate page for each time during the day or evening you sang to your baby.

1. *What song did you sing?*
2. *What style did you sing the song? (Slow/soothing or Up-beat/active).*
3. *Where did you learn the song? (Check appropriate box).*
 - Your own childhood*
 - Made it up*
 - Parent-Child Mother Goose Program*
 - Other (e.g., popular music from radio/CD's, etc.)*
4. *Time of day you sang to your infant (e.g., 9:00 a.m. / p.m.).* _____
5. *Describe the circumstance that compelled you to sing to your baby e.g., What was going on for your baby and/or yourself? (e.g., your baby's mood, your mood, etc.)*
6. *Describe how your baby responded to the song. (e.g. What change(s) did you notice about your baby's behavior during or after you sang the song?)*

Appendix E: Interview Questions

The Semi-Structured Interview was guided by the following questions:

1. What is the experience of singing to your baby like for you?
2. When you sing to your baby, what feelings do you experience?
3. How do you think singing to your baby may effect him/her?
4. How has participating in Parent-Child Mother Goose affected you personally?
 - a) What changes have you seen or felt as a result of participating?
 - b) What would you say you got out of participating?
5. What compels you to sing to your baby rather than talk to him/her in any given situation?

Probe Questions to increase/deepen the responses of above questions , as described by Patton (1980).

1. Detail-Oriented Probes (Who, where, what, when, how questions that are used to obtain a more detailed picture of the experience).
e.g., What are some examples of that? When did that happen? How did that come about?
2. Elaboration Probes (Any statement/request that encourages further talking).
e.g., Would you elaborate on that? I'd appreciate if you would give me more detail on that.
3. Clarification Probes (Probes that let the interviewee know the interviewer needs more information).
e.g., You said_____. What do you mean by_____?
I want to make sure that I understand what you're saying. I think it would help me if you could say more about that.
I didn't quite get your full meaning. Would you run that by me again?

Appendix F: Informed Consent

The Impact of Parent-Child Mother Goose:
Mothers' Perceptions and Experiences of Singing to Their Infants

You are being invited to participate in a study entitled, "The Impact of Parent-Child Mother Goose: Mothers' Perceptions and Experiences of Singing to their Infants", that is being conducted by Deborah Weis. Deborah is a graduate student at the University of Victoria, and you may contact her by telephone at (250) _____ or by email at _____.

As a graduate student, I am required to conduct research as part of the requirements for a Masters Degree. The research is being conducted under the supervision of Dr. Veronica Pacini - Ketchabaw and Dr. Roy Ferguson. You may contact Dr. Pacini-Ketchabaw at (250) 721-6478 and/or Dr. Ferguson at (250) 721-7983.

The purpose of the research is to describe mothers' use of singing (i.e., nursery rhymes, play songs, lullabies, etc.) to their infants and, to explore mother's experiences of having participated in a Parent-Child Mother Goose Program and its subsequent impact on the mother-infant relationship. This type of research is important because it increases knowledge and/or awareness about singing to infants, caregiving activities mothers engage in with their babies and, how community-based parent support may impact mother-infant relationships.

You are being asked to participate in this study because you are a mother of an infant (aged 0-36 months) who participated in a 10-week Parent-Child Mother Goose Program. If you agree to voluntarily participate in this research, your participation will include keeping a written record (questionnaire) for the researcher of singing to your baby during one full day. The purpose of the questionnaire is to record your singing interactions with your baby on a typical day of caregiving. You will choose the day most convenient for you and your infant. You will also be asked to participate in an interview lasting approximately 90 minutes. The purpose of the interview is to further explore your experiences with infant-directed singing. The interview will be audiotaped (with your permission) in order that the best possible accurate account of the interview is obtained. You may decline to answer any question on the questionnaire or any of the questions posed during the interview. Upon completion of the questionnaire and interview, you will be contacted to review the transcribed interview. In order to ensure that you are being represented clearly and accurately, you will be asked to approve any documentation produced by the researcher. Once you agree that your thoughts have been correctly articulated, participation in this study will be complete. Participation will occur in a location convenient to you. Interviews will be scheduled in your home or

anywhere else that you feel comfortable.

Participation in the study may cause some inconvenience to you. If you are uncomfortable with audio-taping the interviews, please be assured this is a common concern of research participants.

The purpose of audio-taping the interviews is strictly to ensure that the information you share with the researcher is accurately recorded. Taking the time to keep a written record of your singing interactions with your baby throughout one full day may also create some stress and will require a considerable time commitment. Reviewing your transcribed interview information and requesting changes to the documentation will also require a time commitment.

There are some potential risks to your participating in this research. You may, for example, feel you have provided some personal information during the interview that you may wish to delete or alter. It may be discovered during the interview process that you have personal issues that may require professional counseling services. If at any time during the interview process you make a disclosure that may indicate some risk or harm to your infant/child, the researcher is required by law to report her concerns to child protection services.

To prevent or deal with these potential risks, you will be given the opportunity to alter or delete any personal information you have provided. The researcher will also, if necessary, provide you with referrals to counseling agencies. A list of counseling agencies is attached at the end of this consent form.

The potential benefits to participating in this study include contributing knowledge to the field of caregiving behavioral research; learning more about mother-infant relationships and; increased awareness of how community-based parent support programs impacted participants. As well, you may gain a fuller understanding of your relationship with your baby.

Your participation in this research is completely voluntary. If you decide to participate, you may withdraw at any time without consequence or any explanation. If you do choose to withdraw for any reason, your data will not be used for analysis, and will be shredded and/or erased.

In terms of protecting your anonymity, your name will not be mentioned in the research study. A coding system will be used instead. Pseudonyms will be used in the reporting of the data and all identifying characteristics will be removed from the narratives.

Only the researcher will have access to your data, and all the data will be stored in a secured, locked location in the researcher's home. All recorded, typed, or written data

will be destroyed after five years upon completion of the research study.

The primary use of the collected data will be to complete a thesis for a masters degree program. A copy of the completed research thesis and/or executive summary will be given to the head office of the Parent-Child Mother Goose Program. The researcher may modify her thesis in order to present it as an article for publication.

In addition to being able to contact the researcher and supervisors at the above telephone numbers, you may verify the ethical approval for this study, or raise any concerns you might have by contacting the Associate Vice-President, Research at the University of Victoria, (250) 472-4545 or ovprhe@uvic.ca. Your signature below indicates that you understand the above conditions of participation in this study and that you have had the opportunity to have your questions answered by the researcher.

Name of Participant

Signature

Date

A copy of this consent form will be left with you, and one copy will be taken by the researcher.

(Signature)

I agree to have my interview audio-taped.

I am willing to review the transcripts of my interview. *(Check applicable box)*

Yes

No