

Theoretical Interfaces in the Acute Paediatric Context: A Psychotherapeutic Understanding of the Application of Infant-Directed Singing

SHANNON O'GORMAN, B. Mus Hons (Ther), RMT, MSW
(Fam.Ther.)

Psychotherapy literature provides a theoretical understanding of parent-infant attachment. This article will reflect upon the specific need to give thoughtful consideration to those infants admitted to the acute-care setting, such as neonatal and paediatric intensive care units, and the potential for this environment to affect infant development and the parent-infant relationship. Infant-directed singing, as described in this article, is an improvised form of vocal interaction that is specifically informed by an understanding of the musical parameters of pitch, rhythm, phrasing, timbre, register, dynamic, tempo and silence. This article will detail a theoretical understanding of using infant-directed singing to foster parent-infant interaction within the acute care environment. In particular, the potentially sensitive, reciprocal and engaging nature of infant-directed singing, coupled with its ability to promote and support maternal demonstrations of empathy, will be discussed with a view to the psychological and physical development of the hospitalised infant.

According to Bowlby, "The roles of the care-giver¹ are first to be available and responsive as and when wanted and, second, to intervene judiciously should the child or older person who is being cared for be heading for trouble" (1979, p. 133). However, when the context of care-giving is in the acute medical setting, such as the neonatal and paediatric intensive care units, parents are presented with unique challenges that may effect their preconceived (in the case a newborn infant) or previous (in the case an older infant) styles of interacting with their child.

Child and Youth Mental Health Service, Mater Children's Hospital; Private Practice.
Mailing address: Level 7 Child and Youth Mental Health Service, Mater Children's Hospital, Raymond Terrace, South Brisbane, Australia 4101. e-mail: shannon.maree@optusnet.com.au

¹For the purpose of this article, the term 'mother' will be used with the understanding that this term applies to whomever is the primary caregiver for the infant.

This challenge to the care-giving relationship occurs at a critical period in the infant's psychological and physical development, and specific interventions aimed at fostering the development of the parent-infant relationship are appropriate to the needs of this at risk population.

THE IMPACT OF HOSPITALISATION UPON PARENT-INFANT ATTACHMENT

According to the Australian and New Zealand Paediatric Intensive Care Registry, 36.5% of all admissions to paediatric intensive care units are children under the age of 12 months (Norton & Slater, 2000, p. 4). These admissions may be unplanned or may be preceded by surgery or a previous admission to the hospital. In all cases, the infant has been identified as requiring significant medical interventions aimed at sustaining or prolonging life. The impact of the infant's admission to this environment can be understood within the context of psychoanalytic and attachment theory, which stresses the relationship between the infant's social environment and personality development (Fonagy, 2001).

Referring to Mary Ainsworth's study of infants in Maryland, Bowlby (1982) stated:

The results of that study show clearly that two variables are significantly related to development of attachment behaviour: (i) sensitivity of mother in responding to her baby's signals and (ii) the amount and nature of interaction between mother and baby. The mothers whose infants are most securely attached to them are mothers who respond to their babies signals promptly and appropriately, and who engage in much social interaction with them—to the delight of each party (pp. 315-316).

This relationship between sensitive and reciprocal parental responses and secure attachment has also been articulated by van Ijzendoorn (1995, p. 398).

Because of a combination of illness, sedation, and/or ventilation, signals provided by the hospitalised infant may be restricted or altered. The struggles faced by the hospitalised infant are aptly summarised by Anna Freud who stated that:

“. . . the author wishes once more to stress how serious a measure hospitalisation is, separating the child from the rightful owner of his body at the very moment when this body is threatened by dangers from inside as well as from the environment” (1952, p. 80).

As a result of the trauma experienced by the infant, parents may find themselves unable to decipher the meaning behind the infant's modified

repertoire of cues. Consequently, the ability of the parent to respond in a sensitive and appropriate manner is compromised.

Not uncommonly, the parents' experience of their infant's medical status and the hospital environment impacts upon the amount of time spent with the infant. In particular, parents may limit the amount of time spent with their infant to limit their own exposure to an environment they may perceive as foreign or hostile. Additionally, the parents' ability to be present and to interact with the infant may be compromised by their desire to minimise contact with the child, who, they fear, may die. In the event that parents are able to maintain a regular presence with their infant, the repertoire of interactions is altered, as nursing staff assume much of the infant's physical care. Because these infants are vulnerable, hospital staff necessarily assume some key tasks usually associated with the attachment figure. Within the hospital environment parents may find themselves unable to bathe or feed their child. Furthermore, there may be limited opportunities for skin-to-skin contact with the child. Not uncommonly, parents ask "what can I do with the baby?" Clearly this points to the potential for difficulty in staff-parent relations, which in turn may impact attachment between a parent and the infant. In essence, it must be recognised that "a long-lasting serious medical illness will stress the attachment system of many young, well-attached children and in some cases may precipitate a clinically meaningful attachment disorder" (Minde, 1999, p. 108).

Therefore, to support the parent-infant relationship in the acute medical setting, parents need assistance in learning to interact with their infant in a manner that enables them to recognise (and understand) their infant's revised repertoire of signals, to respond to these signals in a sensitive manner, and to structure any intervention so that it is not only engaging to the parent and infant, but is also "to the delight of each party." (Bowlby, 1982, p. 316). It will be proposed that infant-directed singing serves as an intervention that potentially facilitates the previously articulated ideals.

INFANT-DIRECTED SINGING: A DESCRIPTION OF THE INTERVENTION

Infant-directed singing refers to the process in which the musical elements of pitch, rhythm, phrasing, timbre, register, dynamic, tempo, and silence are used to facilitate a type of vocal interaction that is tolerated by the infant, whilst offering both the mother and infant an opportunity to engage in reciprocal interaction. Infant-directed singing has been de-

scribed elsewhere, most notably by Shoemark (1999, 2000, 2004a, 2004b), and studies describing parent's prerecorded singing include Nöcker-Ribaupierre (2004) and Zimmer (2004).

This type of singing is founded on the principles of observing and responding to the behavioural and physiological cues provided by the infant while respecting the fragility of the medically compromised infant. Whilst it is understood that "newborns can . . . imitate a variety of voice sounds" (Trevarthen, 1993, p. 56), the hospitalised infant may not be able to communicate using these sounds because of illness, sedation, and/or ventilation. As such, there is an increased need to develop an understanding of the infant's behavioural and physiological cues. The signals that indicate an infant is well organised include:

- behavioural cues, such as smooth and synchronous body movements, smooth transition between sleeping and waking, use of self-consoling behaviours or ability to be consoled from an external source; and
- physiological cues, such as stable heart and respiratory rates, and skin colour.

The signals that suggest that the infant is disorganized include:

- behavioural cues, such as frantic or jittery body movements, change in muscle tone to limp or flaccid, limited use of self-consoling behaviors or inability to be consoled; and
- physiological cues—fluctuations in heart and respiratory rate that may result in apnea or bradycardia, hiccoughs, sneezing, gagging, yawning (Als, 1982; Als, Lester, Tronick, & Brazelton, 1982; D'Apolito, 1991).

These cues are used to inform the application of the singing, which acts as a form of auditory stimulation that can be introduced in combination with other stimuli within a 'decision tree' framework, such as that articulated by Burns et al (1994)². The advantage of this behavioural framework is that stimuli are applied (or removed), increasing the infant's tolerance of the environment, until the infant's upper threshold for stimulation is achieved. Simultaneously, this encourages the infant to strive towards maintaining homeostasis and internal equilibrium. Therefore, this article is based on the premise that the therapist initially models the protocol and then supports the parents as they engage in the same.

In summary, this article will pertain to singing that is improvised or created in the moment and presented live to the infant by the infant's mother. In theory, it is understood that infant-directed singing facilitates

²This protocol was later adapted by Standley (1998) and Shoemark (2004b).

increased experiences of sensitive, reciprocal engagement between parent and infant and that simultaneously the infant is provided with an experience of empathic attunement. By supporting the parent-infant relationship, the clinician ultimately contributes to the infant's psychological and physical development—perhaps reinstating the infant as the rightful owner of his body.

INFANT-DIRECTED SINGING: SENSITIVITY, RECIPROCITY AND ENGAGEMENT

Infant-directed singing is preferred to infant-directed speech because it can . . . promote moderate arousal levels, which sustain infant attention, in contrast to the greater variability of speech, which may result in cycles of heightened arousal, gaze aversion, and re-engagement. The regular pulse of music may also enhance emotional coordination between mother and infant (Nakata & Trehub, 2004, p. 455).

Furthermore, as a result of the flexible and continually changeable nature of improvisation, infant-directed singing provides the infant with immediate and sensitive responses to behavioural and physiological cues. This flexible, immediate response provides the basis upon which reciprocal interactions between parent and infant are fostered. Referring to healthy infants, Klein (1975, p. 96) detailed the potential for reciprocal interaction:

I have also observed that young infants—even as early in the second month—would in wakeful periods after feeding lie on the mother's lap, look up at her, listen to her voice and respond to it by their facial expression; it was like a loving conversation between mother and baby.

Additionally, Bowlby (citing Wolff, 1982, p. 274) highlighted the potential for this interaction to sustain itself:

On the one hand, her infant's interest in her voice is likely to lead a mother to talk to him more; on the other, the very fact that his attention to her has the effect of increasing mother's vocalisations and other baby-orientated behaviour is likely to lead the baby to pay even more attention to the sounds she makes. In this mutually reinforcing way the vocal and auditory interaction between the pair increases.

Essentially both of these authors are describing the "...inter-synchrony, harmonious transitions and complementarity of feelings" that ideally exists between mothers and infants and that this "emotional partnership or 'confluence,'" is to be aspired to (Trevvarthen, 1993, p. 57). Returning to the hospitalised infant, it is understood that whilst opportu-

nities for such interactions remain vital to the infant's development, paradoxically, they also pose a risk of overstimulation.

The musical parameters of infant-directed singing are loosely defined according to the ability to be for it applied in a way that can be tolerated by the medically compromised infant. When singing to an ill infant, the parent should try to sing within the lower to middle range of his or her register (ensuring that this is within a comfortable vocal range), employ a soft to moderate volume, and use a warm vocal tone. Initially, the music should be characterised by repeated pitch and rhythm, slow to moderate tempo, and limited attack (i.e. restraint should be shown with respect to the level of vigour or punctuation.) Overall phrasing should ascend or descend in accordance with the intent of the interaction. Throughout this experience it is important that the parent insert occasions of silence to invite the infant to respond. Initially, the singing should feature vowel sounds, humming, or familiar words. Variations of these elements have the potential to change the character of the singing (Trehub, 1993).

Infant-directed singing provides parents with the ability to be responsive to the infant's behavioural and physiological cues, and it offers a flexible, yet defined, means of responding to the child's cues in a sensitive and reciprocal manner. By supporting parents' interaction with their infant, whilst minimising the possibility of overstimulating the infant, parents may experience less anxiety about interacting with their infant. In turn, increased infant responses to this reduction in parental anxiety, rewards the parents' interaction. The significance of this interaction is reflected through the potential to communicate to the infant an understanding of his experiences and needs.

THE ROLE OF EMPATHY

Winnicott (1982, p. 48) describes the early mother-infant relationship as one in which the infant is dependant on the mother for maternal care. During this period of dependency, the infant requires an environment that

...meets physiological needs. Here physiology and psychology have not yet become distinct, or are only in the process of doing so; and it is reliable. But the environmental provision is not mechanically reliable. It is reliable in a way that implies the mother's empathy. (Winnicott, 1982, p. 48).

When considering the hospitalised infant, many of the physiological needs of the infant are necessarily assumed by medical/nursing/allied health staff, who become a feature of the infant's environment. However, this does not negate the need for the infant's relationship with the mother,

with whom the infant's primary attachment may develop or already exist. Indeed, through the use of infant-directed singing the mother is able to support the infant's physiological and psychological needs. The mother meets the infant by responding in a manner that demonstrates her understanding of the infant's needs.

Empathy may be defined—by applying Kohut's theory of sustained empathetic inquiry (Stolorow et al., 1987, p. 10)—as an attempt to try and understand the infant's expression from a perspective within the infant's subjective frame of reference. The mother who is able to apply an empathetic understanding of the infant's behavioural and physiological cues, facilitates “. . . the unfolding of the infantile grandiosity and encourage[s] feelings of omnipotence that enable the building of an idealised image of the parent with whom he [the infant] wishes to merge” (Fonagy, 2001, p. 108).

INFANT-DIRECTED SINGING AND THE INFANT'S PSYCHOLOGICAL DEVELOPMENT

THE MIRROR STAGE

According to Lacan (1980, p. 4) it is the “. . . function of the mirror-stage as a particular case of the function of the imago, which is to establish a relation between the organism and its reality.” This concept was further developed by Winnicott (1971) who applied the notion of the mirror to the mother's face and stated that when a baby looks at the mother's face, he or she will ordinarily see himself or herself. Following this, one of the major tasks of infant emotional development is separating the “not me” from the “me,” or separating the mother's face as a feature that can be objectively viewed within the infant's environment (Winnicott, 1971, p. 11).

THE TRUE SELF

In the event that the mother is able to provide reliable maternal care, which is experienced by the infant as such, then the infant eventually “. . . becomes a person, an individual in his own right.” (Winnicott, 1982, p. 44). With the appropriate maternal care—specifically, the support of the infant's ego through the maternal implementation of the infant's omnipotent expressions—the infant's true self may emerge (Winnicott, 1982, p. 145). In particular, the emergence of the true self occurs when

. . . the baby gives expression to a spontaneous gesture and this issues forth from the True Self. The mother needs to meet this gesture with an affirming gesture of her own, coming from her own True Self. The True

Self does not become a living reality, is not affirmed, unless the mother repeatedly meets the spontaneous gestures of the child with a gesture of her own, but one that meets the child's" (Symington, 1986, p. 314).

The musical parameters of infant-directed singing may augment the mother's ability to interact with and respond to the infant in an empathetic manner, thereby supporting the development of the infant's ego and allowing for the emergence of the infant's true self. For example, the infant provides a behavioural cue (opening of eyes, synchronous movement of limbs) or physiological cue (reduction in pulse rate). In turn, the mother responds to this with her voice (perhaps singing the word "hello") or with silence (if it is the infant's turn to engage in expression). This process is sustained by both partner's "mutual delight" and concludes when the infant demonstrates (again, through behavioural or physiological cues) the need to withdraw. As such, the mother's response to the infant is not only flexible, but also is immediate and integrates a theoretical understanding of behavioural/physiological cues that heighten her ability to respond in a manner that communicates her emotional, empathic understanding of the infant's needs.

THE FALSE SELF

However, not all mothers are able to meet the infant's need with sufficient sensitivity. In the event that "... maternal care fails the weakness of the infant ego becomes apparent" (Winnicott, 1982, p. 55). This leads to the development of the false self as

The mother who is not good enough is not able to implement the infant's omnipotence, and so she repeatedly fails to meet the infant gesture; instead she substitutes her own gesture which is to be given sense by the compliance of the infant. This compliance on the part of the infant is the earliest stage of the False Self, and belongs to the mother's inability to sense her infant's needs (Winnicott, 1982, p. 145).

In essence, the true self retreats or is hidden in order to protect itself. The infant not only becomes compliant, but also identifies with the negative functioning of the mother (Symington, 1986, p. 313; Winnicott, 1988, p. 108). In the case of the mother of the hospitalised infant, the inability to touch her infant or to understand the signals being provided by her infant may limit her ability to respond successfully to the infant's gestures. Additionally, the mother who is unable to contain the infant's or her own overwhelming feelings, communicates these feelings to the infant who is sensitive to the emotional meanings conveyed through the voice. It

is at this point that interventions must support the mother, whom in a regular context may well demonstrate “good-enough” mothering.

INFANT-DIRECTED SINGING AND THE INFANT’S PHYSIOLOGICAL DEVELOPMENT

According to Freud, “the ego is first and foremost a bodily ego” (Freud, 1989, p. 20) and as such, the development of the ego is influenced by the functioning of the body. This concept is supported by Winnicott, who also stated that ego development is characterised by the development of a body ego and that “. . . it is only when all goes well that the person of the baby starts to be linked with the body and the body-functions . . .” (1982, p. 59). In essence, psychological development (the psyche) and physiological development (the soma) are interrelated processes: to support the development of one, is to support the development of both.

The relationship between the psyche and the soma is reflected through the fact that “emotions of self regulation are often linked with autonomic effects, but their ‘goals’ are states of physiological activity or equilibrium of the total organism and it’s integrity and; well being” (Trevvarthen, 1993, p. 50). In the event that the hospitalized infant is unable to regulate his/her behavioural and physiological responses to external events, “autonomic, motor and state subsystem deficiencies may occur, which can contribute to later neurobehavioural sequelae and subsequent developmental delays” (D’Apolito, 1991, p. 23).

The use of maternal voice to counteract the noncontingent and non-reciprocal stimulation that is experienced by the infant in the acute care setting as occurring randomly, i.e. repeated invasive medical procedures, draws from an understanding that, in the early months of life, infants demonstrate a preference for the maternal voice (Standley & Madsen 1990; Wolff, 1963). The potential for the maternal voice to have a positive physiological effect on an infant is documented in literature (Fifer & Moon, 1994; Nöcker-Ribaupierre, 2004). Indeed, early interactions between mothers and infants “. . . are largely concerned with providing comfort and easing unhappiness. Thus, caregivers are intimately concerned with helping regulate their infant’s state” (Trainor et al., 1997, p. 384). This is reflected quite specifically in Trevvarthen’s (1993, p. 68) statement that “Infant communications are better co-ordinated, more regular, more evocative and productive when they are being responded to by a partner who shows positive empathy.” If the mother is able to assist the infant in regulating his behavioural and physiological state, then the

infant is more able to provide clear cues to the parent, thus facilitating development of parent-infant attachment (D'Apolito, 1991).

The combination of the infant's familiarity with the mother's voice, coupled with the ability of infant-directed singing to reflect the mother's empathy towards the infant, culminates in an experience that potentially enables the mother to assist the infant to regulate (organize) his/her own behavioural and physiological state. Furthermore, by being mindful of the infant's behavioural and physiological cues and responding in an empathetic manner, the mother not only avoids overstimulating the infant but may also adapt the musical parameters to soothe the infant. As such, the mother assists the infant's experience of psychosomatic existence or "... the linkage of motor and sensory and functional experiences with the infant's new [or emerging] state of being a person ... So the infant comes to have an inside and an outside and a body scheme." (Winnicott, 1982, p. 45). Put differently, infant-directed singing facilitates the process of development that enables the psyche and the soma to integrate.

CASE VIGNETTE

Isabella was born at 37-weeks gestation, the first child to Annie, a single mother. At the time of birth, a diagnosis of oesophageal atresia was confirmed. As a consequence, Isabella had been sedated and ventilated since birth. Isabella was referred to music therapy (offered as part of the child and youth mental health service) after having spent her first five weeks of life in the acute care context.

On the occasion of the first session, Isabella presented with stable physiological signs as she lay with her eyes closed. Her mother stood by her bed and appeared eager to begin the session, but reported never having listened to music during her pregnancy or during the first months of Isabella's life. Having described the potential application of music and the potency of the maternal voice, the therapist then modelled infant-directed singing using improvised vocal material that was based on the words "hello Isabella" interspersed with periods of humming. The improvisation featured lyrical, repetitive phrases and also regular spaces of silence, during which Isabella was provided with an opportunity to respond. Isabella's behavioural responses included opening her eyes and moving her limbs in a smooth and synchronous manner. Paradoxically, her pulse rate decreased and became more regular. At these moments of apparent physiological and behavioural organisation, variations were made to the existing melodic material, as Isabella tolerated the increasingly complex stimuli.

The above observations were highlighted to Annie, who joined the

music therapist by singing Isabella's name at the appropriate point in the improvisation. Again, Isabella's responses were highlighted to Annie who appeared to take great delight in the possibility of singing to Isabella when there were less staff members present.

At the conclusion of each session, parents are asked to provide written feedback about their perceptions of the session. Feedback from Annie included, "Just letting her listen to the music or my voice makes her feel calm and relaxed. And she seems to respond with different movements when I talk to her and give her time to respond between each question I say to her." Annie articulated the potency of the use of maternal voice to calm the medically compromised infant. Additionally, Annie's statement reflected her awareness of the infant's cues of engagement and disengagement. It also reflected Annie's ability to structure interactions with Isabella in a manner that could be best described as sensitive and reciprocal, both of which having been identified as essential to the development of secure attachment.

CONCLUSION

According to Winnicott (1968, p. 17), "primary maternal preoccupation" refers to a "willingness as well as an ability on the part of the mother to drain interest from her own self onto the baby." Typically, this identification is at its height at the moment of birth and ebbs as the infant develops (Symington, 1986, p. 314). Arguably, this identification is increased during periods in which the infant is severely compromised and dependant upon maternal care, such as during an admission to the acute care context. Of significance is that during this period of primary maternal preoccupation, the mother is alert to the infant's expectations and needs, and she takes satisfaction from meeting the infant's needs. However, the acute care setting may challenge the mother's ability to demonstrate sensitivity, reciprocity, and empathy when engaging with her infant. At this point, intervention is warranted and may be available through the parameters of infant-directed singing.

Infant-directed singing offers the mother of the hospitalised infant an opportunity to interact with her infant in a manner sensitive to the infant's medically compromised status, whilst allowing the mother to meet the infant's expectations and needs. This intervention values and promotes the mother's ability to empathise with her infant. It enables her to engage with her infant, using singing as a means to facilitating sensitive and reciprocal interaction. Ultimately, infant-directed singing, informed by the theoretical interface of psychotherapy contributors, provides a thoughtful, consid-

ered, and creative approach that supports the infant's psychological and physiological development through parent-infant interaction. Finally, infant-directed singing provides parents with a normalised, potentially enjoyable means of communicating with the infant. It also challenges the parents' experience of the hospital as foreign or hostile, and it potentially increases the time spent not only in the company of the infant but also interacting with the infant.

REFERENCES

- Als, H. (1982). Towards a synactive theory of development: Promise for the assessment and support of infant individuality. *Infant Mental Health Journal*, 3, 229-243.
- Als, H., Lester, B.M., Tronick, E.Z., & Brazelton, T.B. (1982). Manual for the assessment of preterm infants' behaviour (APIB). *Theory and Research in Behavioural Pediatrics*, 1, 65-132.
- Bowlby, J. (1979). *The making and breaking of affectional bonds*. London: Tavistock Publications.
- Bowlby, J. (1982). *Attachment and loss*. Vol. 1: Attachment (2nd ed.). New York: Basic Books.
- Burns, K., Cunningham, N., White-Traut, R., Silvestri, J., & Nelson, M.H. (1994). Infant stimulation: Modification of an intervention based on physiologic and behavioural cues. *Journal of Obstetric, Gynecologic and Neonatal Nursing*, 23, 581-589.
- D'Apolito, K. (1991). What is an organised infant? *Neonatal Network*, 10, 23-29.
- Fifer, W.P., & Moon, C.M. (1994). The role of mother's voice in the organisation of brain function in the newborn. *Acta Paediatr Supp*, 397, 86-93.
- Fonagy, P. (2001). *Attachment theory and psychoanalysis*. New York: Other Press.
- Freud, A. (1952). The role of bodily illness in the mental life of children. *The Psychoanalytic Study of the Child*, 7, 69-81.
- Freud, S. (1989). *The ego and the id*, SE. New York: W.W. Norton and Company.
- Klein, M. (1975). *Envy and gratitude and other works 1946-1963*. United States of America: The Hogarth Press.
- Lacan, J. (1980). *Ecrits: a selection*. London: Tavistock Publications.
- Minde, K. (1999). Mediating attachment patterns during a serious medical illness. *Infant Mental Health Journal*, 20, 105-122.
- Nakata, T., & Trehub, S.E. (2004). Infants' responsiveness to maternal speech and singing. *Infant Behaviour and Development*, 27, 455-464.
- Nöcker-Ribaupierre, M. (2004). The mother's voice—A bridge between two worlds. In M. Nöcker-Ribaupierre (Ed.), *Music therapy for premature and newborn infants* (pp. 97-111). Gilsum, New Hampshire: Barcelona Publishers.
- Norton, L., & Slater, A. (2000). *Australian and New Zealand Paediatric Intensive Care Registry*. Retrieved December 18, 2004, from http://www.anzics.com.au/paed/files/anzpic_report_2000.pdf
- Shoemark, H. (1999). Indications for the inclusion of music therapy in the care of infants with bronchopulmonary dysplasia. In T. Wigram & J. DeBacker (Eds.), *Clinical Applications of Music Therapy in Developmental Disability, Paediatrics and Neurology*. London: Jessica Kingsley Press.
- Shoemark, H. (2000). The use of music therapy in treating infants with complex bowel conditions. In J. Loewy (Ed.), *Music Therapy in the Neonatal Intensive Care Unit*. (pp.101-109). New York: Satchnote Press.
- Shoemark, H. (2004a). Family-centered music therapy for infants with complex medical and surgical needs. In M. Nöcker-Ribaupierre (Ed.), *Music Therapy for Premature and Newborn Infants*. (pp.141-157). Gilsum, New Hampshire: Barcelona Publishers. 20.
- Shoemark, H. (2004b). A model for the therapist's decision within music therapy sessions with pre-verbal clients. 30th Australian Music Therapy Association National Conference. Melbourne, Australia.
- Standley, J.M., & Madsen, C.K. (1990). Comparison of infant preferences and responses to auditory stimuli: Music, mother and other female voice. *Journal of Music Therapy*, 27, 54-97.

Understanding the Application of Infant-Directed Singing

- Stolorow, R.D., Brandchaft, B., & Atwood, G.E. (1987). *Psychoanalytic treatment: An intersubjective approach*. Metuchen, New Jersey: The Analytic Press.
- Symington, N. (1986). *The analytic experience*. New York: St. Martin's Press.
- Trainor, L.J., Clark, E.D., Huntley, A., & Adams, B.A. (1997). The acoustic basis of preferences for infant-directed singing. *Infant Behaviour and Development*, 20, 383-396.
- Trehub, S.E., Unyk, A.M., & Trainor, L.J. (1993). Adults identify infant-directed music across cultures. *Infant Behaviour and Development*, 16, 193-211.
- Trevarthen, C. (1993). The function of emotions in early infant communication and development. In J. Nadel & L. Camaioni (Eds.), *New perspectives in early communicative development* (pp. 48-81). London: Routledge.
- van IJendoorn, M.H. (1995). Adult attachment representations, parental responsiveness and infant attachment: A meta-analysis on the predictive validity of the adult attachment interview. *Psychological Bulletin*, 117, 387-403.
- Winnicott, D.W. (1968). *The family and individual development*. London: Tavistock Publications.
- Winnicott, D.W. (1971). *Playing and reality*. London: Tavistock Publications.
- Winnicott, D.W. (1982). *The maturational process and the facilitating environment*. London: The Hogarth Press.
- Winnicott, D.W. (1988). *Human nature*. London: Free Association Books.
- Wolff, P.H. (1963). Observations on the early development of smiling. In B.M. Foss (Ed.), *Determinants of the infant behaviour II: proceedings of the second Tavistock seminar on mother-infant interaction held under the auspices of the Ciba Foundation* (pp. 113-138). London: Wiley Publications.