

Theoretical Foundations of Music Therapy Research and Practice with Families: A  
Qualitative Content Analysis

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## **ABSTRACT**

### Theoretical Foundations of Music Therapy Research and Practice with Families: A Qualitative Content Analysis

Rachel Norris

The purpose of this qualitative summative content analysis was to explore the theoretical foundations that inform music therapists' work with families. An additional aim was to see if music therapists are developing or incorporating theories that are unique to music therapy to inform their work. A review of the literature indicated that music therapists are using many different theories to support their work with families. These theories also came from different fields including psychoanalysis, child development, neurology, and music therapy. Qualitative and quantitative music therapy studies were systematically reviewed for theoretical principles and assumptions. The student-researcher also explored how these assumptions related to the music therapists' approach and evaluation or assessment tools. The analysis indicated that music therapists are actively developing and refining theoretical premises and assumptions to better understand their work with families. The student-researcher identified three ways that theory was used to inform this work: First, music therapy researchers are increasingly using the theory of communicative musicality to support their work. Second, music therapy researchers have used theory to inform the development of family-centered approaches. Third, researchers are using theories to develop music-therapy-specific evaluation and assessment tools. These findings suggest that theoretical development in this area is ongoing and the student-researcher hopes that this inquiry can support a continued development and refinement of the theories that inform music therapists' work with families.

Keywords: music therapy, theory, attachment, families, parent-child, bonding

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## Chapter 1: Introduction

Exploring how our first relationships shape our development has been a topic of interest for clinicians and researchers working with families for nearly a century. Music therapists in particular have demonstrated an interest in understanding how music therapy can support attachment processes in parent-child relationships. These contributions emerged from research and clinical work in diverse settings including child and family psychiatry (Oldfield, 2006a) and within neonatal intensive care (Shoemark, 1996). Through this work, music therapists have observed how parent-child attachment and bonding processes can be supported in music therapy (Edwards, 2011a, 2011b; Haslbeck, 2014a, 2014b; Oldfield, 2006b).

Theory has played a significant role in the development of this understanding. In music therapy, theories are often developed from clinical practice (Amir et al., 2016). However, Aigen (2014) indicated that “clinical practice, which is not guided by theory, has no rationale for the procedures undertaken, and research unguided by theory has no means for ensuring its relevance to clinical applications” (p. 217). While theories are used inform practice they are also developed through clinical practice and research. This dynamic process involves reciprocity from researchers, clinicians, and theorists to help determine the most applicable foundations and assumptions that guide this work.

Music therapists have used early attachment theories from other fields such as psychoanalysis (Bowlby, 1973; Winnicott, 1971) and child development (Stern, 1985) to inform their work with families. Principles of attachment theory have also been explored and extended in recent years through other fields including child development, psychology, social work, and neurology. However, there is an identified risk that theories from related fields do not fully account for music-specific processes within music therapy. In discussing their theoretical reasoning in working with families, Oldfield et al. (2012) explained that “for many practicing clinicians, theories are not set as rules to give a *‘modus operandi’* but rather they provide a helpful reference and means of reflection to better understand the work as it evolves” (Oldfield et al., 2012, p. 253). This indicates that music therapists should have an ongoing and reflexive relationship to theoretical development. The aim of the current research is to explore how music therapists have used existing theories to inform their work and also explore if music therapists have developed and refined theories within the field of music therapy.

## **Relevance to Music Therapy**

My time in the classroom as an early music educator showed me the numerous opportunities that a music context can afford children's development. After working with a group of mothers and children together in an educational setting, I saw how this space also impacted parents' processes and provided them with opportunities to connect with their children. In my music therapy internship working with families and mother-child dyads in a residential group home setting, I observed how dyadic sessions helped mothers to see their child's capacity for communication and creativity and in turn motivated the mothers to be more playful and engaging, thus strengthening their bond. My surprise and curiosity led me to investigate music therapy research and practice with families and dyads to better understand the ways in which musical interactions can facilitate this bonding process. I noticed a diversity in the theories that inform this work. Theories ranged in age, spanning from the 1960s to mid-2000s, and stemmed from various health care fields including psychology, psychoanalysis, child development, social work, and neurology. This led me to question how music therapists are drawing on and developing and refining theories to inform their work with families.

Researchers have suggested that music therapy has a unique capacity to address non-verbal communication (Edwards, 2011a; Hendry, 2017; Jacobsen et al., 2014) which is considered integral to an infant's interpersonal development (Stern, 1985). Music therapists have developed and explored family-based music therapy programs with various populations including at-risk families (Jacobsen & Wigram, 2007; Nicholson et al., 2010), families with a disabled child (Thompson, 2012; Woodward, 2004) and families with premature infants (Lander, 2017; Shoemark, 2018). Additionally, music therapists have developed frameworks to elucidate the ways that parent-child interactions can be addressed in a music therapy setting (Haslbeck, 2014b; McLean, 2016a; Oldfield & Bunce, 2001; Oldfield, 2006b). However, Edwards (2011a) identified the need to further explore the theoretical foundations that inform the use of music therapy with families to better understand the mechanisms involved.

Although music therapy appears to have a unique capacity to positively impact mechanisms involved in attachment development (Jacobsen & McKinney, 2015), there remains a need to investigate how music therapists have used theories to develop this understanding. To the best of the student-researcher's knowledge, there are no comprehensive reviews examining music therapists' use of theoretical concepts from music therapy research and practice with



families and how these have evolved over the past 20 years. Exploring the applications of theory in the literature will illustrate which theories are informing this work and how music therapists have expanded on these theories to understand music-specific processes in working with families.

### **Statement of Purpose**

The purpose of the research was to examine the music therapy literature to determine what theories inform research and practice on the use of music therapy to promote attachment processes between caregivers and children. This study also explored the presence of music therapy-specific assumptions and theories developed by music therapy researchers and practitioners working with families.

### **Research Questions**

According to the literature, what theories inform research and practice on the use of music therapy to promote attachment processes between caregivers and children?

Are there music therapy researchers and clinicians working with families who have developed or incorporated theories that are unique to music therapy to inform their work?

### **Assumptions**

Grounding this research is the assumption that theory is highly relevant to developing appropriate clinical practice (Aigen, 2014), and that theory-informed research in music therapy is important because it supports the clinical relevance of the researchers' interventions and approaches. Further, the student-researcher is assuming that music therapists working in this area are drawing on a diversity of theories to shape their clinical work. Additional assumptions are that the field of music therapy has the capacity to address various components of attachment processes, and that theories from other fields (e.g., child development, psychology, psychoanalysis) may not fully account for processes unique within a music therapy context.

### **Key Terms**

This theoretical review includes a variety of key terms relating to the primary theories informing music therapy research and practice with families. Edwards' (2011a) definition of music therapy with caregivers and children will be used to ground and contextualize all terminology discussed in this analysis; Music therapy with caregivers and children is:

A process of developing a relationship with a caregiver/dyad in order to support, develop and extend their skills in using musical and music-like interactions...to promote and

enhance the sensitivity and mutual co-regulation between infant and caregiver, in order to create the optimal environment for secure attachment to be fostered. (p. 190)

The literature review will define many concepts to provide context for the results. To clarify general terminology, studies may utilize a variety of terms (e.g., parent, mother, father, grandparent, etc.) to describe the primary attachment figures in the child's life. For the purposes of the current research, *caregiver* will be used as an umbrella term to represent all variants of child's attachment figures. Additionally, definitions of primary attachment theories that aid in contextualizing the review of the literature are as follows:

- *Traditional attachment theory* was originally a spatial theory, which Bowlby (1973) described as an attachment behavioural system. This system is evolutionarily adaptive to ensure proximity to a preferred figure which is maintained through the secure base effect and protesting to separation.
- *Modern attachment theory* is based on a biopsychosocial understanding of attachment processes that impacts both the infant and caregiver. Schore (2000) described attachment theory as “essentially a regulation theory” (p. 23). From this perspective, attachment processes are defined as “the interactive regulation of biological synchronicity between organisms” (Schore, 2000, p. 23).

## **Overview of Chapters**

Following the current introductory chapter, Chapter Two provides an overview of the foundational literature relating to the development of attachment theories, along with complementary emerging theories, followed by evolutionary perspectives of musical abilities and how these have supported the development of music therapy theory within the research. Chapter Three describes the summative content analysis methodology used within the current research. Chapter Four presents the results of the analysis, including the theoretical trends it identified within the music therapy research that met this study's inclusion criteria. Finally, Chapter Five provides a discussion of the results and implications for future research, practice and professional advocacy.

## Chapter 2: Literature Review

Music therapists have used many theoretical foundations to support their work with families. According to Amir et al. (2016), a theory “is an organized, coherent, and systematic articulation of a set of issues that are communicated as a meaningful whole” (p. 94). Theory appears to play an important role in guiding clinical practice as well as research in music therapy. However, there is a dynamic relationship among theory, research and practice (Baker & Young, 2016). The development and exploration of theories seems to be an ongoing, cyclical, and reciprocal process. Amir et al. (2016) discussed Gold’s (2008) hierarchical pyramid-shaped relationship between theory, practice, and research: theory provides the base, which informs practice in the middle, that supports research at the apex. In contrast, music therapy has a history of developing theories from clinical practice (Amir et al., 2016). Consequently, Amir et al. (2016) proposed a different hierarchical relationship: “practice is at the bottom, theory is built upon practice at the middle level, and research is at the top” (p. 94). Theoretical development in music therapy relies on the descriptive contributions from music therapy clinicians, as well as researchers to test the applicability of theories. It also suggests that when there is reciprocity and collaboration among contributors exploring music therapy theory, research, and practice, this supports growth and development in all three areas over time (Baker & Young, 2016).

The nature of early parent-child relationships has been explored or theorized within the fields of psychoanalysis, child development, psychology, social work and neurology. Conflicting perspectives within the field of psychoanalysis led two prominent theorists, Bowlby (1973) and Winnicott (1971), to explore attachment processes from contrasting ecological perspectives. A theorization of attachment led to the development of an innovative research design to observe, classify and confirm the presence of distinguishable attachment patterns (Ainsworth & Bell, 1970). Behavioral classification supported contributions from fields such as child development and neurology, which developed a biopsychosocial understanding of attachment (Schore & Schore, 2008). Theorists including Trevarthen (1999, 2008), and Stern (1985, 2010) observed the musicality of mother-infant interactions which assisted in the development of music-based theories of early relationships (Dissanayake, 2009; Holck, 2008; Malloch & Trevarthen, 2009). These diverse theories with various foci have been adopted by music therapists to elucidate the potential for music therapy to promote attachment processes (Edwards, 2011a; McLean 2016b).

While music therapists have utilized a variety of theories stemming from different fields to inform their work with families (e.g., Bowlby, 1973; Stern, 1985; Winnicott, 1971), they are also using theories and premises that came directly from work in music therapy (Holck, 2008; Oldfield 2006a, 2006b; Shoemark, 1996). Music therapists seem to be open to drawing on diverse perspectives to provide the best support for attachment processes based on the family's needs and context. This flexibility is also demonstrative of the complex ways that theory, research, and practice interact. This review describes the primary theories informing music therapists' work with families and will also describe the ways music therapists' have used theory to support their approaches, assessments, and interventions when working with families. While an in-depth description of these theoretical foundations and influences is outside the scope of this literature review, the aim of this chapter is to generally describe those influences that seem to have the most impact on music therapy research and practice with families.

### **Development of Attachment Theory**

John Bowlby (1973, 1988) coined the term *attachment* to describe the bonding process he observed between mothers and their children in his clinical work from the 1940s (Karen, 1998; Holmes, 1993). In its early development, attachment was a broad term to refer to the "state and quality" (Holmes, 1993, p. 67) of relationships for an individual. Despite its psychodynamic origins, traditional attachment theory developed from diverse clinicians and scholars adopting ecological, behavioural, and developmental perspectives (Levinge, 2015). Through interdisciplinary advancements, attachment theory has evolved into a theory of reciprocal regulation (Schore & Schore, 2008). This review will begin by describing traditional attachment theory and its development towards its modern counterpart.

### ***Origins***

The death of Freud in 1939 left the psychoanalytic field divided between two camps with contrasting theories to explicate early relationships. Supported by Anna Freud, *drive theory* is based on classical Freudian concepts of the instinctual physical sexual energy linking mother and infant as rooted in unconscious physiological and biological processes (Holmes, 1993; Levinge, 2015). In contrast, Melanie Klein supported the *object relations theory* where the infant's attachment to the object (e.g., breast) is related to the subjective internal experiences interacting with the external environment (Levinge, 2015). Both emphasized the necessity of addressing the repressed unconscious; Anna Freud emphasized the traditional objective view of the unconscious

biological drive processes and Klein emphasized the subjective inner relational processes. What began as theoretical division progressed to a tribal chasm in the psychoanalytic field fueled by professional, theoretical, and personal differences (Karen, 1998; Levinge, 2015).

To reconcile this divide, Winnicott (1971) created an “Independent Group” (Levinge, 2015, p. 23) of psychoanalysts who stressed the importance of ecology, or the way an individual interacts with their environment (Bruscia, 2014). This view affirmed that “certain pathologies [were] rooted in real external experiences” (Levinge, 2015, p. 23). Winnicott was soon joined by a young Bowlby and from this ecological perspective both clinicians developed theoretical conceptions that became primary influences in the study of early relationships (Levinge, 2015).

### ***Winnicott***

As a pediatrician working with thousands of clinical cases, Donald Winnicott stressed the centrality of play and creativity in facilitating development and the importance of parents re-experiencing playful interactions to connect with their children (Winnicott, 1971). One of Winnicott’s core belief is that the child cannot exist alone but is essentially part of and should be understood within their relational and caregiving system. This essential and imperfect system is supported by his concept of the *good enough mother*, where the inevitable mistakes that all mothers make and their constant adjustments to their infants’ needs have merit for the relationship and infant’s development.

Winnicott’s (1971) influential concept of transitional phenomena expanded on traditional object relations theory to describe the experiences “between primary unawareness of indebtedness and the acknowledgement of indebtedness” (p. 3). In other words, transitional phenomena are those processes and experiences that begin to differentiate “inner and outer reality [as] separate yet interrelated” (Winnicott & Rodman, 2005, p. 3). Transitional phenomena can include any sensory experiences such as feeling, touching, tasting, and making sounds that connect the internal to the external. This concept relates to traditional object relations theory of internal mental representations where “the infant can employ a transitional object when the internal object is alive and real and good enough” (Winnicott & Rodman, 2005, p. 13). After having every need met in utero, the infant must learn, through their mother failing to meet their needs, how to manage the external reality with their internal feeling states. Winnicott emphasized the complex richness of an individual’s inner imaginative world as evaluated

through psychodynamic and qualitative means (Levinge, 2015). Bowlby (1988) also explored the interaction between internal and external experiences but utilized a behavioral approach.

### ***Bowlby***

As a young psychoanalyst in the Independent Group, Bowlby was in conflict with the two traditional psychoanalytic theories of early relationships. Like Winnicott, Bowlby's view of the centrality of the external environmental context was guided by ecological principles, where "real experiences of interpersonal life are the origin of psychopathology" (Levinge, 2015, p. 24). In contrast to Winnicott who emphasized the imaginative and subjective complexities of an individual's experience, Bowlby utilized empirical scientific investigations to elucidate the connections between internal representations and external behaviour (Levinge, 2015). These interests led Bowlby to identify with the newly emerging field of behaviourism to develop his influential theory of attachment (Holmes, 1993).

Bowlby was grounded in, "the scientific status of psychoanalysis, and the role of the environment in the causation of neurosis" (Holmes, 1993, p. 4). Bowlby's (1988) aim was to offer a modern psychoanalytic approach that investigated the underlying biological mechanisms involved in object-relations theory through behavioural analysis. Bowlby defined attachment behaviours as "any form of behaviour that results in a person attaining or retaining proximity to some other differentiated and preferred individual" (Holmes, 1993, p. 68). Bowlby (1973) asserted that the attachment behaviours of seeking proximity are evolutionarily adaptive and have survival value due to their ability to create and sustain a bond between infants and their protective caregivers. He understood these behaviors within the "attachment behavioural system" (Cassidy et al., 2013, p. 1417), a model that acknowledges how the child's self and their interrelationships with significant others form a specific attachment pattern. Attachment behaviours involve three key features: seeking proximity to a preferred figure, the secure base effect, and separation protest (Holmes, 1993). Mary Ainsworth discovered and described these features in her ground-breaking research exploring the variations in how attachment behaviors present in an empirical setting (Ainsworth & Bell, 1970; Holmes, 1993).

### ***Ainsworth and the Strange Situation***

Ainsworth, a colleague of Bowlby, was a pioneer in developing a research design to examine Bowlby's attachment theoretical framework within developmental psychology (Karen, 1998). In her *Strange Situation* experiment, researchers invited infants and their mothers into an

experiment room and observed their behavioral responses through a two-way mirror (Ainsworth & Bell, 1970; Karen, 1998). Infant responses were recorded with the mother present, when the mother left the baby alone in the room, and with a stranger in the room, and when the mother returned to the room (Ainsworth & Bell, 1970; Karen, 1998). Ainsworth discovered that at around 6 to 8 months an infant would enter a “phase of stranger anxiety” (Karen, 1998, p. 137) which resulted in distinguishable patterns of attachment that divided between two categories: secure and insecure. Secure infants would protest by crying when the mother left the room and, upon her return and consolation, would return to a regulated state (Ainsworth & Bell, 1970). There were two types of insecurely attached children: insecure-ambivalent and insecure-avoidant (Holmes, 1993). Insecure-ambivalent or anxious children would continue to cry and cling without consolation when the mother returned to the room (Karen, 1998). The insecure-avoidant child would reject or not acknowledge the mother upon her return (Ainsworth & Bell, 1970).

Ainsworth’s innovative design confirmed the existence of these distinguishable patterns of maternal attachment behaviours that were successful at predicting infant’s behavioral responses (Ainsworth & Bell, 1970). Ainsworth was the first to use the term “secure base” (Holmes, 1993, p. 70) to describe the environment that the attachment figure creates for the child. Caregiving presence signals to the child that they are safe to explore and play (Holmes, 1993). Likewise, the absence of a caregiver signals danger and prompts behavioral reactions from the child that range in presentation style. Ainsworth’s concepts of the secure base effect, separation protest, and importance of maternal sensitivity in facilitating bonding remain a central influence (Holmes, 1993; Karen, 1998).

### ***Internal Working Models***

The confirmation of various styles of presenting attachment provided a framework within which Bowlby could postulate the connections between external behaviours and internal representations of early relationships (Karen, 1998). Internal Working Models (IWMs) are the internal representation of relationships based on the patterns of interactions that the child experiences (Cassidy et al., 2013). A developing child will have an IWM that represents the relationship between themselves, their caregivers, and their environment. IWMs are created through the child’s “secure base script” (Cassidy et al., 2013, p. 1417), which is a schema for how their interactions in attachment situations usually occur. Bretherton (1992) described how security-based scripts provide the “building blocks” (Cassidy et al., 2013, p. 1417) for the

subsequent development of IWMs. Children with an insecure attachment pattern will display warped or non-existent scripts due to deprived or dysfunctional interactional models with caregivers. The theory of IWMs is the basis for subsequent investigations of internal psychological mechanisms and representations of attachment behaviors. Bowlby's theories, in combination with Ainsworth's innovative research design, supported a boom in attachment research and explorations into its complexity.

### ***Advancements***

Ainsworth's three primary patterns of attachment (secure, insecure-avoidant, and insecure-ambivalent) were expanded to include an additional fourth category, the "insecure-disorganized attachment style" (Harlow, 2019, p. 80). This category was initially developed by Main and Solomon (1986) to describe how a child's oscillation between avoidant and ambivalent behaviours is an adaptation to fear due to an unpredictable caregiving environment (Harlow, 2019). While attachment styles were initially thought to be fixed from infancy, recent evidence suggests that they are subject to change depending on a variety of relational and environmental factors (Duschinsky, 2018; Harlow, 2019). In a further advancement, Duschinsky et al. (2015) expanded on Bowlby's theory of IWMs claiming that experiences act as a model for future interpersonal experiences and developing relationships. This theory proposed that IWMs are subject to change depending on the environment and context through the "psychology of the interplay of dynamic forces" (Duschinsky et al., 2015, p. 180). Attachment behaviours are now seen as flexible and subject to change based on environmental influences. Exploring the complexity of these influences through a biopsychosocial perspective characterizes the current era of modern attachment theory (Schoore & Schoore, 2008).

### ***Modern Attachment Theory***

Attachment research has expanded across multiple fields such as neurology, social work, psychology and child development; and the technological advancements of the 21<sup>st</sup> century have provided the tools to examine the underlying biological and psychological processes involved (Schoore & Schoore, 2008). As previously discussed, traditional psychoanalytic object-relations theory placed emphasis on the unidirectional relationship between the *self* (child) and the *object* (breast) (Holmes, 1993). Contemporary theorists are generally less concerned with attachment classification and are more concerned with understanding the underlying processes arguing for "greater acknowledgement of the complexity of the attachment relationship, family approaches



to attachment theory, and a move to process-driven research and practice” (McLean, 2016a, p. 4). Beebe and Lachmann (1998) proposed that an individual is “affected by his own behavior [self-regulation] as well as by that of his partner [interactive regulation]” (Beebe & Lachmann, 1998, p. 20). This theory proposed that regulation is actually co-regulation or interactive regulation: attachment interactions create bidirectional emotional regulatory responses for both the mother and infant. Schore (2000) explored this theory neurologically, suggesting that “attachment theory is essentially a regulation theory” (Schore, 2000, p. 23). This led to a new definition of attachment as “the interactive regulation of biological synchronicity between organisms” (Schore, 2000, p. 23).

Affect regulation is the ability of an individual to regulate their emotional and physical states to adapt to the needs of their environment. Mechanisms in positive attachment behaviors allow for co-regulation of emotional affect between caregivers and infants (Beebe & Lachmann, 1998; Schore, 2000). For infants to develop self-regulatory capacities, they are dependent on their caregiver to provide co-regulatory experiences that shape neural connections in the brain and develop their ability to regulate over time. Schore (2000) found that the areas in the right hemisphere, particularly the orbitofrontal system, function as a “senior executive [area] of the emotional brain” (Schore, 2000, p. 23) that regulates affective behavior. In more recent research, Schore and Schore (2008) emphasized the importance of right hemispheric development in early infancy, as mechanisms of this hemisphere are involved in emotional, facial, and auditory processing (Schore & Schore, 2008).

Connections between affective and auditory processes have implications for the interventions used by clinicians to effectively address attachment behaviours. Well before the emergence of this neurological research however, Stern (1985) and Trevarthen (1999) both documented the connections they observed between the musicality of early interactions and their implications for attachment-based therapy. First, to contextualize Stern and Trevarthen’s work, this review will discuss the theory of innate musicality and evolutionary perspectives on the musicality of early interactions.

## **Innate Musicality of Early Interactions**

### ***Evolutionary Foundations***

Evolutionary origins of musical abilities in humans have been a topic of controversy (Dissanayake, 2009). The two main views are either adaptationist or non-adaptationist. As a non-

adaptationist, Pinker (1997) believed that music was a by-product of the evolutionary process and developed as a non-adaptive superlative invention that had no functional benefit for our species (Pinker, 1997). In contrast, Patel (2010), in examining more recent neurological research, emphasized the powerful impacts of music on our biology and neurology and discounted the functionless by-product theory. This is also supported by the evidence of the time and energy human culture has devoted towards ritualistic ceremonies involving music and dance, which suggest a functionally adaptive origin of musical capacities (Dissanayake, 2009).

Dissanayake (2009) argued that “musicality is a psychobiological capacity that underlies all human communication, including music” (p. 17). From this perspective, musicality, as we understand it today, emerged from the adaptively developed *protomusical* operations of mother and infant interactions. The protomusic theory posits that elements or operations of *communicative musicality* provide the foundations for subsequent musical development. In other words, protomusical abilities, or pre-verbal and non-verbal mother-infant communication, emerged to benefit and ensure mother-infant adaptiveness and survival, which then expanded into more complex forms of music over time.

In contrast to traditional theories of music evolution (i.e., arguing for music’s inherent biological value) this theory suggests that musical capacities, as well as language abilities, both have their origins or “roots” in protomusical capacities present in early infant-caregiver interactions (Dissanayake, 2009; Malloch & Trevarthen, 2009). By this view, our capacity for interaction and communication emerges from the engagement in protomusical interactions within our earliest relationships (Dissanayake, 2009). The characteristics of early musical communication have been elaborated through the theory of communicative musicality.

### ***Communicative Musicality***

Communicative musicality “is a theory of how human vitality acts, regulates itself, forms intimate relationships, and grows in friendships, and also how it defends itself when the physical or social environment is threatening, and how it can be undermined by illness” (Trevarthen, 2008, p. 37). Malloch and Trevarthen (2009) proposed that communicative musicality is the innate abilities that allow for the natural production and appreciation of music and have distinguishable features. While protomusic is an evolutionary theory of musical origins, communicative musicality is a theory of the non-verbal communicative characteristics and interaction processes between caregivers and infants. The contextual environment and

interactions with primary caregivers dictate how infants learn, experience, and relate to the world. Communications between caregivers and infants involve multimodal combinations of body movements, facial expressions, and vocalizations occurring simultaneously (Dissanayake, 2009). These multimodal interactions are characterized by vocal contours and body movements organized in rhythm that have spatial (large-small, up-down) and time (fast-slow, short-long) variations. These interactions will also have a contour that involves silences or resets between interactive events.

Through acoustical analyses of exchanges between mothers and infants, Malloch (1999) observed and identified three primary characteristics of these interactions: pulse, quality, and narrative. *Pulse* is the coordinated communication of verbal and non-verbal behaviours in time-ordered succession, which allow for the temporal anticipation of subsequent behaviours (Malloch, 1999). The *quality* is described as “the melodic and timbral contours of...vocalizations” (Malloch, 1999, p. 38), or multimodal forms of expression involving the timbre, pitch, and volume of the voice, combined with body language. Elements of both pulse and quality are combined to form the final characteristic: *narrative* (Malloch, 1999). Intention and expression are conveyed through the interactive *narrative*, which allows for a shared passing of time with empathetic connection (Malloch, 1999). Malloch (1999) described how the poetic form of these non-verbal interactions mirrors the overall shape and contour of traditional linguistic narratives (introduction, development, climax, and resolution). Malloch’s (1999) exploration into the specific musical elements of mother-infant communication concluded that “communicative musicality is vital for companionable parent/infant communication” (p. 29).

In addition to communicative musicality, Trevarthen (1999) proposed a theory for understanding the general interaction process between individuals. Interaction theory is grounded in the ecology of developing relationships where the greater environment in which early relationships are fostered is inextricably linked with process itself (Aitken & Trevarthen, 1997). A particularly influential concept within Trevarthen’s work is intersubjectivity or “a form of behaviour that offers direct information on human motives, from which other humans can sense what underlies a person's actions and experience” (Trevarthen & Malloch, 2000, p. 4). Through intersubjectivity, or the juncture between two cognitive perspectives, one builds the concept of who they are in relationship to the other. Interaction theory supports the bidirectional processes

of self-development in early relationships and also stresses the role of ecology in determining how those relationships develop (Aitken & Trevarthen, 1997).

Ecological considerations are a shared thread connecting all the theories of early relationships outlined in this literature review (Bowlby, 1973; Malloch & Trevarthen, 2009; Stern, 1985; Winnicott, 1971). An additional commonality is the suggested evolutionary adaptiveness of both protomusical capacities proposed by Dissanayake (2009) and proximity seeking behaviours, supported by Bowlby (1973). Both are viewed to emerge from the evolutionary need for survival and connection and are natural components of early relationships. These ideas were also supported by Stern (1985) who made significant contributions towards understanding the infant's interpersonal development and how non-verbal interactions can support this development.

### ***Stern***

Psychoanalyst and child development specialist Daniel Stern (1985) contributed significantly to the understanding of early interactions through his theory of infants' interpersonal development. Stern was influenced by ethology, or examining behaviours in their natural setting, and used micro-analyses of video recordings of mother-infant dyads to examine the mechanisms involved in the moment-to-moment progression of their interactions (Beebe, 2017; Stern, 1985). Stern (1985) emphasized the bidirectionality of regulation between mothers and infants and suggested that pre-verbal babble behaviours and non-verbal interactions are essential to developing interpersonal skills. His concept of pre-verbal babble behaviour in infants has similarities with the non-verbal musical babble communication described by Malloch and Trevarthen (2009). Stern's theory represents a significant progression in conceptualizing the musicality of mother-infant interactions from traditional psychoanalytic perspectives.

Stern (2010) proposed the idea of *vitality contours*, which conceptualize the "mental motion" (p. 90) in humans' perception of sound and music. An individual's internal energetic forces and the ways these are communicated with others in their external environment are central to his understanding of attachment. He defined *affect attunement* as the process of a parent meeting their infant through "empathetic responsiveness" (Stern, 2010, p. 138). Stern (2010) described how "the sharing of affective states is the most pervasive and clinically germane feature of intersubjective relatedness" (p. 138). He described how these concepts around non-verbal communication may have significant relevance for creative arts therapies (Stern, 1985). In

contrast to other attachment theories discussed in this review, Stern's theoretical framework uniquely identified the provision of non-verbal mediums to support attachment behaviours, and his concepts have been referenced frequently as theoretical foundations in music therapy (Edwards, 2011a; Haslbeck, 2014a; Jacobsen & Wigram, 2007; Loewy, 2015; Malloch et al., 2012; Pasiali, 2012a; Thompson & McFerran, 2015; Yang, 2016).

### **Music Therapy with Families**

The number of music therapists examining attachment processes in the past 10 years has increased substantially. The diverse theories discussed in this review have been applied by music therapists working with families in a variety of settings including child and family psychiatry (Jochims, 2003; Molyneux, 2005; Wang & Oldfield, 2018), children with disabilities (Thompson, 2012; Williams et al., 2012), the neonatal intensive care unit (Ettenberger et al., 2017; Haslbeck, 2014b; Loewy, 2015; McLean, 2016a; Shoemark, 2018), families affected by maternal depression (Pasiali, 2012a), at-risk families (Jacobsen & McKinney, 2015; Nicholson et al., 2008, 2010), and families within community settings (Nemesh, 2017a). While early inquiries were largely case studies, research has expanded to include numerous program evaluations (Abad & Edwards, 2004; Gilboa & Roginsky, 2010; Lander, 2017; Nicholson et al., 2008, 2010; Williams et al., 2012), randomized controlled trials (Cevasco, 2008; Haslbeck et al., 2020; Jacobsen et al., 2014), and mixed methods investigations (Ettenberger et al., 2017; Gilboa & Roginsky, 2010; Jacobsen & McKinney, 2015; Nemesh, 2018). However, as a practice-based discipline (Amir et al., 2016), music therapists have developed principles of and approaches to working with families from clinical practice (Oldfield, 2006a, 2006b; Shoemark, 1996).

#### ***Early Inquiries***

Many of the initial explorations into music therapy's effect on attachment quality emerged from clinical case study investigations (Allgood, 2005; Oldfield & Bunce, 2001; Trolldalen, 1997; Woodward, 2004). These case studies were generally grounded in psychodynamic principles but also referenced concepts from child development (Stern, 1985; Winnicott, 1971). Through these case studies, music therapists began to recognize the importance of attachment processes in their work which led to the development of family-centered models of care (Shoemark, 1996). Through adopting family-centered approaches, music therapists, most notably Amelia Oldfield (2006b) and Helen Shoemark (1996), have developed techniques and principles that arose directly from their clinical observations with families.

## *Oldfield*

Amelia Oldfield's foundational contributions came from her extensive work with families, and her approach informed many subsequent music therapy programs and investigations into attachment processes (Davies, 2008). In her case descriptions of short-term music therapy groups (Oldfield & Bunce, 2001), she described four premises to explicate the similarities between early mother-infant communication and musical communication within music therapy:

1. Music therapy can allow a non-verbal and/or non-communicating older child to go back to a pre-verbal stage in order to recreate basic sound responses and exchanges.
2. Secondly, music therapy can provide an opportunity for the mother and child to re-experience, or experience for the first time, the early mother-baby types of interactions.
3. Furthermore, music therapy can be a forum to explore and experiment with issues of control between parents and children.
4. Lastly, music therapy can give adults an opportunity to experience play and be playful in a "child-like" way. If parents can enjoy playing, their children will be aware of this enjoyment. This can provide an initial bond between the parent and child. (p. 30)

These observations arose from Oldfield's clinical work in child psychiatry and were informed by diverse theoretical foundations. She emphasized traditional psychodynamic principles of attachment in her work, such as maternal attachment patterns and the effect of internal working models on parent-child interactions (Oldfield, 2006a). In speaking about theory, however, Oldfield indicated that "I do not feel that I subscribe to one psychological model of working, or to one established music therapy model, but am influenced and helped by different aspects of a number of different models" (Oldfield, 2006b, p. 26). Oldfield described music therapists as specialists in non-verbal communication. This positioning is based on the intricate connections between mother-infant interactions and therapist-client interactions, where both "were mainly non-verbal and relied to some extent on intuitive and spontaneous exchanges" (Oldfield & Bunce, 2001, p. 29). Oldfield (2006a) cited Stern's (1985) concept that returning to a pre-verbal interaction stage is important to facilitate interpersonal development and explained

how music as a non-verbal medium can provide a context to support these interactions. Oldfield and Bunce's (2001) conclusion was that "music therapy seems to enhance the bond between the mother and the child, enable mothers to gain new insights about their relationships with their children and, in many cases, improve the quality of life for the child and the mother" (p. 31).

From these principles, Oldfield (2006b) developed the Interactive Music Therapy (IMT) model based on her clinical work at the child development center. This model reflects the centrality of non-verbal communications to promote interactions and bonding (Oldfield, 2006a; 2006b). Oldfield adopts a music-centered approach, which places music and musical interactions at the center of the therapeutic process. Using music improvisation as a primary intervention, she used techniques such as improvised stories and turn-taking to practice mutual interplay and relational interactions. Oldfield (2006b) prioritized familial relationships in her work by helping parents discover new ways of interacting with their child through empowerment and encouragement (Oldfield, 2006b). She described how in IMT the music therapist actively participates in sessions to promote the shared "enjoyable, playful and motivating force of music making" (Oldfield, 2006b, p. 18). Oldfield's model and premises for working with families came from adopting an approach that centered the family's process in music therapy.

### ***Systems Theory and Family-Centered Care***

Some music therapists working with families adopted approaches that reflected a family-centered model of care grounded in systems theory (Shoemark, 1996). Emerging in the 1930s, systems theory arose in response to an increasing acknowledgement of the complexity of interrelationships between fields of study (Sameroff, 2010). When applied in developmental contexts, these complexities are also observed within an individual's relationships to their caregiving and environmental experience. Systems theory prioritizes the interdependent complexities of an individual's development, "where parts cannot be separated from wholes and useful predictions can only be made based on local interactions of multiple systems" (Sameroff, 2010, p. 7). From this perspective, family functioning results from the interactions and interrelationships between family members and their environment which subsequently impacts the environment and all associated individuals (McLean, 2016a). Further, systems theory supported the advent of family-centered models of care in child development, which aimed to acknowledge the individual in relationship to their caregiving system and environmental context. These foundations also supported family-centered approaches in music therapy.

### ***Family-Centered Approaches in Music Therapy.***

In addition to Oldfield's IMT clinical approach in family psychiatry which prioritizes the family unit, the model of family-centered music therapy (FCMT) was first published by Shoemark (1996) to describe a way of centering the family's process in music therapy. Shoemark (1996) defined family-centered programs as "those which consider the family to be the unit for intervention, rather than the individual child" (p. 3). According to Shoemark and Hanson-Abromeit (2015), "a family-centered perspective assumes that the infant is inextricably bound to the culture, musical heritage, and context of family both now and into the future" (p. 418). In describing Dunst et al.'s (1991) family-centered services continuum, Shoemark (1996) stated that family-centered care is where "the family's needs and desires guide all aspects of service delivery and services aim to strengthen the family's capacity to meet its own needs" (p. 4). Shoemark's (1996) model was unique for its time in recognizing the primacy of parents and the importance of teaching them to provide appropriate stimulation for their preterm infant, while also supporting their creative and emotional processes. While other music therapists have adapted the FCMT model and applied it in a variety of settings, this particular FCMT model was developed by music therapists working with infants in the NICU (Shoemark & Dearn, 2008).

### ***Music Therapy in the Neonatal Intensive Care Unit (NICU).***

Music therapists working with premature and at-risk infants in the NICU have developed ways to support the families' process. The NICU is a constrictive and stressful setting for both parents and infants, where they can experience helplessness and a lack of agency over their environment (Shoemark, 2011). Additionally, the experience of premature birth can be traumatizing for the infant and caregivers (Shoemark, 2011). Music therapists have outlined theoretical considerations for working with infants and their families that aim to address common challenges of parent-infant interactions in the NICU setting (Bargiel, 2004; de l'Etoile, 2006; O'Gorman, 2007; Shoemark, 2011). Music therapists have also developed techniques and approaches from these foundations to address the challenging dynamics of the NICU to support the complex needs of premature infants and their families.

The infant's capacity to hear in utero and recognize familiar sounds and voices immediately after birth has implications for the effectiveness and use of music stimulation with premature infants (Papoušek, 1996; Trehub, 2003b). Researchers observed that when adults use exaggerated vocal contour when speaking to an infant, or infant-directed speech, this promotes



infant's attention (Papoušek et al., 1991). Similar to what takes place in infant-directed speech, adults will also change their vocal patterns while singing to an infant that reflect exaggerated musical elements. Infant-directed singing (IDS), or contingent singing, is characterized by high-pitched exaggerated tonal range and highly expressive combinations of sounds, facial expressions and gestures (de l'Etoile, 2006; Papoušek et al., 1991). According to O'Gorman (2006) IDS "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" (p. 273). It can be used to capture and sustain an infant's attention through play songs and can be used to regulate and calm their physiological states through lullabies (Bargiel, 2004; Shoemark, 2011). Further, IDS has been found to be present across cultures (Trehub et al., 1993). Although IDS can be used by music therapists when working with infants, Shoemark (2011) noted that because her own voice as a music therapist is unfamiliar for the premature infant, it is important to involve the parents and their voices within music therapy.

Other music therapists have developed different techniques (Standley, 1989) and used combinations of techniques (Ettenberger et al., 2017) that incorporate music stimulation for NICU infants. Standley (1989) developed a stimulation technique for NICU infants entitled multimodal stimulation (MMS). Multimodal stimulation involves the use of combined visual, auditory and sensory stimulation to promote infant development (Whipple, 2000). Multimodal stimulation is a "music-enhanced procedure for stimulation" (Standley, 1989, p. 533) originally designed to promote infant's development in the NICU but has now been expanded to involve caregiver participation (Whipple, 2000). Another technique used commonly in the NICU is Kangaroo care or "the practice of skin-to-skin contact between infant and parent" (Jefferies, 2012, p. 141). This technique is considered a form of standard care in the NICU and researchers have examined this technique in combination with music therapy interventions to explore its efficacy (Ettenberger et al., 2017).

Music therapy researchers and practitioners have indicated an increasing consideration of cultural and individual differences in their approaches when working with NICU families (Loewy, 2015; McLean, 2016b). McLean (2016b) explored the applicability of the theory of communicative musicality and advocated for a deeper understanding of parents' processes. She described how theory of communicative musicality does not consider the families cultural and

contextual needs and emphasized the need to explore parent's perspectives (McLean, 2016b). An example of an intervention developed to support the individual and cultural needs of families is *song of kin* (Loewy, 2015). The *song of kin* intervention aims to guide and support parents to provide culturally sensitive and preferred music to their infant, which has resulted in positive effects on infants and parents (Loewy, 2015). It is clear that NICU music therapists are using theory to inform a variety of approaches, techniques, and interventions used with families. Similarly, researchers examining families in different settings are using a variety of foundations to develop their approaches, techniques, assessments, and evaluation tools in music therapy.

### ***Family Assessment and Evaluation in Music Therapy***

Music therapists have utilized a number of assessment tools to evaluate parent-child interactions and processes, with some stemming from related fields (Pasiali, 2012a) and others coming directly from music therapy (Jacobsen & Wigram, 2007). Some music therapy inquiries exploring attachment processes have evaluated child outcomes (Holck, 2004; Jochims, 2003), and others have focused on parents' perspectives and outcomes (Allgood, 2005; Milligan et al., 2003). Other music therapists have assessed combined parent-child outcomes through adapting evaluation tools from other fields (Pasiali, 2012a; Teggelove et al., 2019).

The Observations of Parent Responsiveness (OPR) was developed by Teggelove et al. (2019) to assess parent-child interactions in music therapy in the areas of play, praise and consistency. Teggelove et al. (2019) described how the development of these evaluation parameters was supported by concepts from child development (Cooper et al., 2005) along with previously used outcome measures in music therapy (Nicholson et al., 2008). Further, the theory of mutually responsive orientation (MRO) outlines dyadic behaviour classification to assess the level of "shared cooperation and shared positive affect" (Kochanska & Murray, 2000, p. 417) within caregiver-infant interactions. Aksan et al. (2006) outlined the conditions for mutual responsiveness from a developmental psychology perspective. Pasiali (2010, 2012a) used these conditions to assess parent-child interactions in her music therapy research (Pasiali, 2010; 2012a). Researchers have also developed music therapy specific assessment tools to assess parent competencies (Jacobsen & Wigram, 2007) and parent-child interactions (Jacobsen & McKinney, 2015). These diverse evaluation tools observed in the literature illustrate the many ways music therapists are evaluating parent-child interactions and attachment in music therapy.

### ***Theoretical Perspectives***

Music therapists have explored various facets of theories and principles related to family functioning through an assortment of inquiries, reviews, and books (Oldfield, 2006b; Edwards, 2011b; Jacobsen & Thompson, 2016). These explorations include but are not limited to infant musicality (Papoušek et al., 1991; Trehub et al., 1993; Trehub, 2003a, 2003b; Trevarthen, 2008), foundations for techniques and terminology in the neonatal intensive care unit (NICU) (de l’Etoile, 2006; Stubbs, 2018; Trevarthen, 2008), the role of resilience (Pasiali, 2012b), trauma related foundations (Hendry, 2017) and the role of the music therapist in familial contexts (Edwards, 2014; Oldfield, 2011b; Shoemark & Dearn, 2008). Further, within the NICU music therapists have explored foundations of the reviewed theoretical considerations including IDS (Bargiel, 2004; de l’Etoile, 2006; O’Gorman, 2006, 2007), song of kin (Loewy, 2015), along with the usage of terminology (Stubbs, 2018). These perspectives have contributed to the understanding of clinical work and research in this area.

### **Conclusion**

This literature review demonstrated that theories of early relationships cited by music therapists (Bowlby, 1973, 1988; Malloch & Trevarthen, 2009; Oldfield, 2006b; Stern, 1985; Winnicott, 1971) come from diverse fields. Researchers have used these theories to support inquiries into music therapy’s effect on attachment processes in multiple settings including the NICU (Haslbeck, 2014b) and family psychiatry (Oldfield, 2006b). Other populations explored in the research include at-risk families (Jacobsen & McKinney, 2015), families affected by maternal depression (Pasiali, 2012a) and families with children with a disability (Williams et al., 2012). However, many of the discussed theories originated in related disciplines (Bowlby, 1973; Stern, 1985; Winnicott, 1971) and as a consequence, these theories may not wholly account for the unique caregiver-child interactions processes involved in music therapy. There is a need to explore how music therapists in various settings are drawing on the theories discussed in this review. Additionally, this research will investigate how music therapists have developed and expanded on theories to inform their work with families.

### **Chapter 3: Methodology**

This chapter describes the rationale for selecting a qualitative summative content analysis for the current research and how it was utilized to review, group and interpret primary theoretical principles from the reviewed literature.

#### **Design**

This study utilized a qualitative summative content analysis methodology (Elo & Kyngäs, 2008; Ghetti & Keith, 2016; Hsieh & Shannon, 2005) to offer a comprehensive review of the cited theories and foundations. The analysis focused on identifying theories that inform the current body of literature that examines music therapy's effect on attachment processes between caregivers and their children. This methodology functioned as a qualitative review of theoretical foundations referenced within research studies investigating family processes in music therapy after the year 2000. In working from a constructivist epistemology, acknowledging the subjective and co-constructive nature of reality, the summative content analysis method provided a qualitative means to review a large body of literature to identify and draw general theoretical trends based on word usage and context (Hsieh & Shannon, 2005).

This methodology provided flexibility to report and categorize the myriad of theoretical principles and foundations that present in the literature. Unique from other forms of content analysis, a summative content analysis allows for textual interpretations of key words and concepts based on the context (Hsieh & Shannon, 2005), and has been used to analyze a wide variety of textual data (Conway & McGrain, 2016; Dileo, 2013). In this study, this methodology supported a comprehensive and exploratory review of theories and theoretical principles that guided research on music therapy with families.

#### **Materials**

Acquiring data involved identifying relevant research studies from database searches and documenting those articles in an Excel spreadsheet on a personal laptop computer. Additionally, the student-researcher used a journal to record thematic groupings and interpretations.

#### **Data Collection Procedures**

The student-researcher identified relevant research studies through conducting searches in the following databases: *Google Scholar*, *ProQuest*, *PsycInfo*, *Medline*, *Worldcat*, *SAGE*, *EBSCO*, *PubMed*, Concordia University library database, and *CLUES*. Database searches included the following keywords in various combinations: music therapy, attachment, bonding,

family, mother, father, dyad, parent-child, and caregiver. Database searches were reconducted throughout the analysis process based on emerging theoretical data from articles meeting inclusion criteria (Hsieh & Shannon, 2005).

The inclusion criteria for documents were those where the protocol included at least one music therapist as researcher, English language publication, and published after 2000. The student-researcher prioritized quantitative and qualitative research inquiries that explored bonding outcomes in the data collection process. This analysis excluded many inquiries related to music therapists' work with families including literature reviews and the majority of book chapters to remain within the scope of a master's thesis. Three book chapters describing music therapy clinical processes with families were included in the analysis based on their theoretical relevance (Day & Bruderer, 2011; Horvat & O'Neill, 2008; Oldfield, 2011a).

The selected literature was organized into an Excel spreadsheet using the following categories: author, year, journal title, population, type of research and methodology, cited attachment theoretical principles, cited musical theoretical principles, domain of origin, intervention or research goals, findings, key principles, quotes, and additional comments.

### **Data Analysis Procedures**

Because of the high number of articles that met the initial inclusion criteria, the student-researcher applied additional delimitations to guide the analysis (e.g., exclusion of case vignette articles, book chapters and literature reviews). After a comprehensive initial database search, the student-researcher used open coding to explore the presence of key concepts as recorded within the Excel spreadsheet (Elo & Kyngäs, 2008). Each article was reviewed three times: first through open coding, second by examining the primary overarching concept themes through axial coding (Neuman, 2006), and third by exploring the relationships between theory and the researchers' music therapy approach, therapeutic foci, and reported outcomes.

After the initial open coding phase, the analysis proceeded by grouping and regrouping articles based on a variety of parameters including population, context and setting, methodology, focus of inquiry, and guiding principles as they relate to these domains. Articles were categorized and recategorized within the Excel spreadsheet according to various combinations of the above parameters. Theories relating directly to music processing and musical development and communication were entered into the Excel spreadsheet. Further, music-therapy-specific theories that supported the development of models, approaches and evaluation tools were also

identified and recorded in the Excel spreadsheet. The writing process also supported the regrouping and reorganization of the literature using these parameters.

As an initial delimitation, the student researcher examined theoretical principles and looked at them independently of the clinician and/or researcher's approach, context, and primary findings. As the analysis unfolded, this became unrealistic because of the intricate connections between theory and music therapists' clinical approaches, their interventions, and the lens through which researchers assessed outcomes. Music therapists who are engaged in research often have a dual clinician/researcher role when conducting their inquiries. Therefore, the student-researcher reported theory as it relates to the clinician and/or researcher's approach, context, methodology, and findings. This method of reporting allowed for a comprehensive review of the articles included in this study. Attention was paid to the particular setting in which the research took place, and the student-researcher respected the complex considerations of working with families in the NICU by reporting these articles independently.

### **Delimitations**

The parameters of a master's thesis required multiple delimitations to ensure reasonable scope. Within the data collection process, inquiries were delimited to English language sources and those published after 2000. Due to the volume of related studies, many inquiries and perspectives on music therapists' work with families were not included in this review. Further, music therapists working with families in child oncology, in familial palliative care settings, with *well* families, and with adoptive families were excluded from this review to remain within the scope of a master's thesis.

### **Ethical Considerations**

The current research was held to the standards of the Canadian Association for Music Therapy ethical guidelines for research. This included transparency of the research, which was achieved through a thorough reporting of the data collection and analysis procedures. A potential ethical consideration is the role of researcher reflexivity, which entailed acknowledging and reflecting on the assumptions and biases that impacted the student-researcher's process.

## Chapter 4: Results

Analysis of the data indicated that music therapists have adopted diverse theoretical perspectives to support their work with families. The ways music therapists are drawing on theories appears to be flexible in order to best meet families' needs in their context and setting. The student-researcher observed that the diversity of theories cited by contributing music therapists expanded over time to support and develop their approaches and assessment tools. Theory was not addressed and described to the same extent in all music therapy research studies. While qualitative inquiries generally provided more theoretical information (Haslbeck, 2014b; Pasiali, 2012a; McLean, 2016a) many quantitative inquiries also provided rich descriptions of their theoretical foundations (Kehl et al., 2021; Loewy, 2015; Malloch et al., 2012; Jacobsen & McKinney, 2015). Theory seemed to play an integral role in grounding both qualitative and quantitative music therapy studies with families.

The student-researcher identified three ways that theories were used to inform the literature: First, while many inquiries cited psychodynamic and developmental principles of attachment (Stern, 1985; Winnicott, 1971), music therapists are increasingly using theories of innate musicality (Holck, 2008; Malloch & Trevarthen, 2009) and neurobiological assumptions (Schoore & Schoore, 2008) of emotional regulation and development to inform their work. Second, systems-theory foundations supported the use of family-centered models of care to address attachment processes in music therapy (Haslbeck, 2014b; Oldfield, 2006b; Pasiali, 2012a; Shoemark, 1996). Third, music therapists have used multiple theories to develop their assessments and evaluation tools to measure attachment processes and caregiver-child interactions in music therapy (Jacobsen & McKinney, 2015; Pasiali, 2012a).

The articles included in this analysis vary in dimensions such as population, setting, methods, and evaluation tools. Perspectives on music therapy and its effect on attachment processes are also diverse in their clinical foci. While early inquiries generally prioritized individual parent or child outcomes (Holck, 2004; Jochims, 2003), music therapists are now considering attachment processes as a primary therapeutic goal (Jacobsen & McKinney, 2015; Pasiali, 2012a; Thompson & McFerran, 2015; Wang & Oldfield, 2018; Yang, 2016). To illustrate the evolution of theoretical perspectives from music therapy research with families, and how these have impacted music therapists' approaches and evaluation tools, studies have been organized according to their emphasis on individual or relational outcomes. This chapter begins

with a discussion of studies that focused on individual outcomes of either the child or the parent. This is followed by inquiries demonstrating a movement towards intentionally centering the relationship. Investigations of music therapy in the NICU and their progression towards relational evaluation methods unique to this setting are then described. This is followed by studies conducted with various populations that evaluated the parent-child relationship.

### **Individual Focus**

Music therapy inquiries that explored child or parent processes separately in music therapy noted a potential for improved bonding outcomes. These observations emerged from focusing on either the child (Holck, 2004; Jochims, 2003) or the parent (Allgood, 2005; Friedman et al., 2010). Child-focused studies spoke to the importance of doing work with parents to support improved child functioning as well as bonding outcomes. Parent-focused studies stressed the importance of self-expression, education and the promotion of well-being to support parents' own processes as well as their parenting skills. Parent-child bonding was not a central focus of any of these studies, but it emerged as a potential positive outcome and an important dimension for future consideration.

### ***Child-Focused***

Child-focused inquiries are characterized by largely psychodynamic theoretical tenets that prioritize the child's process based on a specific referral or presenting diagnosis (Oldfield, 2006b). These studies recognized the importance of primary relationships, but for various reasons they typically substituted the therapist for the parent to evaluate musical interactions, even if the parent was present for therapy. The following inquiries demonstrated a recognition of the centrality of parental involvement when addressing individual child outcomes (Holck, 2004; Jochims, 2003; Procter, 2005; Thompson, 2012).

Holck (2004) examined markers of mutual interplay between a music therapist and a two-and-a-half-year-old boy with a communication disorder to determine if music therapy could address pre-verbal skills. Grounded in the organizing role that "motherese", or infant-directed singing (IDS), has on mutual interplay, Holck (2004) noted commonalities between forms of early interplay and mother-child dialogues. However, Holck (2004) did not utilize the dyadic relationship (i.e., the mother) to explore how interplay presents differently within the parent-child relationship.



Jochims (2003) explicated a psychodynamic process in a case study with a nine-year-old girl who had experienced abuse. The aim was to enable her to re-experience bonding and new ways of relating with adults. Jochims (2003) did not involve the mother in the therapeutic process because, “if you strengthen the bonding style of the child, the primary caretaker may still maintain the same inadequate bonding behavior so that the primary mother-child interaction may stay at the same level as before the admission to psychiatry” (Jochims, 2003, p. 105). Through her use of maternal sensitivity and affective attunement (Stern, 1985), Jochims (2003) observed improved relational patterns for the child. These findings highlight the importance of working directly with parents to support relational outcomes through addressing “the whole ‘system’ of the dyadic relationship” (Jochims, 2003, p. 105).

Procter (2005) asserted the importance of considering the parent’s involvement in a Nordoff-Robbins music therapy session with children and explored the practicalities of doing so in a research project collaboration. Procter (2005) described how “this issue frequently arises in the psychodynamic literature, where the parenting role, even of an individual therapist, often seems to overshadow mention of the child’s natural parent(s)” (p. 49). This research found the triadic relationship, particularly the therapist-parent relationship, to be an important consideration. It discussed the practical difficulties of balancing child confidentiality with parental empowerment and suggested a reconceptualization of confidentiality that respects these relationships.

Thompson (2012) described a family-centered approach in working with families with children with autism. This approach prioritized child development outcomes but concluded that “the active involvement of parents in music therapy sessions opens the possibility for positive family outcomes as well as meaningful child development outcomes” (Thompson, 2012, p. 114). This indicated that family-centered care through parental inclusion can enhance the primary goal of improving child developmental outcomes with the potential of supporting relational outcomes. Acknowledging the primacy and intricacies of the triadic relationship indicated a need to explore parents’ perceptions and experiences in music therapy (McLean, 2016b; Thompson, 2012)

### ***Parent-Focused***

Researchers have explored parents’ perceptions and processes in music therapy by including parents in their child’s therapeutic process (Allgood, 2005) and by examining parents’ individual therapy (Day & Bruderer, 2011) with an auxiliary parenting component (Friedman et

al., 2010; Jacobsen & Wigram, 2007). Parent-focused studies draw on a number of theoretical frameworks, clinical assessment, and intervention approaches to explore how changes in parent behaviour and well-being can be positively impacted through music therapy. The following inquiries emphasized the importance of parental self-expression in promoting well-being and how this potentially impacts the dyadic or family relationship (Allgood, 2005; Friedman et al., 2010; Jacobsen & Wigram, 2007).

In a perinatal psychiatry setting, Friedman et al. (2010) examined *Lullaby 101*, a parent education program designed to teach mothers how to use music to calm their infant while also promoting their own self-expression. Based on the principles of IDS, the researchers employed the *song of kin* intervention, which encourages maternal self-expression through the selection of preferred and culturally significant music (Friedman et al., 2010). The program increased mothers' relaxation, as measured by the Rogers Faces Scale (Rogers, 1981), and the authors suggested that it may have implications for mother-infant bonding.

A qualitative interview analysis by Allgood (2005) that explored parent's perceptions on participation in their child's music therapy sessions used an ecological model, which recognizes the interdependent nature of relationships within the greater environment. Primary themes from parents' interviews included the benefits of a family-based group music therapy approach and an increased understanding about their child throughout the course of therapy (Allgood, 2005). Allgood (2005) acknowledged the need for a collaboration between parents and professionals and called for further research on the needs of the entire family system.

Day and Bruderer (2011) found that facilitating a re-processing of traumatic histories with abused mothers in a music therapy group resulted in improved insight into their relationship with their children. They utilized song-writing within a human rights strength-based approach that prioritized community-based social support to promote self-expression, empowerment and self-esteem. The authors reported that mothers in this group experienced an increased sense of trust that led to improved insight in the final parenting phase of therapy.

Jacobsen and Wigram's (2007) Assessment of Parenting Competencies (APC) for at-risk families represents a significant advancement in the literature because it utilizes a unique music therapy assessment to observe parent-child interactions in a pleasant environment using predominantly non-verbal communication. Combining musical principles from Bruscia's Improvisational Assessment Profiles (Bruscia, 1987) with the Event Based Analysis (Wigram,

2004), this assessment uses musical communications to assess interactions between the dyadic and triadic relationship through four evaluation categories: analysis of autonomy, analysis of turn taking, parental responses, and a comparative analysis (Jacobsen & Wigram, 2007). After only two sessions, the APC provided useful information about the autonomy of the parent-child relationship. Foundational principles grounding the development of this assessment were attachment classifications, attunement (Stern, 1985), and the importance of parental sensitivity. The researchers also cited Oldfield's (2006b) premises of music therapy's ability to enhance the parent-child bond. These cited theories reflect traditional psychodynamic and developmental principles in combination with emerging tenets that were realized within music therapy (Oldfield, 2006a). The development of this assessment protocol indicated the need to work with parents and children together to assess parenting competencies and parent-child interactions.

Parent-focused inquiries highlighted the importance of parents' involvement in their child's music therapy processes (Allgood, 2005). Parent education (Friedman et al., 2010) and individual parent therapy (Day & Bruderer, 2011) facilitated the therapeutic progress, and these studies indicated a potential for improved bonding outcomes. Music therapists have developed family-centered programs that utilize the primary relationship as a tool within music therapy to promote individualized outcomes.

### **Shift Towards the Relationship**

Studies that focused on individual needs indicated that a shift has taken place from focusing only on the parent or child towards utilizing the family system as a resource for promoting therapeutic progress (Oldfield et al., 2012; Woodward, 2004). The following inquiries are characterized by an increased consideration of relational factors while maintaining a focus on individual parent or child outcomes. These relational considerations are also reflected in using the family as a resource in various settings (Horvat & O'Neill, 2008; Woodward, 2004), particularly within program development and implementation (Nicholson et al., 2008, 2010; Williams et al., 2012).

### ***Family as a Resource***

Some inquiries, while prioritizing the child, viewed and positioned the family as a resource for improved child development outcome. Horvat and O'Neill (2008) explored parents' involvement in their child's Nordoff-Robbins music therapy sessions and its effects on the clinical focus. The authors noted that they shifted from a child-centered approach to a family-

centered approach. As caregivers became more comfortable and relaxed, they provided more playful initiations that facilitated interplay and co-creativity between the dyad. The authors found that while attachment behaviours may not be the central focus, considering the child's relational environment and including these relationships as a tool in the therapeutic context had implications on the child's therapeutic progress (Horvat & O'Neill, 2008).

Molyneux (2005) described her model of short-term music therapy through three family case study descriptions in a child mental health setting. Grounded in principles from family therapy and psychoanalysis, Molyneux (2005) based her approach on Stern's (1995) *Serial Brief Treatment*. Focusing on positive parenting and the family's strengths rather than deficits revealed positive effects for both individuals and families. Music therapy treatment allowed the child's behaviours to be recontextualized for the parents which "successfully engage[d] and motivate[d] the family and [brought] about awareness of patterns of communication and relating" (Molyneux, 2005, p. 65).

Woodward (2004) found that group music therapy for parents and their children with autism promoted the primary goals of improving the child's communication skills and self-confidence. Parents also reported feeling more positive about their children, which promoted relational development. Woodward (2004) grounded this study in psychodynamic and developmental attachment principles as well as Oldfield's (2006b) premises. Woodward (2004) stated that it was "helpful to draw on theory and practice from these different but overlapping perspectives, according to the needs of each child and family, and also the setting in which the work is taking place" (p. 9). This flexible approach to drawing on theories based on the clients' needs is also apparent in Oldfield's work (Oldfield & Bunce, 2001; Oldfield et al., 2003; Oldfield, 2011a, 2011b).

Oldfield et al. (2003) explored the outcomes of group music therapy by comparing mother-child interaction and engagement with two different experimental groups: one group of dyads in music therapy and play sessions, and another group participating in a short-term parenting project (Oldfield et al., 2003). Experimental engagement levels were compared with a nursery music control group. The video analysis recorded mother and child behaviours independently. The researchers placed emphasis on identifying negative behaviours in the parent (e.g., lack of engagement) and child (e.g., disengaging from group) and addressed these within the music therapy groups. They found consistently high engagement in the control and

experimental groups with no significant differences in the amount of mother-child interactions between groups. An analysis of group discussions revealed the importance of encouraging positive comments from parents, which promoted their self-esteem and sense of self-worth, and also facilitated new insights about their own difficulties and their children's.

Oldfield (2011a) illustrated how parents' involvement in music therapy can impact the therapeutic process for the child. Oldfield (2011a) described a case study from family psychiatry where she received a referral for a child with a potential but unconfirmed diagnosis of autism spectrum disorder (ASD). Throughout triadic IMT sessions, Oldfield observed that the mother increased her confidence and through developing her own ability to play had positive effects on her child. Oldfield (2011a) explained how through using the Music Therapy Diagnostic Assessments she contributed to the multidisciplinary assessment conducted by the psychiatric team, which resulted in the exclusion of an ASD diagnosis for the child. Oldfield (2011a) described how the child's presenting behaviours were indicative of a power struggle and a need for control, rather than symptoms of autism. Oldfield's (2011a) music therapy assessment supported the psychiatric diagnostic process for this client through working with the parent and the relationship within music therapy. Valuing the presence of and contributions from the parent had positive effects for the dyad and altered the course of the therapy for the child.

Three case studies of short-term music therapy in family psychiatry found non-verbal improvised music making promoted familial interactions (Oldfield et al., 2012). The researchers ground their work in psychodynamic attachment theory (Bowlby, 1988), along with principles from Stern (1985) and Winnicott (1971). Oldfield et al. (2012) viewed the father-mother-child as part of one unit and the music therapy context seemed to help parents "gain fresh insights in aspects of their relationship with their children" (p. 264). The family seemed to function as a catalyst for addressing child behavioral or developmental outcomes within music therapy. In contrast to the reviewed parent- or child-focused inquiries, which observed relational outcomes as an incidental benefit, the studies in this section demonstrated a movement towards intentionally centering the relationship as a means of achieving individual outcomes. Through a growing recognition that parental inclusion has positive effects on child outcomes, researchers observed positive parenting and relational outcomes. These parental and relational benefits subsequently impacted the course of the child's therapy.

### ***Program Development***

Program developments in music therapy are also characterized by centering the family process in music therapy through evaluating both the parent and the child. Music therapists have adopted family-centered approaches in developing various programs and were grounded in the benefits of parent education to promote child development outcomes. These programs emerged primarily from work with at-risk or marginalized families (Abad & Edwards, 2004; Cevasco, 2008; Lander, 2017). Music therapists have also explored programs with families with a child with a disability (Gilboa & Roginsky, 2010; Williams et al., 2012). The following inquiries are characterized by an intentional centering of the family within the therapeutic process but demonstrated a range in evaluation methods to determine the effectiveness of the programs. Some studies examined both individual parent and child outcomes (Abad & Williams, 2007; Nicholson et al., 2010) and others used entirely relational outcomes (Gilboa & Roginsky, 2010).

*Sing & Grow* is a 10-week early intervention music therapy program designed for marginalized families with children aged 0 to 5 and focuses on parent education to improve child development (Abad & Edwards, 2004). While traditional early intervention programs tend to be child focused, the *Sing & Grow* program aimed to address the whole family through adopting a family-centered model of care (Abad & Edwards, 2004). The rationale for including children in this parenting program was based on the functions of music and play: “Music-based play is believed to foster parent-child bonding through the engaging nature of music and the links between music and the music-like qualities of parent-led communications with young children” (Nicholson, et al., 2010, p. 361). Parent behaviors associated with improved child development outcomes were “parental expression of affection, physical touch, praise, appropriate instruction-giving and development of age-appropriate expectations, improving parents’ emotional responsiveness to their children, and strengthening parents’ self-confidence in their parenting skills” (Nicholson et al., 2008, p. 227). After a pilot implementation of this program with case vignette descriptions, the researchers observed an increase in parent-child interactions and parents reported high satisfaction with the program (Abad & Edwards, 2004).

In a subsequent study, Abad and Williams (2007) reported the observed effects of a *Sing & Grow* program over a three-year period in Queensland, Australia with 683 families participating across 63 programs. The researchers “observed [the program] to have influenced

family interactions, demonstrated through enhanced musical play, enhanced communication skills, and general ‘togetherness’” (Abad & Williams, 2007, p. 57). While these changes were observed, due to the researcher’s methodology which only included anecdotal parent feedback, “the protocol did not effectively capture change in parenting patterns, interactions, and relationships” (Abad & Williams, 2007, p. 57).

Nicholson et al. (2008) used a single subject experimental design to explore the effects of *Sing & Grow* participation with 358 families. Theoretically, this research was grounded in principles of attachment theory, interaction theory, and behavioural training programs reflecting an early intervention approach. Researchers evaluated parent (sensitivity, engagement, acceptance) and child (responsiveness, interest, social participation) outcomes using observation ratings of session videos (Nicholson et al., 2008). Using a parent questionnaire in combination with the observation ratings, researchers found high parental satisfaction and improved parenting behaviours for participating families. The researchers suggested that “a 10-week group intervention using music in a therapeutic context can enhance children’s behavioral, social and communication skills and promote positive parenting” (Nicholson et al., 2008, p. 234), reflecting a combination of parent and child outcomes.

Nicholson et al. (2010) explored the effects of *Sing & Grow* on a larger scale. They recruited 850 dyads and evaluated and compared the participants across three different sites. The researchers observed improved parent and child behaviours and outcomes across all sites. The researchers reported improvements in children’s communication and social play skills as well as improvements in parents’ mental health outcomes. Addressing parenting behaviors had positive impacts on child development outcomes and the authors indicated the “potential for music therapy as an early parenting intervention” (Nicholson et al., 2010, p. 360).

Williams et al. (2012) explored the potential of the *Sing & Grow* program to work with young children with a disability. This investigation relied on separate parent and child outcomes to evaluate the effectiveness of music therapy. Findings were categorized into observed parent and child changes pre- to post-test. Parents demonstrated significantly increased sensitivity, effective engagement, and acceptance of their children, along with improved mental health outcomes. The children demonstrated a significant increase in social and communication skills, were more responsive to their parents, and demonstrated more positive interactions (Williams et

al., 2012). This study suggested that the *Sing & Grow* program promoted “improved parental mental health, positive parenting and key child development areas” (Williams et al., 2012, p. 24).

Lander (2017) presented the program *Baby Sounds* designed for pregnant or new parents. This program was based on *Sing & Grow* foundations to promote positive parenting, bonding, and attachment for at-risk mothers with young children. This program development combined a diverse array of theories to support music therapy. In addition to citing Stern (1985) and Winnicott’s (1971) concepts, Lander (2017) included neurobiological evidence indicating positive effects on brain organization from music stimulation (Parncutt, 2006), and music’s contribution to the development of self-regulation and improved social and emotional outcomes (Weintraub et al., 2011). The theoretical underpinnings of Lander’s (2017) program also included the principles of communicative musicality (Malloch & Trevarthen, 2009). Lander (2017) found that participating parents demonstrated an increased awareness of their own behaviors and confidence, along with a deeper understanding of early communications.

Gilboa and Roginsky (2010) described a dyadic music therapy treatment, DUET, through a case study of a child with cerebral palsy and his mother. In addition to traditional psychodynamic principles of dyadic therapy (e.g., attachment styles) and Winnicott’s (1971) phases of play development, Gilboa and Roginsky (2010) cited Oldfield et al. (2003) to support music therapy’s applicability in promoting non-verbal communication. The researchers evaluated the dyad on the features of coordinated versus uncoordinated relationships to categorize verbal, non-verbal and musical dyadic interactions. Gilboa and Roginsky (2010) observed an increase in dyadic communications along with a movement towards coordinated relationships over time. In contrast to the previously reviewed program evaluations (Abad & Williams, 2007; Nicholson et al., 2008, 2010; Williams et al., 2012), the outcomes of this study were entirely relational, because they examined and evaluated the parent-child interactions themselves, rather than individual parent-child behaviours (Gilboa & Roginsky, 2010).

### **Music Therapy in the NICU**

Music therapy investigations within the neonatal intensive care unit (NICU) have also demonstrated an increase in using relational outcome measures to evaluate dyads and families. Studies examining family processes in the NICU have cited communicative musicality (Haslbeck 2014a, 2014b; Malloch et al., 2012; McLean, 2016a; Shoemark, 2018) along with neurobiological tenets (Loewy, 2015) to inform their work. NICU music therapists are regularly



adopting family-centered approaches (Ettenberger et al., 2017; Haslbeck 2014a, 2014b; McLean, 2016a; Shoemark, 2018) when working with families. While early inquiries focused on infant biometric data to determine the effectiveness of music therapy within the NICU (Whipple, 2000; Walworth, 2009) music therapy researchers are now exploring the interactive mechanisms involved in parent-child bonding within music therapy (Malloch et al., 2012; Shoemark & Grocke, 2010). The student-researcher observed an increase in the use of relational outcomes to assess attachment processes in the NICU (Ettenberger et al., 2017). NICU music therapists have also used musical theories to develop music-therapy-specific models (Haslbeck, 2014a, 2014b) and thematic diagrams (McLean, 2016a) to illustrate how music therapy can support parent and family processes in the NICU.

### ***Early Work***

Early studies of music therapy in the NICU context utilized a variety of approaches, and some music therapists described their music interventions more explicitly than others (Walworth, 2009). These inquiries varied in their clinical foci; some stressed the centrality of parental involvement (Loewy, 2015) and others prioritized the exploration of infants' interactive capacities (Malloch et al., 2012; Shoemark & Grocke, 2010). The commonality is that they all recognized the regulatory components of attachment formation.

Shoemark and Grocke (2010) identified the markers of interplay between a medically fragile newborn and a music therapist, which confirmed infants as active rather than receptive participants within music therapy. The authors noted that interactive regulation (Beebe & Lachmann, 1994) facilitated interplay and started with “highly intonated infant directed speech” (Shoemark & Grocke, 2010, p. 321) from the music therapist. However, this process was not explored with the parent. In an experimental investigation, Whipple (2000) found that multimodal stimulation in combination with parent training decreased infant stress behaviors and increased parent's interactions and responses to their infant. The connections between parental responsiveness and secure attachment informed this study (Whipple, 2000). The author noted a shift from just showing parents how to use music at home towards teaching parents how “to recognize and respond to signs of over-stimulation in their infants” (Whipple, 2000, p. 265). These two studies (Shoemark & Grocke, 2010; Whipple, 2000) highlight the interactive capacities of a premature infant and parents in a NICU music therapy context.

Malloch et al. (2012) used different theoretical principles to support their investigation of music therapy's effect on qualities of interplay between NICU infants and the music therapist. They cited communicative musicality as the primary theory informing their study (Malloch & Trevarthen, 2009). They also cited evidence supporting music's ability to modulate affective states in infants through mutually contingent gestures between caregivers and infants. The researchers observed that the experimental group demonstrated improved self-regulation abilities during adult interactions, cried less, and were less irritable. Furthermore, infants with more regulation, "creat[ed] less stress for both the infants themselves and their caregivers" (Malloch et al., 2012, p. 395). While bonding was not specifically evaluated, infant's ability to regulate impacted their interactions with their caregivers.

### ***Relational Evaluation***

Focusing on the needs of parents within the NICU, and how these needs are inextricably linked to the well-being of the child, has led to an increase in the use of relational measures to evaluate family processes in NICU music therapy. The following studies are characterized by a continued diversification of theory to support their inquiries. They are also using evaluation tools that account for parent and infants' processes in music therapy.

Loewy (2015) examined the unique needs of the parent-child relationship through an experimental investigation into the effects of the *song of kin* intervention when compared to pre-selected songs. Loewy (2015) used a family-centered approach and was grounded in the innate capacity for infants' musical communication and the role of attuned parental singing in fostering attachment (de l'Etoile, 2006). Loewy (2015) also included neurobehavioural evidence suggesting the central role of the environment for social learning. Loewy (2015) found that infants in the *song of kin* group demonstrated improved biometric outcomes including better breathing and heart rate patterns. Additionally, Loewy (2015) described how "[parent's] exclusive live singing...can foster psychotherapeutic support in a parallel process that makes parents more fully resilient in attending to their infants" (p. 184). Accounting for parents' needs in combination with infant biometric data revealed the importance of supporting parents and the potential benefits of considering parent and infant needs.

McLean (2016a) examined parents' perceptions of music therapy in the NICU through themes identified from an interpretive phenomenological analysis (IPA). The researcher adopted a family-centered care approach, based on systems theory. McLean (2016a) recognized infants'

innate musical capacities (Papoušek 1996; Trehub, 2001) and used the theory of communicative musicality (Malloch & Trevarthen, 2009), specifically the benefits of non-verbal interactions, to inform her study. McLean's (2016a) interventions included multimodal stimulation techniques, contingent singing, and infant-directed vocalizations. These were used to assess how parents experience musical interactions with their baby. While discussing all thematic outcomes is outside the scope of this review, it is worth noting that many of them related to the parent-child relationship. Infant responses were central to creating *now moments* and helped parents connect and bond with their baby, which facilitated their confidence to sensitively attune to their baby's needs (McLean, 2016a). Based on the themes identified within the IPA, McLean (2016a) proposed a diagram to visualize the thematic categories of parents' perceptions. This study illustrates how many factors interact with the environment and the dyadic relationship to shape early bonding experiences in a NICU music therapy context (McLean, 2016a).

Ettenberger et al. (2017) conducted a mixed methods investigation to examine music therapy's effectiveness with premature infants. One group of infants received kangaroo care and music therapy, and the control group received only kangaroo care. Citing traditional attachment principles (Bowlby, 1988) along with psychobiological tenets (Kraemer, 1992), Ettenberger et al. (2017) adopted a family-centered music therapy approach and provided rich intervention descriptions. Quantitative results indicated more weight gain for infants in the music group and improved bonding outcomes as measured by the mother-to-infant bonding scale. The qualitative component found primary emergent themes of parental well-being, bonding, fostering development and parents valuing the family-centered approach (Ettenberger et al., 2017). This investigation is significant because it combines individual infant biometric outcomes with qualitative descriptions of parent and relational outcomes.

Haslbeck (2014a, 2014b) conducted two seminal inquiries that explored the potential for music therapy to promote parent-infant interactions in the NICU. In these studies, she developed a model to explicate the relational and ecological dynamics of participating families. Haslbeck (2014a) utilized a grounded theory narrative analysis to explore the effectiveness of her resource-oriented Creative Music Therapy (CMT) approach. Haslbeck (2014a) cited communicative musicality (Malloch & Trevarthen, 2009) as a primary theoretical influence. The author also stressed the relationship between reciprocal affect attunement (Stern, 2010) and regulation development (Papoušek, 2011; Schore, 2003b). Through a narrative analysis of video footage of

two infants, Haslbeck (2014a) conceived of a model where the adult responsiveness (e.g., affect attunement) supported the infants' communicative musicality development (e.g., interplay and interactive synchrony), which facilitated infant empowerment. This was evidenced through infants' participation and creative engagement.

In a subsequent longitudinal analysis of 18 NICU infants and their parents, Haslbeck (2014b) aimed to explore the potential of CMT on a larger scale through integrating parental perspectives in her developing model (Haslbeck, 2014b). Grounded in the same principles (Stern, 1985; Malloch & Trevarthen, 2009), this micro-video analysis led Haslbeck (2014b) to refine the previous investigation's thematic categories. Haslbeck (2014b) found that individual family needs dictated the level of therapeutic responsiveness. In turn, therapeutic responsiveness facilitated communicative musicality, which promoted infant empowerment and parental empowerment (Haslbeck, 2014b). The additional parameters of individual family needs, along with parental empowerment as a function of infants' empowerment, implied a bidirectional empowerment effect that "takes place through experienced and shared communicative musicality" (Haslbeck, 2014b, p. 51). This investigation confirmed "that CMT can facilitate empowerment through communicative musicality resulting from responsiveness" (Haslbeck, 2014b, p. 44). Haslbeck's (2014b) findings highlighted the interrelationships between infants, caregivers, the music therapist, the greater environment, and the musical processes themselves. Haslbeck's (2014a, 2014b) developed model is significant because it illustrates the musical and interpersonal considerations that influenced familial interactions in NICU music therapy.

In a mixed methods pilot investigation, Kehl et al. (2021) explored the effect of CMT on parent mental health symptoms and parent-infant bonding. This study centered on the interactive capacities of premature infants (Haslbeck et al., 2020), but acknowledged how the complexities of communicating non-verbally with preterm infants impact the bonding process (Feldman & Eidelman, 2007). Questionnaire results revealed a decrease in parents' anxious and depressive symptoms. The authors also observed significant improvements in attachment through both qualitative parent reports and quantitative measurements of distance between the parent and infant during sessions. They concluded that "the qualitative inquiry confirmed that CMT can support the parent-infant relationship" (Kehl et al., 2021, p. 265).

The review of NICU music therapy investigations illustrated how music therapists are including theories of emotional regulation and music-centered theories to inform their research.

NICU researchers are using systems theory to support their family-centered approaches (McLean, 2016a; Shoemark, 1996). Music therapists are also using the theory of communicative musicality to interpret parent-child outcomes in music therapy (Haslbeck, 2014b). The student-researcher observed that music therapists working with other populations (e.g., at-risk families) in a variety of settings (e.g., family psychiatry) are also using systems theory to develop their approaches and are using various theories, including communicative musicality, to develop assessment and evaluation tools for families in music therapy.

### **Evaluating the Family Relationship**

The studies in this section are characterized by an intentional centering of the parent-child or family relationship as a primary therapeutic outcome in music therapy. These researchers are supporting their inquiries with theories including communicative musicality (Malloch & Trevarthen, 2009) and neurobiological tenets of emotional regulation (Schoore & Schoore, 2008). The following studies adopted variations of the family-centered approach. The researchers in this section used diverse theories to develop different evaluation tools to assess family functioning and attachment processes in music therapy. These include families' interaction profiles (Wang & Oldfield, 2018), mutually responsive orientation (Pasiali, 2012a), observation of parent responsiveness (Teggelove et al., 2019), parent-child synchrony (Yang, 2016), and assessing parental competencies (Jacobsen & McKinney, 2015). The following section will discuss the ways music therapy researchers working in various settings have evaluated attachment processes by assessing the caregiver-child relationship. The student-researcher will also describe how theory played a critical role in the development of music therapists' approach and evaluation tools.

### ***Family Psychiatry***

Music therapists in the area of child and family psychiatry have outlined models of supporting entire family systems (McIntyre, 2009) and devised a classification system for evaluating dyadic interactions (Wang & Oldfield, 2018). Oldfield's IMT model was expanded by McIntyre (2009) in a child and family psychiatric setting. Using two case studies with rich intervention descriptions, McIntyre (2009) described the benefits of using an Interactive Family Music Therapy (IFMT) approach, through its ability to illustrate the functioning of the whole family system. The two primary benefits of IFMT were how accessible the musical medium was for families, as opposed to words, and how it provided opportunities for intergenerational

musicking reflecting each individual's developmental phase. McIntyre (2009) concluded with a characterization of the model, stating "[IFMT] offers the opportunity for the music therapist to observe the family system in an environment that is different and perhaps unwittingly more exposing than more traditional therapies" (p. 267-268).

Wang and Oldfield (2018) assessed the dyadic interactions of 4 families using a qualitative analysis of video footage in a pilot study. Grounded in psychodynamic principles of attachment classifications (Ainsworth & Bell, 1970) and Winnicott's (1971) object relations theory, Wang and Oldfield's (2018) study aimed to provide "insight into the mechanisms by which different attachment classifications might present in music therapy sessions" (Wang & Oldfield, 2018, p. 3). They developed a qualitative categorization system to classify interactive behaviors between parents and children. Wang and Oldfield's (2018) results indicated "clearly distinguishable patterns of parent-child interaction such that each child had an interaction profile" (p. 6). Wang and Oldfield (2018) were able to develop this new music therapy assessment tool through using attachment theory principles and by evaluating collective parent-child behaviours.

### ***Children with Disabilities***

Researchers exploring music therapy's effect with families who have a child with a disability have developed home-based programs to support families' needs. Thompson's (2012) family-centered approach was explored further by Thompson and McFerran (2015) when they investigated parents' perspectives from music therapy sessions with their child with ASD. Eleven mothers participated in semi-structured interviews after receiving family-centered music therapy in the home (Thompson & McFerran, 2015). The researchers used communicative musicality (Malloch & Trevarthen, 2009) to inform their study. The authors noted the long-standing parallels between music improvisation and affect attunement (Pavlicevic, 1990). They also stressed the importance of non-verbal communication in early interactions (Stern, 1985). For Thompson and McFerran (2015), "rather than the parent-child relationship being a mechanistic vehicle for promoting skill development in the child, strengthening [the] relationship can be considered a primary therapeutic outcome" (p. 19).

Their qualitative analysis found three primary themes from parent interviews: changes in the parent-child relationship, changes in parents' perceptions of their child, and changes in parent responses to their child (Thompson & McFerran, 2015). Parents noted that they had

opportunities to attune to their child's needs and had more positive emotional responses towards their child after treatment. Thompson and McFerran (2015) also noted that parents began "seeing their child rather than the autism" (p. 18). This program facilitated a shift in the mothers' internal representation which impacted the mothers' external interactions. Through exploring responses from parents' interviews, Thompson and McFerran (2015) found that music therapy impacted the ways that mothers were relating to and interacting with their children.

Similarly, Yang (2016) evaluated the effects of the home-based family-centered *Musical Bonds Program* on parent-child responses and synchrony. Theoretically, this article stressed the functions of responsive parenting and how strategies, such as infant-directed singing and turn taking, can strengthen parent-child interactions and intimacy. Individual dimensions found an increase in parents' positive physical and verbal responses and in children's verbal initiations. Additionally, Yang (2016) observed significant improvements in parent-child synchrony. Yang's (2016) observational measurements of parent child synchrony were "adapted from the literature on mutuality in parent-child play and parent-child dyadic synchrony" (p. 39). Parent-child synchrony improved in the areas of "affect attunement, prolonged mutual engagement, increased behavioral reciprocity, and increased turn-taking" (p. 51). In this study, Yang's (2016) developed a way to assess parent-child synchrony in music therapy by adapting existing tools.

### ***Maternal Depression***

Researchers exploring music therapy's impact on families with a history of maternal depression have used music-centered theories (Pasiali, 2012a) to inform their work. These studies evaluated music therapy's effectiveness using relational outcome measures. Pasiali (2010, 2012a) contributed significantly to this area, beginning with her qualitative inquiry dissertation that examined family-based music therapy (FBMT) with families that had a history of maternal depression. She defined FBMT as "a therapeutic approach that encompasses the child in terms of the family system of which they are a part" (Pasiali, 2012a, p. 307). Grounded in the theory of Mutually Responsive Orientation (MRO), or "shared cooperation and shared positive affect" (Kochanska & Murray, 2000, p. 417) within mother-infant interactions, the music therapy context supported positive interactions where families could rehearse adaptive ways of interacting with each other. Through an inductive analysis, Pasiali (2010) found that a music therapy context fostered bidirectional responsiveness by supporting parents' creativity and encouraging play.

Pasiali (2012a) expanded on her previous investigation through an additional grounded theory study of MRO behaviours within FBMt with four families. While this study cited traditional attachment concepts, such as parental sensitivity and attunement, it was also grounded in the theory of communicative musicality (Malloch & Trevarthen, 2009). The theory of MRO, outlined by Aksan, Kochanska and Ortmann (2006), describes conditions for mutual responsiveness from a developmental psychology perspective. Pasiali (2012a) used this theory to inform the study's outcome measures. Pasiali (2012a) found that music therapy promoted responsive behaviour in the areas of coordinated routines, harmonious communication, mutual cooperation, and emotional ambiance (Aksan et al., 2006; Pasiali, 2012a). In addition to communicative musicality (Malloch & Trevarthen, 2009), the theory of MRO provided Pasiali (2012a) with a lens to assess and evaluate parent-child interactions in music therapy.

### ***At-Risk Families***

Music therapists have also developed their approaches in working with at-risk or marginalized families. There seems to be a spectrum of families: on one end, families are simply predisposed to certain risk factors (e.g., low socioeconomic status) and on the other end families' risk factors have led to a more severe history, including abuse or neglect. Families in the latter group have often experienced intergenerational trauma. To address intergenerational patterns of abuse and neglect, it is necessary to address the core problem and work with the underlying relationship (Jacobsen et al., 2014).

Teggelove et al. (2019) offered short-term community-based music therapy for 199 parent-child dyads in a pilot study. Grounded in the idea that lullabies and rhythmic rocking are universal across cultures (Papoušek, 1996), this study aimed to examine parental self-efficacy through promoting parental responsiveness as a means to mitigate risk factors. The authors cited Bandura's (1989) theory that parental self-efficacy is affected by parents' knowledge of good parenting and their confidence in their parenting abilities. As an early intervention program, this study built on the *Sing & Grow* outcome measurements by developing the Observation of Parent Responsiveness (OPR). Teggelove et al. (2019) described how the development of these evaluation parameters was supported by concepts from child development (Cooper et al., 2005) along with previously used outcome measures in music therapy (Nicholson et al., 2008). The OPR evaluated parental responsiveness in three areas: play, praise, and consistency. The authors



found significant improvements in all three areas, suggesting that a short-term early intervention music therapy program promotes parental self-efficacy.

Jacobsen et al. (2014) conducted a randomized controlled trial to explore the effects of dyadic music therapy treatment on “observed parent-child interaction... self-reported parenting stress, and self-reported parent-child relationship in families at risk” (p. 310) as evaluated through the APC (Jacobsen & Wigram, 2007). Jacobsen et al. (2014) cited the importance of non-verbal interactions in promoting development. The researchers indicated that a musical medium can promote the essential re-experiencing of early playful interactions through affect attunement (Trolldalen, 1997; Stern, 1985) and musical interplay (Edwards, 2011b). The assessment categories of the original APC (Jacobsen & Wigram, 2007) were expanded to include, “mutual attunement between parent and child... nonverbal communication skills between parent and child... and emotional parental response from parent to the child... The APC also has a total score; parent-child interaction in music” (Jacobsen et al., 2014, p. 318). They found significant improvements in mutual attunement and non-verbal communication for only the music group with both groups improving in their positive responses. They suggested that “music therapy might address nonverbal communication issues in more effective ways than traditional approaches within the field of child protection” (Jacobsen et al., 2014, p. 329).

Jacobsen and McKinney (2015) refined the Assessment of Parenting Competences-Revised (APC-R) categories through a mixed methods design by comparing clinically referred families with emotional neglect with a non-clinical control group. Communicative musicality (Holck, 2008) and the theory of affect attunement (Stern, 2000) informed the APC revision through supporting the connections between affect attunement and the non-verbal interaction qualities of musical improvisation (Trondalen & Skårderud, 2007). The APC-R was expanded by replacing the categories of autonomy and turn analyses with mutual attunement and non-verbal communication resulting in five refined categories: “Mutual attunement... Nonverbal communication skills... Positive response... Negative response... Parent-child interaction in music” (Jacobsen & McKinney, 2015, p. 2170). Jacobsen and McKinney’s (2015) reasoning for expanding these categories was because “the predominantly music-based scores of mutual attunement and nonverbal communication... were more reliable and precise than the behavioral scores of the categories of Emotional Parental Response” (p. 2171). They found that the APC-R “provided consistent and reliable measure of parent-child interaction and parenting

competencies” (Jacobsen & McKinney, 2015, p. 2170). The researchers used the theoretical principles from music therapy (Holck, 2008; Trondalen & Skårderud, 2007) to develop their assessment tool. This allowed for a reliable assessment of parent-child interactions within music therapy. These inquiries (Jacobsen et al., 2014; Jacobsen & McKinney, 2015) demonstrated how the use of theories developed from music therapy can inform and refine evaluation tools to account for the unique communication processes that occur with families in music therapy.

The music therapy inquiries reviewed in this section demonstrated that music therapy researchers are using relational evaluation tools to assess dyads and families with diverse needs and diagnoses in a variety of settings. Further, music therapists (Jacobsen & McKinney, 2015; Teggelove et al., 2019) are using theories to develop and refine how they assess families.

### **Conclusion**

The analysis revealed three primary trends relating to which theories inform music therapy research and practice with families. First, music therapists are increasingly citing communicative musicality (Malloch & Trevarthen, 2009) as a theoretical premise to inform their work. Second, a family-systems theoretical perspective supported the predominant use of family-centered approaches in music therapy with various family populations. Third, music therapists have used musical premises and foundations to develop evaluation and assessment tools for families (Pasiali, 2012a; Jacobsen & McKinney, 2015; Teggelove et al., 2019).

### ***Musical Theories***

A diversity of foundational influences has shaped research and practice on music therapy with families. The music therapy researchers and practitioners in this analysis demonstrated flexibility in drawing on theories according to their client’s context and needs. They also demonstrated an openness to developing theories to provide the best support for family’s attachment processes. Many studies cited psychodynamic (Bowlby, 1973; Winnicott, 1971) and child developmental (Stern, 1985) perspectives and theories. Music therapists have also supported their work with Malloch & Trevarthen’s (2009) theory of communicative musicality among various populations including the NICU (Haslbeck, 2014a, 2014b; Lander, 2017; Malloch et al., 2012; McLean, 2016a; Shoemark, 2018), families with a child with a disability (Thompson & McFerran, 2015), families with maternal depression history (Pasiali 2010, 2012a), and at-risk families (Jacobsen & McKinney, 2015). Citing neurological tenets (Schoore, 2003a, 2003b; Schoore & Schoore, 2008; Weintraub et al., 2011) to support the underlying biological processes of

music's effect on development and emotional regulation also became apparent in recent research (Haslbeck, 2014b; Haslbeck et al., 2020; Kehl et al., 2021; Levinge, 2011; Loewy, 2015; Nemesh, 2017a).

While the student-researcher observed unique theoretical tenets used within the NICU (Bargiel, 2004; O'Gorman, 2006, 2007), music therapists among all the reviewed populations identified communicative musicality as a foundational theory. Edwards (2011a) and Shoemark (2018) also identified communicative musicality (Malloch & Trevarthen, 2009) as being a central theoretical influence in music therapists work with families, supporting the findings from this analysis. Music therapists are also using different theories to support their approaches (family-centered) and to develop their assessments and evaluation tools.

### ***Theory-Informed Approach***

Family-centered approaches grounded in systems theory seem to have afforded music therapists a more comprehensive understanding of interdependent functioning within familial relationships and how relational factors impact both individual and family processes in music therapy. Researchers and clinicians have developed variations of family-centered models to explore attachment processes across populations. These include Oldfield's (2006b) IMT model and McIntyre's (2009) IFMT model in family psychiatry; Shoemark's (1996) FC-MT approach and Haslbeck's (2014b) CMT approach with families in the NICU; and finally, Pasiali's (2010, 2012a) FBMT approach with families with mothers with a history of depression. While these approaches differ in title and population implementation, they all place the family at the center of the therapeutic focus to explore individual or relational outcomes. Family-centered models afforded music therapists a more culturally centered perspective, where the different manifestations of environmental, cultural and relational influences within each family unit can be respected (Haslbeck 2014a, 2014b; Loewy, 2015; McLean, 2016a, 2016b).

Music therapy clinicians also developed models to conceptualize music-therapy-specific processes in working with families in the NICU (Haslbeck, 2014b; McLean, 2016a). Haslbeck (2014b) utilized existing psychological principles and communicative musicality to develop a thematic categorical model of considerations to support family communication in the NICU. Similarly, McLean (2016a) used the emerging themes from her IAP analysis to illustrate "parents' perceptions of the role of the music therapist in supporting singing and voice

interactions...” (p. 30). These studies (Haslbeck, 2014b; McLean, 2016a) are significant because they developed different ways to visualize family’s processes in NICU music therapy.

### ***Theory-Informed Evaluation and Assessment***

Music therapists are not only explicitly using theoretical principles to develop their approaches, but they are also using theories to refine the way they assess and evaluate families in music therapy. An unexpected finding from the analysis was the increase in relational evaluation methods to assess attachment processes in music therapy. Early work generally focused on either the parent or the child, and then moved towards combining parent and child outcomes, reflected most notably in the *Sing & Grow* inquiries (Nicholson et al., 2008, 2010; Williams et al., 2012). Researchers used theories to support the development of relational outcome measures in music therapy with at-risk families (Jacobsen & McKinney, 2015; Teggelove et al., 2019) and families with a history of maternal depression (Pasiali, 2012a). These included MRO (Pasiali, 2010, 2012a), OPR (Teggelove et al., 2019), and musical theories in the APC-R (Jacobsen et al., 2014; Jacobsen & McKinney, 2015). Jacobsen and McKinney found that the APC-R “provides a consistent and reliable measure of parent-child interaction and parenting competencies” (p. 2170). Jacobsen and McKinney’s (2015) use of musical premises and assumptions (Holck, 2008; Trondalen & Skårderud, 2007) to develop this reliable assessment tool is significant because it indicates that theories emerging from music therapy have relevance for understanding and assessing family processes.

## **Chapter 5: Discussion**

This summative qualitative content analysis explored how music therapists have drawn on theories to inform research and practice on the use of music therapy to support attachment processes with dyads and families. The primary research question was: According to the literature, what theories inform research and practice on the use of music therapy to promote attachment processes between caregivers and children? Additionally, are there music therapy researchers and clinicians working with families who have developed or incorporated theories that are unique to music therapy to inform their work? The student-researcher found that it was difficult to clearly identify where theoretical premises and assumptions originated. They were not always referenced the same way in the literature and required interpretations from the student-researcher to group the assumptions into categories. The analysis revealed that music therapists have adopted diverse theoretical perspectives to support their work. The theory of communicative musicality appears to be a unique foundation informing music therapists' work with families. Additionally, systems theory was used to inform music therapists' family-centered approaches. Researchers also used diverse theories to develop music therapy assessments and evaluation tools for families. The student-researcher will now discuss the implications of these findings on research, practice, and professional advocacy.

### **Implications for Future Research**

A primary implication of the current content analysis is the importance of identifying foundations or guiding assumptions within music therapy research studies. As previously described, there is a reciprocal relationship between theory, research, and practice (Baker & Young, 2016). Additionally, theories in music therapy often emerge from clinical practice (Amir et al., 2016). To facilitate collaboration among researchers, practitioners, and theorists to support theoretical development, it seems essential for music therapy researchers to clearly identify the theoretical principles that guided their research study. This may help to support theoretical development and refinement in music therapy over time.

An additional implication for future research is continuing to explore the application of identified music therapy models, approaches, and assessment tools. Music therapists have developed models and diagrams to illustrate family processes in the NICU (Haslbeck, 2014a, 2014b; McLean, 2016a). Exploring if these considerations have merit to promote interactions and bonding with populations outside the NICU, such as families with children with a disability,

remains an area for future investigation. Continuing to explore the validity and reliability of developed music therapy assessments (Jacobsen & McKinney, 2015; Wang & Oldfield, 2018) and evaluation tools (Pasiali, 2012a; Teggelove et al., 2019) is also an area for future research.

### **Implications for Clinical Practice**

This content analysis identified many family-centered approaches used in music therapy clinical work with families that are grounded in systems theory. Music therapists have indicated the “clinical value of adding a family-systems perspective to [music therapists’] professional toolbox” (Nemesh, 2017a, p. 167). The pervasive use of family-centered approaches by music therapists suggests a particular relevance of approaches grounded in systems theory when working with families in a music therapy clinical context.

Many of the guiding theoretical principles identified within the current content analysis emerged from the observations and contributions from music therapy clinicians (Oldfield, 2006b; Shoemark, 1996). They developed premises for working with families that were then explored within the research. The development and refinement of theoretical principles within music therapy research and practice requires collaboration among music therapists to determine the applicability and relevance of theories. Music therapy clinicians should continue to re-evaluate theoretical premises as they emerge from research and practice, to explore their clinical applicability to family attachment processes in music therapy.

### **Implications for Professional Advocacy**

The development of music-therapy-specific assessment and evaluation tools has implications for professional advocacy in music therapy. The results from the current research support the argument for the vital role that music therapy can play in family assessment and interdisciplinary therapeutic work. Researchers described how music therapy has a unique capacity to reveal family functioning (McIntyre, 2009; Nemesh, 2017a). McIntyre (2009) suggested that the music therapy medium is perhaps “more exposing than more traditional therapies” (p. 267). Jacobsen and McKinney’s (2015) use of musical theories to develop a reliable music-therapy-specific assessment tool revealed a unique capacity for music therapy to address non-verbal communication that was also supported by other music therapists (Edwards, 2011a; Hendry, 2017; Oldfield & Bunce, 2001). Nemesh (2017a, 2017b, 2018) offered particular insight towards the ways music interventions can be used within traditional family therapy based on their ability to expose family functioning. This research suggests that music therapy is a vital

and essential discipline that may deepen the understanding of family functioning and attachment processes for other professions. There is a need to explore how these tools can be used to support interdisciplinary collaborations when working with families.

### **Limitations**

This is the first study conducted by the current student-researcher, which is a primary limitation of this content analysis. Data collection was limited to English language publication and articles published after 2000. The number of documents meeting the inclusion criteria exceeded the student-researcher's expectations, and the student-researcher had to exclude many relevant studies, articles, and inquiries. The scope and number of populations included in this review was a significant limitation. This poses the potential risk that the student-researcher did not identify all relevant studies relating to music therapy and families. Theoretical assumptions in the literature were also addressed differently by music therapists and adequately describing the full extent of these theoretical foundations in all the reviewed studies was outside the scope of the review and remains a primary limitation.

### **Conclusion**

This content analysis explored the ways music therapists have drawn on theories to develop their understanding of how music therapy can support attachment processes. The student-researcher reviewed literature relating to music therapy research and practice with families according to cited theoretical foundations, approach, clientele, and evaluation tools. The theoretical foundation of communicative musicality informed the majority of recent music therapy studies with families. Theories were also found to have influenced music therapists' approaches, assessments, and evaluation tools. This review found that music therapy researchers, practitioners, and theorists are actively working to develop and refine theoretical foundations to inform their work with families. The theoretical foundations identified in this content analysis may support the continued development and refinement of applicable theories by music therapists as this work evolves.

## References

- Abad, V., & Edwards, J. (2004). Strengthening families: A role for music therapy in contributing to family centered care. *Australian Journal of Music Therapy, 15*, 3–17.
- Abad, V., & Williams, K. E. (2007). Early intervention music therapy: Reporting on a 3-year project to address needs with at-risk families. *Music Therapy Perspectives, 25*(1), 52-58. <https://doi.org/10.1093/mtp/25.1.52>
- Aigen, K. S. (2014). *The study of music therapy: Current issues and concepts*. Routledge.
- Ainsworth, M. D. S., & Bell, S. M. (1970). Attachment, exploration, and separation: Illustrated by the behavior of one-year-olds in a strange situation. *Child Development, 41*(1), 49–67.
- Aitken, K. J., & Trevarthen, C. (1997). Self/other organization in human psychological development. *Development and Psychopathology, 9*(4), 653-677.
- Aksan, N., Kochanska, G., & Ortmann, M. R. (2006). Mutually responsive orientation between parents and their young children: Toward methodological advances in the science of relationships. *Developmental Psychology, 42*, 833-848. <https://doi.org/10.1037/0012-1649.42.5.833>
- Allgood, N. (2005). Parents' perceptions of family-based group music therapy for children with autism spectrum disorders. *Music Therapy Perspectives, 23*(2), 92–99. <https://doi.org/10.1093/mtp/23.2.92>
- Amir, D., Lagasse, A. B., & Crowe, B. J. (2016). The relationship between research and theory. In K. Murphy & B. Wheeler (Eds.), *Music Therapy Research* (3rd ed., pp. 94-109). Barcelona.
- Baker, F. A., & Young, L. (2016). The relationship between research and practice. In K. Murphy & B. Wheeler (Eds.), *Music Therapy Research* (3rd ed., pp. 78-93). Barcelona.
- Bandura, A. (1989). Regulation of cognitive processes through perceived self-efficacy. *Developmental Psychology, 25*(5), 729.
- Bargiel, M. (2004). Lullabies and play songs: Theoretical considerations for an early attachment music therapy intervention through parental singing for developmentally at-risk infants. *Voices: A World Forum for Music Therapy, 4*(1). <https://doi.org/10.15845/voices.v4i1.149>
- Beebe, B., & Lachmann, F. M. (1994). Representations and internalizations on infancy: Three principles of salience. *Psychoanalytic Psychology, 11*, 127-165.



- Beebe, B., & Lachmann, F. M. (1998). Co-constructing inner and relational processes: Self- and mutual regulation in infant research and adult treatment. *Psychoanalytic Psychology*, *15*(4), 480-516. <https://doi.org/10.1037/0736-9735.15.4.480>
- Beebe, B. (2017). Daniel Stern: Microanalysis and the empirical infant research foundations. *Psychoanalytic Inquiry*, *37*(4), 228-241. <https://doi.org/10.1080/07351690.2017.1299498>
- Bowlby, J. (1973). *Attachment and loss: Separation anxiety and anger* (Vol. 2). Hogarth Press.
- Bowlby, J. (1988). *A secure base: Parent-child attachment and healthy human development*. Basic Books.
- Bretherton, I. (1992). The origins of attachment theory: John Bowlby and Mary Ainsworth. *Developmental Psychology*, *28*, 759–775. <https://doi.org/10.1037/0012-1649.28.5.759>
- Bruscia, K. (1987). *Improvisational Models of Music Therapy*. Charles C Thomas Publisher.
- Bruscia, K. E. (2014). A working definition. In K. E. Bruscia, *Defining music therapy* (3rd ed., pp. 35-43). Barcelona.
- Cassidy, J., Jones, J., & Shaver, P. (2013). Contributions of attachment theory and research: A framework for future research, translation, and policy. *Development and Psychopathology*, *25*(4pt2), 1415-1434. <https://doi.org/10.1017/S0954579413000692>
- Cevasco, A. M. (2008). The effects of mothers' singing on full-term and preterm infants and maternal emotional responses. *Journal of Music Therapy*, *45*(3), 273–306. <https://doi.org/10.1093/jmt/45.3.273>
- Conway, K. P., & McGrain, P. (2016). Understanding substance use and addiction through the lyrics of black sabbath: A content analysis. *Substance Use & Misuse*, *51*(12), 1655–1663. <http://doi.org/10.1080/10826084.2016.1191515>
- Cooper, G., Hoffman, K., Powell, B., & Marvin, B. (2005). The circle of security intervention: Differential diagnosis and differential treatment. In L. J. Berlin, Y. Ziv, L. M. Amaya-Jackson, & M. T. Greenberg (Eds.), *Enhancing early attachments: Theory, research, intervention, and policy* (pp. 127–151). Guilford Press.
- Davies, E. (2008). It's a family affair: Music therapy for children and their families at a psychiatric unit. In A. Oldfield & C. Flower (Eds.), *Music therapy with children and their families* (pp. 121-140). Jessica Kingsley.

- Day, T., & Bruderer, H. (2011). Music therapy to support mothers who have experiences abuse in childhood. In J. Edwards (Ed.), *Music therapy and parent-infant bonding* (pp. 141-160). Oxford University Press.  
<https://doi.org/10.1093/acprof:oso/9780199580514.003.0011>
- de l'Etoile, S. K. (2006). Infant-directed Singing: A theory for clinical intervention. *Music Therapy Perspectives*, 24(1), 22-29.
- Dileo, C. (2013). A proposed model for identifying practices: A content analysis of the first 4 years of music and medicine. *Music and Medicine*, 5(2), 110-118. <https://doi.org/10.1177/1943862113481064>
- Dissanayake, E. (2009). Root, leaf, bloom, or bole: Concerning the origin and adaptive function of music. In S. Malloch & C. Trevarthen (Eds.), *Communicative musicality: Exploring the basis of human companionship* (pp. 17-30). Oxford University Press.
- Duschinsky, R. (2018). Disorganization, fear and attachment: Working towards clarification. *Infant Mental Health Journal*, 39(1), 17-29.  
<https://doi.org/10.1002/imhj.21689>
- Duschinsky, R., Greco, M., & Soloman, J. (2015). The politics of attachment: Lines of flight with Bowlby, Deleuze and Guattari. *Theory Culture and Society*, 32(7-8), 173-195.  
<https://doi.org/10.1177/0263276415605577>
- Dunst, C., Johanson, C., Trivette, C., & Hambry, D. (1991). Family-oriented early intervention policies and practices: Family-centered or not? *Exceptional Children*, 58(4), 115-126.  
<https://doi.org/10.1177/001440299105800203>
- Edwards, J. (2011a). The use of music therapy to promote attachment between parents and infants. *The Arts in Psychotherapy*, 38(3), 190-195.  
<https://doi.org/10.1016/j.aip.2011.05.002>
- Edwards, J. (2011b). Music therapy and parent-infant bonding. In J. Edwards (Ed.), *Music therapy and parent-infant bonding* (pp. 5-21). Oxford University Press.  
<https://doi.org/10.1093/acprof:oso/9780199580514.003.0002>
- Edwards, J. (2014). The role of the music therapist in promoting parent-infant attachment. *Canadian Journal of Music Therapy*, 20(1), 38-48.
- Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, 62(1), 107-115. <https://doi.org/10.1111/j.1365-2648.2007.04569.x>

- Ettenberger, M., Cárdenas, C. R., Parker, M., & Odell-Miller, H. (2017). Family-centered music therapy with preterm infants and their parents in the neonatal intensive care unit (NICU) in Colombia: A mixed-methods study. *Nordic Journal of Music Therapy*, 26(3), 207-234. <https://doi.org/10.1080/08098131.2016.1205650>
- Feldman, R., & Eidelman, A. I. (2007). Maternal postpartum behavior and the emergence of infant-mother and infant-father synchrony in preterm and full-term infants: The role of neonatal vagal tone. *Developmental Psychobiology*, 49(3), 290–302. <https://doi.org/10.1002/dev.20220>
- Friedman, S. H., Kaplan, R. S., Rosenthal, M. B., & Console, P. (2010). Music therapy in perinatal psychiatry: Use of lullabies for pregnant and postpartum women with mental illness. *Music and Medicine*, 2(4), 219-255. <https://doi.org/10.1177/1943862110379584>
- Ghetti, C. M., & Keith, D. R. (2016). Qualitative content analysis. In K. Murphy & B. Wheeler (Eds.), *Music Therapy Research* (3rd ed., pp. 830-839). Barcelona.
- Gilboa, A., & Roginsky, E. (2010). Examining the dyadic music therapy treatment (DUET): The case of a CP child and his mother. *Nordic Journal of Music Therapy*, 19(2), 103-132. <https://doi.org/10.1080/08098131.2010.500742>
- Gold, C. (2008). The theory and the evidence. *Nordic Journal of Music Therapy*, 17(1), 2. <https://doi.org/10.1080/08098130809478190>
- Harlow, E. (2019). Attachment theory: Developments, debates and recent applications in social work, social care and education. *Journal of Social Work Practice*, 35(1), 79-91. <https://doi.org/10.1080/02650533.2019.1700493>
- Haslbeck, F. B. (2014a). Creative music therapy with premature infants: An analysis of video footage. *Nordic Journal of Music Therapy*, 23(1), 5-35. <https://doi.org/10.1080/08098131.2013.780091>
- Haslbeck, F. B. (2014b). The interactive potential of creative music therapy with premature infants and their parents: A qualitative analysis. *Nordic Journal of Music Therapy*, 23(1), 36-70. <https://doi.org/10.1080/08098131.2013.790918>
- Haslbeck, F. B., Jakab, A., Held, U., Bassler, D., Bucher, H.-U., & Hagmann, C. (2020). Creative music therapy to promote brain function and brain structure in preterm infants: A randomized controlled pilot study. *NeuroImage: Clinical*, 25. <https://doi.org/10.1016/j.nicl.2020.102171>

- Hendry, A. (2017). Creative therapies for complex trauma: Theory into practice. In A. Hendry & J. Hasler (Eds.), *Creative therapies for complex trauma: Helping children and families in foster care, kinship care or adoption* (pp. 42-57). Jessica Kingsley.
- Holck, U. (2004). Turn-taking in music therapy with children with communication disorders. *British Journal of Music Therapy*, 18(2), 45-54.  
<https://doi.org/10.1177/135945750401800203>
- Holck, U. (2008). Kommunikativ musikalitet. Kognition and Pædagogik. *Tidsskrift om den gode Læring*, 18, 70–79.
- Holmes, J. (1993). *John Bowlby and attachment theory*. Routledge.
- Horvat, J., & O'Neill, N. (2008). 'Who is the therapy for?': Involving the parent or carer in their child's music therapy. In A. Oldfield & C. Flower (Eds.), *Music therapy with children and their families* (pp. 63-73). Jessica Kingsley.
- Hsieh, H., & Shannon, S. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15(9), 1277-1288. <https://doi.org/10.1177/1049732305276687>
- Jacobsen, S., & Wigram, T. (2007). Music therapy for the assessment of parental competencies for children in need of care. *Nordic Journal of Music Therapy*, 16(2), 129-143.  
<https://doi.org/10.1080/08098130709478182>
- Jacobsen, S. L., McKinney, C., & Holck, U. (2014). Effects of a dyadic music therapy intervention on parent-child interaction, parent stress, and parent-child relationship in families with emotionally neglected children: A randomized controlled trial. *Journal of Music Therapy*, 51(4), 310–332. <https://doi.org/10.1093/jmt/thu028>
- Jacobsen, S. L., & McKinney, C. H. (2015). A music therapy tool for assessing parent-child interaction in cases of emotional neglect. *Journal of Child and Family Studies*, 24, 2164-2173. <https://doi.org/10.1007/s10826-014-0019-0>
- Jacobsen, S. L., & Thompson, G. (Eds.). (2016). *Music therapy with families: Therapeutic approaches and theoretical perspectives*. Jessica Kingsley.
- Jefferies, A. L. (2012). Kangaroo care for the preterm infant and family. *Paediatric and Child Health*, 17(3), 141-143. <https://doi.org/10.1093/pch/17.3.141>
- Jochims, S. (2003). Connections between bonding theories and psychodynamic music therapy: Treatment of deprivation as an example. *Nordic Journal of Music Therapy*, 12(1), 100–107. <https://doi.org/10.1080/08098130309478078>

- Karen, R. (1998). *Becoming attached: First relationships and how they shape our capacity to love*. Oxford University Press.
- Kehl, S. M., La Marca-Ghaemmaghami, P., Haller, M., Pichler-Stachl, E., Bucher, H. U., Bassler, D., & Haslbeck, F. B. (2021). Creative music therapy with premature infants and their parents: A mixed-method pilot study on parents' anxiety, stress and depressive symptoms and parent-infant attachment. *International Journal of Environmental Research and Public Health*, *18*(1), 265. <https://doi.org/10.3390/ijerph18010265>
- Kochanska, G., & Murray, K. T. (2000). Mother-child mutually responsive orientation and conscience development: From toddler to early school age. *Child development*, *71*(2), 417-431. <https://doi.org/10.1111/1467-8624.00154>
- Kraemer, G. W. (1992). A psychobiological theory of attachment. *Behavioral and Brain Sciences*, *15*(3), 493-511. <https://doi.org/10.1017/S0140525X00069752>
- Lander, J. (2017). 'BabySounds': Promoting bonding and attachment, pre- and post-natally, with vulnerable first-time parents. *British Journal of Music Therapy*, *31*(1), 18-25. <https://doi.org/10.1177/1359457517700638>
- Loewy, J. (2015). NICU music therapy: Song of kin as critical lullaby in research and practice. *Annals of the New York Academy of Sciences*, *1337*(1), 178–185. <https://doi.org/10.1111/nyas.12648>
- Levinge, T. (2011). 'The first time ever I saw your face...': Music therapy for depressed mothers and their infants. In J. Edwards (Ed.), *Music therapy and parent infant bonding* (pp. 42-57). Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780199580514.003.0004>
- Levinge, A. (2015). *The music of being: Music therapy, Winnicott and the school of object relations*. Jessica Kingsley.
- Main, M., & Solomon, J. (1986). Discovery of an insecure-disorganized/disoriented attachment pattern. In T. B. Brazelton & M. W. Yogman (Eds.), *Affective development in infancy* (pp. 95–124). Ablex.
- Malloch, S. N. (1999). Mothers and infants and communicative musicality. *Musicae Scientiae*, *3*(1), 29-57. <https://doi.org/10.1177/10298649000030S104>

- Malloch, S. N., & Trevarthen, C. (2009). Musicality: Communicating the vitality and interests of life. In S. N. Malloch & C. Trevarthen (Eds.), *Communicative musicality: Exploring the basis of human companionship* (pp. 1-11). Oxford University Press.
- Malloch, S., Shoemark, H., Črnčec R., Newnham, C., Paul, C., Prior, M., Coward, S., & Burnham, D. (2012). Music therapy with hospitalized infants: The art and science of communicative musicality. *Infant Mental Health Journal, 33*(4), 386-399.  
<https://doi.org/10.1002/imhj.21346>
- McIntyre, J. (2009). Interactive family-music therapy: Untangling the system. *Australian and New Zealand Journal of Family Therapy, 30*(4), 260–268.  
<https://doi.org/10.1375/anft.30.4.260>
- McLean, E. (2016a). Exploring parents’ experiences and perceptions of singing and using their voice with their baby in a neonatal unit: An interpretive phenomenological analysis. *Qualitative Inquiries in Music Therapy: A Monograph Series*, (vol. 12), 1–42.
- McLean, E. (2016b). Fostering intimacy through musical beginnings: Exploring the application of communicative musicality through the musical experience of parents in a neonatal intensive care unit. *Voices: A World Forum for Music Therapy, 16*(2).  
<https://doi.org/10.15845/voices.v16i2.874>
- Milligan, K., Atkinson, L., Trehub, S. E., Benoit, D., & Poulton, L. (2003). Maternal attachment and the communication of emotion through song. *Infant Behavior and Development, 26*(1), 1-13. [https://doi.org/10.1016/S0163-6383\(02\)00165-0](https://doi.org/10.1016/S0163-6383(02)00165-0)
- Molyneux, C. (2005). Music therapy as a short-term intervention with individuals and families in a child and adolescent mental health service. *British Journal of Music Therapy, 19*(2), 59-66. <https://doi.org/10.1177/135945750501900204>
- Nemesh, B. (2017a). Family-based music therapy: From dissonance to harmony. *Nordic Journal of Music Therapy, 26*(2), 167-184. <https://doi.org/10.1080/08098131.2016.1144638>
- Nemesh, B. (2017b) Family therapists’ perspectives on implementing musical interventions in family therapy: A mixed-methods study. *Journal of Family Psychotherapy, 28*(2), 118-133. <https://doi.org/10.1080/08975353.2017.1285655>
- Nemesh, B. (2018). Implementing family-based musical interventions in family therapy: A mixed-methods research. *Contemporary Family Therapy, 40*, 84-98.  
<https://doi.org/10.1007/s10591-017-9453-7>

- Neuman, W. L. (2006). Analysis of qualitative data. In W. L. Neuman (Ed.), *Social research methods: Qualitative and quantitative approaches* (6th ed., pp. 457-489). Allyn & Bacon.
- Nicholson, J. M., Berthelsen, D., Abad, V., Williams, K., & Bradley, J. (2008). Impact of music therapy to promote positive parenting and child development. *Journal of Health Psychology, 13*(2), 226–238. <https://doi.org/10.1177/1359105307086705>
- Nicholson, J. M., Berthelsen, D., Williams, K., & Abad, V. (2010). National study of an early parenting intervention: Implementation differences on parent and child outcomes. *Prevention Science, 11*(4), 360–370. <https://doi.org/10.1007/s11121-010-0181-6>
- O’Gorman, S. (2006). Theoretical interfaces in the acute paediatric context: A psychotherapeutic understanding of the application of infant-directed singing. *American Journal of Psychotherapy, 60*(3), 271–283. <https://doi.org/10.1176/appi.psychotherapy.2006.60.3.271>
- O’Gorman, S. (2007). Infant-directed singing in neonatal and paediatric intensive care. *Australian & New Zealand Journal of Family Therapy, 28*(2), 100–108. <https://doi.org/10.1375/anft.28.2.100>
- Oldfield, A., & Bunce, L. (2001). ‘Mummy can play too...’ Short term music therapy with mothers and young children. *British Journal of Music Therapy, 15*(1), 27-36. <https://doi.org/10.1177/135945750101500107>
- Oldfield, A., Adams, M., & Bunce, L. (2003). An investigation into short-term music therapy with mothers and young children. *British Journal of Music Therapy, 17*(1), 26–45. <https://doi.org/10.1177/135945750301700105>
- Oldfield, A. (2006a). *Interactive music therapy in child and family psychiatry: Clinical practice, research and teaching*. Jessica Kingsley.
- Oldfield, A. (2006b). *Interactive music therapy: a positive approach: Music therapy at a child development centre* (1st American pbk.). Jessica Kingsley.
- Oldfield, A., & Flower, C. (2008). *Music therapy with children and their families*. Jessica Kingsley.
- Oldfield, A. (2011a). Exploring issues of control through interactive, improvised music making: Music therapy diagnostic assessment and short-term treatment with a mother and daughter in a psychiatric unit. In A. Meadows, (Ed.), *Developments in music therapy practice: Case study perspectives* (pp. 117-126). Barcelona.

- Oldfield, A. (2011b). Parents' perceptions of being in music therapy sessions with their children: What is our role as music therapists with parents? In J. Edwards (Ed.), *Music therapy and parent-infant bonding* (pp. 58-72). Oxford University Press.  
<https://doi.org/10.1093/acprof:oso/9780199580514.003.0005>
- Oldfield, A., Bell, K., & Pool, J. (2012). Three families and three music therapists: Reflections on short term music therapy in child and family psychiatry. *Nordic Journal of Music Therapy*, 21(3), 250-267. <http://doi.org/10.1080/08098131.2011.640436>
- Papoušek M., Papoušek H., & Symmes, D. (1991). The meanings of melodies in motherese in tone and stress languages. *Infant Behavior and Development*, 14(4), 415-440.  
[https://doi.org/10.1016/0163-6383\(91\)90031-M](https://doi.org/10.1016/0163-6383(91)90031-M)
- Papoušek, H. (1996). Musicality in infancy research: Biological and cultural origins of early musicality. In I. Deliège & J. Sloboda (Eds.), *Musical beginnings: Origins and development of musical competence* (pp. 37-55). Oxford University Press.
- Papoušek, M. (2011). Resilience, strengths, and regulatory capacities: Hidden resources in developmental disorders of infant mental health. *Infant Mental Health Journal*, 32(1), 29-46. <https://doi.org/10.1002/imhj.20282>
- Parncutt, R. (2006). Prenatal development. In G. E. McPherson (Ed.), *The child as musician* (pp. 1-31). Oxford University Press.
- Pasiali, V. (2010). Family-based music therapy: Fostering child resilience and promoting parental self-efficacy through shared musical experiences (Doctoral dissertation, Michigan State University). ProQuest LLC. <https://doi.org/10.25335/M5WS8HT6Z>
- Pasiali, V. (2012a). Supporting parent-child interactions: Music therapy as an intervention for promoting mutually responsive orientation. *Journal of Music Therapy*, 49(3), 303-334.  
<https://doi.org/10.1093/jmt/49.3.303>
- Pasiali, V. (2012b) Resilience, music therapy, and human adaptation: Nurturing young children and families, *Nordic Journal of Music Therapy*, 21(1), 36-56.  
<https://doi.org/10.1080/08098131.2011.571276>
- Patel, A. D. (2010). Music, biological evolution, and the brain. In M. Bailar (Ed.), *Emerging Disciplines* (pp. 41-64). OpenStax CNX. <http://hdl.handle.net/10427/009075>
- Pavlicevic, M. (1990). Dynamic interplay in clinical improvisation. *Journal of British Music Therapy*, 4(2), 5-9. <https://doi.org/10.1177/135945759000400202>



- Pinker, S. (1997). *How the mind works*. Allen Lane.
- Procter, S. (2005). Parents, children and their therapists: A collaborative research project examining therapist-parent interactions in a music therapy clinic. *British Journal of Music Therapy*, 19(2), 45-58. <https://doi.org/10.1177/135945750501900203>
- Rogers, A. (1981). Third world congress on pain of the international association for the study of pain, Edinburgh, Scotland, September 4-11, Abstracts. *Pain. Supplement*, 1, S1-S319.
- Sameroff, A. (2010). A unified theory of development: A dialectic integration of nature and nurture. *Child Development*, 81(1), 6-22. <https://doi.org/10.1111/j.1467-8624.2009.01378.x>
- Schore, A. N. (2000). Attachment and the regulation of the right brain. *Attachment & Human Development*, 2(1), 23-47. <https://doi.org/10.1080/146167300361309>
- Schore, A.N. (2003a). *Affect Dysregulation and Repair of the Self*. Norton.
- Schore, A. N. (2003b). Minds in the making: Attachment, the self-organizing brain, and developmentally oriented psychoanalytic psychotherapy. In J. Corrigan & H. Wilkinson (Eds.), *Revolutionary Connections: Psychotherapy & Neuroscience* (pp. 7–52). Routledge.
- Schore, J., & Schore, A. N. (2008). Modern attachment theory: The central role of affect regulation in development and treatment. *Clinical Social Work Journal*, 36, 9-20. <https://doi.org/10.1007/s10615-007-0111-7>
- Shoemark, H. (1996). Family-centered early intervention: Music therapy in the playgroup program. *Australian Journal of Music Therapy*, 7, 3-15.
- Shoemark, H., & Dearn, T. (2008). Keeping parents at the center of family centered music therapy with hospitalized infants. *The Australian Journal of Music Therapy*, 19, 3-24.
- Shoemark, H. (2011). Translating ‘infant-directed singing’ into a strategy for the hospitalized family. In J. Edwards (Ed.), *Music therapy and parent-infant bonding* (pp. 1-19). Oxford University Press. 10.1093/acprof:oso/9780199580514.001.0001
- Shoemark, H., & Grocke, D. (2010). The markers of interplay between the music therapist and the high risk full term infant. *Journal of Music Therapy*, 43(4), 306-334. <https://doi.org/10.1093/jmt/47.4.306>
- Shoemark, H. (2018). Time together: A feasible program to promote parent-infant interaction in

- the NICU. *Music Therapy Perspectives*, 36(1), 6-16. <https://doi.org/10.1093/mtp/mix004>
- Shoemark, H., & Hanson-Abromeit, D. (2015). Music therapy in the neonatal intensive care unit. In B. Wheeler (Ed.), *Music Therapy Handbook*. (pp. 415-424). Guilford Press.
- Standley, J. M. (1998). The effect of music and multimodal stimulation on responses of premature infants in neonatal intensive care. *Pediatric Nursing*, 24(6), 532-538.
- Stern, D. N. (1985). *The interpersonal world of the infant: A view from psychoanalysis and developmental psychology*. Basic Books.
- Stern, D. N. (2000). *The interpersonal world of the infant*. (2nd publication) Basic Books.
- Stern, D. N. (1995). *The motherhood constellation: A unified view of parent-infant psychotherapy*. Basic Books.
- Stern, D. N. (2010). *Forms of vitality: Exploring dynamic experience in psychology, the arts, psychotherapy, and development*. Oxford University Press.
- Stubbs, R. M. (2018). A review of attachment theory and internal working models as relevant to music therapy with children hospitalized for life threatening illness. *The Arts in Psychotherapy*, 57, 72-79. <https://doi.org/10.1016/j.aip.2017.10.001>
- Teggelove, K., Thompson, G., & Tamplin, J. (2019). Supporting positive parenting practices within a community-based music therapy group program: Pilot study findings. *Journal of Community Psychology*, 47(4), 712-726. <https://doi.org/10.1002/jcop.22148>
- Thompson, G. (2012). Family-centered music therapy in the home environment: Promoting interpersonal engagement between children with autism spectrum disorder and their parents. *Music Therapy Perspectives*, 30(2), 109-116. <https://doi.org/10.1093/mtp/30.2.109>
- Thompson, G., & McFerran, K. S. (2015). “We’ve got a special connection”: Qualitative analysis of descriptions of change in the parent–child relationship by mothers of young children with autism spectrum disorder. *Nordic Journal of Music Therapy*, 24(1), 3-26. <http://doi.org/10.1080/08098131.2013.858762>
- Trehub, S. E., Unyk, A. M., & Trainor, L. J. (1993). Maternal singing in cross-cultural perspective. *Infant Behavior and Development*, 16(3), 285-295. [https://doi.org/10.1016/0163-6383\(93\)80036-8](https://doi.org/10.1016/0163-6383(93)80036-8)
- Trehub, S. E. (2001). Musical predispositions in infancy. *Annals of The New York Academy of Sciences*, 930, 1-16.

- Trehub, S. E. (2003a). The developmental origins of musicality. *Nature Neuroscience*, 6, 669-673. <https://doi.org/10.1038/nn1084>
- Trehub, S. E. (2003b). Toward a developmental psychology of music. *Annals of the New York Academy of Sciences*, 999(1), 402-413. <https://doi.org/10.1196/annals.1284.051>
- Trevarthen, C. (1999). Musicality and the intrinsic motive pulse: Evidence from human psychobiology and infant communication. *Musicae Scientiae*, 3(1), 155-215. <https://doi.org/10.1177/10298649000030S109>
- Trevarthen, C., & Malloch, S. N. (2000). The dance of wellbeing: Defining the musical therapeutic effect. *Nordic Journal of Music Therapy*, 9(2), 3-17. <https://doi.org/10.1080/08098130009477996>
- Trevarthen, C. (2008). The musical art of infant conversation: Narrating in the time of sympathetic experience, without rational interpretation, before words. *Musicae Scientiae*, 12(1), 15-46. <https://doi.org/10.1177/1029864908012001021>
- Trolldalen, G. (1997). Music therapy and interplay: A music therapy project with mothers and children elucidated through the concept of “appreciative recognition”. *Nordic Journal of Music Therapy*, 6(1), 14-27. <https://doi.org/10.1080/08098139709477890>
- Trondalen, G., & Skårderud, F. (2007). Playing with affects: And the importance of “affect attunement”. *Nordic Journal of Music Therapy*, 16(2), 100-111. <https://doi.org/10.1080/08098130709478180>
- Walworth, D. D. (2009). Effects of developmental music groups for parents and premature or typical infants under two years on parental responsiveness and infant social development. *Journal of Music Therapy*, 46(1), 32-52. <https://doi.org/10.1093/jmt/46.1.32>
- Wang, S., & Oldfield, A. (2018). The effect of music therapy sessions on the interactions between children and their parents and how to measure it, with reference to attachment theory. *Psychiatria Danubina*, 30(7), 546-554.
- Weintraub, S., et al. (2011). Building the brain’s ‘air traffic control’ system: How early experiences shape the development of executive function. Working paper series 11, Harvard University. Retrieved from: <http://www.ncsl.org/documents/cyf/WorkingPaper11.pdf>
- Whipple, J. (2000). The effect of parent training in music and multimodal stimulation on parent-neonate interactions in the neonatal intensive care unit. *Journal of Music Therapy*, 37(4),

250-268.

Wigram, T. (2004). *Improvisation*. London: Jessica Kingsley.

Williams, K. E., Berthelsen, D., Nicholson, J. M., Walker, S., & Abad, V. (2012). The effectiveness of a short-term group music therapy intervention for parents who have a child with a disability. *Journal of Music Therapy, 49*(1), 23-44.

<https://doi.org/10.1093/jmt/49.1.23>

Winnicott, D. W., & Rodman, F. R. (2005). *Playing and reality* (2nd ed.). Routledge.

Winnicott, D. W. (1971). *Playing and reality*. Tavistock Publications.

Woodward, A. (2004). Music therapy for autistic children and their families: A creative spectrum. *British Journal of Music Therapy, 18*(1), 8-14.

<https://doi.org/10.1177/135945750401800103>

Yang, Y.-H. (2016). Parents and young children with disabilities: The effects of a home-based music therapy program on parent-child interactions. *Journal of Music Therapy, 53*(1), 27-54. <https://doi.org/10.1093/jmt/thv018>