Music in a hospital setting: a multifaceted experience

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The article offers an explanation of the effects of music on children within a hospital setting and points up the multifaceted nature of this experience. The nature of the client group allows the musical experience to work on many different levels, such as modifying the child's perception of pain and reducing stress, whilst at the same time having an integral educational element that supports musical development. The evidence base is drawn from an extensive review of the music/medicine literature, interfaced with the first author's experience over many years as a participant musician in a paediatric oncology ward.

Introduction

Anna, 3 years old and affected by Down's syndrome and now also by leukaemia, had to undergo bone marrow aspiration.¹ When she had previously heard music in the clinic, she had always been very responsive and so, together with her mother and the doctors, we decided to play music during the aspiration to see if it could moderate her pain. I started playing guitar and singing to her when she was still in her room with her mother prior to treatment. I played relaxing songs and lullabies that she and her mother already knew and, even though she was aware of what would soon happen (one hour before the aspiration, nurses used to rub a special anaesthetic cream in the patient's back), she seemed to be quite relaxed and she enjoyed the music. When the time for aspiration came, I went with her and her medical team into the operating theatre, continuing to play the guitar and, according to her mood, humming or singing. Although I could see that she was very frightened, she was still listening to me and she was not crying. I continued to play throughout the treatment, during which she continued to listen to me. Doctors said that she was relaxed and that the aspiration had been faster and easier.

These example case notes (above) are drawn from the first author's experience in Florence as a musician involved in a project in the Meyer paediatric hospital, a renowned specialist hospital for children in Italy. In Florence, Anna's case is not unique; there are many such examples. However, although the initial focus was 'therapeutic', in the sense of using music to modify Anna's perception of pain, the overall experience would seem to integrate educational elements and support musical development. Accordingly, this article is an attempt to move towards an explanation of the effects of music on children within a hospital setting and to point up the multifaceted nature of this experience.

The project Musica in Ospedale ('Music in Hospital') has been funded by the Livia Benini Foundation since 1995, and was initially limited to the hospital's oncology ward. At the time of its inception, this ward was relatively isolated from the rest of the hospital.
hospital in a depressing physical environment. Because of the nature of the illnesses involved, children would spend a lot of time in the ward undergoing treatment. Positive distractions were seen by members of the hospital medical team as essential in order to break the rhythm of the hospital routine and to foster, and in some cases rebuild, emotional relationships, both between the children and their parents and also with the new clinical environment.

Before the project started, the Livia Benini Foundation\textsuperscript{2} had supported the specialist training of a musician in Paris with Musique et Santé, an association that had been undertaking musical projects within paediatric hospitals in France since the early 1980s. This individual musician then trained, in her turn, two other musicians, neither of whom had experience of music therapy \textit{per se}, but both of whom had previous teaching experience. Together, this team of three musicians focused on the development of a range of musical interventions and activities that included playing songs with guitar and simple percussion accompaniment.

The locations in which music activities and interventions take place are spread throughout the oncology ward and include: rooms for single/double occupancy, isolation rooms, the ‘day hospital’ and a large communal waiting room. In the ward there are an average of 40 children who keep returning for treatments and periodic checks. Consequently, the musicians get to know them all very well. The structure of the musical interventions is designed to be flexible. The musicians play five days a week and some weekends, if none of the additional voluntary associations are available for the weekend duty. Each of the musicians has a fixed day and a fixed time, which can be morning, afternoon or evening. However, within these periods there are no strict limitations of time for the musical activity. An intervention can be short, such as five minutes, or much longer, such as an hour, depending on the particular conditions of the children. Sometimes the duration of the intervention will depend on the attitude of parents and carers. If they are tired or feeling under pressure, music may be perceived as an intrusion. Every fortnight the musicians meet to plan the programme for the following two weeks. Sometimes the ward’s psychologist joins the meeting to offer suggestions for particular musical approaches for individual patients.

In this context, music ranges from being used as a means of distraction, an enjoyable social interlude without any predetermined therapeutic goals, to something more specific that is focused on the needs of particular patients, carers and medical staff at a moment in time, such as in Anna’s case above. The team of musicians draw on their extensive craft knowledge to take important variables into account in the design of the musical provision. These variables include (most notably) the age and sex of the children; their socio-cultural background; the nature of their illnesses (the presence of pain, motorial, and/or psychological conditions); the intervention context (such as group size, time of day and specific hospital location); the degree to which the choice of music is familiar; experience of previous musical interventions (often linked with age); and the carers’ ability to respond and interact with the musicians and the children. Throughout, the use of music is professional in its approach, notwithstanding the lack of formally qualified music therapists or psychotherapists with a musical background being employed in the project (and contrary to the different trends evident in customary music therapy: cf. Bunt, Pike & Wren, 1987; Bunt, 1997). In Florence, children exercise considerable control of the musical intervention,
deciding whether they want it (or not) and for how long the musical activity should last. This central patient-derived organisational feature represents one of the main differences between the approach taken by Musica in Ospedale compared with much traditional music therapy. Nevertheless, as Pavlicevic (1985: 157) states: ‘the essence of the therapeutic musical relationship is its quality: the more trusting, reciprocal and creatively free it is, the more stress and change it will have to undergo, and the more profound the healing will be’.

Throughout the years since 1995, doctors and nurses, as well as children and parents, have reported the effectiveness of music in this setting in creating a friendly, distracting and relaxing atmosphere. One measure of the project’s success is that, since 2003, financial support for it has shifted from the original Foundation to the hospital itself, and the musical provision has now been extended to embrace the whole hospital.

**Theoretical underpinnings**

What follows is an examination of the likely elements that make up this form of musical activity in a clinical setting and an explanation of why the project appears to have had (and continues to have) such a positive impact and image amongst the participants. The evidence base is drawn from an extensive review of the music/medicine literature, interfaced with one of the authors’ first-hand experience over five years as a participant musician and observer in this paediatric oncology ward, and combined with an analysis of videos of different musical interventions drawn from France as well as Italy.

Even though music may be used primarily as a form of distraction for the patients (children) in this special setting, other people such as carers, doctors and nurses are directly or indirectly involved in this process. The effects of music on the children interact and become interwoven with the effects that music has on those adults present, and vice versa. Different interactions are important variables arising within the musical process.

A review of related literature suggests that the musical experience within a paediatric hospital setting embraces five main features (which can also include subcategories). The primacy of any one of these relates to their particular effects on the children in this context and on the observed/reported impacts. These five features are:

1. interconnections between psycho-acoustic phenomena and emotional responses, related to the communication and evocation of emotions through music and the related effects that this interconnected process has on the different people involved;
2. physical/physiological impacts, concerning the influences that music has on the physical, physiological and psychological conditions of children, and how these effects improve their hospitalisation;
3. therapeutic, related to the different ways/techniques of playing music in hospital and their use according to different situations;
4. social, regarding the impact of music on facilitating interpersonal processes such as interaction and verbalisation;
5. educational, concerning the (usually unintended) educational outcomes that musical provision can have for children within a hospital setting.

The narrative that follows explores each of these five features in turn.
1. Interconnections between psycho-acoustic phenomena and emotional responses

One of the prime intentions of the provision of music in hospital is to use its sonic features to elicit particular emotional responses, such as to calm, excite, soothe and uplift. Sonic features can also deflect attention from clinical experiences by the use of slow/fast tempi, changing pitches and familiar timbres (Gabrielsson, 1999b; Juslin, 2001). A review of the specific literature about these sonic effects supports the impression that music can have a positive effect on hospitalised people. However, the underlying explanations for such effects have not been explored systematically, nor has the research been examined fully in theoretical terms with regard to music’s inherent psycho-acoustic features (such as pitch, loudness, duration, timbre) and its social-psychological components (Hanser, 1985; Welch, 2000, 2001). Most of the work published about these matters has focused more on recognition of emotion than on induction of emotion or emotional response to music (Juslin & Sloboda, 2001; Gabrielsson & Juslin, 2003).

Musical intervention in a hospital setting is based on the development of a close relationship between the musician(s) and the child. The intention is for the music to facilitate communication between child and musician, such that each tunes into the other’s emotional state. Music becomes a strong means of reciprocal communication between the two of them. As Gabrielsson (1999a) explains, the emotional intention underpinning music is one that works as a message, independently from the musical genre played; in this case, the choice of music cannot be disconnected from the intentions underpinning its performance and from the resultant interaction between the ‘hospital musician’ and the hospitalised child.

Juslin (2001: 309–31) offers an analysis of how performers communicate emotions to their listeners. His analysis suggests that music is conceived as part of a ‘communication system’ in which ‘composers code musical ideas in notation, performers recode from the notation to musical signal, and listeners recode from the acoustic signal to ideas’ (ibid.: 309). As a direct consequence of this system of multiple translations, opportunities for music performances induce performers to look for what music should truly express to the listeners. Interpretation, therefore, involves some personal reflection concerning the search for new meanings within the music itself. Music in this case becomes a ‘structure’ to interpret. The same music can be performed in different ways, and the type of performance ‘may affect the listener’s impression of the music in profound ways’ (ibid.: 310). Expressive variations of the given melody have been described as a medium for the creation of the beautiful – for the conveying of emotion (Seashore, 1937).

The performer’s expressive intention influences almost every aspect of the performance. The mechanisms of musical communication involve the use of codes employed by performers and listeners. One important code is that arising from the five ‘basic emotions’ (happiness, sadness, anger, fear, love/tenderness). There are often correspondences between these emotions, the expression marks of musical scores (allegro, allegretto, teneramente, dolente, furioso) and expressive cues such as ‘tempo, sound level, timing, intonation, articulation, timbre, vibrato, tone attacks, tone decays, and pauses’ (Juslin, 2001: 316). The variability of these expressive cues through the performance is believed to be a crucial element in the communicative process. According to Juslin (2001), the communication of emotions in music performance reflects two factors: brain programmes and social learning.
With regard to ‘brain programmes’, there is a reported similarity between vocal and musical expression of emotions; it has been suggested that they are both processed asymmetrically, with a predominance in the same brain hemisphere (the right) (Thurman & Welch, 2000; Peretz, 2001; Welch, 2001, in press). As far as the social learning is concerned, it is assumed that certain aspects of music performance ‘may be completely governed by cultural influences’ (Juslin, 2001: 323). There is a ‘modulation’ of a code beginning with the early interaction between mother and the foetus. As Papousek (1996) argues, the origins of expressive skills in music are deeply connected with the earliest stages of emotional communication.

In a hospital setting, and especially in an oncology ward, communication of emotion involves quite a number of additional variables, including the presence of pain, fear of dying, stress coming from long hospitalisation, as well as changes in family dynamics, parental interactions with the child’s fears and their own anguish. The relationship that the musicians have with the child is very rarely a ‘one to one’ because many other people surround the child and, in some ways, take part in the musical intervention. There is a constant need to monitor the emotional aspects of the session and to recalibrate the choice of music because the mood of the session can change very fast as many variables are involved, such as interruptions by ward nurses, doctors, physiotherapists, as well as the challenge of the general sound environment (television, telephones, loud sounds from the chemotherapy machines). The need to create ‘an environment conducive to intimate music experiences’ therefore ‘constitutes another challenge’ for the musicians (Munro, 1984: 36).

The choice of music is a crucial variable. There are no fixed ‘rules’ in this choice. Any ‘rules’ probably arise from the psycho-acoustic features of the selected music, combined with the level of pain in children, their ethnicity, the particular moment in time, the environment and the parents’ mood. In one sense, music in this environment ‘allow[s] a person to access experience of emotions that are somehow already on the agenda for that person’ (Sloboda, 1992: 35), and this can explain why the same song does not always produce the same emotional responses.

In the ‘Musica in Ospedale’ project, usually the first couple of songs that are played are relatively ‘neutral’, not too happy, not too sad, and not too loud. Participating musicians are careful to pay attention to melodic structures and sonorities as well as lyrics, because sometimes it needs only a word to bring about painful memories or fearful projections and the mood of the session can change radically. It is always a matter of establishing a relationship with the child and whoever is joining us. Sometimes children ask for a certain song that has connections with other experiences, which appears to recreate a positive feeling of something experienced before. Over the years of the project a musical repertoire has been built up, consisting of popular children’s songs that the musicians have learned or that they have been taught by the children and their families and sometimes by nursing staff as well. All the songs are gathered into a songbook that is updated from time to time. The songbook is a very useful means of starting a relationship with children because most of the time they are quite uncomfortable with the idea of singing in front of their parents in such a different context and with the emotional pressure arising from their illness. As children leaf through the book, which is full of pictures and colours, the images encourage them to speak about their favourite songs. It also helps them to be more relaxed about the
idea of singing together. If they do not want to sing, they just listen. They can also choose little percussion instruments from the itinerant ‘music basket’ to play an accompaniment.

2. Psycho-physical features

One of the main goals of using music in this hospital context is to try to relieve the anxiety and pain children suffer as a result of the intrusive procedures to which they are subjected. There is evidence that such procedures are often perceived as worse than the disease (Menke, 1981; Hockenberry & Bologna-Vaughan, 1985). However, if the hospital experience is handled sensitively, it ‘can be a positive force in a child's development’ (Froehlich, 1984: 3). Minimising the pain experience helps not only the children but also the nursing staff. In fact, nurses who deal with needles and injections often run the risk of damaging their patients’ nerves due to improper restraint of muscles, a risk increased by the behaviours that children exhibit when they are confronted with painful treatment such as venipunctures (Ryan, 1989). Moreover, physiological responses to anxiety could include an aggravation of side effects, such as pain (Pfaff, Smith & Gowan, 1989) or nausea (Standley, 1992), increases in heart rate, blood pressure, respiratory rate and muscular tension (Kibler & Rider, 1983). Research in neurophysiology suggests there is a direct relationship between the nature of pain and the central nervous system in influencing processes such as ‘suggestion, attention, anticipation, anxiety’ (Wolfe, 1978: 162). This has led to various psychological and neurological approaches to the treatment of pain. Music has been considered to be one of the variables that may influence pain behaviour and improve it.

Emotional and behavioural responses to anxiety and pain present a barrier to recovery for paediatric patients as these responses interfere with both the maintenance of healthy psycho-social stability and a decrease in patient compliance with medical staff (Cowan, 1991). Various studies reveal that music can reduce the perception of pain, both physically and psychologically (Curtis, 1986). Several, for example, show the effectiveness of listening to music in reducing fear behaviours and enhancing relaxation for different medical procedures. Malone (1996) studied the reaction of a group of children of different ages receiving live music while experiencing a variety of needle insertions in a treatment room and emergency room. The children who received music exhibited shorter periods of distress than the children who did not; they also experienced a greater intensity of pain compared to the others, who expressed distress over a longer period of time. Malone also noted that younger children appeared to benefit from the use of music more than older children.

In an earlier study, Ryan (1989) adopted a different procedure, but had similar outcomes. In this study, the music was recorded and chosen by the children in the experimental (with music) group. After the medical procedure, they were asked to complete a pain assessment scale, as this was considered to provide them with a sense of control over the situation. The results indicated that children who listened to music reported lower pain levels even if ‘the pain scale ratings frequently did not correlate with the investigator's subjective assessment of behavioural cues exhibited by the children’ (Ryan, 1989: 103). This observation suggests that there is a need to replace intuitive assessment strategies with reliable and more scientific pain indicators (Wong & Baker, 1988; Finley & McGrath,
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1998). These findings also show that the use of music in painful procedures, such as ones involving needle insertion, is not substantial in improving fear management.

Other studies (Stevens, 1990; Stanley, 1992; Bailey, 1984; Sabo & Rush Michael, 1996) have suggested the effectiveness of music as a positive support during operations and treatments as a means to reduce fear and anxiety in the patients. Music was also viewed as ‘being highly relevant’ (Stevens, 1990: 1045) to the work of the anaesthetic nurse. Micci (1984) found that music was an effective aid in decreasing anxiety and increasing compliance in children undergoing cardiac catherisation. Children were given an explanation about the procedure and they were aided in the creation of a song about experiencing hospitalisation, so that they could have an active role, rather than being in a passive position. During the procedure, children listened to a selection of familiar music from home that they had chosen previously. In this case, familiar music ‘functioned as a transitional object for the child . . . with the added feature of being aurally perceived’ (Micci, 1984: 263).

Combining music with other techniques, such as verbalisation and guided imagery, can also reduce anxiety and increase children’s cooperation with medical procedures. Chetta (1981), for example, reports the use of music on children having a preoperative teaching session about events pertaining to surgery, showing that patients receiving live music and verbal instruction the night before and during the induction of preoperative medications exhibited fewer anxiety-related behaviours (crying, screaming, thrashing arms and legs) compared to children who received only verbal preoperative instruction the evening before surgery and those who received the same verbal instructions with added music. A self-report test, based on Faces Scale for Fear and Faces Scale for Pain (Katz, Kellerman & Siegel, 1982), indicated that music-assisted relaxation was particularly useful in a reduction of anticipatory fear and experienced pain, even in the absence of a reduction in the total observed behavioural distress. The same findings were reported by Pfaff, Smith and Gowan (1989) concerning the playing of recorded music and assisted relaxation for paediatric children undergoing bone marrow aspiration. Similarly, Robb et al. (1995) confirmed that music-assisted relaxation procedures (music listening, deep breathing, relaxation and imagery) were effective in reducing anxiety in paediatric surgical patients in a burns unit. Sabo and Rush Michael (1996) evaluated the benefit of a message – audio taped by the patient’s physician – over music on reducing anxiety and side effects in patients receiving chemotherapy. They found positive results for a decrease of anxiety for both conditions, but no significant reductions of side effects were noted between the group receiving music and the control group.

Physiological benefits of music have been reported in the case of cancer-sufferers (Bunt & Marston-Wyld, 1995), and musical experience has been proved to be effective in reducing adverse effects of cancer treatment. Frank (1985) indicated that listening to preferred music combined with guided visual imagery during and after a single chemotherapy treatment reduced nausea duration from a mean of 10.4 hours to a mean of 7.1 hours. Standley (1992) expanded the study to make sure that previous findings were not attributable to a Hawthorne effect (Standley & Hanser, 1995). Music was used over four treatments because she wanted to investigate the effects on anticipatory nausea, which usually begins between the third and fourth treatments. She found that oncology patients receiving music had less nausea and also that they had a delayed onset of nausea after each
treatment. Lane (1991) indicated that after a music therapy session, children with cancer who had taken part in the musical activities exhibited fewer stress hormones in their saliva than children who had not participated.

All these studies recognise the effect of music on a number of variables concerning children as they are admitted to hospital. These are anxiety, stress, pain and, more specifically, distress due to the particular treatments that children are undergoing. The measurement of the therapeutic effects of music is not always accurate because of the difficulties in establishing a precise relationship between emotional changes and the type of effect associated with music. As Hanser (1985: 201) explains, the ‘continuing challenge [in measuring physiological and psychological effects of music] is to isolate the factors responsible for any changes that occur’. However, as the latest research has suggested (Thaut & Petersen, 2001), the development of neurological studies related to musical perception is making quantification more reliable.

3. Therapeutic features

Most of the definitions of ‘music therapy’ stress the importance of the relationship between client and therapist within a therapeutic context (Bruscia, 1998). This implies a professional and systematic use of music and the acceptance of the ‘institutional’ role of the music therapist within the medical staff. As differences are quite subtle between the use of music in hospital and a possible definition of this activity as ‘music therapy’, it has been made clear since the beginning of the ‘Musica in Ospedale’ project that the intervention was a free offer of music to any children who were interested. Standley (1995) identifies six basic techniques through which music is employed in the medical context. Although none of the Florentine team is a music therapist as such, we often use music in ways which accord with the practices of music therapy, some more than others. In our case music is always live music.

The first technique is passive music listening, where music is used as a kind of analgesic to reduce pain and stress. In this case, the music employed is the patient’s favourite music. It is generally played through earphones so that the patient can control many aspects of what is heard. Such music is used in a variety of contexts, and it is widely employed during treatments or surgery (Mici, 1984; Stevens, 1990). The Florentine team often employ this technique, mostly when children are so weak (as always happens after chemotherapy treatments) that they cannot join in with the music, but still want to listen. In these cases, it is often the child that asks for music, but it can also be one of the carers or a nurse in an attempt to cheer up the child. Sometimes music succeeds in creating a positive environment and the team leave the room with the feeling that something has changed. At other times, children just want to be left alone with their mother or father, and the music (and musician) is perceived as an additional difficulty that they do not want to have to deal with.

Active music participation is a technique that uses music to focus attention on physical abilities and exercises. In this case, music is mainly used to stimulate and to increase physical movements (Boldt, 1996). Usually music is selected on the basis of specific exercises according to the musical tastes of patients. The music therapist helps the patient to focus on relevant aspects of the selected music, like the pulse (Thaut, 1985) in trying to stimulate movements.
In music and counselling music is used to establish a relationship between patient and therapist in order to reduce any trauma and fear associated with serious illness. The intention is that the therapist should help the patient to accept the idea of death or disability. Music is used to maintain counselling interaction, seeking to relieve patients from their psychological conditions. In this case, music is usually live (Bunt & Marston-Wyld, 1995) and is often based on song composition or lyric substitution to facilitate an expression of emotions and fear (Bailey, 1984; Silvka & Magili, 1986; Bruscia, 1998; Aasgaard, 2000; Daveson, 2001). This approach is quite common in the Florentine context. Children who have to undergo long-term hospitalisation need to verbalise their experience; through regular sessions of music, child and musician get to know each other rather well. This relationship provides an exclusive and secure framework in which the child can express fears about the illness and sometimes about death, topics that are usually difficult to face with parents because they are perceived as too emotionally involved (McDonnell, 1984).

In the music and stimulation technique, music is used as an auditory stimulation, and it is often associated with other actions (such as the use of visual stimuli or pleasant scents) in order to make the patient react. This technique is particularly employed with comatose or brain-damaged patients or with people recovering from serious and long illnesses. In most of the cases reported, the therapist uses recorded music to encourage and stimulate imaginative thinking (Bunt, 1997).

The music and biofeedback approach is mainly used with people ‘whose physical disorders are primarily attributable to controllable, internal physiological functions’ (Bunt, 1997: 261), such as to lower blood pressure or heart rate in coronary patients. In these cases, music has been demonstrated to be effective, as auditory cues appear to be important in the synchronisation of respiration and other motor activities (Bason & Celler, 1972; Rider, 1985). Patients’ preferred music is used to teach them how to relax and cope with stress. The music is usually recorded.

The last technique is the provision of music as a group activity. This is particularly employed with patients experiencing long-term hospitalisation in order to reduce anxiety and depression due to isolation. This approach combines music listening with musical activities, and music is mainly intended as a form of distraction (Micci, 1984; Hanser, 1985; Malone, 1996; Burns et al., 2001). Applied in the Florentine context, this group-focused technique has always been very effective in promoting social interactions between the different people involved in the hospitalisation process. Indeed, music sometimes helps to change the perception of the local environment, and places such as waiting rooms can quickly turn into a lively concert hall where children and parents sing, nurses and doctors pass by and take a little percussion to join the team in a song. The atmosphere in the hospital changes; fear and tears are replaced by enjoyment and smiles.

In most of the studies we have reported, patients choose the music selected for the experimental intervention. The studies generally do not comment on this aspect, but it seems to be quite relevant that the choice of the therapists is often oriented towards music that is familiar to the patients rather than towards unknown music. In the hospital context, perhaps such choices would undermine the idea of music as a ‘universal language’ (Cook, 1986; Stevens, 1990), in the sense of all music having a common sonic foundation within the constraints of a particular cultural context, and this suggests the need to seek different explanations.
The choice of music to be used in hospital depends on many variables. Musical behaviour has been defined by Welch (2000: 3) as the interface between three generative elements, ‘namely (i) the overall nature and individual developmental history of our human anatomy/physiology, (ii) socio-cultural context, and (iii) music (however defined)’. This implies that characteristics like personality traits, language, culture and educational influences are all relevant in musical choice. It also means that music is likely to become more effective if these characteristics are addressed somewhat consciously in the musical choice. As Hanser (1985: 199) comments, ‘selection of the right single piece or musical sampling is crucial to the success of the experiment’. However, a definition of what counts as ‘relaxing’ music is difficult to arrive at. Stratton and Zalanowski (1984) found a significant correlation between the degree of relaxation and liking for the music. O’Callaghan and Colegrove (1998) report that most of the hospitalised cancer patients refused music therapy when the music therapist did not elicit their music preferences. In the study by Micci (1984), adolescents undergoing cardiac catheterisation generally requested mild rock music for relaxation and some of them asked for hard rock, even if afterwards they felt it would not be relaxing in the operating theatre. Davies and Thaut (1989) found that the criteria for the selection of music to reduce anxiety or increase relaxation seemed to include factors such as ‘preference, familiarity, cultural context, past experiences, and perception of elements of the music such as structure, tempo and dynamics’. Therefore, he stressed the importance of ‘considering [a] client’s unique musical preferences and background’ when selecting music (ibid.: 184). Similarly, Standley (1992) asked patients undergoing chemotherapy to choose their favourite piece of relaxing music in order to reduce nausea. Patients selected music from a wide range of genres. It seems paradoxical that New Age music, usually considered as ‘relaxing’ by definition, was ‘quickly rejected upon hearing’ (Standley, 1992: 34). Standley claims that ‘the specific piece of music utilised in clinical procedures is not as important as are the associations which have been developed by the individual patient with the selection’ (ibid.). To be more effective in a hospital setting, music may need to be selected by patients because this may elicit associated pleasant memories, with a likelihood that such a recollection might improve the sense of well-being and heighten the musical experience. Standley (1986, 1995) found also that live music administered by a music therapist had a greater effect than recorded music.

4. Social features

As Hargreaves and North (1997: 1) state, ‘music has many different functions in human life, nearly all of which are essentially social’. One of the most important functions of music within a hospital is to help children to verbalise the hospital experience in order to cope with it better. Writers agree that hospitalisation and illness ‘arouse the need for creative expression as a means of coping, [and that] a child can channel pain and anxiety into creative expression’ (Froehlich, 1984: 4), minimising the effect of hospitalisation. For these reasons, many hospitals offer so called ‘Child Life Programmes’ which utilise play activities to help patients cope better with the stress of hospitalisation, providing ‘opportunities for normal growth and development as would exist out of the hospital’.

In the study by Froehlich (1984), music was more effective in facilitating the verbalisation of the hospital experience compared to a medical play therapy experience.
Brodsky (1989) confirmed the effectiveness of music in stimulating verbalisation and in enhancing creativity and fantasy. He experimented with the use of song composition and lyric substitution with children with cancer in isolation rooms. Through the use of case studies, he suggested that music is an important means of stimulating cognitive and emotional expression and also of exploring feelings about fear and death. In the study by Bunt and Marston-Wyld (1995), music therapy was associated with counselling as a way to improve verbalisation. The study underlines the similarities between music therapy and counselling as they both have the capacity to ‘access and express emotions’ (Bunt & Marston-Wyld, 1995: 50). By combining counselling and improvisation on a variety of percussion instruments within a music therapy session group, they noted that ‘music therapy was seen as having a unique role to play where there were feelings but not words to name them’ (ibid.). Boldt (1996) pointed out that music helps to increase motivation, psychological well-being and the exercise of endurance over the long term within a successful bone marrow transplant treatment. Musical intervention was quite complex in this case, including live and recorded music, as well as imagery and relaxation exercises, combined with a range of motion exercises. Burns (2001) used recorded music associated with the Bonny Method of Guided Imagery and Music (GIM), a method that utilises specially sequenced Western art music to elicit emotional expression. She found that this association was effective in improving ‘mood’ and the ‘quality of life’ in cancer patients. Even if there appear to be no music therapy studies that explore an improvement in the quality of life, anecdotal reports suggest such an outcome (Burns, 2001). However, the range of studies concerning the effectiveness of music in supporting the development of social interactions (cf. Ockelford, 2000) would support the development of a more systematic employment of music for social reasons within a hospital context. The Florentine team have observed that music works as a bridge between children, musicians, parents and medical staff and promotes positive interactions between them:

Antonio, 14 years, loved an Italian pop group called ‘883’ and whenever I walked into the room the first thing that he used to do was to ask for their songs. Most of the nurses got to know some of the refrains very well as Antonio used to play the songs endlessly on CD. Nurses and doctors used to make fun of his musical ‘obsession’, but whenever I was in his room his enthusiasm attracted other children and they often moved into his room with their parents to sing with us. I remember these moments as extremely enjoyable and liberating for children, parents and myself. We all sang together, sometimes changing the words to make the lyrics sounds ridiculous; Antonio played along with us, always smiling and giving space to other children’s musical choices as well. I have often left his room with a feeling that the mood in the ward had changed and that something positive had happened. (C. Preti: case study notes, February 1999)

Music in hospital supports children’s social education to the extent that the musical activities can help the child to develop aspects of their ‘human capital’ (Karkou & Glasman, 2004: 170) through the promotion of adaptability, creativity and social skills. Music also offers possibilities for collaboration and interaction between children, parents and medical staff, as well as giving insight into different cultures. This is often the case when children/parents from different countries or different social backgrounds have to share a room for long
periods of time. Music sessions in these cases often facilitate communication through
the exchange of songs or simply by lightening the atmosphere in the room, fostering
casual conversations between parents, or between parents and nurses, that, for a brief time
perhaps, are not focused on the children’s illness.

Cahill (1992) also cites the value of arts in raising children’s confidence. According to
his interpretation, music enables children ‘to achieve’ in an informal situation where there
are no predetermined goals and where self-esteem can be encouraged through experiencing
positive attitudes. For creativity to be promoted it is important to provide a safe environment.
There is a sense in which the hospital is not identified purely as a place of pain/discomfort
because of the pleasurable associations that arise in music-making that are conveyed within
the group by positive body language (Davidson & Salgado Correia, 2002).

Music in this context can be successfully employed to support social interactions
between different people involved in the process of music-making. Experiencing a
successful participation in musical activities facilitates an increased sense of community,
of belonging to a group, embracing patients, carers and musicians (Karkou & Glasman,
2004). This sense of community has been fostered officially by the hospital management
who have recently expanded the music scheme to other wards across the hospital. The
management have institutionalised the music provision through systematic financing and
the designation of key personnel with responsibilities for ensuring the music programme.
Musicians are now perceived as part of the paramedical staff and the ‘institutionalisation’
of the programme has made collaboration between musicians and nurses easier and more
effective.

5. Educational features

From the studies we have reviewed, it emerges that music in the hospital context is a form
of communication that helps children to release emotions, often turning fear and anxiety
into something more positive and relaxed. Nevertheless, even if not planned, music can
also assume other effects, such as educational ones (Bunt, 1997). Involuntarily, children
may learn songs sung by the music therapist or visiting musicians, and they can improve
their rhythmic skills by practising during improvisational sessions. All these experiences
could be defined as informal ways of learning.

As Green (2001) suggests in her work on popular musicians, ‘music learning can
occur without music teaching’ (p. 104), and a number of features combine to define this
particular way of learning. In some of the cases these practices are very similar to the
ones that hospitalised children experience. From what we have observed in the Florentine
context, and drawing on Green’s (2001) work, there are at least two main educational
outcomes deriving from a regular musical intervention in a hospital setting:

1. Children learn how to play together by watching and imitating other children or the
   musician who is leading the session;
2. There is a process of skill and knowledge acquisition that is both conscious and
   unconscious.

   One analysis of learning in social contexts has focused on the concept of a ‘community
   of practice’ (Lave & Wenger, 1991; Wenger 1998). They suggested that a community of
practice involves participation in an activity system about which participants share understandings concerning what they are doing and what that means for their lives and their communities... a community of practice is an intrinsic condition for the existence of knowledge, not least because it provides the interpretive support necessary for making sense of its heritage. (Lave & Wenger, 1991: 98)

For Lave and Wenger (1991: 116), learning ‘is never simply a matter of the transmission of knowledge or the acquisition of skill... it is a reciprocal relationship between persons and practices’. In a community of practice, members are brought together by joining in common activities and by what they have learned through their mutual engagement in these activities. In this respect, a community of practice involves shared practice. In the Florentine hospital context, the activities of the musicians and their various clients (patients, parents/carers, siblings, medical staff) can be seen as a ‘community of practice’ (Lave & Wenger, 1991), whose interactions embrace the multidisciplinary elements of musical activity in a clinical setting.

Barrett and Gromko (2002) argue that children engaged in a community of practice are open to the possibility of learning from their peers as well as the teacher, and are active participants in constructing the learning practice of the community. In the hospital setting, there is a sense in which all the participants are active in this learning practice. The musicians are flexibly responsive to the social, clinical and musical needs of their client groups and each other. Individually and collectively, the musicians are open to adaptation in their professional practice and to the development of new skills and repertoire. There is a ‘reciprocal relationship between persons and practices’ (Lave & Wenger, 1991). One of the main intentions of the music provision is to promote a sense of musical empowerment in their clients, to enable the client groups to have an increased sense of agency in their engagement with music that is both ‘therapeutic’ and ‘educational’ (Prokofiev, 1994). Although the musical activities are focused on the needs of particular patients and the adults who support them, such ‘goal-directed individual and group actions’ (Engeström, 2001) are also reflexive and expansive in that there is always the possibility that the diverse elements of provision (in musics, settings, performers and clients) will facilitate new learning, whether musical, social, intrapersonal or a combination of these.

As Ockelford (2000: 212) observes, music sessions in hospital can be a ‘unique and secure framework’, providing children with an opportunity to listen and respond to sounds. Music listening and playing engage cognitive skills such as concentration and memory as well as coordination. Children learn both in and through music. Accordingly, in this context, although music can be thought of as an informal and relatively unstructured form of education, it can be powerful and long-lasting.

**Conclusion**

The provision of music in a hospital context embraces a multiplicity of potential and actual experiences for all the participants, whether adult or child, patient or carer. Its multifaceted character relates both to the nature of musical sound and also to its human processing, whether as initiator, participant or ‘audience’. The power of music as a form of emotional...
symbolisation is reflected in the organisation of its sounds, such as its tone colours, contours, intensities and rhythms unfolding over time. The selected music’s impact (physiological, psychological, social, educational) is likely to be enhanced by the physical action, the communication behaviours, of the live performers, who have to remain sensitive throughout to the subtle nuances of response from the ‘audience’ (patients, parents, hospital staff) in a moment-by-moment monitoring of performance effectiveness towards the intended outcome. This is a symbiotic process in the course of which performers, patients and other members of the (often participant) audience ‘share’ a musical experience and perhaps are all changed by it in some way.

Notes
1 Bone marrow aspiration treatment consists of inserting a special needle into a bone that contains marrow and withdrawing the marrow by suction or by coring out a sample.

References


**Web pages**
