

THE IMPACT OF MUSIC THERAPY ON THE SOCIAL BEHAVIOURS OF
CHILDREN WITH AUTISM IN A STRUCTURED OUTDOOR INCLUSIVE
SETTING

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Abstract

The aim of this study was to examine the impact of music therapy (MT) on the development of three specific social skills - joint attention (JA), imitation (IMI) and turn-taking (T-T) - in children with autism (N=4). The development and acquisition of the above social behaviours were examined in a structured outdoor inclusive setting (SOIS), and results of this study revealed that MT intervention facilitated the inclusive experience for children with autism and resulted in an increase of social behaviours.

The data were collected over seven weeks at the Grace Music Therapy Centre (GMTC) and Griffith Park Public School (GPPS)¹. The four participating autistic boys all attended the same school where they regularly participated in MT each week. The music therapists and the special education teacher that were involved in the study were interviewed about their attitudes and impressions of MT and its effects on children with autism. By utilising a mixed methodology (i.e., observations of the students social behaviours in both settings, video recordings and rating scales that were applicable to the context of the study), data were collected and analysed.

Other observable factors such as peer initiating, questioning, prompting, modelling and proximity were examined and fell into two broad categories of teacher-mediated and peer-mediated approaches. Results revealed that the above factors facilitated the development and acquisition of the three specific social skills. The strength of both approaches provided students a learning environment that allowed for the fostering of their social skills.

¹ Pseudonyms have been used to protect the privacy of all participants.

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Abbreviations

MT: Music Therapy

SOIS: Structured Outdoor Inclusive Setting

JA: Joint Attention

IMI: Imitation

T-T: Turn-taking

GMTC: Grace Music Therapy Centre

GPPS: Griffith Park Public School

Glossary

Playground: In the context of the current study, playground refers to the SOIS (structured outdoor setting which is part of the inclusion provision.)

Chapter 1: Introduction and Review of the Literature

Context of Study

Music therapy (MT) interventions have potential benefits in supporting social skills for children with autism. Social skills are defined as, “Socially acceptable learned behaviours that enable a person to interact with others in ways that elicit positive responses and assist the person in avoiding negative responses” (Elliot, Racine & Busse, 1995, p.1009, as cited in Bellini, 2006, p.3). Social interaction skills are critical to successful social, emotional and cognitive development. Most importantly, social skills deficits impede the ability to establish meaningful social relationships, which often leads to withdrawal and a life of social isolation. As a result, music-making involves many of the fundamental elements of social interaction and because of this, the musical aspects of “interpersonal timing attuned reciprocity in shared play, turn-taking, listening and responding to another person” can be augmented in MT with people with autism to accommodate and address their frequently idiosyncratic styles of communication (The National Autistic Society, 2010).

Focus of the study

Using mixed methodology, the study aims to examine the impact of MT on the social development of autistic children in the structured outdoor inclusive setting (SOIS). Particular emphasis will be placed on the development and acquisition of three specific social skills: joint attention (JA), imitation (IMI) and turn-taking (T-T) that occur in these contrasting settings. The focus will be placed on four participating autistic children who are all receiving MT.

The study sought to answer the following questions:

1. What social behaviours do children with autism exhibit in a SOIS? How are these behaviours presented?
2. What social behaviours do children with autism exhibit in a group MT setting? How are these behaviours presented?
3. Does MT have an impact on the development and acquisition of social skills of autistic children in a SOIS? If so, what makes Nordoff-Robbins (1977) MT an effective intervention in improving these specific social skills?

4. What other factors can be observed that contribute to the development and acquisition of social skills in children with autism?

To address the above research questions, a review of the literature follows which examines several studies that utilise methods of MT programs, where particular emphasis will be placed on the Nordoff-Robbins MT (the intervention utilised in the current study). Moreover, the role of peers, the music therapist and music educator will be examined, where the specific objectives concerning the educational growth and development of children with autism will be reported on.

MT and the Client

MT uses music as a therapeutic medium to address “developmental, adaptive, and rehabilitative goals” in the areas of “psychosocial, cognitive, and sensorimotor behaviour of individuals with disabilities” (Hurt-Thaut, 2009, p.504). It has brought a number of beneficial changes in children’s behaviour, in particular, to those with autism (Bunt, 2006).

The syndrome of early infantile autism was first described in 1943 by Kanner (Volkmar, Carter, Grossman, & Klin, 1997), and is characterised by typical patterns of delay and deviance affecting social, affective, communicative, and intellectual development that adversely affects educational performance (Loveland & Kotoski, 1997; Darrow & Armstrong, 1999; Hourigan & Hourigan, 2009). Kanner’s (1943, as cited in Volkmar et al., 1997) criteria are similar to those included in the Diagnostic and Statistical Manual of Mental Disorders (5th Edition) (American Psychiatric Association, 2001) and the behavioural definition provided by the National Society for Autistic Children (1978).

MT has given children with autism a means of self-expression and creativity (Gilboa, Bodner & Amir, 2006; Epp, 2007; Shim, 2007); an opportunity to develop a therapeutic relationship to facilitate contact, interaction, self awareness, learning and communication (Lefevre, 2004; Walworth, 2007; Wigram & Gold, 2006; Clarkson, 1991); and has developed their personal and social skills (Wimpory, Chadwick & Nash, 1995; Alvin & Warwick, 1991; Aldridge, Gustroff & Neugebauer, 1995).

Defining Social Competence in Children with Autism

Social competence for children with autism is essential for successful integration into society, the development and maintenance of meaningful friendships, and long-term

positive outcomes (Sotelo, 2009; Loveland & Kotoski, 1997; Hart, Olsen, Robinson & Mandleco, 1997). Autistic children exhibit social abnormalities in areas such as their IMI abilities (Dawson & Adams, 1984), JA skills (Kim, Wigram & Gold, 2008) and in their T-T activities (Pasiali, 2004). Cotugno (2009) revealed that these issues create significant problems in engaging in normal and typical peer social interactions, which often result in avoidance of social contacts, overarousal in social situations, an inability to understand and follow expected social rules and expectations, and social rejection.

Furthermore, Cotugno (2009) examined the effectiveness of a group-based, social competence and social skill training and intervention program, with children with autism, aged 7 to 11, across 30 weeks. His study utilised rating scales: the Walker-McConnell Scale of Social Competence and Social Adjustment (WMS); and the Social Skill Development Scale (SCDS). These two scales measured the social competency and social skill development for children with autism. Cotugno (2009) revealed the effectiveness of the program in improving the core social deficits in individuals with autism.

The Social Play Record (SPR) is a scale designed by White (2006) for children with Autism Spectrum Disorders (ASD) and used to assess and develop social play in children with social interaction needs. It has theoretical validity, meeting the specifications for a qualitative assessment of social play, and practical application, addressing educational and clinical requirements for formative, diagnostic and evaluative assessment (White, 2006) and is utilised in the current study.

Defining the impairments of JA, IMI and T-T skills in autistic children

It is important to understand that children with autism have significant developmental limitations that impede their ability to benefit from the social environment. JA abilities play a crucial role in the development of autism. Impairments in JA are among the earliest signs of autism and JA skills relate to the outcome, both in the natural course of autism and through being targeted in early intervention programmes (Kim et al., 2008). Moreover, JA behaviours involve the triadic coordination or sharing of attention between the infant, another person, and an object or event. The term encompasses a complex of behavioural forms including

gaze and point following, showing and pointing (Charman, 2003). Thus, lack of JA can negatively impact social development through life (Charman, 2003).

The literature shows a consistent finding that children with autism do not readily imitate the actions of others and that the reason for difficulties in IMI associated with autism remains unclear (Smith & Bryson, 1994; Williams, Whiten, Suddendorf & Perrett, 2001; Schopler, Reichler, DeVellis & Daly, 1980). IMI is fundamental to broader kinds of social deficits seen in children with autism and is a recognised exchange, or connection, between two persons and creates a feeling of shared understanding between them (Dawson & Adams, 1984). The social skill of IMI involves one converting an action plan originating from the other's perspective into one's own (Williams et al., 2001). Studies conducted by Dawson and Adams (1984) and Schopler et al. (1980) found that autistic children exhibited a poor use of spontaneous gesture and impaired motor IMI skills. Furthermore, autistic children who were most withdrawn from people were found to have the most severe problems in motor IMI.

People with autism have difficulty in learning the rhythm and flow of conversation because they have difficulty in picking up the subtle cues that indicates whose turn it is to speak during a verbal conversation or other T-T situations (Grandin, 1996 as cited in Peet, 2004). This skill of T-T involves sequences of observe peer/respond to peer/observe and wait/respond to peer (Kemple, 2004). Thus, difficulty in interaction with others is a central theme in autism and is reflected in most classroom activities and in a large portion of the research in autism (Olley & Reeve, 1997). This study focuses on the ways in which MT facilitates the development and acquisition of the above social skills in autistic children, in a way suited to each child's developmental level.

The Importance of Developing Peer Relationships in Play

An autistic child's play stands in stark contrast to the richness of play in a normally developing child (Volkmar et al., 1997). Playground time is important for learning and social development for children, as it offers them a variety of play opportunities (Cullen, 1993 as cited in Kern, 2004b). Through shared experiences in play with peers, children acquire many interrelated skills that are necessary for attaining social competence and forming mutual friendships (Parjer & Gottman, 1989 as cited in

Kern, 2004b). Moreover, peer interactions and inclusion on the playground are vital for bolstering children's acquisition of important social competencies (Kern & Aldridge, 2006; Koegel & Koegel, 1995). Maintaining effective play interactions with peers requires children to exercise self-control and a host of other important behaviours such as cooperation, attention and persistence that can affect learning in the classroom setting.

The study conducted by Kern (2004b) implemented interventions focusing on improving social skills in children with autism and targeted both adults and peers. The variety of strategies used to improve social skills in children with autism included: adult-directed instruction, a child-centred approach and peer-strategies. Kern's (2004b) study proved that peer-mediated strategies (that typically developing children are trained to engage with children who have autism), are a powerful means of improving peer interactions in the context of classroom activities (Kern, 2004b; Choi & Nieminen, 2005).

Only a few studies, however, have investigated the social behaviours of typically developed children and children with special needs in playgrounds (Fujiki, Brinton, Isaacson & Summers, 2001; Nabors & Badawi, 1997), and some have examined play behaviour and play styles in playgrounds (Cullen, 1993; Ladd & Price, 1986). A small amount of research in playgrounds has focused on promoting interactions between children with and without disabilities (Hundert & Hopkins, 1992, Kern & Wolery, 2001). According to the study by Kern (2004b) more research is needed to understand the effects of MT for children with autism within inclusive settings and so the current study aims to examine this.

Koska's (1993) research utilised time sampling techniques to examine the arm flapping, body swaying, and appropriate participation of a 9-year-old boy diagnosed with autism while attending regular elementary music classes in comparison to his special education classes. Data were collected by analysing videotaped segments which revealed that all three behaviours were less frequent during regular music classes. Koska (1993) revealed that being mainstreamed had a positive effect on the particular subject's social behaviours.

Research has indicated that children with autism have a need for structure and organisation (Grandin & Scariano, 1986 as cited in Darrow & Armstrong, 1999).

Fortunately, the structured use of music has been shown to have positive effects on a number of desirable classroom behaviours in students with autism including social behaviours (O'Donnell, 1998). Music educators can increase the structure of their classes by using a standard lesson format in addition to familiar music and activities (Toigo, 1992 as cited in Darrow & Armstrong, 1999). So, MT sessions provide structure and predictability, thereby emphasising the child's strengths and individual needs.

Designing Inclusive Learning Environments

Inclusive schools strive to create an environment where the needs of all students are accommodated and success is fostered for each child, by integrating children with disabilities in the mainstream of regular education and providing them with the specialised services they need within the regular education program (Kemple, 2004; Harrower & Dunlap, 2001). Importantly inclusion provides children with autism an opportunity to socially interact with typically developing peers as it enhances their peer skills, social understanding, and relationships for children with and without disabilities (Kemple, 2004; Choi & Nieminen, 2005). The availability of peers who can serve as models and initiators of social interaction is asserted as an important rationale for including children with disabilities in classrooms with typically developing peers (Kemple, 2004).

Peer-mediated intervention is seen as promising to facilitate development of both social and cognitive skills in children with autism (Choi & Nieminen, 2005; Harrower & Dunlap, 2001). By incorporating techniques for peer-mediated social interaction, such as initiating, prompting, questioning and proximity, the typical peers were able to fortify their interactions with their peers with autism (Winterman, 2003; Weiss & Harris, 2001). However, studies have found that mere exposure to typically developing children is not the mechanism by which students with autism gain meaningful social experiences (Gutierrez, Hale, Archuleta & Sanchez, 2007).

Gutierrez et al. (2007) examined the naturally occurring social interactions of students with autism (N=3) when placed in a playground setting with typically developing peers (N=10-15). Results revealed that participants rarely engaged in social behaviour with peers during inclusive experiences and adult staff rarely facilitated social interactions between children with autism and typically developing

peers. This research is consistent with the study conducted by Koegel, Koegel, Frea and Fredeen (2001), where they found that students with autism *rarely* interacted with their peers when placed in an inclusive setting. The current study focuses on whether the MT intervention can facilitate the naturally occurring social interactions in the SOIS.

MT Interventions

The theoretical orientation of MT clinical practice is eclectic (Aldridge et al., 1995; Boso, Emanuele, Minazzi, Abbamonte, & Politi, 2007; Shim, 2007). The Handbook of Terms, produced by the Association of Professional Music Therapists, defines clinical improvisation, as used in the MT settings, as “musical improvisation with a specific therapeutic meaning and purpose in an environment facilitating response and interaction” (Alvin & Warwick, 1991, p. vii). Scovel and Gardstrom (2002) assert the need for a theoretical basis for MT practice, where “without a common theory, music therapists may struggle to produce consistent clinical outcomes” (L’Etoile, 2009, p. 493). Furthermore, Hurt-Thaut (2009) affirms that although MT cannot cure such conditions as autism and cognitive impairment, it can alleviate negative behaviour of the child involved in interactive music-making with the therapist.

As stated by Olley and Reeve (1997), “The primary locus for intervention is almost always educational, and the central professionals involved in intervention are educators” (p.509). During the school years, children with autism experience significant changes in their cognitive, emotional, social and adaptive development (Loveland & Kotoski, 1997). As a result, the planning of an intervention strategy must be thoughtfully adapted and carefully related to the assessment of a child’s current level of functioning; an understanding of the individual’s strengths and difficulties; and vision of the individual’s potential future.

Each child has unique strengths and weaknesses, and because of this, there is no one approach that is suitable for all children (Kern, 2004b). A combination of individualized educational approaches and treatments is often most beneficial for individuals diagnosed with autism, but should be carefully selected (Kern, 2004b). According to Aldridge et al. (1995), a child who is developmentally delayed faces the same developmental tasks and challenges and has the same need to be loved, stimulated and educated, as the typically developing child. Some goals addressed by

Hurt-Thaut (2009) in MT are the developmental goals which strive to enhance the normal development of a child by providing normal social, emotional, and sensorimotor experiences through music. In addition, the National Research Council (2001) states that the overall educational goals for children with autism are the same as those for typically developing children: “personal independence and social responsibility” (p. 216).

Amongst groups of children with autism, therapists and researchers have carried out several case studies (Wimpory et al., 1995; Clarkson, 1991) and empirical investigations (Applebaum, Egel, Koegel, & Imhoff, 1979; Heaton, 2005; Boso et al., 2007). Researchers have utilised an array of creative and structured techniques and varying types of MT programmes in their reports. These include Musical Interaction Therapy (Wimpory et al., 1995; Boso et al., 2007); Creative Music Therapy (Nordoff and Robbins, 1977); Analytic Music Therapy and Guided Imagery and Music (Epp, 2007), which all reveal ways in which researchers communicate with their clients (Hurt-Thaut, 2009).

Research utilising MT Programs

Epp (2007) examines differing models focussing on the existing notions of self-expression in MT as she considers their adequacy for a music-centred practice. These include Analytical Music Therapy (AMT), Guided Imagery and Music and Nordoff-Robbins Music Therapy. Her study involved work with a 3-year-old boy with autism and language delays where self expression was an obstacle of the MT process. Epp (2007) discovered the role music played in his efforts to express himself in a MT session. Her work transformed the boys’ rigid mode of self expression into a thoroughly musical mode of expression. In effect, the boy was able to trust the music as he was able to find his own expressive voice and reach out to others through it.

Wimpory et al. (1995) used Musical Interaction Therapy (MIT) between one 3-year-old child with severe autism and her mother to enhance the child’s social development, reciprocal interactions, and eye contact. The study was conducted twice each week, and the child participated in 20 minute sessions of MIT in her home for 7 months. Data related to the child’s social development were analysed using a binomial test. Other data were also collected from home in the form of videotaped settings. The period of data collection from home occurred six times over

a 4 month baseline, 7 times during seven months of MIT sessions, and, after an additional 5 months of MIT; follow-up measures were taken 20 months later. The aim of MIT was to enable the autistic child to anticipate her mother's actions on the basis of music synchronised to those actions (Wimpory et al., 1995) such as the mother's movements being synchronised with the therapist's playing the harp.

Aldridge et al. (1995) conducted a crossover study using individual MT with 12 children, who were 4 to 6.5 years old in chronological age but developmentally, aged 1.5 to 3.5 years. They were randomly allocated into two groups of six children— a treatment group and an initial non-treatment group. Whilst one group of children received improvised creative MT across three months, the other group were not treated. Aldridge et al. (1995) hypothesised that there would be greater developmental changes in the MT treatment group in the first session of the treatment period compared with the non-treatment group. The secondary hypothesis was that by the end of the two treatment sessions both groups would have changed equally. The researchers produced evidence that supported these hypotheses where both groups achieved significant developmental goals when they received improvised creative MT (Aldridge et al., 1995).

Aldridge et al. (1995) defined the importance of social communication in the infant as “rhythmic interaction” (p. 197-198). They explored the concept of self- synchrony whereby the infant has the genetic basis of an individually “entrained physiology” which is also coupled with that of the mother (p. 198). Both infant and mother modified their own behaviour to fit each other's learnt rhythmic structure.

Aldridge et al. (1995) were unable to conclude how much social development in this study was caused by MIT, and how much was due to the occurrence of unpredictable events and the child's maturation during the course of the two years between study and follow-up. Further studies today are employing multiple baselines of varying periods including a cumulative introduction of MIT components. As acknowledged by the researchers, this study needed to be supplemented with a study of a larger population of children, and “would best be considered as a pointer in a general direction rather than as a conclusive statement” (Aldridge et al., 1995, p. 204). Moreover, the findings of the study conducted by Wimpory et al. (1995) are consistent with those of Kern (2004a) and Clarkson (1991) as both stated that such early difficulties in social interaction may contribute to lifelong problems with social

cognition in autism. Furthermore, MT emphasises the positive benefits of working together with another person, which in turn sets the context for developmental change (Aldridge et al., 1995; Clarkson, 1991).

Boso et al. (2007) conducted clinical rating scales, including the Clinical Global Impression (CGI) scale and the Brief Psychiatric Rating Scale (BPRS), to measure whether 52 weekly interactive MT sessions, lasting 60 minutes, could enhance the musical skills and behaviour profile of eight young adults affected by severe autism. The study conducted by Walworth (2007) provided an overview of the SCERTS (social communication, emotional regulation and transactional support areas) model to assess and identify treatment goals and objectives within a multidisciplinary team of clinicians and educators for autistic children. The purpose of the SCERTS model was to enhance the communication and socio-emotional functioning of children with autism and improve family interactions and support.

Scale II: Musical Communicativeness, designed by Nordoff and Robbins (1977) is an evaluation scale known to provide a valuable guide to clinical practice and evaluation for assessing individual change (Aldridge, 1996). In particular, this scale is about ‘the stimulating impact of music, the interest musical coactivity can hold, the releasing and uplifting enthusiasm it can generate, and the communicative motivation it can release’ (Nordoff & Robbins, 2007, p. 396). According to Wigram (2002), this evaluation method is specific to what happens in the MT situation and is a systematic way of recording and documenting aspects of change that occur in the therapy and is utilised in the current study.

Nordoff-Robbins MT

The focus of the current study is placed on the Nordoff and Robbins MT intervention. Nordoff and Robbins (1977) use creative MT with children with special needs, where an increased emphasis is placed on the dynamics of the relationship between therapist and child. A relationship between the music therapist and client emerges through musical dialogue, interaction, and communication and is crucial to a MT session (Shim, 2007). The therapist’s music creates an accepting environment where the child is stimulated to explore and create music, both instrumentally and vocally thus evoking musical responses. It allows the child to heal and change from within which activates the child's inner resources.

Nordoff and Robbins (1977) describe the “Music Child” as that part inside each one of us that is “alive, healthy, and creative” (Sutton, 2002, p. 112). Creative MT involves the development of musical skills and expressive freedom. In this approach, both recreative and improvisational techniques are used (Aldridge et al., 1995). Studies such as that of Edgerton (1994) provide evidence of the effectiveness of Nordoff-Robbins’ (1977) Creative MT approach on the communication behaviour of children with autism. Edgerton’s (1994) study revealed that improvisational MT significantly and constantly increased the communication behaviours of each child within the musical setting, over the period of 10 sessions. Moreover, it supports the argument that MT builds up a “shared repertoire of events” between therapist and client that involves meaning and understanding (Wigram, 2002, p. 6).

Role of Music Therapist and Music Educator

Music therapists and music educators work together towards achieving a common goal; that is, the use of music to facilitate not only learning but also the development of the whole child both within and outside the school (Bunt, 2003). The music educator and music therapist both play an important part in serving children with autism, where they address the ultimate concern for the educational growth and development of the student (Patterson, 2003). Thus, MT and music education are to be seen as complementary, rather than as alternative forms of provision (APMT, 1992).

The role of a music therapist in a school is to assess a students’ ability to achieve educational goals and objectives both with and without music (Patterson, 2003). Music therapists employ techniques specifically for promoting healthy personal and social development, encouraging freedom of choice and self-growth (Bunt, 2003; Hourigan & Hourigan, 2009). They help children with autism to use their areas of competence, expand their skills and capacities, and develop approaches to aid in areas of difficulty (Olley & Reeve, 1997). They act as a kind of “sounding board”, to enable children not only to explore the non-verbal medium of music but to enable them to tune in and reflect back to a child that they have been listened to and heard (Bunt, 2003, p. 181). Music educators working with children who have special needs are in the unique position of being able to observe a child’s responses to music in the educational environment.

Polyblank (2002 as cited in Bunt, 2003), County Music Inspector for Worcestershire County Council, commented on the work of the team of local music therapists stating that, “working in partnership with a MT team has reinforced my belief in the power of music. MT has made a great difference to the lives of many pupils across the authority, a part of which is facilitating greater access to the National Curriculum” (Bunt, 2003, p.191).

Conclusion

This literature review has explored social behaviours of children with autism and several MT interventions that are needed to accomplish individualised goals of children with autism. Some of the research methodologies, largely qualitative in nature, involved child case studies to support findings, which were necessarily correlational, leading to limitations such as generalisations, unpredictable events, and maturation of the clients. Future research could work on ways to measure therapeutic change when dealing with such dimensions as inner experience, emotional expression and musical behaviour. The challenge is to find appropriate methods, assessment instruments for this type of population and understand where changes occur when using MT.

The nature of the studies means they cannot be generalised, but they do offer information for comparison in similar cases. Alvin and Warwick (1991) and Nordoff and Robbins (1971) state that each child is unique, and therefore, so must be the methods employed for working with each individual. As Hurt-Thaut (2009) stated, “The advances in research and medical knowledge continue to help explain the therapeutic effects of music on behaviour based on scientific evidence as they provide the framework to systematically and creatively transform musical responses into therapeutic responses” (p. 512). This study aims to further investigate the impact MT has on the development of social competence in children with autism in the SOIS.

Significance of the study

The main purpose of this study is to bring greater awareness of possible benefits of MT to the wider community of autism, in particular, to provide a greater understanding of the effect MT has on the social skills of children with autism. According to Rostohar (2006), as all children enter the public education

environment, they are expected to possess not only preacademic skills, but also social skills deemed necessary for successful group participation and learning.

Thus, the music educators' ultimate goal and objective is to facilitate not only learning in the classroom but also the development of the whole child both within and outside the classroom. Teachers can use music as a tool to encourage social awareness and competence by selecting and integrating into the curriculum songs that address acceptance, and/or social behaviour. The social interactions that occur in both the MT setting and in the SOIS can aid music educators in developing an understanding of the benefits of 'working together'. These benefits can be carried forward into the classroom setting, whereby music educators further employ techniques specifically for promoting healthy personal and social development.

In this study, the researcher aims to discover the meaning of the children's behaviours and examine the effects MT can have in an environment where there is an absence of MT interventions, that is, in the SOIS. This study will serve to explore how participation in MT can affect not only the development of children with autism, but the role of music in their lives.

The next chapter describes the methodology employed in the study.

Chapter 2: Methodology

Outline of Research Design

A mixed methods approach was adopted in this study to examine the impact MT had on the development and acquisition of social skills of four participating autistic children in the SOIS, across a seven week period. This style of research uses procedures that are typically applied in both quantitative and qualitative studies (Gay, Mills & Airasian, 2009; Phillips, 2008). Utilising mixed methods has aided in answering the research questions that can not be answered by qualitative and quantitative approaches alone. In particular, the current study utilises concurrent procedures of the mixed methods approach, whereby the “investigator collects both forms of data at the same time during the study and then integrated the information in the interpretation of the overall results” (Creswell, 2003, p. 16).

The study also employs an ethnographic case study approach where the researcher’s task is to “...capture what people say and do as a product of how they interpret the complexity of their world, to understand events from the viewpoints of the participants” (Burns, 2000, p. 11; Silverman, 2008). Burns (2000) states that “case studies are used to gain in-depth understanding of replete meaning for the subjects, focusing on process rather than the outcome, on discovery, rather than confirmation” (p. 460). Although Burns (2000) suggests that case study findings can be applied to the larger population of which the case chosen is representative, what may arise is the problem of establishing “generalisability”, which is one of the principal concerns of case study research (Cohen, Manion & Morrison, 2000). The methods of observation, audio and video recording, interviews are “important tools in music education” (Bresler, 1992, p.71), and are utilised in the study to examine the social behaviours exhibited by four participating children with autism and of the class as a single entity, in the MT setting and in the SOIS.

The MT sessions and students’ interactions in the SOIS were video recorded using a hand held camera. Prior to commencing recording, consent was acquired from all

participants involved in the film setting². Handwritten field notes of the observations in both settings were made in addition to the video recording. This enabled the researcher to record visual data that might otherwise be lost or unavailable if the researcher relied solely on the audiotape (Burns, 2000). In effect, this increased the reliability and validity of the data. It provided the researcher with an opportunity to repeatedly return to the original data and redefine the categories as the analysis continued to progress (Silverman, 2008).

The Setting

The study was conducted at the Grace Music Therapy Centre (GMTC) (Figure 1) which hosts a number of schools, one being Griffith Park Public school³ (GPPS), which uses the centre's services and facilities. The MT sessions were conducted by the director of the centre and music therapist, Robert Howard⁴ and co-music therapist, Talia Brane³ on Monday mornings at 9.45 a.m. with a group of four autistic boys aged from 9-12 years.

The MT intervention program that is utilised at this centre is the Nordoff-Robbins MT. The program created by Nordoff and Robbins (1971) used music as the means of interaction between the therapist and the subject. The therapist attempted not to impose his or her own musical behaviour on the child, as the intention was to encourage the child eventually to initiate communication using some form of musical activity as the language.

Following MT, further observations took place in the SOIS at GPPS at 12.50pm-1.20pm. At GPPS the SOIS comprised of picnic tables and chairs and 28 non-autistic Year 6 students (Figure 2).

² See Appendix C for Parental (Or Guardian) Information Statement and Appendix E for Parental (Or Guardian) Consent Form.

³ See Appendix F for Principal Consent Form and Appendix J for Letter to the Principal of GPPS

⁴ See Appendix B for Music Therapist and Class Teacher Information Statement; Appendix D for Class Teacher and Music Therapist Consent form and Appendix I for Letter to the Director of the GMTC.

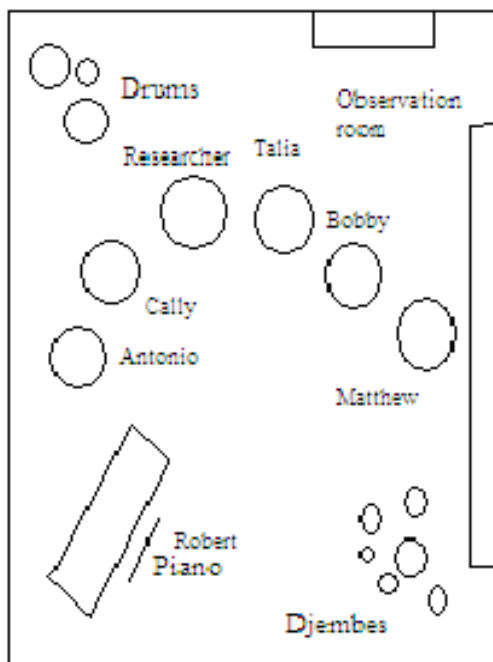


Figure 1: Pictorial Representation of MT setting at GMTC

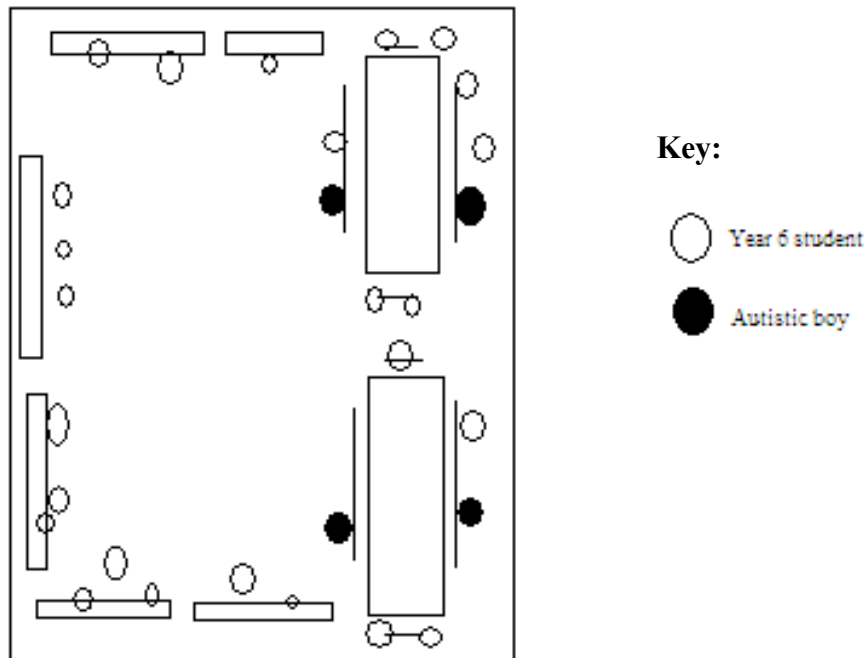


Figure 2: Pictorial Representation of SOIS at GPPS

Participants

Purposive sampling, the most common sampling method in case studies, was used to select the participants of the current study (Burns, 2000). Four autistic students were selected from the special education unit at GPPS, and all participants attended MT at the GMTC. A special educator, a music therapist and co-music therapist participated in the current study. The participants exhibited similar characteristics, such as, chronological age, developmental age and gender. Table 1 represents each students' demographics.

Table 1: Student Demographics

Participant	Age	Class	Gender	Diagnosis
Antonio	9 years old	Year 4	M	Moderate intellectual disability, as well as a diagnosis of ASD .
Bobby	11 years old	Year 6	M	Severe intellectual disability, communication difficulty, as well as a diagnosis of ASD.
Cally	9 years old	Year 4	M	Moderate intellectual disability, as well as a diagnosis of ASD.
Matthew	10 years old	Year 5	M	Severe intellectual disability, communication difficulty, as well as a diagnosis of ASD.

Field notes

Following each MT session, interviews and for the duration of outdoor time observed, field notes were made by the researcher to provide brief descriptions of the observed period, that is, the social behaviours displayed by each of the four subjects in the two contrasting settings. Feelings and thoughts experienced by the researcher and those of the participants, were noted, whilst observing the events that unfolded in

both these settings. The data obtained through the field notes made by the researcher were recorded, collated and analysed for apparent themes. This information was referred to and cross-referenced with results obtained from the analysis of the video and interview data.

Semi-structured and Conversational Interviewing

Semi-structured interviews, documented in Table 2, were conducted with the teachers and music therapists of the students to obtain the meanings attributed to the social behaviours of the autistic children in the MT setting and in the SOIS.⁵ The audio taped data from each interview were transcribed, collated and analysed for apparent themes.

Data collected through semi-structured interviews were cross checked with results obtained from the analysis of the video data, field notes and the observations recorded by the researcher utilising the rating scales form that were applicable to the MT setting and the SOIS. These included Scale II: Musical Communicativeness (Nordoff and Robbins, 1977) and The Social Play Record (SPR) (White, 2006). As a result, differences and commonalities were drawn in order to compare and contrast the change in behaviour across these contrasting settings. Questions about attitudes and impressions of the MT and whether MT has any perceivable effect for the children in their class, were also addressed.

Using semi-structured interviews was appropriate for this study as it allowed the interviewees perspective to be provided rather than the perspective of the researcher being imposed. The questions focused upon the interviewees views regarding the social behaviours and interactions of each child and their apparent meanings (Burns, 2000; Neuman, 2006).

Conversational interviewing as defined by Brandt (1972) was utilised in the current study whereby “the interviewee did not know his/her statements will become research data, nor was he/she necessarily aware that an investigation involving him/her as a respondent was even underway” (p.173).

⁵ See Appendix G for Interview Questions: Class Teacher and Appendix H for Interview Questions: Music Therapist

Table 2: Interviews

DATE INTERVIEWED	NAMES ⁶
22 nd March, 2010	Class teacher, Deborah Lane
29 th March, 2010	Music therapist, Robert Howard
29 th March, 2010	Co-music therapist, Talia Brane

Role of Researcher

The role of the researcher in this study can be defined as a participant observer in the MT setting and a non-participant observer in the SOIS, as documented in Table 3. The researcher was actively engaged in the MT and this was encouraged by the music therapist as he remarked it would be a more enriching and enjoyable experience to take part, rather than sit out and observe. As a non-participant observer in the SOIS, the researcher's role was to watch and record events with minimal interaction with the participants. Although the researcher's presence in the field obviously exerted an influence on the data, it is impossible to ascertain the full extent of this, or the ways in which it occurred (Cohen, Manion & Morrison, 2000; Burns, 2000).

Table 3: Participant Observations

Date of Observation	Location	Role of Researcher	Students Involved
<u>15 February - 29 March, 2010</u> 9.45am-10.15am 12.50pm-1.20pm	MT SOIS	Participant Observer Non- Participant Observer	Antonio, Cally, Bobby, Matthew

⁶ Pseudonyms used to protect identity of participants in the study.

A total of 14 observations (seven MT sessions and seven SOIS), which were held weekly, in Term 1, 2010, were made. The duration of each session was 30 minutes.

Methods of Data Analysis

Triangulation

Triangulation has been defined by Burns (2000) as “the use of two or more methods of data collection in the study of some aspect of human behaviour” (p. 419). Data were collected throughout this study utilising methods of triangulation in order to reduce bias and to increase the reliability of the results obtained (Burns, 2000; Cohen, Manion and Morrison, 2000). Furthermore, the data were collected in this way as it was appropriate to the study of situated action.

Cohen et al. (2000) examined three methods of triangulation in order to increase validity and reduce bias in the current study. The researcher utilised *longitudinal triangulation*, where the same subjects were observed over a period of time; *methodological triangulation*, which involved three different methods of data collection including video-recording of the social behaviours of children with autism in MT sessions and in the SOIS; field notes written by the researcher following each taped session and semi-structured interviews conducted with the educators and music therapists of the participating children, and *investigator triangulation*, where a second observer, in this case, the music therapist, recorded and commented on data. Investigator triangulation allowed for any similarities and differences in the data to be cross-referenced.

Layered analysis

Video and audio data obtained from the MT sessions and in the SOIS were analysed utilising a qualitative form of a time sampling technique described as ‘Layered Analysis’. This longitudinal method, introduced by Ellis (1996, 1997), successfully articulated data collection and analysis. Layered analysis was used to determine whether progression had occurred for this relatively short period of time, whereby large amounts of data collated from both settings were broken down into sections from which to draw conclusions. According to Ellis (1996), this methodology seeks “to enable objective and detailed observation, collection, evaluation, analysis, and presentation of data” (p.68). Overall, this model of analysis was effective for this study due to the short time allocated for data collection.

Rating Scales

Rating scales that are sensitive to the social interaction behaviours occurring in both the MT classroom setting and in the SOIS were utilised in the study. According to Brandt (1972), ratings represent a “quantitative assessment of the degree to which some quality is present” (p. 120).

Scale II: Musical Communicativeness (Nordoff and Robbins, 1977) (Appendix L): This evaluation scale was utilised to track the behavioural responses of autistic children undergoing individual improvisational MT. However, as the scales were formulated for individual MT and were written in language for individuals, they are equally applicable to work with groups and the interactions between the children themselves are rated equally to the interactions with therapists (and other staff/adults) where applicable (e.g., teacher, aide, parent or researcher) (Robert, interview, 29.3.10). As a result, the scale was applicable to the study and well suited to the structure of the setting described by the researcher; that is, in a social environment in order to examine the social behaviours of children with autism. It is important to document that, through cooperative practice, the participants’ change was supported and verified by the music therapist’s perspective.

Scale II has been used for differential evaluation, that is, a session is rated by distributing 10 points on the rating form over as many levels of behaviour recognised in the child’s response. The researcher viewed the recording of the sessions at fairly regular intervals which allowed the researcher to distribute the points proportionally, allotting more points to the areas of behaviour that are most prevalent and fewer to those that are less prevalent. The various scores were entered in the spaces provided above the appropriate descriptions on the Rating Form. The total mean was then computed and a percentage calculated in order to closely examine the change in social behaviours. Scale II was used to examine the overall complexity of a child’s response throughout a session and across the seven week period. It was used to express as closely as possible, the communicativeness content of the session (Nordoff & Robbins, 2007).

The Social Play Record (SPR) (White, 2006) (Appendix K): The SPR was sufficiently sensitive to record the progress of each participant involved in the study, with particular focus of the development of their social skills of JA, IMI and T-T in

the SOIS. These social processes are fundamental to the development of social play, which underlie social competence (Guralnick, 1993 as cited in White, 2006, p. 131). Pivotal developmental markers are identifiable within each key social behaviour examined in the SOIS.

This 15-item social skills rating scales was adapted from White (2006), by the researcher. This scale was used to measure the occurrence of particular social behaviours by targets in the SOIS with typically developing peers. Fifteen of the items measured JA, IMI and T-T. Items were scored utilising quantitative approaches, that is, a 5-point Likert scale (0 = Never, 1 = Rarely, 2 = When prompted, 3 = Sometimes, 4 = Often), with higher scores indicating greater competence. Each social behaviour is comprised of sub categories which define the targeted social behaviours.

Ethics Approval

This study was approved by the Human Ethics Committee from the University of Sydney on the 20th of January, 2010. The reference number allocated was 1-2010/12278 (Appendix A).

The next chapter describes the results obtained from the use of the methods of data collection described in this chapter.

Chapter 3: Results

The study was designed to examine the impact of MT on the social skills of children with autism in a SOIS. The social behaviours examined in the MT classroom and the SOIS included JA, IMI and T-T. Children with autism feature impaired development of these specific social skills and thus a focus was placed on the ways in which these three skills were developed and acquired.

The first goal of the study was to examine the ways in which the social behaviours of children with autism (N=4) were presented in the SOIS. As a result, the ‘Social Play Record’ (SPR), which was adapted by the researcher from White (2006), showed a positive increase in developing the social behaviours of JA, IMI and T-T in the SOIS.

The second goal of the study was to determine the extent to which MT impacted the development and acquisition of social skills of autistic children in a SOIS. By implementing an evaluation scale, ‘Scale II: Musical Communicativeness’, designed by Nordoff and Robbins (1977), the results showed that all children with autism (N=4) indicated a positive change in their levels of musical communicativeness amongst peers and therapists. The results showed that as each participant’s musical communicativeness positively increased over the seven week study period, with regressions in some weeks, so did the development and acquisition of the three social skills in the SOIS, thus revealing that MT may have positive effects on the social behaviours of children with autism.

The third goal aimed to describe other possible observable factors that contributed to the development and acquisition of social skills in children with autism. Results revealed that peer-mediated and teacher-mediated strategies such as modelling, initiating, prompting and proximity, have further facilitated the development of social skills in children with autism. Therefore, it could be said that MT has been shown to support the social skills examined in this study.

As detailed in the previous chapter, four male students participated in the study. All 4 boys have a diagnosis of ASD with a moderate to severe intellectual disability, and were “lacking in social skills” (Deborah, Interview, 22.3.10). The video tape data were collected over seven weeks in two settings, from February 15, to March 29, 2010. The video data comprised of 30 minutes in each setting, which were observed

by the researcher. The initial analysis of these video data included the observation and recording of all the social behaviours evident during the events and activities that unfolded in the MT setting and during the peer interactions that proceeded in the SOIS. The prevalent and prominent social behaviours that occurred in both settings were selected and further examined. These included: JA, IMI and T-T. Interviews conducted with a music therapist, a co-music therapist and a special education teacher, were analysed to determine the impact MT had on the social behaviours of children with autism in the SOIS.

The results in this chapter are presented in three parts:

Part 1: Examining the social behaviours developed by the participants in the MT setting utilising Scale II: Musical Communicativeness designed by Nordoff and Robbins (1977).

Part II: Examining the social behaviours developed by the participants in the SOIS utilising the Social Play Record (SPR) (White, 2006) and their associations with the activities and events that unfolded in the MT setting, including the possible effects of MT on the development of these social skills.

Part III: Examining other possible observable factors that contribute to the development and acquisition of these social skills in children with autism.

Part 1

The data collated from Scale II (Nordoff and Robbins, 1977, p.196), indicated a positive change in the musical communicativeness of each participant involved in the study (N=4). Initially the participants demonstrated a lack of focus in their musical expression and lacked the ability to co-operate as a group, though the results indicated that over the seven week period, each of the participants showed positive and progressive changes in the development of social skills which included JA, IMI and T-T.

The data gathered from Scale II is represented in Table 4 and demonstrates the overall complexity of a child's response during MT across the seven week period. It was also used to express the communicativeness content of the session. It is important to state that the ratings are not intended to be read as test scores, or used to

compare one child with another, rather, each child has their own measure (Nordoff & Robbins, 2007).

Table 4: Scale II: A Representation of Each Participant's Musical Communicativeness (Nordoff & Robbins, 1977)

Session	Bobby's Rating Total Mean (%)	Matthew's Rating Total Mean (%)	Cally's Rating Total Mean (%)	Antonio's Rating Total Mean (%)
1	17.1	31.4	34.3	60
2	34.3	34.3	44.3	54.3
3	38.6	44.3	52.9	65.7
4	32.9	44.3	62.9	70
5	45.7	37.1	67.1	71.4
6	30	47.1	47.1	67.1
7	41.4	50	70	74.3

The data collated from Scale II demonstrates positive changes in each participant's musical communicativeness across the seven week period, with regressions in their progress in some weeks, whereby the total mean is calculated and a clear pattern of activity is revealed.

The following section examines the events in therapy assessment and participant's response and interaction with peers and therapist, and explores social behaviours of JA, IMI and T-T that took place during the activities in MT, across the seven

sessions, which in turn, supports and provides evidence for the results indicated in Table 4.

Events in Therapy Assessment and Participant's Response and Interaction with Peers and Therapist

Session 1

The session commenced with Robert playing the *Hello* song on the piano. Talia greeted all four boys, where eye-contact, which is a feature of JA, was present amongst them all, except for Antonio, where he needed to be prompted by Talia in order to gain his attention. Cally and Antonio joined in after being directed by Robert to sing.

After choosing a Djembe (an African drum), Bobby sporadically hit the drum as Talia initiated a musical conversation where he ignored the invitation and banged his head on the drum. Whilst all students participated in drumming, Bobby continued to place his head on the drum, with his fingers in his ears. Talia and Matthew engaged in a musical conversation where T-T did not take place. Talia imitated the sounds and textures created by Matthew on the drums simultaneously. Matthew was guided by Talia to communicate with his peers by placing her hands on top of his, though he eventually placed his fingers in his ears and did not continue to play. Like Matthew, Cally imitated the sounds experimented by Talia simultaneously, where he eventually began to get frustrated and created other sounds. Talia engaged in musical conversation with Antonio whereby he played a constant steady beat with an absence of T-T and IMI. All four students played together on the drums after being directed by Robert. They all played simultaneously whilst attaining differing roles. For example, Antonio tapped a beat pattern, while Matthew maintained a steady beat, Cally explored his own sounds, and Bobby rested his head on the drum. There was little evidence of T-T, JA and IMI present in this musical activity.

During the song *What do you like to eat?* all boys except Bobby participated. Antonio and Cally replied eagerly with their responses which effectively demonstrated the skill of T-T. Whilst exiting the session and singing the *Goodbye* song, only Bobby needed to be prompted by Robin in order to receive a handshake.

Session 2

The session commenced with Robin playing the *Hello* song on the piano. This time, Cally greeted other students. Only Matthew provided eye-contact, the others did not. Talia directed Bobby to greet others whilst singing the *Hello* song. She stated, “It’s your turn now”. All students, except Cally, provided eye contact.

During musical conversation between Talia and Antonio, he initiated conversation where he maintained a steady rhythmic pattern, though IMI took place simultaneously with no presence of T-T. Whilst students participated in the song *Listen to (students’ name), beating the drum*, there was evidence, at times, of T-T with Cally and Antonio. Furthermore, T-T was present by all students at the end of the session, when Robert sang a goodbye song, *Will you come back next Monday morning?* whereby students replied ‘Yes!’ This dynamic change is supported by the results of each participants musical communicativeness presented in Table 4.

Session 3

All students revealed an increase of communicative behaviours within the progression of this session. Antonio and Cally engaged in musical communication with the djembes where they imitated each others rhythmic patterns and engaged in the process of T-T. Likewise, Bobby and Matthew engaged in T-T, though the above dyads needed guidance and prompting from the music therapists to perform the social processes. Robert devised a rhythmic pattern on the drum and modelled it for the students to imitate. Antonio imitated it directly where as, Matthew and Bobby needed some guidance from Talia. All students joined in and sang *It’s time to say goodbye*. Antonio’s operatic singing was quite remarkable this session.

Session 4

However, in Week 4 there was a decline in communicative behaviours by Bobby. Bobby did not participate effectively in this session due to his obsession with handling his toy cars, where at times he would often throw himself on the floor, which is his reaction to difficult situations. On the other hand, Antonio, Cally and Matthew, were seen to have an increase in musical communicativeness, in particular, in their drumming, where they revealed remarkable levels of T-T and IMI skills. They focussed and listened attentively to each other, during this course of this musical activity. An increase in the three specific social processes were present in the

recognised song, “*What do you like to eat*”? Perhaps this is due to the fact that by repeating the music week by week encouraged recognition and continuity, where the children became more interested in asking each other about food, which is first modelled by the adults when they ask “What do you like to eat?” (Robert, Interview, 29.3.10).

Session 5

All students, except Matthew experienced an increase in musical communicativeness. The song, “*What do you like to eat*?” revealed increased levels of T-T along with musical communication with the drums. During the course of the session, Matthew occasionally needed to be aurally prompted to perform the desired task. For example, in the *Hello* song, Matthew was prompted by the music therapist to sing.

Session 6

During this session, most students experienced a decrease in levels of their musical communicativeness. When singing the “*Good morning*” song, Bobby seemed to be disinterested when shaking Antonio’s hand, and as a result, no eye-contact was present. Majority of the session, Bobby had his fingers placed in his ears, where he lacked in participating in most musical activities that session. This lack of eye-contact was present amongst most students whilst singing the song to their partners. However, students did engage in the singing, clapping and stamping of the songs throughout the course of the session, quite successfully, though the development of social behaviours lacked thereof. This is evident through their lack of involvement in engaging in a musical communication using the djembes, where little T-T was present.

Session 7

This session, revealed an increase in communicative behaviours amongst all students, in particular in their eye contact evident in the “*Good morning*” song. Antonio’s musical conversation was exceptional where he revealed all the social processes of JA, IMI and T-T. As a group, all students drummed at an even steady beat against a fast- paced tango tune on the piano, revealing their high levels of attentive listening. Cally’s singing during this session was exceptional as he engaged

in all activities. Bobby's drumming is exceptional and as revealed by Robert, "I don't think I have seen Bobby play with such strength."

Thus, the social behaviours that unfolded during the events of the MT sessions, supports the change of each participant's musical communicativeness across the seven sessions, which is represented in the results obtained from Scale II (See Table 4). Moreover, an emphasis will be placed in examining how the social behaviours of JA, IMI and T-T are performed in the SOIS and whether MT may have an effect on the development and acquisition of these social skills.

Part II

The Social Play Record (SPR) is sufficiently sensitive to record the progress of each participant involved in the study, with particular focus on the development of the social skills of JA, IMI and T-T in the SOIS. Incorporating this 15-item social skills rating scale that was adapted from White (2006), by the researcher, revealed results where each participant showed a positive increase in the development and acquisition of social behaviours, with regressions in some weeks. This progressive change is indicated in Tables 5, 6, 7 and 8.

Table 5: The Development of Bobby's Social Behaviours in the SOIS

Student: Bobby				
Social behaviours (Mean %)				
Session	JA	IMI	T-T	Average Total Mean (%)
1	10	5	5	6.7
2	20	10	10	13.4
3	25	20	25	23.4
4	25	5	15	15
5	55	45	55	51.7
6	25	10	25	20
7	25	25	25	25

Table 5 reveals a positive change in the development of Bobby's social behaviours in the SOIS, with a dramatic increase in his social development represented in Week 5.

Table 6: The Development of Matthew's Social Behaviours in the SOIS

Student: Mathew				
Social behaviours (Mean %)				
Session	JA	IMI	T-T	Average Total Mean (%)
1	10	5	5	6.7
2	15	5	5	8.4
3	15	10	10	11.7
4	25	20	20	21.7
5	30	25	30	28.4
6	25	20	25	23.4
7	40	45	55	46.7

Table 6 reveals Matthew's steady progress in the development and acquisition of social behaviours in the SOIS.

Table 7: The Development of Antonio's Social Behaviours in the SOIS

Student: Antonio				
Social behaviours (Mean %)				
Session	JA	IMI	T-T	Average Total Mean (%)
1	15	20	20	18.4
2	20	15	15	16.7
3	25	20	30	25
4	50	55	40	48.4
5	65	60	50	58.4
6	40	40	45	41.7
7	65	70	75	70

Table 7 reveals Antonio's steady progress in the development and acquisition of social behaviours in the SOIS, with a rapid increase evident in Week 5 and 7.

Table 8: The Development of Cally's Social Behaviours in the SOIS

Student: Cally				
Social behaviours (Mean %)				
Session	JA	IMI	T-T	Average Total Mean (%)
1	10	5	5	6.7
2	10	5	20	11.7
3	15	5	10	10
4	35	20	60	38.4
5	45	45	55	48.3
6	30	30	45	35
7	60	65	90	71.7

Table 8 reveals Cally's steady progress in the development and acquisition of social behaviours in the SOIS, with a decrease evident in Week 6 and a dramatic increase represented in Week 7.

As a result, all children with autism progressed and developed from infrequent JA, T-T and abnormally delayed and atypical IMI. Tables 5, 6, 7 and 8 demonstrate that at times, the social behaviours of each participant increased concurrently with each other thus revealing the relationship amongst each social behaviour and the idea that a behaviour cannot stand alone. For the purpose of this study, the focus is on the social behaviours that were distinctive and that indicated a rapid increase and/or decrease across the seven week period.

The working definition of JA behaviour for the analyses undertaken in the current study is, "an interactive state of joint engagement that involves the child, the therapist, peers and objects, or events in either musical form, or in play" (Kim et al.,

2008, p. 1759). The components of JA that are examined in the study, as established in the SPR scale, involve the ability for the autistic child to gain peers' attention; alternate gaze between object and person; brings/holds up objects to show; shares/exchanges/offers objects with peer and includes peers in his play. The components of JA are validated with research which reveals that the discriminators of this particular skill involve the social and communicative impairments such as eye- contact, gaze monitoring and response to name (Charman, 2003; Mundy, Sigman, Ungerer & Sherman, 1986). Furthermore, Charman (2003) states that different aspects of giving, showing, producing and following points, form a key part of JA behaviours for children with autism.

The analysis of JA in the study indicated that some of the participating children have made rapid to steady progress over the seven weeks in acquiring and utilising this specific social skill, with regressions in advancement in some weeks.

During Session 4, Matthew, Antonio and Cally experienced an increase in the development of the social skill JA. Bobby who is a low functioning autistic child who often desired to be alone, adhered rigidly to structures and schedules, was disinterested in others, particularly peers, and was perseverate on objects, in particular with his toy cars; experienced a decline in acquiring the skill of JA in comparison to the previous session. He brought his toy cars to the setting, where he continuously played with them, thus engaging in minimal levels of social competency with his peers. His eye gaze was minimal and he rarely provided feedback, such as a nod or eye-contact, to questioning conducted by his typically developing peers such as, "Which one (car) is your favourite?" and "Do you like watching the movie (Cars) ?" The decrease in acquiring the skill of JA this session, is in relation to the events that unfolded in the MT session, that is, where Bobby experienced distress when having to hand over his toy cars to the music therapist. However, these actions subsided the following session, and Bobby's engagement and participation allowed him to perform at a successful level in the MT setting. This is evident through his excited musical conversation on the Djembes and his successful engagement in the "Goodbye" song, where he employed skills of T-T and IMI.

As previously stated, all students, except for Bobby, showed an increase in the development of their social behaviours during session 4. David, a typically developing Year 6 student, greeted Cally, whereby he replied promptly with a 'yeah'.

David waved goodbye to Cally as he imitated this gesture. He asked Cally “Do you like sport?” where Cally replied with a nod, representing the social process of T-T. Likewise, Matthew waved back to a gestural greeting by David. At times he would ask Matthew questions and David would receive no response, but other times where he would receive an affirming head nod or gestural expression. Antonio replied adamantly to questions initiated by the Year 6 students about school. Bobby engaged in minimal eye contact with other Year 6 students. After questioning, Bobby continued to play with his toy cars he had brought to the session, with little reference to his peers present in the SOIS.

T-T comprises of the following components that were utilised in the study. These included the ability for a child to: know when and how to join in; gives listener feedback (eye-contact, nods, and appropriate comments); acts on listener feedback (e.g. notes disinterest/desire to speak); take conversational turns and share informational and materials. In Session 5, Antonio engaged in high levels of T-T. He responded promptly to questions initiated by the non-autistic year 6 student, such as, “Is it yummy (food)?” and “Did you want to take your rubbish to the bin?” Antonio responded by nodding his head and with the occasional reply, ‘Yes’. This symbolises T-T as Antonio gave the listener feedback through eye contact, nods and appropriate comments.

During Session 5, Bobby performed at a different level where he engaged in frequent gaze switches, which according to literature (Kim et al., 2008; Pasiali, 2004), is a distinctive feature of JA and T-T, between his toy cars and Kate⁷, a typically developing student. He began to share his toy cars with Kate, as he invited her in his play. The questioning conducted by David, “What’s your favourite car?” resulted in Bobby abruptly directing his finger to the chosen car. David further stated, “Can I hold your car?” whereby he immediately handed it over, an action which rarely took place, as evidenced in previous observations of Bobby’s behaviours in the SOIS. For example, in Session 4, a typically developing child questioned Bobby, “Do you like cars?” There was no response and he avoided the situation by walking away from the group where he occasionally placed his hands on his ears.

⁷ Pseudonyms have been used to protect the privacy of all participants.

In session 5, all students revealed an increase in their social processes which is evident through the way they interacted with their fellow peers. David was discussing football with Cally, one of his favourite sports. He stated, “Cally, did you score some more tries?” Cally engaged in eye-contact and responded with a positive nod, which is similar to the behaviours expressed by Antonio. Cally engaged with his peers in an episode of JA. Cally looked up excitedly to see a helicopter fly over him. He looked back at his peers, and finally pointed to the helicopter, as if to say, “Look!” Cally’s friend looked at where he was pointing and responded, “Wow, it’s a helicopter!” Cally directed his peers’ attention to the helicopter flying overhead. He was not requesting that his friend do anything; he simply wanted to share his experience of the helicopter with him.

In Session 7, all students revealed an increase in the acquisition of social behaviours, in particular, the skill of JA. A significant example is when Cally tried to initiate conversation with one of the Year 6 students, but was unable to, so utilised eye gaze in order to perform the desired task of opening his lunch. During this session, Cally had a lot to say and through eye contact and gestures, his messages were heard. Likewise, during MT that session, Cally engaged in high levels of musical communicativeness. He worked hard in getting involved in the singing of the ‘Good morning’ song and his decisive manner was present where choosing what song he wanted to sing next, ‘What do you like to eat?’

All students demonstrated an increase in the development of T-T in Session 7, instead of Bobby where he did not employ the social skill of T-T effectively as he was focussed on the puzzle he brought along with him that session. Antonio demonstrated this skill successfully by initiating peek-a-boo games and thanking a teacher without prompting by one of his peers.

In the present study, the social skill of IMI was analysed to determine whether there was a change in this behaviour. Imitative disturbance involving difficulties both in copying actions and in inhibiting more stereotyped mimicking, such as echolalia, as discussed in the literature (Pasiali, 2004), was evident in the behaviours of Matthew and Bobby. The evaluation and assessment of imitative skills, both verbal and motor IMI, utilised in the study was based on criteria outlined in the SPR scale. These were defined as the ability for students with autism to: copy facial expression and gesture (e.g. smile, wave bye, shake/nod head); copy actions with objects (e.g. bang, shake,

blow, press, throw, push); copy body movements (e.g. stretch, jump, wriggle, clap, stamp feet, wiggle fingers); copy sounds (human/animal/vehicle) and react to being copied by peer and initiate activities for peer to copy. This social skill of IMI was utilised in the scale as all of the participants involved in the study had difficulties with both verbal and motor IMI.

The findings of the present study reveal that children with autism show impairment in imitating body movements, actions with objects and facial and symbolic gestures. Most students demonstrated high levels of IMI during the Session 7 in the SOIS, which resulted due to behaviours conducted by the typically developing peers, such as modelling. The child had to imitate the modelled action of the peer in order for the action to occur. This idea is similar in the MT situation, whereby the music therapists would use teacher-mediated strategies, such as modelling, either verbally or by utilising gestures, in order for the imitative gestures to occur. This behavioural approach is the most widely used approach for teaching social and communicative skills to autistic children (Dawson & Adams, 1984).

Part III

Inclusion for children with autism is effective in enhancing their social development (Harrower & Dunlap, 2001). The typically developing peers utilised peer-mediated interventions similar to the therapists' role in the MT setting, that is, they included techniques such as modelling, initiating, prompting, questioning and proximity to enhance the social behaviours of children with autism (Dawson & Adams, 1984; Winterman, 2003). Similarly, by students engaging in musical conversation in the MT setting, their peers and/or therapist would utilise the above pro-social behaviours.

Research (Pasiali, 2004), has revealed information about the effect of various conditions on the acquisition of social skills, such as a high ratio of teacher involvement may interfere with the development of social skills. This idea is supported by the music therapist where he revealed that, "Social competence has been clearly modelled by the therapists/adults in the room through the way they participate, interact, ask questions, wait for answers, and enjoy each others company and those around. Social competence seems to be learnt through IMI and this case music is the primary source of motivation" (Robert, Interview, 29.3.10). This behavioural approach is effective for music educators as a way to teach social and

communicative skills to autistic children. This structured, facilitative environment enabled the participants to develop the desired behaviours which included JA, IMI and T-T in the SOIS.

In session 6, all four boys revealed a decrease in development of their social behaviours. Perhaps the way in which the autistic students' positioned themselves in close proximity with each other this session, rather than with their typically developing peers, may have impacted on their social processes. More positively, all students in Session 7 revealed an increase in their social processes. During session 7 Antonio initiated a peek-a-boo game with David, unlike Bobby, where he engaged in individual play with his puzzle that he brought along that session. Like Matthew, he engaged in minimal eye contact. At times, Cally tried to initiate conversation with David, as if to indicate "Open this (Muesli bar)". His eye contact and gestures were expressed greatly throughout this session.

In Session 7, Antonio waved to a peer, signalling his goodbye and soon after Matthew imitated this gestural action. Without the modelling by Antonio, Matthew may not have performed this act of waving goodbye. Antonio, whose developmental level is not as severe as Matthew, was able to recognise the departure of his peer and performed this act without any modelling conducted by his peers. These children were more socially responsive when the peer and/or teacher modelled their behaviour. The act of modelling was further evident by Bobby in Session 5, when a year 6 student modelled schemes such as wheeling the toy car up and down the table, and Bobby imitated the actions the Year 6 child performed. This resulted in the advancement of this social skill (See Table 5).

Overall, the results indicated improved social competence for the children with autism in the study. Positive changes were noted for social interactions amongst students in the MT setting and in the SOIS. When students experienced a decrease in their musical communicativeness in the MT setting, for example, in session 5 for Matthew; Session 4 and 6 for Bobby; Session 6 for Cally and Antonio (See Table 4), they would concurrently experience a decrease in their social behaviours present in the SOIS (See Tables 5, 6, 7 and 8.). The results also showed that as musical communication increased overtime, so did the development of social skills; JA, IMI and T-T, occur in the SOIS for these four boys in the study. The results from this study support those from Aldridge (1996), where he asserts that, "Music therapy can

facilitate development, and enhance the rate of development in those children whose development is in some way impaired” (p.267).

Chapter 4: Discussion and Conclusion

This chapter begins with a discussion of the findings investigating the impact MT has on the development and acquisition of three specific social skills JA, IMI and T-T performed by each autistic child in the SOIS, across a seven-week period. The social behaviours exhibited by four autistic boys were conducted, whereby data from both these settings, interviews with music therapists, educators, and observations of their social interactions were collected, compared and analysed. Limitations of the study are discussed, as are areas for further investigation.

When analysing the data, the following research questions were addressed:

1. What social behaviours do children with autism exhibit in a SOIS? How are these behaviours presented?
2. What social behaviours do children with autism exhibit in a group MT setting? How are these behaviours presented?
3. Does MT have an impact on the development and acquisition of social skills of autistic children in a SOIS? If so, what makes Nordoff-Robbins (1977) MT an effective intervention in improving these specific social skills?
4. What other factors can be observed that contribute to the development and acquisition of social skills in children with autism?

The conclusions reached referring to the stated research questions are discussed under the three sections:

- The ways in which the social behaviours of children with autism are presented in the SOIS and their associations with the activities and events that unfolded in the MT setting.
- The possible effects of MT on the development and acquisition of social skills of autistic children in a SOIS.
- Other possible observable factors that contributed to the development and acquisition of social skills in children with autism.

Section 1: The ways in which the social behaviours of children with autism are presented in the SOIS and their associations with the activities and events that unfolded in the MT setting

Children with autism feature impaired development of the social skills of JA, IMI and T-T (Kim et al., 2008; Charman, 2003) and thus, in this study, a focus was placed on the ways in which these three specific social skills are developed and acquired in the SOIS. As discussed previously, JA plays a critical role in social development and is a pivotal skill in which two people use gestures and gaze to share attention with respect to interesting objects or events. Impaired development of JA is a fundamental feature of autism, and thus it is important to develop this skill in early intervention efforts (Charman, 2003; Kim et al., 2008). IMI impairments; where children with autism experience difficulties in verbal and motor IMI, and T-T; the skill of knowing when and how to join in conversations, giving listener feedback (head nod), taking conversational turns and sharing information, are also fundamental features of autism (Schopler & Reichler, 1980).

The results presented in Chapter 3 demonstrate how the four participants of this study acquired the three social skills, and revealed an increase (with regressions in advancements in some weeks) in the ability of the specific skills. The conclusions that were reached for each category of social behaviour were assessed with regard to each child's development.

Incorporating the rating scale adapted from the SPR in the SOIS, showed results where participants demonstrated a positive increase in the development and acquisition of the social behaviours of JA, IMI and T-T, with regressions in advancement in some weeks. Data collated from Scale II: Musical Communicativeness, indicated positive and progressive changes in musical communicativeness amongst peers and therapist. This is a positive indication that MT can have an effect on the development of these social skills and is further supported by the music therapist, where he affirms that 'more attention, listening and engagement', were a few of the changes observed in the MT room (Robert, Interview, 29.3.10), thus revealing the possible impact MT has on the development and acquisition of these three specific skills. Initially, the students involved lacked focus in their musical expression and lacked the ability to co-operate as a group,

though Robert revealed that positive changes have occurred through the participants “improved interaction between each other particularly when working in pairs (e.g. drumming opposite each other, playing duets at the piano), greater tolerance of frustration and more openness to experience, laughter and enjoyment” (Robert, Interview, 29.3.10).

In particular, two of the children, Antonio and Cally, engaged in high levels in their social behaviours in the SOIS, throughout the seven week study period, as they concurrently actively participated and appeared to enjoy MT. According to Gold, Wigram & Elefant (2006), active music-making by the participants, such as playing the guitar and djembes, is often typical for MT in clinical practice and is used to reinforce adjusted behaviour. Necessary communicative behaviours, such as JA, eye contact and T-T are characteristic events in shared, active music- making (Wigram et al., 2006).

Initially, “Antonio arrived (to school) with only swear words to communicate with (Dad taught him so he would be ‘normal’), very skinny and in his own world. Cally arrived (to school) with limited language and what he said you couldn’t understand although he did enjoy people and sought out interactions” (Deborah, Interview, 22.3.10). This idea is significantly evident during Session 7 where Cally tried to initiate conversation with one of the typically developing children in the SOIS, but was unable to, so he utilised eye gaze in order to perform the desired task of opening his lunch. During this Session, Cally had a lot to say, but rather, through eye contact and gestures, his messages were heard. Likewise, during the MT that session, Cally engaged in high levels of musical communicativeness. He worked hard in getting involved in the singing of the ‘Good morning’ song and his decisive manner in choosing what song he wanted to sing next, ‘What do you like to eat?’ The co-music therapist supports this change by stating that, “Their eye contact and ability to concentrate on a task is improving with both each other and the therapists” (Talia, Interview, 28.3.10).

Similarly, Antonio demonstrated higher levels of T-T skills during Session 7 when he successfully initiated peek-a-boo games in the SOIS. This is consistent with empirical observations that state that autistic children exhibit gestural requests for social routines (Wetherby and Prutting, 1984 as cited in Mundy et al., 1986, p. 666). His participation in the music making of session 7 was highly successful, like Cally,

where he energetically engaged in all activities performed during that session involving his active musical communication with the researcher on the djembes, and his dynamic involvement in the singing of the 'Good morning' song. This reveals how his positive and active engagement during MT that session had positively impacted on the social skills utilised in the SOIS. These results are further supported by the special education teacher where she stated, "Cally and Antonio have developed great social skills and I think MT certainly contributed to this" (Deborah, Interview, 22.3.10).

Bobby and Matthew, whom both have greater severity of their diagnosis of autism than Antonio and Cally, "arrived (to school) as non-verbal, engaged in stereotyped behaviours and echolalia (a behaviour in which a phrase is constantly repeated, (Hourigan & Hourigan, 2009), and rarely displayed spontaneous speech" (Deborah, interview, 22.3.10). As evident in this study and as affirmed by literature (Pasiali, 2004), MT techniques have increased communicative attempts of children who exhibit echolalic behaviours thus revealing an increase in their levels of development and acquisition of the social skills of JA, IMI and T-T, during the seven week study. For example, during Session 5, Bobby engaged in frequent gaze switches, which, according to literature (Pasiali, 2004), is a distinctive feature of JA and T-T, between his toy cars and his non-autistic peer. He began to share his toy cars with the Year 6 students, as he invited them in his play.

Like Bobby, Matthew's active engagement and participation during MT in Session 5, is evident through his excited musical conversation on the djembes and his successful engagement in the 'Goodbye' song, where he effectively employs the skills of T-T and IMI. This reveals that as the level of musical communicativeness increased this session, compared to the previous session, so did the development of social skills in the SOIS, thus indicating that MT may have had a positive impact on the social development of children with autism. The findings of the current study are consistent with literature which states that music can be the perfect setting for children with autism to strengthen their social skills (Hourigan and Hourigan, 2009). This idea is further supported by empirical research which has also indicated that music interventions influence the social behaviour of children with autism (Pasiali, 2004).

Section 2: The possible effects of MT on the development and acquisition of social skills of autistic children in a SOIS

The study revealed the effect MT had on the acquisition of social skills in children with autism. The special education teacher discussed the impact MT had in assisting social interactions and supporting the inclusion of students with autism. She elaborated on the positive attitude of MT and the reasons why she has, “kept it up for so long.” She stated that, “Often the children interact with each other at MT in ways that I don’t see, that every week, someone would do something that they wouldn’t usually do at school, whether they do something simple like hold someone else’s hand, or seeking out their hand, or waiting for someone else to have a turn...the basics...that’s why I kept going” (Deborah, Interview, 22.3.10). This is consistent with literature (Wimpory et al., 1995; Kern 2004; Pasiali, 2004), which states that MT interventions have potential benefits in supporting social skills for children with autism and that such interventions offer treatment options for children with autism as they have been shown to support and facilitate inclusion of children with special needs in various educational settings.

The special education teacher also discussed the way in which MT supports the inclusion of students with autism by emphasising that, “It does all the ground work – the T-T, the waiting, the initiation, on a level that is appropriate for them” (Deborah, Interview, 22.3.10). This idea is supported by the music therapist, where he asserted that the aim of MT is to “help each child make relationships and communicate with others in mutually satisfying and meaningful ways – to genuinely fit into and contribute to society” (Robert, Interview, 29.3.10). These goals are achieved directly through sessions of MT which involves, “musical T-T, listening to one another, initiating and responding, humour and enjoyment” (Robert, Interview, 29.3.10). This is consistent with literature (Pasiali, 2004; Wimpory et al., 1995), which has been substantiated by empirical research and affirms that, “participation in MT sessions taught students how to observe social cues and cooperate with group boundaries, how to wait and how to transition from one activity to another” (Pasiali, 2004, p. 11).

The social structures of a MT setting further facilitated the social inclusion of children with autism in this study. The literature (Gutierrez et al., 2007; Harrower & Dunlap, 2001; Kemple, 2004; Lee, 2008; O’Donnell, 1998) has indicated that

children with autism have a need for structure and organisation. For example, the “Hello” and “Good-bye” songs, that were often used in MT, were incorporated to establish a predictable routine; to structure the session through a clear beginning and end, to welcome and get in contact with the individual or group, to give the individual undivided attention and respect, and to establish awareness of where persons are and what comes next. Therefore, MT has facilitated educational and therapeutic strategies to the children with autism that has helped them improve and develop their skills and use their strengths to act independently in the classroom (Kern & Aldridge, 2006).

Section 3: Other possible factors that contribute to the development and acquisition of social skills in children with autism

Whilst examining the ways in which the four participants developed and acquired the social skills of JA, IMI and T-T in the SOIS, other possible factors arose that contributed to this change. For example, during Session 6, all autistic students demonstrated lower levels of acquiring the specific social skills (See Tables 5, 6, 7 and 8), due to the way that their typically developing peers did not position themselves in close proximity to their friends with autism. Proximity between two individuals allows for an interaction to be possible. By positioning themselves in close proximity to their friends with autism, peers provided the gentle encouragement to participate in group activities. This idea is consistent with literature which affirms that the supportive nature of the interface sets the foundation for interactions which relationships are based (Winterman, 2003).

As a result of this change in seating arrangements, typically developing students were not able to utilise peer-mediated strategies such as peer initiating, questioning and prompting, where they were not able to fortify their interactions with their peers with autism. Similarly, by students engaging in a musical conversation in the MT setting, their peers and/or therapist would utilise the above pro-social behaviours of initiating, questioning and prompting. This is supported by the literature which affirms that peer-mediated strategies in which typically developing children are trained to engage children who have autism, have proved to be powerful means of improving peer interactions in the context of classroom activities (Kern and Aldridge, 2006; Weiss & Harris, 2001).

Likewise the structured setting of MT, the social structures of SOIS assisted in socially including children with autism. This idea is emphasised by the special education teacher, where she stated, “Just the way it is set up. The picnic tables are new, and the picnic tables at least mean the children are sitting face to face. We also in service the Year 6 children to include” (Deborah, Interview, 22.3.10). She further affirms that “Social interaction for these children needs to be taught and/or the environment set up so there is a reason to interact” (Deborah, Interview, 22.3.10). This idea is consistent with literature which reveals that teachers create opportunities for students with autism to socialise with others by altering the physical environment that can change people’s behaviour indirectly (Kemple, 2004).

Deborah also utilised a formalised program to teach specific social skills and behaviour called ‘Stop, Think, Do.’ She states, “We teach social skills such as sharing and T-T specifically with visual cards. Cards that say, ‘Your turn’, and ‘My turn’, and we see if the Year 6 students and those with autism use those cards to interact” (Deborah, Interview, 22.3.10). There are several studies where researchers have attempted to teach social skills to children with autism such as appropriate eye contact, initiation of interactions and turn taking and various social language and conversational skills (Kamps et al., 1992). The skills learned in these studies improved and enhanced interactions between children (Koegel & Koegel, 1995). Research indicated that peers can be used as intervention agents of social skill development for children with autism (Koegel & Koegel, 1995, p. 113).

According to Vygotsky’s (1978 as cited in Lee, 2008), concept of the “zone of proximal development (ZPD),” the more capable others use the process of guided participation and involvement in joint activities to assist children in developing more advanced skills. Thus, proponents of ZPD would argue that typically developing peers who are more capable of directing and engaging in play and social interaction can extend the “ZPD” of children with autism (Vygotsky, 1978 as cited Lee, 2008). Thus, students’ social inclusion is not only vital to their happiness and state of mind but also essential to their academic growth and development (Winterman, 2003).

It is important to affirm that the special education teacher’s and music therapist’s support was never fully withdrawn in this intervention. A minimum of ongoing mediation and encouragement was needed from teachers. Research (Winterman, 2003; Weiss & Harris, 2001; Harrower & Dunlap, 2001) has revealed information

about the effect of various conditions on the acquisition of social skills, such as that a high ratio of teacher involvement may interfere with the development of social skills. This idea is supported by the music therapist's where he states that, "Social competence has been clearly modelled by the therapists/adults in the room through the way they participate, interact, ask questions, wait for answers, and enjoy each others company and those around. Social competence seems to be learnt through IMI and this case music is the primary source of motivation" (Robert, Interview, 29.3.10).

Limitations

The conclusions of the study must be understood within the context of its limitations. The limitations of this study include the time frame and its small sample size. The study needs to be validated with a larger population of children as a small number of children have shown how different they are in their capabilities. It should also be mentioned that there is a marked invariability in the gender of the sample, since all children with autism in the study were boys. This is due to the fact that the ratio of boys to girls with autism is 4:1 (Jordan & Powell, 1995).

Moreover, longitudinal single case designs would appear to be appropriate for further studies. With the limited data collected it is not possible to determine a complete picture of how children with autism present their social skills in the MT setting and in the SOIS. It is important, as a researcher, not to make generalisations when conducting a study. Other variables which need to be taken into consideration perhaps involve the inclement weather, start of school term, household factors, which may all have had an effect on the data collected.

Areas for further investigation

Areas for further investigation involve examining play itself and whether it acts as a therapeutic tool in enhancing the development of social skills in children with autism. It would be of clinical value to learn in greater depth about the influence of peers' social adjustment and their responsiveness and perspectives toward children with autism in a regular education setting. Involving parents in the study may also offer greater perspectives about how their child is involved in music in the home and community and in everyday routines and activities, where they have the opportunity to practice and acquire new skills.

Conclusion

The study revealed the effect MT had on the acquisition of three social skills, JA, IMI and T-T, of the four participating children with autism. All autistic children made rapid to steady progress over the seven weeks in acquiring and utilising the social skills, with regressions in advancement in some weeks. Overall, it is concluded that as musical communicativeness increased over the seven weeks, so did the development of social skills in the SOIS, thus revealing the positive impact MT has on the social development of children with autism. Moreover, alongside MT, peer-mediated and teacher-mediated strategies, such as initiating, questioning, prompting, modelling and proximity, has facilitated the social inclusion of children with autism, and thus, has resulted in an increase of social behaviours in the context of this study.

Reflection

As the MT sessions progressed, the researcher found that she gained a deeper insight into who the boys were and who the researcher was as a person. As time developed, so did the relationship between the researcher and the boys. The environment created was one of freedom whereby both students and the researcher were able to express feelings, both emotionally and creatively. The environment which was set up in the MT setting allowed students to promote their success in a safe and trusting environment. As teachers, it is our role to create an environment in which students are nurtured and feel comfortable in order to promote their therapeutic growth. This idea is reinforced by Rogers (1957, as cited in O'Donnell, 1998, p. 66) where he states that "in order for the process to be successful, the therapist needs to be open, real, transparent, accepting, trustworthy, and 'with' the client."

At times, the researcher found that being a participant observer, she was able to promote students' personal growth, in particular with Matthew. At times, she felt as if Matthew was pulling her into his world, as a way to express his inner strength and courage. The researcher is proud for what the boys created for themselves in the MT setting. The researcher knows she will never forget the impact these boys had on her life.

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Appendix A: Ethics Approval Letter



The University of Sydney

Human Research Ethics Committee

Web: <http://www.usyd.edu.au/ethics/human>

ABN 15 211 513 496

Marietta Coutinho
Deputy Manager
Human Research Ethics Administration

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Level 6

Jane Foss Russell Building – G02
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Ref: IM/AS

20 January 2010

Associate Professor Kathryn Marsh
Sydney Conservatorium of Music
Greenway Building – C41
The University of Sydney
Email: kmarsh@usyd.edu.au

Dear Associate Professor Marsh

Thank you for your correspondence dated 27 November and 17 December 2009 addressing comments made to you by the Human Research Ethics Committee (HREC). After considering the additional information, the Executive Committee at its meeting held on **14 January 2010** approved your protocol entitled *The Development of Social Competence in Children with Autism in the Music Therapy Classroom and on the Playground*

Details of the approval are as follows:

Ref No.: 1-2010/12278
Approval Period: January 2010 – January 2011
Authorised Personnel: A/Prof Kathryn Marsh
Ms Amanda Caltabiano

The HREC is a fully constituted Ethics Committee in accordance with the *National Statement on Ethical Conduct in Research Involving Humans-March 2007* under Section 5.1.29

The approval of this project is **conditional** upon your continuing compliance with the *National Statement on Ethical Conduct in Research Involving Humans*. We draw to your attention the requirement that a report on this research must be submitted every 12 months from the date of the approval or on completion of the project, whichever occurs first. Failure to submit reports will result in withdrawal of consent for the project to proceed.

Chief Investigator / Supervisor's responsibilities to ensure that:

- (1) All serious and unexpected adverse events should be reported to the HREC as soon as possible.

1 of 2

- (2) All unforeseen events that might affect continued ethical acceptability of the project should be reported to the HREC as soon as possible.
- (3) The HREC must be notified as soon as possible of any changes to the protocol. All changes must be approved by the HREC before continuation of the research project. These include:-
 - If any of the investigators change or leave the University.
 - Any changes to the Participant Information Statement and/or Consent Form.
- (4) All research participants are to be provided with a Participant Information Statement and Consent Form, unless otherwise agreed by the Committee. The Participant Information Statement and Consent Form are to be on University of Sydney letterhead and include the full title of the research project and telephone contacts for the researchers, unless otherwise agreed by the Committee and the following statement must appear on the bottom of the Participant Information Statement. *Any person with concerns or complaints about the conduct of a research study can contact the Manager, Ethics Administration, University of Sydney, on (02) 8627 8176 (Telephone); (02) 8627 8177 (Facsimile) or human.ethics@usyd.edu.au (Email).*
- (5) Copies of all signed Consent Forms must be retained and made available to the HREC on request.
- (6) It is your responsibility to provide a copy of this letter to any internal/external granting agencies if requested.
- (7) The HREC approval is valid for four (4) years from the Approval Period stated in this letter. Investigators are requested to submit a progress report annually.
- (8) A report and a copy of any published material should be provided at the completion of the Project.

Yours sincerely



Associate Professor Ian Maxwell
Chairman
Human Research Ethics Committee

cc: Ms Amanda Calabiano, acal7077@uni-sydney.edu.au

Encl. Approved Parent (or Guardian) Information Statement
Approved Music Therapist and Class Teacher Information Statement
Approved Parent (or Guardian) Consent Form
Approved Class Teacher and Music Therapist Consent Form
Approved Interview Questions
Approved Letter to the Director of Golden Slave Music Therapy Centre
Approved Rating Scale
Approved Email Letters

Appendix B: Music Therapist and Class Teacher Information

Statement

SYDNEY CONSERVATORIUM OF MUSIC



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Email: kmarsh@usyd.edu.au

Title: The Development of Social Competence in Children with Autism in the Music Therapy Classroom and on the Playground

(1) What is the study about?

This study aims to examine the social competence of five participating boys with an autism spectrum disorder (ASD) engaged in Nordoff-Robbins group music therapy sessions, with particular emphasis on the development of peer interactions and the relationships with others, over a period of time.

I will compare and contrast the social skills developed by the child in the music therapy classroom setting, which will take place at the XXXXXX Music Therapy Center, and in an inclusive playground setting at XXXXXXXX XXXX XXXXXX School, to determine whether music therapy has an impact on the social competence of five boys with ASD. The social interactions of five boys with ASD and of the class as a single entity will be analysed.

(2) Who is carrying out the study?

The study is being conducted by Ms Amanda Caltabiano and will form the basis for the degree of Bachelor Music (Music Education) with Honours at the Sydney Conservatorium of Music under the supervision of Associate Professor Kathryn Marsh, Chair of Music Education at the Sydney Conservatorium of Music.

(3) What does the study involve?

Video recording of the group music therapy sessions and the children's interaction in the playground, will take place, where the researcher will be making field notes of her observations in both settings. Semi-structured interviews which will be audio recorded, will be conducted with the class teachers and music therapists of the children.

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Questions about their attitudes and impressions of the music therapy will also be addressed.

(4)How much time will the study take?

The study will commence in February 2010. Data will be collected every Monday for 8 consecutive weeks. I will video record the group music therapy sessions which will take place at the XXXXXX Music Therapy Center and the children's interaction in the playground at XXXXXXXX XXXX XXXXXX school, following consent from the class teachers, music therapists and parents/guardians who wish to participate. Field notes of my observations in both settings will also take place.

(5) Can I withdraw from the study?

Being in this study is completely voluntary - you are not under any obligation to consent and - if you do consent - you can withdraw at any time without affecting your relationship with the University of Sydney. You may stop the interview at any time if you do not wish to continue, the audio recording will be erased and the information provided will not be included in the study.

(6)Will anyone else know the results?

All aspects of the study, including results, will be strictly confidential and only the researchers will have access to information on participants.

(7)Will the study benefit me?

One of the main purposes of this project is to bring greater awareness of possible benefits of music therapy to the wider community of autism, in particular, to provide a greater understanding of the effect music therapy has on the social skills of children with autism. The researcher hopes to discover the meaning of the children's behaviours and examine the differences or commonalities between their behaviour in the music therapy classroom setting and on the playground, where there is an absence of music therapy intervention. Moreover, this project will serve to explore how participation in music therapy can affect not only the development of children with autism, but the role of music in their lives. Other than this, the researcher cannot guarantee or promise that the participants involved in this study receive any direct benefits. The researcher will not be actively involved in the therapy and will not attempt to have any effect on the outcome of the therapy sessions.

(8)Can I tell other people about the study?

Yes, you can tell other people about the study.

(9)What if I require further information?

When you have read this information, Associate Professor Kathryn Marsh will discuss it with you further and answer any questions you may have. If you would like to know more at any stage, please feel free to contact the researcher on XXXXXXXX, or her supervisor Assoc. Prof. Kathryn Marsh on XXXXXXXX.

(10)What if I have a complaint or concerns?

Any person with concerns or complaints about the conduct of a research study can contact the Deputy Manager, Human Ethics Administration, University of Sydney on (02) 8627 8176 (Telephone); (02) 8627 7177 (Facsimile) or human.ethics@usyd.edu.au (Email).

This information sheet is for you to keep

Appendix C: Parental (Or Guardian) Information Statement

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Title: The Development of Social Competence in Children with Autism in the Music Therapy Classroom and on the Playground

(1)What is the study about?

This study aims to examine the social competence of five participating boys with an autism spectrum disorder (ASD) engaged in Nordoff-Robbins group music therapy sessions, with particular emphasis on the development of peer interactions and the relationships with others, over a period of time.

I will compare and contrast the social skills developed by the child in the music therapy classroom setting, which will take place at the XXXXXXXX Music Therapy Center, and in an inclusive playground setting at XXXXXXXX XXXX XXXXXXX School, to determine whether music therapy has an impact on the social competence of five boys with ASD. The social interactions of five boys with ASD and of the class as a single entity will be analysed.

(2)Who is carrying out the study?

The study is being conducted by Ms Amanda Caltabiano and will form the basis for the degree of Bachelor Music (Music Education) with Honours at the Sydney Conservatorium of Music under the supervision of Associate Professor Kathryn Marsh, Chair of Music Education at the Sydney Conservatorium of Music.

(3)What does the study involve?

Video recording of the group music therapy sessions and the children's interaction in the playground, will take place, where the researcher will be making field notes of her observations in both settings. Semi-structured interviews which will be audio recorded, will be conducted with the class teachers and music therapists of the children.

Questions about their attitudes and impressions of the music therapy will also be addressed.

(4) How much time will the study take?

The study will commence in February 2010. Data will be collected every Monday for 8 consecutive weeks. I will video record the group music therapy sessions which will take place at the XXXXXX Music Therapy Center and the children's interaction in the playground at XXXXXXXX XXXX XXXXXX school, following consent from the class teachers, music therapists and parents/guardians who wish to participate. Field notes of my observations in both settings will also take place.

(5) Can I withdraw from the study?

Your decision whether or not to permit your child to participate will not prejudice you or your child's future relations with the University of Sydney. If you decide to permit your child to participate, you are free to withdraw your consent and to discontinue your child's participation at any time without affecting your relationship with the University of Sydney.

(6) Will anyone else know the results?

All aspects of the study, including results, will be strictly confidential and only the researchers will have access to information on participants.

(7) Will the study benefit me?

One of the main purposes of this project is to bring greater awareness of possible benefits of music therapy to the wider community of autism, in particular, to provide a greater understanding of the effect music therapy has on the social skills of children with autism. The researcher hopes to discover the meaning of the children's behaviours and examine the differences or commonalities between their behaviour in the music therapy classroom setting and on the playground, where there is an absence of music therapy intervention. Moreover, this project will serve to explore how participation in music therapy can affect not only the development of children with autism, but the role of music in their lives. Other than this, the researcher cannot guarantee or promise that the participants involved in this study receive any direct benefits. The researcher will not be actively involved in the therapy and will not attempt to have any effect on the outcome of the therapy sessions.

(8) Can I tell other people about the study?

Yes, you can tell other people about the study.

(9) What if I require further information?

When you have read this information, Associate Professor Kathryn Marsh will discuss it with you further and answer any questions you may have. If you would like to know more at any stage, please feel free to contact the researcher on XXXXXXXX, or her supervisor Assoc. Prof. Kathryn Marsh on XXXXXXXX.

(10) What if I have a complaint or concerns?

Any person with concerns or complaints about the conduct of a research study can contact the Deputy Manager, Human Ethics Administration, University of Sydney on (02) 8627 8176 (Telephone); (02) 8627 7177 (Facsimile) or human.ethics@usyd.edu.au (Email).

This information sheet is for you to keep

Appendix D: Class teacher and Music Therapist Consent Form

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Email: kmarsh@usyd.edu.au

I,[PRINT NAME], give consent to my participation in the research project

TITLE: The Development of Social Competence in Children with Autism in the Music Therapy Classroom and on the Playground.

In giving my consent I acknowledge that:

1. The procedures required for the project and the time involved have been explained to me, and any questions I have about the project have been answered to my satisfaction.
2. I have read the Participant Information Statement and have been given the opportunity to discuss the information and my involvement in the project with the researcher/s.
3. I understand that I can withdraw from the study at any time, without affecting my relationship with the researcher(s) or the University of Sydney now or in the future.
4. I understand that my involvement is strictly confidential and no information about me will be used in any way that reveals my identity.
5. I understand that being in this study is completely voluntary – I am not under any obligation to consent.
6. I understand that I can stop the interview at any time if I do not wish to continue, the audio recording will be erased and the information provided will not be included in the study.

7. I consent to the following to take place in the music therapy classroom setting:
- | | | | |
|--------------------------|-----|--------------------------|----|
| i) Video-taping | YES | <input type="checkbox"/> | NO |
| <input type="checkbox"/> | | | |
| ii) Field notes | YES | <input type="checkbox"/> | NO |
| <input type="checkbox"/> | | | |
8. I consent to the following to take place in the playground setting:
- | | | | |
|--------------------------|-----|--------------------------|----|
| i) Video-taping | YES | <input type="checkbox"/> | NO |
| <input type="checkbox"/> | | | |
| ii) Field notes | YES | <input type="checkbox"/> | NO |
| <input type="checkbox"/> | | | |
9. I consent to:
- | | | | |
|--------------------------|-----|--------------------------|----|
| iii) Receiving Feedback | YES | <input type="checkbox"/> | NO |
| <input type="checkbox"/> | | | |

If you answered YES to the “Receiving Feedback Question (iii)”, please provide your details i.e. mailing address, email address.

Feedback Option

Address: _____

Email: _____

.....
Signature of Parent/Guardian

.....
Please PRINT name

.....
Date

Appendix E: Parental (Or Guardian) Consent Form

SYDNEY CONSERVATORIUM OF MUSIC



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Email: kmarsh@usyd.edu.au

I, agree to permit,
who is aged years, to participate in the research project –

TITLE: The Development of Social Competence in Children with Autism in the Music Therapy Classroom and on the Playground

In giving my consent I acknowledge that:

1. I have read the Information Statement and the time involved for my child's participation in the project. The researcher/s has given me the opportunity to discuss the information and ask any questions I have about the project and they have been answered to my satisfaction.
2. I understand that I can withdraw my child from the study at any time without prejudice to my or my child's relationship with the researcher/s now or in the future.
3. I agree that research data gathered from the results of the study may be published provided that neither my child nor I can be identified.
4. I understand that if I have any questions relating to my child's participation in this research I may contact the researcher/s who will be happy to answer them.

5. I acknowledge receipt of the Information Statement.
6. I consent to the following to take place in the music therapy classroom setting:
- | | | | | |
|-----|--------------------------|-----|--------------------------|----|
| i) | Video-taping | YES | <input type="checkbox"/> | NO |
| | <input type="checkbox"/> | | | |
| ii) | Field notes | YES | <input type="checkbox"/> | NO |
| | <input type="checkbox"/> | | | |
7. I consent to the following to take place in the playground setting:
- | | | | | |
|-----|--------------------------|-----|--------------------------|----|
| i) | Video-taping | YES | <input type="checkbox"/> | NO |
| | <input type="checkbox"/> | | | |
| ii) | Field notes | YES | <input type="checkbox"/> | NO |
| | <input type="checkbox"/> | | | |
8. I consent to:
- | | | | | |
|------|--------------------------|-----|--------------------------|----|
| iii) | Receiving Feedback | YES | <input type="checkbox"/> | NO |
| | <input type="checkbox"/> | | | |

If you answered YES to the “Receiving Feedback Question (iii)”, please provide your details i.e. mailing address, email address.

Feedback Option

Address: _____

Email: _____

.....

Signature of Parent/Guardian

.....

Please PRINT name

.....

Date

Appendix F: Principal Consent Form

SYDNEY CONSERVATORIUM OF MUSIC



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Fac: +61 2 9351 1287
Email: kmarsh@usyd.edu.au

I,[PRINT NAME], give consent to my participation in the research project

TITLE: The Development of Social Competence in Children with Autism in the Music Therapy Classroom and on the Playground.

In giving my consent I acknowledge that:

1. The procedures required for the project and the time involved have been explained to me, and any questions I have about the project have been answered to my satisfaction.
2. I have read the Letter and have been given the opportunity to discuss the information and my involvement in the project with the researcher/s.
3. I understand that I can withdraw from the study at any time, without affecting my relationship with the researcher(s) or the University of Sydney now or in the future.
4. I understand that my involvement is strictly confidential and no information about me will be used in any way that reveals my identity.
5. I understand that being in this study is completely voluntary – I am not under any obligation to consent.
6. I understand that I can stop the interview at any time if I do not wish to continue, the audio recording will be erased and the information provided will not be included in the study.

1 of 2

7. I consent to the following to take place in the music therapy classroom setting:
- | | | | | |
|-----------------|-----|--------------------------|----|--------------------------|
| i) Video-taping | YES | <input type="checkbox"/> | NO | <input type="checkbox"/> |
| ii) Field notes | YES | <input type="checkbox"/> | NO | <input type="checkbox"/> |
8. I consent to the following to take place in the playground setting:
- | | | | | |
|-----------------|-----|--------------------------|----|--------------------------|
| i) Video-taping | YES | <input type="checkbox"/> | NO | <input type="checkbox"/> |
| ii) Field notes | YES | <input type="checkbox"/> | NO | <input type="checkbox"/> |
9. I consent to:
- | | | | | |
|-------------------------|-----|--------------------------|----|--------------------------|
| iii) Receiving Feedback | YES | <input type="checkbox"/> | NO | <input type="checkbox"/> |
|-------------------------|-----|--------------------------|----|--------------------------|

If you answered YES to the “Receiving Feedback Question (iii)”, please provide your details i.e. mailing address, email address.

Feedback Option

Address: _____

Email: _____

.....
Signature of Parent/Guardian

.....
Please PRINT name

.....
Date

Appendix G: Interview Questions: Class Teacher

SYDNEY CONSERVATORIUM OF MUSIC



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Title: The Development of Social Competence in Children with Autism in the Nordoff-Robbins Music Therapy Setting and in the Outdoor Inclusive Environment

The class teachers will be interviewed about the social play of children with autism who are participating in this study, with particular emphasis on the development of their social skills in an outdoor inclusive environment. Questions about their attitudes and impressions of the music therapy will also be addressed.

1. What opportunities do the children have to socialise with others?
2. Do the social structures of the outdoor inclusive setting assist in socially including children with autism? If so, how?
3. Do you teach specific social skills? What do you feel helps students interact socially with each other?
4. Do you have any concerns about their social play? If yes, please explain?
5. Do friendships among your students with ASD and other children occur? What are they like with other children? What are other children like with them?
6. How does the child play with others? (Does he start the play? Wait for others? Does he copy others? Share? Take turns?)
7. What are your impressions/attitudes of music therapy? Do you think music therapy assists with social interaction?
8. Do you believe that music therapy supports the inclusion of students with autism? How does it support your children with ASD?

Appendix H: Interview Questions: Music Therapist

SYDNEY CONSERVATORIUM OF MUSIC



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Assoc. Prof. Kathryn Marsh
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Title: The Development of Social Competence in Children with Autism in the Nordoff-Robbins Music Therapy Setting and in the Outdoor Inclusive Environment

The music therapists will be interviewed about the effects of music therapy on the social behaviours of children with autism who are participating in this study. Questions about their attitudes and impressions of the music therapy will also be addressed.

1. What are the aims/goals of music therapy? How are these achieved?
2. How long have you provided music therapy for these children with ASD?
3. Have you seen any change occur in their social behaviours, in particular their interactions amongst each other, in the music therapy setting or outside the sessions? If yes, what are these changes?
4. Overall, what are your impressions of how the music therapy is going for these children with ASD?
5. In your opinion, does music therapy impact on their social skills and interactions?

Appendix I: Letter to the Director of the Music Therapy Centre

SYDNEY CONSERVATORIUM OF MUSIC



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Assoc. Prof. Kathryn Marsh
Chair of Music Education
Tel: + 61 2 9351 1333
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Dear XXXXX XXXXX,

My name is Amanda Caltabiano and I am currently completing a Bachelor of Music (Music Education) with Honours at the Sydney Conservatorium of Music as an undergraduate student. For my honours project, I have chosen to explore the field of Music Therapy, in particular, the development of social competence in children with autism in the music therapy classroom setting and on the playground.

This study aims to examine the social competence of a class of children with an autism spectrum disorder (ASD) engaged in Nordoff-Robbins group music therapy sessions, with particular emphasis on the development of peer interactions and the relationships with others, over a period of time. I will compare and contrast the social skills developed by the child in the music therapy classroom setting and in the playground setting. The social interactions of three children in the group and of the class as a single entity will be analysed.

The main purpose of this project is to bring greater awareness of possible benefits of music therapy to the wider community of autism. This project will serve to explore how participation in music therapy can affect the role of music in the lives of children with ASD.

During the 6 – 8 weeks designed for observation, commencing in February 2010, I would like to conduct an initial baseline assessment. For the following 6-10 weeks, data will be collected. I will audio and video record the group music therapy sessions and the children's interaction in the playground, following consent from the class teachers, music therapists and parents/guardians who wish to participate. Field notes of my observations in both settings will also take place.

My role in this research may be defined as a non-participant observer. Semi-structured interviews, which will take 30-45 minutes to complete, will be conducted with the class teachers and music therapists of the children to obtain the meanings attributed to the social behaviours of the autistic child in the classroom. These data will then be analysed and compared to the way they interact with their peers on the playground. Questions about their attitudes and impressions of the music therapy will also be addressed.

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I would like to invite the class teachers, music therapists, and students who are involved in the services and facilities of the centre, to take place in my study. If they individually consent, I would like to conduct this study of music therapy for children with autism at the XXXXXX Music therapy centre. I would like to arrange an appointment and visit the centre to learn more about the benefits of music therapy in the lives of autistic children and aid me in my area of research.

Any information that is obtained in connection with this study and that can be identified with therapist or client will remain confidential and will be disclosed only with their specific consent. I will not use real names or identifying descriptions of any participants.

Being in this study is completely voluntary - you are not under any obligation to participate and - if you do consent - you can withdraw at any time without affecting your relationship with the University of Sydney. If you have any additional questions, please contact me on XXXXXXXX or my supervisor, Assoc. Prof. Kathryn Marsh on XXXXXXXX.

Yours faithfully,

Amanda Caltabiano

Appendix J: Letter to the Principal of the School

SYDNEY CONSERVATORIUM OF MUSIC



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Assoc. Prof. Kathryn Marsh
Chair of Music Education
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Email: kmarsh@usyd.edu.au

To whom it may concern,

My name is Amanda Caltabiano and I am currently completing a Bachelor of Music (Music Education) with Honours at the Sydney Conservatorium of Music as an undergraduate student. For my honours project, I have chosen to explore the field of Music Therapy, in particular, the development of social competence in children with autism in the music therapy classroom setting and on the playground.

This study aims to examine the social competence of a class of children with an autism spectrum disorder (ASD) engaged in Nordoff-Robbins group music therapy sessions, with particular emphasis on the development of peer interactions and the relationships with others, over a period of time. I will compare and contrast the social skills developed by the child in the music therapy classroom setting, which will take place at the XXXXXX Music Therapy Center, and in the playground setting at XXXXXXXX XXXX XXXXXX School. The social interactions of three children in the group and of the class as a single entity will be analysed.

The main purpose of this project is to bring greater awareness of possible benefits of music therapy to the wider community of autism. This project will serve to explore how participation in music therapy can affect the role of music in the lives of children with ASD.

The study will commence in February 2010. Data will be collected every Monday for 8 consecutive weeks. I will video record the group music therapy sessions which will take place at the XXXXXX Music Therapy Center and the children's interaction in the playground, following consent from the class teachers, music therapists and parents/guardians who wish to participate. Field notes of my observations in both settings will also take place.

My role in this research may be defined as a non-participant observer. Semi-structured interviews, which will take 30-45 minutes to complete, will be conducted with the class teachers and music therapists of the children to obtain the meanings attributed to the social behaviours of the autistic child in the classroom. These data

1 of 2

will then be analysed and compared to the way they interact with their peers on the playground. Questions about their attitudes and impressions of the music therapy will also be addressed.

I would like to invite the class teachers, and students who are apart of XXXXXXXX XXXX XXXXXX School, to take place in my study. I have spoken to XXXXX XXXXX, the director of the XXXXXX Music Therapy Center, and XXXXXX XXXXX, the special education teacher at XXXXXXXX XXXX XXXXXX School, about the nature of this project and have received consent. I have also received approval from the NSW Department of Education and Training and the Human Research Ethics Committee.

Any information that is obtained in connection with this study and that can be identified with therapist, teacher or client will remain confidential and will be disclosed only with their specific consent. I will not use real names or identifying descriptions of any participants.

If you have any additional questions, please contact me on XXXXXXXX or my supervisor, Assoc. Prof. Kathryn Marsh on XXXXXXXX.

Yours faithfully,

Amanda Caltabiano

Appendix K: Rating Scale: Social Play Record (White, 2006)

SPR Rating scale adapted from White (2006)

Child: _____ Session: _____

Social Play Behaviours	Rating Scale					Type of relationship		Comments (i.e. teachers/peers involvement/ other observable factors)
	0 Never	1 Rarely	2 When prompted	3 Sometimes	4 Often	sp.ed-non.sp.ed	sp.ed-non.sp.ed	
A. JOINT ATTENTION								
1. Gain's peer's attention (how)? (I.e. speaks to peers/greets them by name/ eye-contact)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Alternates gaze between object and person	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Brings/holds up objects to show	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Shares/exchanges/offers objects with peer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Includes peers in his play	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. IMITATION								
1. Copies facial expression and gesture (e.g. smile, wave bye, shake/nod head)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Copies actions with objects (e.g. bang, shake, blow, press, throw, push)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Copies body movements (e.g. stretch, jump, wriggle, clap, stamp feet, wiggle fingers)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Copies sounds (human/animal/vehicle)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Reacts to being copied by peer and initiates activities for peer to copy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. TURN-TAKING								
1. Knows when and how to join in	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Gives listener feedback (eye-contact, nods, appropriate comments)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Acts on listener feedback (e.g. notes disinterest/desire to speak)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Takes conversational turns	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Shares information and materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Appendix L: Rating Scale: Scale II: Musical Communicativeness
(Nordoff and Robbins, 1977)**

Scale II Musical Communicativeness Rating Form

Child: _____ Date: _____ Session: _____

LEVELS OF COMMUNICATIVENESS	MODES OF ACTIVITY			RATING TOTALS
	Instrumental	Vocal	Body Movement	
(7) Musical intelligence and skills Freely functioning and competently, Personably communicable. Enthusiasm for musical creativity.	_____	_____	_____	_____
(6) Participating communicative Responsiveness firmly established. Growing musical self-confidence. Independence in using rhythmic, Melodic, or expressive components.	_____	_____	_____	_____
(5) Sustaining of directed response Impulses setting up musical Communication. Musical motivation Appearing. Involvement increasing.	_____	_____	_____	_____
(4) Musical awareness awakening. Intermittent musical perception and Intentionality manifesting.	_____	_____	_____	_____
(3) Evoked responses (ii): more Sustained and musically related	_____	_____	_____	_____
(2) Evoked responses (i): Fragmentary, fleeting.	_____	_____	_____	_____
(1) No musically communicative responses	_____	_____	_____	_____

Nonactive