Musical Play as Therapy in an Early Intervention Programme

Julie Wylie & Susan Foster-Cohen

Abstract

Effective therapeutic use of music for very young children with multi-system developmental disabilities involves engaging them and their parents/caregivers in musical play activities that can regulate the children's (and parents') physiological systems, strengthen parent-child relationships, and open children's minds to physical, social emotional and intellectual learning and development; both in the context of music therapy and in response to goals set by a multi-disciplinary team. This article, based on a presentation given at the ISME conference in Greece in 2012, describes the therapy programmes at the Champion Centre in Christchurch, New Zealand and presents four case studies designed to illustrate the type and range of activities that have been shown to be effective over twenty years of experience. They show how when music practitioners follow the child's lead, and draw the parents into the interaction as full partners, the well-being of children is enhanced and their parents are encouraged to engage in similar activities at home, thereby extending music's therapeutic reach and effectiveness.

Keywords: physiological regulation; wellbeing; prematurity; Down syndrome; autistic spectrum disorders (ASD); sensory; multi-disciplinary team

Julie Wylie founded the New Zealand Musical Parenting Association Inc. twenty two years ago. She is the senior music specialist at the Champion Centre, at Burwood Hospital, Christchurch, New Zealand. Julie has been invited to many countries to present music workshops and papers including Korea, Japan, Singapore, Australia, UK, Lithuania, Finland and Estonia. She has received awards for her music leadership and her music resources have won international awards. Julie also has her own music school for mothers and babies, and children 0-8 years.

Email: jwylie@xtra.co.nz

Susan Foster-Cohen has a PhD in Linguistics and Psychology from Lancaster University (UK) with a specialism in children's early language development. She has taught in universities in the UK, USA, France and New Zealand and has been the director of The Champion Centre since 2004. Susan's research work focuses on the developmental trajectories of children with complex disabilities and on the longer term consequences of premature birth.

Email: susan@championcentre.org.nz

Introduction

It has long been recognised that human development is dependent on the relationships infants and young children have with those closest to them (Bronfenbrenner 1979). Moreover, since "relating through music and language is something we do naturally" as we move "in meaningful expressive ways" (Trevarthen & Malloch 2002: 10), and parents are natural musical tutors for infants and children through the musicality of their voices (Trehub 2002), harnessing the power of music to support the development of children with disabilities through engaging both parent and child in musical activities with each other is an obvious basis for music therapy with infants and young children.

Although defining music therapy is controversial, the activities described in this article fall within Bruscia's definition of a process which "promote(s) health, using music experiences and the relationships that develop through them as

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dynamic forces of change" (Bruscia 1998: 47). Moreover, the specific activities described here reflect a change in more recent years towards music therapy with young children involving family members (Oldfield 2006); teaching them to be 'in synch' and 'in tune' with their children to support their well-being and development at home, beyond the specific therapy session. However, our experience is that music therapists in training receive little help in how to engage both parent and child in ways that can build capacity in families to use music on a daily basis as part of their child's therapy. This article is intended to provide some of that help.

The goal of this article is to describe the relationship-based, family-centred music programme that has been running at the Champion Centre[1] in Christchurch New Zealand for more than twenty years; to articulate some of the key precepts and goals of the programme and to illustrate its outcomes through the presentation of four short case studies of individual music sessions and a description of a group music session.

It is intended that readers will see that through quite simple activities aimed at allowing children to develop their own musicality in the context of families who understand how to be in a musical relationship with their children, powerful contributions can be made to physical, emotional, social, and cognitive development.

Before turning to the case studies, we present a brief description of the music programme in its multi-disciplinary therapeutic context at the Champion Centre.

Music at the Champion Centre

The multi-disciplinary infant and young child therapy service that became the Champion Centre started as a small research programme in 1977 and has been an incorporated society since 1989. Music began to be incorporated into this programme in 1993. All children attending multi-disciplinary programmes attend with their parent or caregiver one morning each week or each fortnight for up to three hours in small groups that are equivalent in size to the number of team members assigned to each group (typically six). This allows every child and parent/caregiver pair to have input from each therapy area on every visit.

Every infant and child has a session with a physiotherapist or occupational therapist, a speech and language therapist, and an early intervention teacher; and children over the age of two years also have computer supported learning sessions, facilitated play, and individual music sessions in the music programme run by the first author. In addition to their focussed therapy sessions families have a joint social time over morning tea and a combined music activity involving all the children and parents/caregivers in the group. The team of therapists and specialists stays the same across the school year, giving everyone time to get to know the child and their developmental context and to allow the child's programme to be individually adjusted and developed on a week to week basis.

The children have a range of developmental challenges including Down syndrome, autistic spectrum disorder (ASD), global developmental delay, dyspraxia, and cerebral palsy. To be eligible to attend the Champion Centre, children must be referred by a paediatrician and have at least two areas of significant delay. Most have developmental challenges in all areas of development (physical, communicative, intellectual, social/emotional, etc.).

Photograph 1: An individual music session

The Champion Centre early intervention programmes are based on the core values of being family-centred, relationship-based, ecological,

[1] The Champion Centre (www.championcentre.org.nz) is the trading name of the Christchurch Early Intervention Trust, a registered charity receiving a combination of government funds and private donations. The Champion Centre music programme is entirely funded by private donation.

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reflective, and strengths based. These values are reflected in all aspects of the music programme, as one of its major aims is to teach both child and parent how to engage in structured, predictable nurturing musical activities that provide a basis for development and learning. In these activities, each child and their parent feels valued and free to move, sing and play together within engaged and sustained relationship-based musical play, thereby enhancing the wellbeing of both parent and child and supporting the parent-child relationships essential to all development (Trevarthen & Aitken 2001). Through harnessing the power of the elements of music (beat, rhythm, pitch, etc.), children and parents are brought together in calm, physiologically paced (Berger 2002) synchrony, where they can notice and build on each other's musical ideas and develop musical connections with each other that they can sustain at home as a platform for other developments.

While group music sessions encourage peer to peer engagement and cooperation, the individual music sessions (photograph 1) encourage children to be musical leaders and to set the agenda for what happens. At the same time, specific boundaries are set for each session (Wigram 1991) with both 'hello' and 'goodbye' songs providing a framed time-span within which the child can develop his or her own musical ideas. Those ideas are encouraged to be interactive with child and parent engaging in musical conversations. Robbins and Robbins (1991) recognised the importance of children answering musical questions as a way of communicating the self. Perhaps less well recognised is the capacity of children to invent their own musical questions independently of any musical context (e.g. a song) chosen by someone else. By doing so they can take the lead in the interaction in ways often not thought possible for young children; particularly young children with significant disabilities. However, to do that, they must have an understanding of, and trust in, their 'conversational' partner, much like jazz musicians (Custodero 2003). Just as in jazz there are no wrong notes (only better choices!). There is no right or wrong way to play musically and so the musical exploration in the sessions provides enriching emotional, social and cognitive experiences that empower the child and the parent and support the child's developing sense of self.

Other, more defined, activities are explicitly aimed at supporting known daily interactions and routines. For example, a child might learn the order in which to put on clothes, or successfully brush teeth through a song that can become part of their daily home routines. Sometimes a child needs practice getting from a sitting to a standing position and a story song that incorporates that activity into its accompanying actions can be an often repeated activity at home. Whether the goals are communicative, cognitive, gross or fine-motor physical, social-emotional, or sensory, they can be incorporated into musical play in which both child and adult can participate as equal partners.

Equipment and materials

Although musical activities can be carried out with only the voice, most also involve the use of a keyboard or piano (photograph 1). Several of the case studies below involve equipment, some of which has been specifically designed by the first author. For example, in addition to commercially available colour-coded chime bars used extensively in the programme, a special combination of three sets of colour-coded hanging tubular bells on a triangular frame was commissioned. It allows up to three participants in musical 'conversations' to face each other and watch each other's reactions to their contributions. The bells are tuned to a C major pentatonic scale. One side has the notes middle C, D. E. G, A. Another side contains G, A below middle C, C, D, E. The third side has the notes D, E, G, A and high C. The colours follow the colour spectrum C red, D orange, E yellow, G blue, A indigo.

For children with significant motor disorders such as cerebral palsy, a frame with hanging wooden rectangular notes has been created. It can be placed so that the child's head, arms or legs can create sounds with very little effort. There is also a version with contrasting metal chimes suspended in a similar wooden frame, which can be placed so that the child can create sounds as they move their head, arm, or leg against the chimes.

Another (commercially available) piece of equipment is the sound cradle (photograph 2). It is constructed in such a way that it can be used as a rocking cradle, a tunnel for a child to lie under, or on top, or be upright with a chair positioned in it so that a parent can sit inside with their infant on their knee. It has eighteen harp strings on either side. On one side the notes are tuned to A and on the other side, to the dominant E. The notes go from low bass strings to high on either side providing a calming sonorous sound spectrum, rich in overtones. The sound cradle offers a calming and encompassing aural and vestibular experience as the child lies on top of or under it, either alone or with a parent/caregiver. It also lends itself to interaction and improvisation in combination with singing in major, minor and modes. A child might strum with toes, with one finger, the whole hand, singing, playing and developing a greater repertoire of musical expression.

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Photograph 2: The sound cradle

Other important equipment includes a large, low (in size and pitch) gathering drum, the size of a small circular dining table around which several people can sit at the same time; xylophones of various sizes and in various materials, ribbon sticks, and beaters with heads of various textures.

Four case studies

The following four case studies[2] are drawn from twenty years of experience developing programmes for children at the Champion Centre. They have been selected to show the range and purpose of the session activities, highlighting the power of music to help children regulate themselves, help parents and children to come into synchrony with each other, and to develop embodied understanding of physical and cognitive concepts such as 'up-down', 'fast-slow', 'stop', and so on. They show the child with significant disabilities as leader, soloist, conductor and composer despite the challenges of living with autistic spectrum disorder (ASD), Down syndrome or the consequences of extreme prematurity.

Individual music sessions

Jonathan: Regulation and prematurity

Jonathan has pronounced sensory motor and regulation challenges, having been born prematurely at twenty five weeks gestation. Children like Jonathan often become "dysregulated', i.e., have arousal levels that are too high, and physiological systems (heart rate, breathing, digestion, etc.) that are too asynchronous with each other for the child to be able to focus and learn (Poehlmann et al. 2011).

When he first entered the programme at the age of four years, he was easily distracted and found it hard to transition from one activity to another. He ran at top speed and was constantly falling over. He had no sense of danger and had difficulty modulating his movements and his voice.

At his first session, Jonathan burst into the music room followed by his exhausted looking mother and proceeded to leap around before hurling himself onto a large physiotherapy ball (photograph 3). He fell sideways to the ground unhurt. Julie (first author) began singing a slow narrative triple meter ball-rolling song which ended with the instruction *"now get ready to stop"*! She waited as Jonathan backed into the corner of the room and sat leaning against the wall watching and listening. Julie invited his mother to join her at the ball, and they rolled it slowly backwards and forwards to each other, overtly displaying pleasure in the game. Jonathan's mother also joined Julie in a simple song that provided a repeated predictable structure of beginning, middle and end, mirrored by the movement of the ball which was halted each time the final line of the song arrived: *"now get ready to stop"*. After several repetitions, Jonathan came and sat on his mother's knee and together all three rolled the ball backwards and forwards to the slow, supportive meter of the song. Jonathan gradually relaxed back into his mother, who supported and cradled him; and Julie remained still, just watching them and singing softly, so that they could both store the memory of that quiet, regulated moment.

Photograph 3: A Swiss-ball for regulation

A slow predictable activity such as this naturally regulates a child's stressed system (Stalker & Reebye 2007). Music that has a regular pulse close to, or only a little above, a resting heart-rate will encourage the lower parts of the brain and thus the body to fall into synchrony, producing a feeling of

[2] All but one of the children's names has been changed. However, one parent was keen to have her child's real name used. All photographs have been approved for use in this article and are photographs relevant to the text but are not of the children described.

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calm for both child and parent (Levitin 2006). The slow rhythmic ball activity described above helped both Jonathan and his mother to become regulated, counteracting the uncomfortable state of over-arousal that characterised both their systems when they entered the room.

Adults are often able to use their more developed neo-cortex to calm their lower brain systems by telling themselves not to be scared or overwhelmed; but young children simply cannot do this (Rothbart, Sheese, Rueda, & Posner 2011). Parents also find it hard to keep themselves calm when their child is physiologically dysregulated. As parent and child become regulated, they reinforce each other's regulated state.

Once able to be calm and slow, other tempos became possible. Jonathan loved puppets, especially a turtle and a little ladybird. Julie used these to help him experience contrasting slow (turtle) and fast (ladybird) movements. A rocking chair, the large physiotherapy ball and a hoop were used each session and became symbols of stability and calm. Jonathan increasingly put himself on the ball for his mother to roll him in time to the ball-rolling song at the beginning of each music session. He curled into a ball inside the hoop as his mother and Julie sat facing each other with him in the middle, rocking it in time to a slow, triple meter song. He came to associate the hoop with the protective turtle shell, often asking for "the turtle song" which Julie sang as his mother gave him slow, deep pressure massage on his back.

Over a period of weeks, Jonathan's disorganised movements increasingly became paced and pulsed. On a drum, he and his mother could now play in synchrony and their drumming became increasingly rhythmic and organised. While Jonathan was still learning how to calm himself, if Julie played an eight beat introduction on the piano that matched his energy level, he would listen and then play himself, becoming increasingly calm and attentive. At home, his mother used the simple songs and rhythms Julie taught her to achieve the same calm attentiveness for whatever task was at hand.

Riley: Freeing movement in Down syndrome

Riley is a four-year old boy, and like many children with Down syndrome, he has low energy levels and floppy muscle-tone, experiences difficulty with upper-body coordination, and can take a long time to become alert and engaged. When Julie first met him, he struggled with activities such as getting up from a squatting position and moving back down to the floor, marching, and jumping; and with fine motor activities such as picking up small objects, using scissors and so on. In order to help him move freely, getting up and down from the floor, it was important to use songs that supported him moment by moment. Julie wrote a step-by-step instructional song *Little Clown Dance* about a little clown *"way down low in the bottom of the box"* who comes out of his box to brush his hair, put on his hat and jump up and say proudly *"Here I am"*! Riley and his mother learned the song and the actions through much use of repetition and Riley was soon able to go from a crouching position on the floor to jumping up with his arms extended on musical cue to proclaim *"Am"*, then to go *"down, down, down, down, down in his box"* Now he can sing many words of this song with greater word clarity and expression. Julie recorded this song so that Riley and his mother (and other families of children with similar challenges) could play it at home and enjoy acting out the little story it contained.

Building on the directional language ('up', 'down') in the song, Riley, Julie and Riley's mother also used long ribbon sticks to draw circles, lines, patterns in the air in front of the mirror. Riley was encouraged to be the leader and the adults followed him with ribbon sticks as he sang to them *"up, up, up, up, up.... and down, down, down, down, down"*. He delighted in keeping the adults with their hands up in the air with the fifth note. At other times he would watch himself in the mirror while Julie sang about what he was doing moment by moment. Riley, his mother and Julie explored space, weight, time and energy (Laban 1975) with ribbon sticks and long streamers (photograph 4). They also explored rhythmic patterns: stamping, clapping and imitating the words and sound patterns that Riley gave them. With repetition, his co-ordination and sense of timing and modulation in all his movements improved, and he loved being the leader and soloist on a range of musical instruments as his mother and Julie accompanied his playing.

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Photograph 4: Exploring space with ribbon sticks

Alexander: A musician with ASD

Long before he entered the music room, Alexander could be heard screaming loudly and his cries were marked by a sustained high note and descending minor thirds. This was the first day in his programme at the Champion Centre for this three-and-a half-year old boy on the autistic spectrum. His mother carried her struggling, fearful child into the music room. Using the same pitch as his high note, Julie sang slowly down the eight notes of the major scale emphasising the resolving tonic note. He stopped screaming and listened. She sang the numbers for the descending degrees of the scale *"8, 7, 6, 5, 4, 3, 2, 1"* and then waited and watched him. He turned his back on both adults and between gasping sobs, he sang tunefully what Julie had just sung. Slowly Julie repeated the scale several times. Gradually he became calm and sat on his mother's knee in the rocking chair. Julie affirmed his feelings by echoing his sighs, pitch, and pauses, in her singing. His mother held him in her arms and rocked him in time as they sat in the rocking chair.

The following week Julie set out colour-coded chime bars and slowly played the ascending and descending eight note scale as she sang the corresponding notes. Alexander spent the whole session entranced as he set out the notes of his chime bars in order, playing up and down the scale. He began changing the order of notes smiling as he created contrasting pitch patterns. He watched and waited for Julie to copy and smiled when she sang his little tunes. The pitch game became his means for self-calming and regulation in the music room; and over time it became the basis for his extended musical creations.

Alexander was afraid to go up and down stairs, and would scream when the physiotherapist tried to help him to go up five stairs on the play equipment. Julie's observation was that because he had no sense of timing, he could not anticipate how or when to move in relation to the physiotherapist's prompts. So, knowing how he responded in the music sessions, she sang very slowly using the ascending five note major scale C to G "we are going up the stairs" at a pace that matched the pacing of his more controlled and effortful movements that she had noted in her individual sessions with him. The last three words were repeated on the fifth note of the scale. As an introduction to the proposed activity it caught his attention and he began to calm. With the physiotherapist's encouragement, Alexander tentatively took Julie's hand as she sang very slowly: "Hold on to the rail... Up, up, up, up, up, now we're at the top". The singing was sustained on the dominant as she helped him turn around, still holding his hand, and then she sang his way back *"down, down, down, down, down"*.

In this example, music literally held Alexander through each step of the process by supporting him melodically and rhythmically. As he practiced this over the ensuing weeks, sometimes he needed a slower tempo; sometimes a faster one. Sometimes he needed to wait on one step with the adult (Julie or his mother) singing the instruction over and over on the scale degree that corresponded to whatever step he was on for as long as it took for him to move to the next level. This pitch game is now used by all the physiotherapists to cue children, helping them move confidently up and down stairs, to go up the stairs and slide down a slide.

Alexander's mother has found musical play is a means for her and her son to become attuned to each other (Siegel 2008). Through watching and participating in the activities in the music session, she became empowered to play musically with her child, rocking him in her arms as she sang calming songs. Over the years they have created songs together that they sing when he becomes upset. He started to write his own notation using the colours of the chime bars for the notes and she helped him develop his system so he could create his own compositions. They played (and still play) regulating clapping games facing each other and they listen to the calming sounds of nature together. His own songs and those used by the whole family

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for all his daily routines are helping to make his life so much easier and introduce many humorous, playful and tender moments. As his mother said:

> "Musical play has become an integral part of our family culture. Singing and musical play energizes and transforms our daily routines. We have a song that can be changed to suit whatever our child is doing. It takes the stress out of routines such as meal time and bath time. We now have much more fun and have noticed that our family stress levels are lowered and Alexander's timing is more precise when we sing him through each step of a process. He is making up his own music using his own chime bars. His speech is becoming clearer especially within a chant or song when the tempo is slowed down. Music structures our lives and has enhanced our family life" (Alexander's mother).

Not all children are as musically responsive as Alexander or integrate music so intensely into their lives, but many can and do become very proud performers of their own musical ideas (photograph 5). With that pride come a sense of self, control, and joy that add immensely to a child's sense of wellbeing.

Photograph 5: A sense of self

Adam: A family affair

Adam's parents tend to be quite boisterous in their parenting style. When the family came into the music room with Adam, who has Down syndrome, he went straight under the sound cradle (photograph 2). He then indicated that he wanted his father to play the very large resonant gathering drum. His mother chose an alto xylophone. Adam lay face down under the cradle and began tapping his foot slowly on the floor. Julie matched Adam's foot tapping, strumming the A and E chords and cued his father into slow steady beating on the drum. His mother listened and then began to play a supportive A and E ostinato she had previously learned from Julie to match the sound cradle. Adam's foot kept time and he then gave a descending "ooh, ooh". He smiled when Julie began singing his offering using the Aeolian mode. Adam's father visibly relaxed and leaned against the wall as he played a steady beat on the drum which complemented the wonderful overtones of the sound cradle. During the course of their playing, Adam's mother began exploring and creating a beautiful evolving melody using the Aeolian scale on the xylophone.

The family's musical play became a constant ebb and flow of sound as each person listened, moved, changed and adapted their play, creating changing patterns. Adam watched his father intently and began to strum a small range of strings through the sound hole from inside the cradle. His mother and father were now playing in time with each other and when Adam joined them, Julie stopped and listened to the synchrony, harmony and attunement they were creating for each other. Their play included shifts of tempo, times of silence, a strong sense of musical form, and much use of expression and musical interplay. Their music became slower, softer and came to a natural conclusion with Adam's final strum.

When Adam came out of the cradle and went to his mother for a cuddle, she commented that she had felt such a sense of musical accomplishment. Both parents commented that they had experienced a wonderful sense of creativity and timelessness. As they really listened and tuned into each other, they heard what Adam was playing and how Julie was matching his tempo and copying his patterns. They also became aware of each other's individual melodic and rhythmic patterns and began to participate in musical questions and answers with each other. Through the musical support, they became part of a single coordinated activity in which each person was in synchrony with the others.

Throughout, Julie's aim was to facilitate calming relationship based musical play. As the family became attuned to each other during the music session, her role changed from facilitator, to narrator then listener and observer. Together the family were able to reflect on the positive aspects

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of their musical play and to think about similar calming musical strategies that they could use with Adam at home.

Group music sessions

When children come together for group music sessions, the individual characteristics of each child can be taken into account to ensure that all the children can participate to the best of their abilities. For example, pitches or timbres that may be dysregulating for a particular child can be avoided when planning for the group.

As in the individual music sessions, parents are key players and group music making provides a calm regulated music environment with opportunities for each child and parent to tune into each other and for children and parents to experience a joint activity with other families. A 'Hello' song is sung to each child with opportunity for each child to respond with vocalisation or musical play on an instrument. The large gathering drum is used in some groups and is valuable for developing sensory awareness, listening, call and response, turn-taking and sequencing skills.

The use of props such as a stretchy "rainbow ring" help to provide a sense of unity for each parent and child in the group as they sit in a circle holding onto the ring. This helps to reinforce all the elements of music such as a steady beat, rhythmic patterning, dynamics or pitch as the rainbow ring is jointly raised "*Up, up, up, up, up"* and *"Down, down, down, down, down*", or moving it together in time to the actions of songs such as the "Wheels of the Bus" or a predictable rhythmic story such as "going on a bear hunt". Whatever a child offers can be woven into a song or musical play. As children participate, they develop their awareness of each other and of their roles in the group, whether as soloist or chorus. They often practice culturally relevant songs and action rhymes that they are expected to know in their early childhood centres and when they transition to school; and sometimes even (at the request of the speech and language therapist) practice the movements needed to respond to sounds in an audiologist's hearing test: putting an object in a pot when they hear a tone.

Musical play within group music requires sensitive role-modelling for parents who do not always see its value. However, many parents say that they value the repertoire of songs, transition activities, instructional songs and use of narrative songs sung about their own child, describing what they are doing moment by moment within the group. Most parents join in the singing, reporting that they sing the songs in daily music routines at home.

Within a group music session there are initial calming activities, followed by ones designed to arouse, and then, at the end, ones that will bring the children back to a state of calm. During this last phase the lights are turned off, curtains drawn, the introduction cues the children to cuddle into their parent or lie face down on the floor and parents give their child a deep pressure back massage to a special massage song which relaxes parents and children alike. A 'Goodbye' song provides closure for the session.

Discussion

Music engages all levels of the brain and body, and can support developing functions such as balance and breathing (lower brain); relationship and connection with others (midbrain); and higher cortical functions of language, thinking and decision-making. As Levitin (2006: 257) says:

> "[r]hythm stirs our bodies. Tonality and melody stir our brains. The coming together of rhythm and melody bridges our cerebellum (the motor control, primitive little brain) and our cerebral cortex (the most evolved, most human part of our brain)."

At the basis of all healthy functioning is the ability to be in a state of calm alertness, namely to be physiologically regulated. This ability is largely controlled by the lower brain and brainstem, particularly in young children and those with intellectual disabilities who are not able to use their higher cortical functions to 'tell themselves' to be calm. Berger (2002) and others have described the importance of physiologic pacing as "a predecessor to comfortable physiologic function" and of music therapy's capacity to help children's systems achieve "rhythmically organised responses" (Berger 2002: 155).

The limbic system of the brain is intimately involved in emotional responses to both the physical and social world. Even the pitch of a single note can convey emotion. As Levitin says, "[a] single high note can convey excitement, a single low note sadness" (Levitin 2006: 25) so, as the case studies have illustrated, both pitch and pulse can be used to match and then change the child's emotional state, making the world more comprehensible.

Once the body is rhythmically organised and emotionally connected to others, it becomes possible to play consciously with embodied concepts such as 'fast', 'slow', 'up' and 'down', as the case studies have illustrated. It is also possible to develop gross motor skills through whole body dance movement, with or without equipment such

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as ribbon sticks, and through various percussion activities; as well as fine motor skills through strumming or keyboard exploration. Importantly, these activities can

> "provide children with a variety of entry points (hearing, seeing, feeling) into aesthetic, sensory and cognitive challenges. This variety allows activities to be adapted to meet individual needs – either by the child herself, or by a parent, therapist, or educator" (Custodero 2003: 6-7).

Finally, we have tried to show that musical play of the kind we have discussed is therapy in which the child with disabilities can take the lead, be the competent partner with the ideas, and lead others into their creative world. As musical leaders and creators, even children with significant disabilities, become 'proud performers' and thereby establish their identity in the web of relationships that form their world (Trevarthen 2002). At the same time they reveal an inner world that is often startlingly richer than even the parents of these children realise (Custodero 2003), and it is the power of music that has made that world visible.

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