

Graeme Simon Sacks

graeme.sacks@gmail.com

Student Number: u19245302

Becoming a Rock Band: Music Therapy with Autistic Teenagers

Name: Graeme Sacks

Student Number: u19245302

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Supervisor: Dr Andeline dos Santos

Abstract

The goal of this study was to determine how a diverse group of autistic teenagers engaged with one another in the process of becoming a rock band and what benefits might they gain through the process. This study was conducted with a music therapist and four teenagers. It ran for a total of ten sessions, each lasting approximately two hours.

Data was collected through video recordings of the sessions and a questionnaire that was completed by the participants. These sources were analysed and coded using an inductive thematic process and three themes were generated. The first theme was “engaged collective musicking”, referring to the many instances that saw band members playing music together in different ways and the discussions they had around their musicking. The second was “tentative or minimal musical connection”, referring to times when the musical connection was more tentative and limited and included self-focused playing and cautious engagement. The third theme was “varied emotional experiences”, referring to the band members’ experiences of a range of emotions in their journey together, including uncomfortable and pleasant emotional experiences.

Participants experienced opportunities for expressing positive self-esteem and a sense of pride. The teenagers also learned new skills such as playing instruments and working together in a group, and they were all able to voice their opinions and contribute to the creative process in their own unique ways. Playing in a rock group provided a safe space for the teenagers to learn how best to communicate with each other and to socialise. It gave them a shared interest (the musicking) and elicited curiosity and discussion about instruments, songs and related topics.

Keywords

Music therapy, group music therapy, Autism Spectrum Disorder (ASD), adolescents, teenagers, rock band

**UNIVERSITY OF PRETORIA
FACULTY OF HUMANITIES
RESEARCH PROPOSAL & ETHICS COMMITTEE**

DECLARATION

Full name: Graeme Simon Sacks _____

Student Number: u19245302 _____

Degree/Qualification: MMus (Music Therapy) _____

Title of thesis/dissertation/mini-dissertation: Becoming a Rock Band: Music Therapy with Autistic Teenagers

I declare that this thesis / dissertation / mini-dissertation is my own original work. Where secondary material is used, this has been carefully acknowledged and referenced in accordance with university requirements.

I understand what plagiarism is and am aware of university policy and implications in this regard.



SIGNATURE

30 Aug 2021

DATE

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For Koto, 2003 to 2021

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1. Introduction

1.1 Introduction and Background to the Study

This study explores the formation and process of a rock band made up of a diverse group of teenagers (13 to 18-year-olds) with Autism Spectrum Disorder (ASD). After an extensive review of the literature, I have been unable to find any published music therapy studies based on a rock band format in English, although I have come across some studies by Viggo Krüger in Norwegian, which I discuss in the literature review. I have also found music therapists who use a rock band format as part of their practice (see, for example, Midwest Music Therapy Services (Carron, 2000)). I have conversed with a few music therapists on social media who incorporate rock bands within their practice and also came across a British band, The Autistix (2020), who have three members with ASD.

Gary Numan, a famous popular musician with ASD explains, “I don’t see it as a disability, I see it as an advantage. There’s just a small price to pay for the advantages it brings. Asperger’s gives you very useful gifts that other people don’t have such as concentration and obsession” (<https://www.express.co.uk/life-style/health/850136/gary-numan-aspergers-disability-singer-synth-pop>). Craig Nicholls, lead singer of the Australian rock band The Vine, was diagnosed with ASD as an adult. In an interview with the *Guardian* in 2014 he related, “For the song-writing and recording it works out really good. I get by alright. I just don’t go out, but I’m kinda used to it”. On his song *Slightly Alien*, about his experience of autism, he commented, “The isolation, this feeling of being left out of it, being pissed off about it a bit and wanting to scream, release and to make some kind of sense out of it” (<https://www.theguardian.com/music/2014/sep/12/the-vines-craig-nicholls-i-already-thought-i-was-a-genius>). In 2019, 23-year-old Kodi Lee who has ASD and is blind, won the 14th season of *America’s Got Talent* (<https://www.kodileerocks.com/>). James Durbin, a finalist in the top four of *American Idol* (2011) also has ASD. He reflects on performing as follows:

What I find when I'm on stage is that -- and that's why I love it so much, is that nothing bothers me. When I'm on stage I don't tic. I don't have weird feelings. I don't feel different, you know, I feel like that's my world and that's where I feel most at home...that's where I feel like I could do anything. And it's like I don't have Tourette's and I don't have Asperger's when I'm on stage for some reason, and I don't know what it is. It's probably just a comfort level that everything goes away.”

<https://www.psychologytoday.com/za/blog/autism-in-real-life/201112/conversation-james-durbin-his-new-album-music-and-autism>).

Although there is no published research on using rock band formats within music therapy for persons with ASD specifically, much research has been conducted on music therapy with teenagers and children with ASD and this provides a solid foundation upon which the current study will be conducted. My own experience of working (recreationally) with a rock band comprised of teenagers with ASD has led me to pursue this particular line of research. During just over two years with this band I saw members gain useful life skills such as confidence, the ability to negotiate with each other regarding musical decisions, rules for the band rehearsals and lyrics and musical ideas for songs.

1.2 Aim of the Study

The aim of this study was to assess the benefits (if any) of playing in a rock band made up of autistic¹ teenagers and to better understand how they worked together in this format. It was my hope that the band members might gain useful insights skills such as better communication with each other, and increased self-esteem and confidence.

¹ I have chosen not to use person first “teenager with autism” but rather “autistic teenager” in line with current APA guidelines (2020) which state: “Identity-first language is often used as an expression of cultural pride and a reclamation of a disability that once conferred a negative identity” (p. 136).

1.3 Research Questions

This research was guided by the following questions:

1. In what ways do a diverse group of autistic teenagers engage with one another in the process of becoming a rock band?
2. What benefits might they gain through the process?

2. Literature Review

2.1 Introduction

In this review I present an overview of ASD, a focus on ASD in teenagers, music therapy and teenagers, and rock music and ASD. I will then explore the research around music, social skills, social inclusion, and cognitive skills. Finally, I discuss rock music, teenagers and ASD.

2.2 Autism Spectrum Disorder (ASD)

ASD is a neurodevelopmental disorder with a partly genetic cause (Volkmar & Wiesner, 2018) and other unknown external causative factors. The main characteristics of ASD include impairment in communicating and interacting in social situations, unusually repetitive behaviours, and strong, narrowly focused interests (Baron-Cohen, 2008). These symptoms have a major impact on all aspects of life in people with ASD. ASD occurs in approximately one in 88 children (Schall et al., 2014).

2.3 ASD in Teenagers

Autistic teenagers often struggle with social interaction and isolation and are at increased risk of depression and anxiety (Volkmar & Wiesner, 2018). The teenage years also come with challenges that include changes in social life (for example going to high school, and interest in pursuing romantic relationships). These changes can be particularly stressful for people with ASD (Rapin & Tuchman, 2008) and this is further heightened by physiological changes that include an increase in cortisol in response to stress (Corbett & Simon, 2013). Anxiety is common in autistic children (van Steensel et al., 2011) and the increase in cortisol only serves to exacerbate this.

Picci and Scherf (2014) found that teenagers with ASD were particularly vulnerable to peer rejection and bullying and that they struggled to develop intimate peer relationships. They recommend interventions such as hobbies with peers to encourage interaction between them.

2.4 Music Therapy and Teenagers

Music therapy offers teenagers a platform to mature, grow, develop and explore their creativity (Tervo, 2001). It can assist adolescents in reducing disruptive behaviour, improving emotional intelligence and boosting self-esteem (Fernández et al., 2014). McFerran (Rickard & McFerran, 2012) states that four key foundations of health in adolescence may be addressed through music therapy, namely identity formation, resilience, competence and connectedness. In *The Handbook of Music, Adolescents, and Wellbeing*, Saarikallio (2019) states that music is an important device for empowering adolescents in the formation of their identity. In the same book Dingle et al write that music may also afford adolescents the opportunity to practise and understand emotions.

Playing music in a group exposes the members to several opportunities and challenges including working together, making creative decisions, and dealing with disagreements. These challenges can help strengthen life skills such as being able to collaborate with others, problem-solve and deal with difficult feelings. Playing music in a group can also help to overcome the stigma and isolation of having a disability and boost self-esteem (Soshensky, 2011).

Music is a powerful tool for adolescents to regulate their mood and it also offers them a more diverse and colourful emotional life (Saarikallio & Erkkila, 2007).

2.5 Music Therapy and ASD

Various meta-analyses of music therapy interventions with autistic children and adolescents have shown improvements in cognitive ability, communication and emotional responsiveness as well as improvements in social behaviours (Kaplan & Steele, 2005; Shi et al. 2016; Whipple, 2004; Wigram & Gold, 2006).

Group music therapy sessions focussing on social skills in children with ASD have shown improved attention and social interaction with other persons (LaGasse, 2014). Other skills that can be enhanced through music therapy include increased attention to tasks, a decrease in anxiety levels and an increase in vocalizations and in comprehension of vocabulary (Whipple, 2004).

A meta-analysis of music interventions for autistic children and adolescents by Whipple (2004) showed that all musical interactions were beneficial, and that music has a powerful effect on this group of people regardless of the interventions used. Benefits included increased appropriate social behaviours, better communication skills and reduced anxiety levels. Whipple recommends further studies to assess the efficacy of specific musical interventions on this population.

In a pilot study on group music-making for young adults with ASD, Hillier, et al. (2011) found that the participants showed improvement in self-esteem, decreased levels of self-reported anxiety, and a more positive attitude toward peers. Eren (2015) conducted a qualitative study of group music therapy with six teenagers with ASD. Eight sessions of 90 minutes in length were held over a period of four months. The musical activities included improvisation, creative idea-development and sharing of ideas. She found that the group sessions gave the teenagers an opportunity to attempt social interactions in a non-judgemental and safe environment. The participants also showed improvement in decision-making skills and were better able to accept others' differences.

2.6 Cognitive and Social Components of Playing Together in a Group

Playing music together in a group naturally cultivates interpersonal relationships and offers collective musical and emotional experiences that can serve as powerful social bonding experiences (Pavlicevic, 2003). Group musicking involves a state of combined awareness between the members and a coordination of each individual's sensory, motor and creative

faculties (Bennett, 2017). Playing music with others can be viewed as “being together in time” (Overy & Molnar-Szakacs, 2009) and the human mirror neuron system facilitates a sharing of common musical experiences with their associated emotional and cognitive content.

2.7 Rock Music, Teenagers and ASD

South Africa has a rich musical history that includes rock bands as well as African or “crossover” bands that utilise instruments and aspects of rock music blended with African styles (Tenaille, 2002). Although there is a lack of research on teenagers with ASD playing in rock bands, rock music has a long history of appealing to teenagers all over the world, including in the so-called developing nations. It allows them to connect to a variety of emotions and is often a significant part of the forming and displaying of their identity (Rickard & McFerran, 2012; North et al., 2000). Jukka Tervo (2001), who has experience with music therapy and adolescents, states that teenagers can use rock music to access a wide range of emotions such as love, desire, anger, sadness, shame and sexuality.

Viggo Krüger (2008), a Norwegian music therapist, has worked with youth in rock bands as part of his practice in a variety of settings including mental health facilities and care homes. He has found that participants in bands gain competencies in social and cultural settings through learning new physical skills (such as playing an instrument) and abstract skills (including listening to and playing along with others). The band setting allows participants the opportunity to explore social skills in a “practice” community.

My study attempts to address the paucity of research on the specific topic of teenagers with ASD and their experiences of playing together in a rock band format. As has been discussed in this review, the format of a rock band provides a safe platform for the members to experiment and learn about social interaction, communication and a variety of other skills. I believe that this may be a useful platform to help the band members to navigate the difficulties associated with ASD and the teenage years.

3. Methodology

3.1 Introduction

In this section I will discuss the research paradigm, the strengths and weaknesses of qualitative studies, methods of participant selection and the collection and analysis of data. Lastly, I will discuss the ethical considerations and the quality of the research.

3.2 Research Paradigm

The ontology for this project is rooted in relativism as it is concerned with meanings and values derived from the participants in the study rather than a realist's search for a single "truth". There are different ways of interpreting the world that depend upon, or rather are relative to, time and place (Given, 2008). This leads to an interpretivist approach, which allows the researcher to be an active participant and gather information from an insider's subjective perspective rather than viewing the research objectively as an outsider (Saunders et al., 2009).

An important distinguishing characteristic of interpretivism is a focus on the interaction between the researcher and the research participants. This interaction helps to facilitate the uncovering of deeper meaning (Ponterotto, 2005). Interpretivist research attempts to understand subjective meanings in a context, and it places value on the experience of the study's participants (Matthews & Ross, 2010). Interpretivism is also suited to smaller groups situated in one particular social setting (Baxter & Jack, 2008).

3.2.1 *Qualitative methodology*

The most appropriate methodology to use within an interpretivist study is qualitative research. Qualitative studies can be characterised by their aims, which usually explore answers to questions about the what, why or how of a phenomenon (Green & Thorogood, 2004). An interpretivist approach gathers qualitative data that includes the (subjective) opinions and feelings of the participants (Matthews & Ross, 2010). Most qualitative research stems from a

postmodern perspective that perceives “truth” as relative and contingent on context and perspective. The research goal is one of insight and understanding rather than prediction and control (Saldaña, 2011).

The strengths of a qualitative methodology include the ability to obtain rich information (Marx, 2012), in this case about the band members and the processes involved in playing in the rock band. Qualitative approaches are flexible and allow for the reporting of participants’ feelings and experiences. This gives them agency in the study and can enrich the outcomes of the research project as data that the researcher did not consider initially can be included (Maxwell, 2013).

Weaknesses of a qualitative study include the fact that data collection and analysis are often more time consuming than in a quantitative study. Interpretation is biased and subjective as it is influenced by the researcher and the participants’ perspectives. The results cannot be generalised due to the small size of the sample and the fact that the diverse group of people each have unique characteristics (Matthews & Ross, 2010). Nevertheless, the strengths highlighted above outweigh the weaknesses, and it is possible to gather rich, detailed and valuable information from qualitative studies. As there are multiple sources of data collection inherent in this study, triangulation will be used to verify the disparate information collected. Yin (2018) states that case study outcomes may be more convincing and precise if they are based on numerous data sources that follow a similar convergence.

3.3 Research Design

The approach I used is that of a case study. Case studies provide opportunities for in-depth analysis of a bounded system (Merriam & Tisdell, 2016) (in this case a rock band), which makes the approach particularly suitable to this project. Case studies allow the researcher to define the research topic broadly and to study the particular case in context (Yin, 2012). One criticism of case studies is the inability to generalise findings. Yin (2018), however, highlights the

importance of applying the theoretical orientation of the study in developing analytic generalisations that can be applied to other situations.

As the research questions guiding this proposed study ask “what” and “how”, they are best dealt with using an exploratory case study research design. Exploratory research makes use of systematic data collection methods designed to try to uncover generalisations that describe an area of social events (Given, 2008). A case study allows for careful and detailed observation of the group, through which new ideas and hypotheses may emerge (Terre Blanche et al., 2014). A unique quality of case studies is their ability to make use of a variety of evidence including documents, observation, interviews and artefacts (Yin, 2018). In the case of this study, I have included video footage and semi-structured interviews.

3.4 Participant Selection

This study used non-probability sampling, which focusses on selecting participants according to their ability to meet specific criteria (Given, 2008). A participant profile, containing important characteristics for selection criteria, first needed to be compiled (Kolb, 2018).

Although no previous musical experience was necessary, participants were required to meet the following criteria to be considered eligible for this study. The participant was required to:

- Have a medical diagnosis of autism spectrum disorder.
- Be able to answer opinion-based questions regarding the study either verbally, in writing, or using a generative Augmentative and Alternative Communication (AAC) system.
- Be physically capable of deliberately playing a sound on an instrument. Where possible suitable instruments were allocated or adapted to suit the needs of participants (for example a guitar could be tuned to a simpler tuning allowing for playing chords with one finger).
- Be between 13 and 19 years old.

- Be willing to wear hearing protection during the sessions and be able to tolerate loud noises. In-ear and over-ear noise protection was provided. If necessary, drum sounds could be muted using rubber mats, which were supplied.

The intention was to recruit members so that the group could be as diverse as possible in terms of gender, race, speaking/non-speaking, and physical ability.

A pamphlet summarising the study was digitally distributed via local autism groups and organisations on their social media pages (Appendix H). When persons contacted me indicating their interest (on behalf of their teenager) I sent them a form to complete to ensure that the participants met the selection criteria (Appendix B). Participants were selected from the list of applicants who meet all the requirements. The first five who met these criteria were included. The study included this number of participants because this is a manageable number in my experience in working with teenagers. A standard rock band line-up is usually drums, bass, guitar, keyboards and vocals (or a similar variation). Methodologically, a small sample size is suitable for a qualitative case (Leavy, 2017).

3.5 Data Collection

I held a total of ten sessions at a recording studio in Norwood, Johannesburg, each lasting 90 minutes to two hours. These sessions took place in the afternoons at times negotiated with the participants and their parents/guardians. The studio had all the necessary equipment for the band, although there was no drum kit. This was later supplied by a band member who brought his own electronic kit. There was sufficient space for physical distancing, and everyone had to wear a mask throughout the sessions (due to restrictions around the Covid-19 pandemic).

There were two data sources: video recordings and a questionnaire that was distributed to the band members before the final session.

3.5.1 Video recordings

Video analysis is used extensively in music therapy practice and research. The analysis of video footage is well suited to this study as it yields rich behavioural data for description and analysis (Wigram et al., 2002). The video camera was placed in a position so as to be as unobtrusive as possible. Although participants were aware of the camera's placement, I do not feel it had much (if any) impact on the band members as they quickly got used to the idea of being filmed and the novelty wore off once focus was on the music.

3.5.2 Questionnaire

The questionnaire (appendix C) included mostly open-ended questions to allow the participants the freedom to answer in their own way (Matthews & Ross, 2010). Questions were developed with the intention of answering the research questions and gaining any further insights that the participants might offer. In this way the band members were better able to express their personal experiences and opinions of the band process, in their own words, rather than having to answer a set of rigid questions. The questions were clear, concrete and direct, and verbal explanations were given where necessary. Some members were assisted by a parent or carer in typing out the answers.

3.6 Data Preparation

In light of the research questions guiding this study, video excerpts were selected that showed:

- Points of conflict and/or resolution between members.
- Instances of communication and/or negotiation.
- Challenges experienced by band members.
- Instances where band members expressed confidence.

Thick descriptions of the excerpts were written. Writing thick description in qualitative research is defined as a process of focussing on contextual details based on observations and of interpreting social meaning from these (Dawson, 2009).

3.7 Data Analysis

Data were analysed using an inductive thematic analysis process. This is a method of data analysis that is data driven. Braun and Clarke (2006) propose a six-phase approach to thematic analysis which I applied as follows: Becoming familiar with the data by reviewing it thoroughly; generating initial codes to identify and label features of the data that are potentially relevant to the research question; searching for themes that represent patterns or meaning within the data; reviewing potential themes in relation to the data collected to check that they are relevant; defining and naming themes by identifying their unique essence; and producing the report by collating all the data collected throughout the process.

3.8 Research Quality

The quality of the research is dependent on the quality of the researcher's data records and their ability to analyse and clearly interpret this information (Richards, 2015). For my study I kept meticulous records including session notes, video recordings and a questionnaire. In my session notes I tried to be reflexive with regards to the collection, analysis and interpretation of data by doing the following: Scrutinising the impact of my position, presence and perspective on the band members and on the data; and exploring unconscious biases or motivations in my approach (Finlay, 2002).

Transcripts were checked for accuracy. Thick descriptions can add context and meaning to the data and careful reflection highlights the impact of my personal role in the creation and interpretation of data (Richards, 2015). I also received clinical supervision to explore my dual role as therapist and researcher and to assist with issues of transference and countertransference.

Bruscia (2005) saw the importance of developing standards in qualitative music therapy research. He analysed relevant music therapy research and devised the following four standards:

1. **Methodological Integrity.** These values guide the researcher in designing and implementing the study. In my case they caused me to reflect on the appropriateness of my data collection methods, to consider the limits inherent in the study and to be sensitive to the process, the participants and the space. This helped to facilitate a space that authentically reflected the teenagers' own musicking.
2. **Personal Integrity.** This refers to the values, responsibilities and identity of the researcher in relation to the study. I made sure that I was authentic in both my role as researcher and that of music therapist. It should also be noted that "caring" is also included under the heading of personal integrity. This research project was undertaken with a deep wish to understand and analyse the process of forming a rock band and I cared deeply about the entire study.
3. **Interpersonal Integrity.** This refers to values of the researcher in their relationship to all persons involved in the study, including the readers of this dissertation. I was respectful and mindful of the rights, needs and concerns of the participants. I checked in with the participants regularly and endeavoured to give each of them equal attention, space to voice their opinions and turns playing different instruments. I have also endeavoured to present a coherent and accurate reflection of the research process in this dissertation.
4. **Aesthetic Integrity.** Refers to the researcher imparting artistic characteristics to the study. I encouraged the participants to explore, experiment and create music and in so doing they were able to express themselves in novel ways. By focusing on aesthetic aspects of the musicking I was also able to discern much information such as whether the participants were attempting to play on their own, or together with others.

3.9 Ethical Considerations

The Health Professions Council of South Africa (HPCSA, 2016) has a set of basic ethical principles for research that need to be adhered to. These include:

- Minimising risks and harm to participants.

- Respect for the participants' right to making informed decisions regarding their participation in the research.
- The participants have a right to privacy and confidentiality and the researcher must ensure that personal information is securely stored.

Andsell and Pavlicevic (2006) highlighted four foundations of ethical research practice that add to those mentioned above, namely informed consent, confidentiality, the dual relationship with the therapist as researcher, and the dual relationship with the client as participant. As a researcher my role was to collect data, but as a therapist the well-being of my clients always took priority. Once the camera was on, I gave my full attention to the therapeutic process.

- Informed consent from parents/guardians and informed assent from participants: I ensured that the participants and their parents/guardians understood the purpose of the research and what it entailed. I read the information form to the teenagers. I highlighted potential risks such as overstimulation and loud volume levels and I managed this by regularly checking-in with band members. I supplied hearing protection to mitigate the noise. I explained what data would be collected and how/where it would be presented. I stressed that participants may withdraw from the research at any point if they so wished, without any negative consequences (they could continue participating in the band if they chose, but would be excluded from research data and their face would be obscured in video footage; or, if they withdrew from the band we would reconfigure the musical arrangements so as not to negatively affect the musical experience of the rest of the band). This was in the form of a written document (Appendices E and G).
- Confidentiality: The identity of participants was kept confidential; no identifying information was included, and pseudonyms were used.
- Managing my dual relationship as therapist and researcher: I acknowledge that I was both a researcher and a participant in the process. Potential conflict within these roles was managed through preparing the music studio before the participants arrived. I was then able to focus on my role as music therapist for the full session. Clinical and

research supervision allowed me to “stand back” as a researcher to view my therapeutic relationship with the participants from a more objective standpoint.

- The dual roles that the clients/research participants assumed: The band members had a dual relationship with me in that they were participants in the study and were music therapy clients. As a music therapist I endeavoured to treat the participants fairly, by ensuring that everyone got a turn, by establishing group norms, and ensuring that everyone felt heard and respected. This was without coercion, and I always made it clear that they were free to withdraw from the project at any time. I also encouraged the participants to voice any opinions or concerns freely as recommended by Ansdell and Pavlicevic (2006).

All participants and their parents/guardians were given information about the study at a briefing that I held before commencement of the research. The participants’ parents/guardians were also provided with an information form (Appendix D) and asked to sign an informed consent form (Appendix E). This included consent to take part in the sessions, to be part of the study and for the video recording of sessions and audio recordings of interviews. The consent forms make clear that the research will ensure confidentiality and that the participants may withdraw at any time. Teenagers signed assent forms to show that they understood and agreed to participate in the study.

Data will be securely stored electronically in a password protected format at the Music Therapy offices of the University of Pretoria for a period of 15 years and confidentiality will be maintained. The consent and assent forms include an explanation that the anonymised transcribed data may be used by future researchers and confidentiality will be maintained.

This process did not elicit difficult emotional material that required a debriefing process or additional therapy.

3.9.1 Communication considerations

In the past, adolescents with communication difficulties were often excluded from research projects such as this due to a lack of appropriate data collection methods for this population (Teachman et al., 2014). However, there have been some advancements in this area and researchers are gathering interview data from such participants using a variety of augmentative and alternative communication (AAC) methods including electronic devices that produce words or sentences, supplying forms with simplified and/or enlarged text on and/or using images to depict concepts, pictograms, gestures etc. (Dalemans et al., 2009). When conducting research with youth who use AAC, Chandra Lehenhagen (2019) recommends that researchers use methods that are flexible and can be adapted to suit individuals' needs. Keeping these recommendations in mind I was able to include a non-speaking participant in the study who communicated using a letterboard. A band member's carer also assisted me in making the questionnaire easier to understand and including multiple choice answers.

3.9.2 Covid-19 considerations

The studio was big enough to allow for social distancing and masks were always worn. I supplied the necessary cleaning products and ensured that surfaces and musical instruments were regularly sanitised. Doors were kept open for ventilation.

4. Data Analysis and Findings

4.1 Introduction

In this chapter I begin by introducing the band members and giving an overview of the sessions. This is followed by a synopsis of the data analysis process, including the coding, and development of categories and themes.

4.2 Participants

I initially included the first five applicants who volunteered and met the criteria for the study, with one applicant in reserve should anyone leave the group. Of the five band members selected, one (Elan) left during the first session due to high levels of anxiety brought on by a dissociative episode. This episode was managed by taking Elan out of the room and attempting to calm them down until a parent came to collect them. Elan does see a medical professional for their dissociative personality disorder. Another member did not attend the first three sessions, cancelling at short notice on the day of the sessions, and finally decided not to join the group. It required bravery for people who suffer from social anxieties to come to the sessions. I enlisted the additional suitable applicant, who observed session three and joined in from session four. This teenager had the added hurdle of joining an existing group, but he was warmly welcomed. Initially he was somewhat disruptive to the group process, but the kindness of the members helped him to settle in and he became more at ease as the sessions progressed.

Parents or carers were sometimes present at the sessions, and this was both a comfort and a hindrance to the process and for the band members. It was necessary for Sapphire's mother to be there to verbalise Sapphire's sentences that she spelled out on her letterboard. Other times a parent or caregiver tried to assist if they thought their child needed guidance or soothing. These attempts at support were sometimes more of a hinderance than a help and they often interrupted the group's process of making music together. For instance, parents tried to assist

their child when they felt they were disturbing other participants, even though these perceived disruptions are an expected part of the music therapy process.

4.3 The Final Four Band Members

Pseudonyms have been used to protect the identity of the band members. A teenager named Elan was initially part of the process, as described above, but they chose to leave the study during the first session. I have therefore not included a description of them in this section.

Will Power is a slim and energetic 17-year-old boy. He enjoys engaging in conversations and asks frequent questions to feed his insatiable curiosity for the world around him. Before joining this research project, he had some formal experience playing the drums and brought his own electronic drum kit to the sessions. Will is very kind and was always willing to give up playing the drums so that others could have a turn. He has an excellent sense of rhythm and is able to play a range of different styles on the kit. He appeared to be the most relaxed of the group and the most willing to try a range of instruments and experiences.

Sapphire Star is a 15-year-old girl. She had recently learned to communicate by pointing to letters on an A4 piece of paper and spelling out words, and did not speak much. Her mother verbalised her words for her when Sapphire wanted to relay something to me or answer a question. Sapphire writes her own lyrics, and her contributions turned into songs that the band played. Even though she did not speak she chose to sing her own songs. She has a good sense of rhythm, and she is able to sing melodies, sometimes singing the words and sometimes vocalising wordlessly. She was happy to try different instruments and seemed to enjoy the electric keyboard and the drum kit but singing was her favourite activity. Sapphire loved using the pitch-bend-wheel on the keyboard, making notes slide up and down repeatedly. She was quite quick to shake her head and exclaim when she did not like something or when something or someone irritated her. She was visibly anxious at times (especially when the musicking got too loud or chaotic), but also regularly smiled broadly when she was enjoying herself.

Rosie Rocker is a kind, gentle, soft-spoken 15-year-old girl who appears a little shy. She loves movies and musicals and often speaks in quotes from her favourite films. Rosie had no formal music training but had been attending individual music therapy sessions with me for about a year. She enjoyed singing, playing the drum kit, the electric keyboard, and various percussion instruments. She often sang along enthusiastically with whoever was on the microphone and kept a steady beat on whatever instrument she was playing.

Ace Groove is a tall and stocky 14-year-old boy with a large and imposing presence. He did not speak much other than a few phrases but appeared to understand most of what was said to him, even though he would choose to ignore others at times. He had not had any formal music lessons but loved playing the drums and percussion instruments, and sometimes the piano. He presented as rather anxious and frequently left the room when overstimulated, only to return a few minutes later full of enthusiasm and energy again.

4.4 Session Observations

I wrote session notes after each session that described what unfolded, my critical reflections, and personal experiences. All the sessions were video recorded (except session three when the camera failed).

Table 1 gives an overview of all sessions and who was present.

Table 1: Session summaries

Session summaries	Attendees
Session 1 The first session began with introductions and an overview of the process. The band members appeared nervous and the relaxation exercise I led made at least one of the members anxious. While I demonstrated the different instruments in the room Elan began to get anxious and told me	Elan Rosie Will Sapphire

<p>that they were having a dissociative episode. Elan began rambling nervously but accepted my offer to try to play guitar. After 20 minutes everyone had settled onto their chosen instrument, and we attempted to play together.</p> <p>Elan's dissociative episode began to worsen, and the rest of the band members were visibly disturbed by it. We made many attempts to try and console Elan and to play together but after an hour Elan's mother came to fetch them. The rest of the session was spent making tentative attempts at playing music together. I sat at the piano and tried to invite everyone to improvise freely and expressively with me and this appeared to give them some confidence to play more enthusiastically and with less hesitation.</p> <p>I ended the session with a discussion on the possible roles of different instruments in the band and by checking in with the participants to gauge their experiences so far. The three teenagers seemed to enjoy the session.</p>	
<p>Session 2</p> <p>The band members started the session by exploring different instruments individually, without any apparent interest in playing together. Will was on the electric keyboard, exploring the different sounds up and down the instrument. A 6/8 groove developed, and I used this to get the group working together by playing it loudly and steadily on the guitar. The band members soon began playing to my rhythm.</p> <p>Rosie was a little shy and withdrawn at the start of the session but became quite excited when she heard about Sapphire's Harry Potter song. Sapphire chose to sing her song and I played some chords on the</p>	<p>Rosie Will Sapphire</p>

<p>guitar. Soon we were all playing together. The band members were very pleased with themselves and perhaps even a little surprised by what they had managed to achieve (Will said, “It sounds like a real song”).</p> <p>We had quite a few moments of grooving together and the band members were focused for much of the session. Sapphire indicated that she was feeling “overloaded”, and we decided to end the session.</p>	
<p>Session 3</p> <p>Ace came and observed a session for the first time today. He took 30 minutes to get out of the car. His mother and a carer coaxed him into the band room. Once there he wandered around the room watching the activity, tentatively testing the sounds of various instruments. Sapphire sang a little louder and with more enthusiasm this time.</p> <p>Will played drum sounds on the electronic keyboard. He has a good sense of time and understands the drum kit. He brought his electric drum set but we did not have the tools to set it up. Rosie sat quietly as before. She chose electric guitar when I asked her what she wanted to play and later moved to percussion instruments. Later she sang a song about <i>Star Wars</i> characters: “Luke Skywalker is brave; Princess Leia is sad, and Yoda is happy”. Sapphire had a go on the keyboard at the end of the session and she loved it. Ace was intrigued with the pitch bend wheel on the keyboard.</p> <p>I realised that I needed to be more directive with the band. If left to their own devices the music became quite repetitive and fixed.</p>	<p>Rosie Will Sapphire Ace</p>
<p>Session 4</p>	<p>Will Ace</p>

<p>This was an extremely difficult session for me. Setting up Will's drum kit took a long time and Will demanded a lot of my attention. Parts of the kit kept coming loose and needed constant tweaking, and the kick drum pedal kept moving which resulted in Will not playing a steady groove for very long.</p> <p>Ace arrived halfway through the session and changed the mood completely. He bashed everything he could and continuously pushed Will off the drum kit. Will was kind and gentle and allowed this to happen. The noise levels were high and there was a lot of dissonance. Sapphire appeared anxious at times and slowly but surely picked away at a shaker made of grass until it was destroyed by the end of the session.</p> <p>I felt quite despondent and irritable, picking up on the countertransference from the band members. Much of the session was spent trying to get Ace's attention and mitigating the unsettling effect he had on others. I was sapped of energy by the end.</p>	Sapphire
<p>Session 5</p> <p>After the difficulties of the previous session, I was quite relieved that only Rosie and Sapphire were present. The mood was more relaxed and gentler. Both teenagers tried out different instruments until Sapphire indicated that she was experiencing sensory overload and that she would prefer to only sing or play drums. We had many extended moments of playing together in time.</p>	Rosie Sapphire
<p>Session 6</p> <p>Will played loudly and often out of sync with the rest of us. Ace and Will appeared to be more anxious and distracted than usual and both required a lot of personal attention. This resulted in another difficult session for me</p>	Sapphire Ace Will

<p>wherein I focused a lot on individuals rather than making music as a group. Sapphire however sang more confidently than before and did not appear to be affected by the noise and chaos of the others.</p>	
<p>Session 7</p> <p>Ace wandered around the room, often standing very close to Will on the drums and causing Will to appear nervous and unsettled. Later when Ace was on the electric keyboard, he became irritated and stood up suddenly, knocked my laptop over in the process and rushed out of the room. It took me some time to set up the laptop again.</p> <p>Aside from Ace's disturbances there were some moments of excitement and enthusiasm. Will and Sapphire both sang eagerly, and Ace did settle down on the acoustic piano and played in time with the group for some extended periods.</p>	<p>Sapphire Ace Will</p>
<p>Session 8</p> <p>Will was very talkative in this session and Rosie was keen to participate. There was very little tension in the room and the first half of the session felt playful and fun. Ace arrived halfway through the session and his strong presence added some nervous energy. Ace demanded a lot of attention, moving from instrument to instrument and in and out of the room, but there were moments of collective musicking.</p> <p>Sapphire and Rosie had a short interaction after the session formally ended and then posed for a photograph together.</p>	<p>Rosie Will Sapphire Ace</p>
<p>Session 9</p> <p>Ace was a little more focused and less disruptive in this session, perhaps the most relaxed he had been so far in the process. Rosie was also a little more engaged, but Sapphire indicated to Will that she did not enjoy the</p>	<p>Rosie Will Sapphire Ace</p>

<p>session when asked. Will felt more confident in telling Ace to wait his turn to play the drum kit, instead of politely giving up his seat as he had done before.</p> <p>Some interesting verbal interactions happened after the session had formally ended when I was outside. Will and Rosie discussed the instruments in the room for a long while on their own.</p>	
<p>Session 10</p> <p>Ace participated and sat still more than ever, and he appeared to be calmer than in the earlier sessions. The others were enthusiastic and there was more exploration of sounds and ways of playing. There was also more verbal interaction between them, including some good-natured banter and the odd instruction or suggestion to other members.</p> <p>We ended the session with a discussion of the process and all the band members indicated that they had enjoyed it and would love to continue if possible.</p>	<p>Rosie</p> <p>Will</p> <p>Sapphire</p> <p>Ace</p>

The group musicking did not feel at all competitive, but rather collaborative and the teenagers appeared to mostly enjoy playing together and often did so quite spontaneously. They were encouraged to try out different instruments and we regularly swapped so that they each got a turn to play the different instruments. Having a variety of instruments available allowed the band members to freely explore and discover new ways of expression but it also meant that the band members had to learn to give others a chance on instruments and to wait their turn.

Autistic teenagers with different abilities were able to work together. There were moments where members caused each other anxiety or concern, but by checking in regularly with each participant I was mostly able to manage or resolve any issues that occurred. Band members had different strengths which they were able to showcase. For example, Sapphire was mostly

non-speaking but wrote lyrics and elected to sing most of the songs. Will brought his electronic drums along and was able to keep a steady rhythm.

As the sessions progressed, non-musical communications between band members increased during breaks and after the sessions ended. The music appeared to create some cohesion between the members, and interesting interactions occurred between the participants such as when Rosie showed concern for someone who was anxious, when Sapphire indicated to others that she was feeling overstimulated, or when Will learned to say no sometimes when Ace wanted to play the drums (and Ace needed to learn to wait his turn). The teenagers were often seen smiling and appeared happy at the end of a successful run-through of a song and as they were beginning to be more relaxed in each other's presence towards the end of the process.

4.5 Analysis of the Questionnaire

I distributed the questionnaire (Appendix C) digitally using Google Forms and via email a week before the final session. I explained to the participants that their honest answers would assist me to run future groups of a similar nature. I asked them to let me know both negative and positive aspects of the process that arose and used the example of the relaxation exercise that I did at the first session. I had discovered that the relaxation activity actually made some of the participants anxious and therefore discontinued it.

All of the participants indicated that they had enjoyed the experience of playing in a rock band that they would do it again. Sapphire and Will answered that they were excited before coming to each session, while Ace said he was sad, and Rosie said that she was "sometimes nervous". When asked how they felt after the sessions Sapphire said, "I felt very motivated to make music" and Will said, "I felt normal and excited". Rosie answered, "happy" and Ace said, "calm".

In answer to the question “What did you find difficult?”, Sapphire responded, “I always get frustrated with my apraxia”. Will did not find anything difficult, while Rosie found guitar to be “a bit hard” and Ace indicated that he did not like sitting for “very long”.

Sapphire said that she learnt that the other participants also have strengths and Will said that he learnt that “some band members were a bit anxious from wearing the mask, one could not talk verbally but can communicate by writing”. The answers were later coded and combined with the codes from the video excerpts.

4.6 Selection of Video Excerpts

Table 2 shows a description of the video excerpts that were chosen according to the criteria listed in section 3.6 of chapter three.

Table 2: Selected excerpts

Session	Time	Reason for selection	Short description	Attendees
1	01:09:10 (2:01 total)	Shows the lack of interaction, and nervousness within session one.	One member had a dissociative episode and left the session. This clip starts shortly after they left. We start playing together hesitantly.	Elan Rosie Will Sapphire
2	00:42:02 (1:00 total)	This was the first time we played together for an extended period.	We played Sapphire’s song and grooved together for a long time. The teenagers were very pleased with themselves at the end.	Rosie Will Sapphire
3	01:19:09 (2:15 total)	Ace’s presence in the room changed the	Ace arrived and the energy of the room changed	Will Ace Sapphire

		energy and created tension.	completely. He bashed the drums constantly.	
4	01:36:10 (1:55 total)	Sapphire sang her song. She did not have much confidence yet. Rosie plays drums in time.	Rosie kept good time on the drums and Sapphire was becoming more accustomed to singing.	Rosie Sapphire
5	01:21:45 (2:00 total)	This excerpt is drawn from the end of a stressful session that was largely dominated by Ace wandering around the room. Will was distracted and lost the beat at times. Ace was at the piano.	Will slowed down when I asked him to play softer. The song grooved for a while but then started to fall apart. Sapphire sang but was very conscious of Ace on the piano next to her.	Sapphire Ace Will
6	00:30:35 (1:52 total)	The first time Ace played together with the others for an extended period.	Ace played in time for an extended period, then the music became disjointed and came to an end when he moved to the drums.	Sapphire Ace Will
7	01:05:14 (1:22 total)	Ace arrived and the room was tense.	The beat was laboured, and I struggled to drive the rhythm. Rosie played the drums and Will played the bass. Sapphire looked nervous but her singing became more confident towards the end of	Rosie Will Sapphire Ace

			the clip. Ace was on the electric keyboard.	
8	01:40:58 (2:12 total)	A non-musical interaction between Will and Sapphire occurred after the session formally ended. They were inquisitive and casually discussed instruments in the room.	Will was playing on the electric keyboard and began asking Rosie about the acoustic piano in the room. Rosie responded to his questions with answers that related to his questions but don't quite answer them. He then asked if he could sing and started tapping the mic rhythmically and exploratively. Rosie played along gently on the drum kit. Will sang Sapphire's Harry Potter song. They continued chatting until I returned to the room.	Rosie Will Sapphire Ace
9	01:01:19 (2:16 total)	All four teenagers played together in time.	Ace was on drums, and I used his tempo to start the song. Will played bass and Sapphire sang enthusiastically. Rosie was on the electric keyboard and spontaneously joined in on vocals. At one point Ace got up and left the room while the others continued playing.	Rosie Will Sapphire Ace

4.7 The music

Although the focus of this study was primarily on the process, a selection of audio clips has been added to give a sense of the music from the start to the end of the process. These include clips that were used to create the thick descriptions and a few songs. The files have been edited to remove the names of the participants. The audio files can be downloaded here:

https://drive.google.com/drive/folders/1ESytipDMG7i_Kqb_NMKSV3Z7NKX6LhH3?usp=sharing

4.8 Coding

Once I had completed writing the thick descriptions for all nine excerpts, I began by selecting events from the descriptions and assigning them codes that described or depicted the significance, emotional feeling, and nature of the event.

Table 3 shows an excerpt of a thick description from session 2, with the codes allocated to it.

Table 3: Excerpt of a thick description

Thick Description (excerpt from session 2)	Codes
Rosie is seated to Will's left, with a djembe drum between her knees. Her left hand rests on the drum and with her right (3) she beats steady quarter notes using a light wooden mallet. She keeps good time with my guitar rhythm, (4) playing confident eighth notes (although her flitting eyes still show some nervousness). (5) She follows my instructions to stop and start again. Rosie watches Sapphire sing from time to time and (6) plays rapidly and enthusiastically as I bring the song to an end, playing a last loud beat as we all end together.	(3) R plays steadily (4) R's playing sounds confident, but she appears to be nervous. (5) R follows G's instruction (6) R's enthusiastic engagement

Next, I assigned codes to the answers from the questionnaire (Appendix C). These answers included the participants' emotional experiences on various aspects of the process as well as their views on their engagement with others. Codes derived from the questionnaire include overstimulation, dealing with disability, difficulty playing instruments, enjoyment, excitement, happiness, and calm. These codes were combined with the codes developed from the thick descriptions.

4.9 Developing themes and categories

Once I had a list of codes from the video excerpts and the questionnaires, I grouped them into themes and categories (which could be thought of as sub-themes). The three themes were as follows:

- 1) Engaged collective musicking: This theme grouped together codes that depicted instances of musical connection. The categories within this theme highlighted three different aspects to show whether the engagements were self-driven or therapist-driven and included inquisitive discussion around the music as this was also a collective process.
- 2) Tentative or minimal musical connection: This theme grouped together codes that showed nervous engagement and an inward focus. The codes were further grouped into two categories to differentiate between cautious engagement with others, and a focus on self with minimal engagement or connection.
- 3) Varied emotional experiences: This theme grouped together codes that depicted the varied emotional states of the participants. These emotional experiences were then grouped into two categories to differentiate between uncomfortable emotional states and pleasant emotional states.

Table 4: Themes, categories and codes

Themes	Categories	Codes
Engaged collective musicking	Self-driven musicking	Playful engagement Exploration as part of engagement Listening to others (attuned) Group musical engagement Steady playing Concentrating on the music Musical body movement (entrainment)
	Therapist-led musicking	Engaging with MT MT matches/mirrors Direction by MT
	Inquisitive discussion	Verbal engagement Choosing instruments
Tentative or minimal musical connection	Cautious engagement	Unsteady playing Hesitance Lacking confidence Nervous musical engagement
	Focus on self	Lack of interactional response Exploration as part of inner absorption Self-directed musicking
Varied emotional experiences	Uncomfortable emotional state	Nervousness Anxiety Frustration Overstimulation Dealing with disability Difficulty playing instruments Sitting

		Sad
	Pleasant emotional state	Sense of pride Enjoyment Excited Motivated Happy Calm Collective enjoyment

4.10 Conclusion

In this chapter the process of data collection and analysis was described. The main themes were presented with their corresponding categories and codes. In the following chapter I will discuss these findings in light of the literature explored in chapter two and with the purpose of addressing the research questions.

5. Discussion

5.1 Introduction

In this chapter I discuss the themes and categories that were developed during the data analysis process, and how they relate to the research questions, namely:

In what ways do a diverse group of autistic teenagers engage with one another in the process of becoming a rock band?; What benefits might they gain through the process?

5.2 Theme 1: Engaged Collective Musicking

The first theme, Engaged Collective Musicking, refers to the many instances that saw band members playing music together. The term “musicking”, coined by Christopher Small (1998), describes the system of relationships between the people making music, the sounds, the instrument and the physical space, in order to enrich individual, collective and cultural needs. As discussed in the literature review, playing music in a group cultivates interpersonal relationships and offers collective musical and emotional experiences that can serve as powerful social bonding experiences. In the current study, playing together required the participants to be attuned to and listen to each other in a manner that facilitated keeping in time with each other and being able to react to changes in the music. Pavlicevic (2004) suggests that musicking produces a sense of social coherence by coordinating the participants with each other and increasing their sense of group and social attachment. She goes on to state that music therapy can engender relationships between people who might otherwise have no path for relating to each other.

Within the participants’ engaged collective musicking were moments of self-driven musicking, therapist driven musicking and inquisitive dialogue relating to the musicking, such as choosing an instrument or discussing the feel of a song.

Self-driven musicking highlighted instances where the band members played music in a manner that indicated that they were listening to each other and were engaged musically in ways that showed playfulness, exploration, and a steadiness to their playing. Wigram (2019, pp. 424–428) states that “in music therapy interaction, the individual behind the autistic pathology can step forward and show their actual potential”.

Members often followed each other’s dynamic ranges, tempo changes and grooved together in a manner suggestive of rhythmic entrainment. In these moments the participants could often be seen moving their bodies to the beat as if they were immersed in the music. These moments of collective musicking increased as the sessions progressed, and the participants began to feel more confident. As an example of this, in session seven, I took a cue from the rhythm that Ace was playing on a djembe drum and signalled Sapphire and Will to join in resulting in the following interaction:

The verse ends, and I cue everyone to drop in volume by shouting “soft” and I accent beat one of each bar. Will is watching me closely and he catches the accents with me. Ace follows the softer dynamic by gently bouncing the mallet on the djembe. Sapphire lifts her arm enthusiastically into the air on the downbeat. I cue the band to get louder, and Will follows getting faster in the process and then settling on a pounding eighth note rhythm on the tom. I cue Sapphire to sing, and she does so while beating a strong rhythm on the woodblock.

Making music in a group requires focused engagement for extended periods of time, and this was certainly achieved repeatedly by the band. Initially the band members were rather hesitant and unsure of what to play unless I guided them and prompted them to do so in my role as music therapist. Codes that emerged from my interactions with the participants were: Engaging with MT, MT matches/mirrors and Direction by MT. These therapist-led engagements changed in nature as the sessions progressed. My role in the first session was to try and introduce a safe space where the participants could feel comfortable enough to freely explore the instruments in

the room, and to play them in front of (and together with) others in the room. I was more directive in this session than in any of the preceding sessions. Music therapists are trained in skills that allow them to accompany a participant's exploration of instruments. This can assist the participant in progressing musically, creating a safe space for further exploration and in them feeling heard (Gadberry & Harrison, 2016).

After the first session I let go of my impulse to direct the band and began to take cues from the band members. I did this by matching or mirroring phrases, accents or words that sometimes spontaneously arose while musicking and at times a musical offering from a band member would develop into an enthusiastic and extended "jam". For example, Ace tended to play loudly on the djembe drum, at his own tempo, ignoring my count-in tempo. By matching his natural, steady beat, it was easier to get the other band members to play along until we all "locked-in" to the groove. Aigen (2014) points out that in order to groove together the players need to keep a steady tempo and be able to respond to the music of the other players. This requires focused attention and responsiveness that may have been challenging for the teenagers in this study, but as Aigen further goes on to state "...when an individual can participate in this aspect of a style, here is a circumventing of disability as one is elevated to a higher level of integrated human functioning" (pp. 53-54). The music gave the band members a common theme around which they could negotiate the terms of their musicking (through their choices of instruments, song tempos, stylistic decisions etc). This highlights how the band afforded members the opportunity to explore social skills as discussed in the literature review.

These moments of grooving together sometimes elicited a smile from the participant or perhaps a playful call-and response engagement between us, and participants could often be seen spontaneously moving their bodies to the rhythm. Answers from the questionnaire showed that the band members enjoyed these experiences of playing together. Autistic teenagers often struggle with social interactions (Volkmar & Wiesner, 2018) but being together in this rock group and "in the music" together was an enjoyable way for the members to connect around a common interest.

I included inquisitive discussion under the theme engaged collective musicking due to the content and nature of the discussions. The topics were often about the music, the instruments, the sounds and the lyrics and felt like an important part of (or an extension of) the musicking. Will was by far the most verbally engaging of the participants and asked many questions about instruments and playing music. Musical interactions also elicited questions or responses from other members too, such as when Rosie engaged with Sapphire about the lyrics to Sapphire's Harry Potter song, or Will and Rosie discussed *Star Wars* in response to Sapphire's "sci-fi" synthesizer sounds on the electric keyboard. This links to research by Hillier et al. (2011) who found that participation in a music therapy intervention substantially improved autistic adolescents' attitudes toward their peers and to Epstein et al. (2019) who found that musical experiences also encouraged verbal expression in autistic children. Sapphire often waved for her mother to come into the room so that she could voice her opinion and was very adept at communicating by pointing to alphabet letters on an A4 piece of paper.

5.3 Theme 2: Tentative or Minimal Musical Connection

While there were many occasions where the participants enthusiastically engaged with one another, there were also times when the musical connection was more tentative and limited. Band members' lack of confidence on an instrument sometimes led to nervous and unsteady playing. Participants were often individually focused on their own instruments, ignoring the music of the others, and sometimes overpowering them. I actively encouraged the participants to freely explore the instruments, and I allowed them to make as much noise as they could muster or stand. This self-focused playing was a necessary part of the process, as the band members explored the instruments and became accustomed to the sounds, so they built up confidence. There was however a limit to this explorative playing as the noise and dissonance rose to uncomfortable levels, I would be somewhat directive again by playing my guitar in a strong, simple, and steady way to shift the participants' self-focused playing to a focus on the collective musicking.

Hillier et al. (2011) found that flexibility and creativity in music composition methods may have assisted the participants in their tolerance for change and the unexpected, and this also assisted in the reduction of anxiety. This did appear to be the case as the band members often tolerated high noise levels during the communal process of workshopping songs. They were able to sit with the seeming auditory chaos and allow it to develop into a communal musicking.

The members' own moods and actions also had a profound influence on each other's playing as can be seen in the following excerpt from session four:

Ace arrived halfway into the session and changed the mood completely. He bashed everything he could and kept shoving Will off the drum kit. Will is kind and gentle and allowed this to happen. The noise levels were high and there was a lot of dissonance. Sapphire appeared anxious at times and nervously picked away at a grass shaker until it was destroyed by the end of the session. Much of the session was spent trying to get Ace's attention and mitigating the unsettled mood that he brought to the session.

In studies by Fernández et al., (2014) and McFerran (Rickard & McFerran, 2012) it has been shown that music therapy can help adolescents in reducing disruptive behaviour, and in building resilience, competence and connectedness. Some restless behaviour continued, but it appeared to be more tolerated by the members as they became more comfortable with each other. The nature of the musical connections within the group changed as the sessions progressed and the band members became more at ease with the process and each other. They appeared to build some resilience to the cacophony and allowed the noise time to develop (as it sometimes did) into a more structured, communal musicking. The participants played the songs over and over, refining their playing and gaining confidence as the sessions progressed.

5.4 Theme 3: Varied Emotional Experiences

Being part of a rock band afforded this group of teenagers the opportunity to experience a range of emotions in their journey together, including uncomfortable and pleasant emotional experiences. Throughout the sessions there were many moments of frustration and anxiety caused by trying to play an instrument, loud noises, distractions by other band members and a host of other factors.

There were instances where members indicated that they were feeling overstimulated or “overloaded”, but these were important moments of learning as highlighted in the following excerpt from session eight:

I count everyone in at a tempo that matches Ace’s playing and I play a simple, heavy rock rhythm on the guitar. Sapphire plays her shaker enthusiastically on the down beats while Ace continues playing on the cymbals as before. Will continues plucking the bass very hard, resulting in him not being able to play steadily in time. I try to cue Sapphire to sing but she doesn’t join me, while Ace and Will play louder, out of time with each other. Sapphire is visibly disturbed by the noise, and she puts her hand out to try and silence Ace’s bashing. I suggest we try again to play together. Ace is now playing the same rhythm loudly on the toms. Sapphire, looking concerned, says, “mmm mmm” into the mic.

This shows a moment where band members were not focused on playing together and a loud, dissonant noise ensued. Moments like this occurred frequently throughout the process, however, importantly, Sapphire was confident enough to voice her displeasure. Will and Rosie, who were both kind and helpful and rarely spoke out against others, also became comfortable enough to disagree, or to turn down a request.

There were also many instances of pride and a sense of achievement such as after the successful run-through of a song or an extended period of musicking. Answers in the questionnaire indicated that two members were nervous or sad before the sessions and the other two felt excited. After the sessions all participants indicated that they experienced pleasant emotional states.

The following excerpt from session two shows the sense of achievement and pride experienced by the band members:

As the song comes to an end, Sapphire smiles proudly and gives a nod of acknowledgement to Rosie, who happily nods back at her. I say that I am very proud of the group. Will is thrilled and comments “it sounds like a real song” and I respond to the teenagers that “it is a real song”. Rosie repeats my words “a real song, yeah” with a laugh, nodding in agreement.

There were many such moments during the sessions. In his introduction to the book *Adolescents, Music and Music Therapy* (Mcferran et al., 2019 pp.13) Tony Wigram states that music can assist with identity formation, self-esteem and that it helps to build relationships between people. He goes on to say that music can be pleasurable and motivational, but it also has the capacity to encompass conflicting and uncomfortable emotions often felt in adolescence. This links to Rickson’s reflections in the same book (Mcferran et al., 2019 pp. 139-149) on the opportunities group musicking provides for adolescents to modify their feelings towards themselves and others, while inspiring self-expression and the development of positive self-image.

6. Conclusion

Based on the data analysis and the opinions of the participants themselves, the first research question “In what ways do a diverse group of autistic teenagers engage with one another in the process of becoming a rock band?” can be answered as follows: The early sessions were filled with some apprehension on the part of the band members and in my role as music therapist I had to be more directive. Through encouragement, discussion and some instruction the teenagers quickly realised that they were free to explore the instruments and sounds. This led to instances of playful engagement, more exploration and more engagement with each other. The pleasure and sense of pride in making music together was palpable and motivated the band members to continue building their musical abilities, listening to each other and concentrating on the collective process. The nervousness, overstimulation and frustrations could be easily managed once the participants realised that they had some agency over this (for example in learning that it is acceptable to say “no”, ask for a break or indicate that they feel overstimulated). All the members indicated that they enjoyed the process and would like to do it again.

The rock band became a space for the teenagers to make equally valid contributions to the common objective of playing music together. In my role as music therapist, I attempted to recognise and validate each member’s contributions and to incorporate them into the musicking. Neurodiversity could be embraced and valued within the format of these sessions, because we were making “our music”, a music that was a collective expression of each member of the band.

The second research question was “What benefits might they gain through the process?”. An important realisation for the band members was that they were able to make music together in a way that sounded like (to use Will’s words) “a real song”. This boosted their confidence and gave them a sense of pride. The teenagers were surprised by the fact that they enjoyed (to quote Sapphire) “being with others” and Rosie commented that it was “cool to sing with Will”. The participants also learned more about each other as can be seen from Sapphire’s words, “I

learnt that they have strengths and weaknesses too” and they learned new skills such as playing instruments and working together in a group to make communal music that is authentically their own. These skills also necessitated them in learning to focus on the others in the room, listen to them and respond to them accordingly.

As the sessions progressed, so too did their confidence levels and their eagerness to participate. The teenagers used the words “excited”, “motivated”, “happy” and “calm” to describe how they felt after the sessions, which indicates that the musicking may have had a positive emotional effect on them.

Another outcome of the rock band sessions was that the band members have continued to keep in touch with each other after the completion of the study. They have met twice at participants’ homes for karaoke sessions, and I was present at both social occasions. The band members have indicated that they would like to see more of each other. Afterwards Sapphire’s mother texted her daughter’s words: “singing was heavenly - I loved it! I get chipper when I play drums. Live interaction with others is so much nicer than linking up via the internet. Having friends is realising my dream of having a great life despite my challenges. I definitely want to join up with them again.”

6.1 Limitations

This data collection was completed during the Covid-19 pandemic which necessitated the wearing of face masks, leaving doors and windows open for ventilation and regular sanitising of hands and surfaces. Wearing masks may have had an impact on the relationships and behaviours in the room due to them obscuring facial expressions and the other safety precautions may have caused a distraction.

Another limitation was the inability to ascertain if any of the benefits derived by the teenagers could be transferred to other areas of their lives. The study ran over a relatively short period of

time and may have resulted in different outcomes had it continued. Due to the small sample of participants, and the nature of qualitative studies such as this one, the findings may not be generalisable, however practitioners are encouraged to explore the similarities between the context of this study and their own practice and to critically draw insights from the findings that may hold relevance for them in their own work.

6.2 Recommendations for Future Research

There appeared to be many benefits derived by the participants from the rock band process and this study therefore advocates for more research around this format with autistic teenagers. It is also suggested that longer-term studies be conducted to see if the benefits increase with time and if these benefits transfer to other aspects of the participants' lives.

Due to the fact that many autistic people are not catered for and are often marginalised in our unequal society, suggestions for further study could include running similar projects with a mix of neurotypical and neurodiverse teenagers. This may lead to methods to integrate autistic teenagers into society and also expose neurotypical teenagers to neurodiversity in the hope of nurturing more tolerance and acceptance of difference.

6.3 Concluding Comments

This study began with questioning how a group of autistic teenagers might form a rock band and whether they derived any benefits from it. As highlighted in this chapter, the teenagers were able to form a rock band by facing their fears, learning to experiment and explore instruments and sounds, and working together. The process was not without challenges, and it took courage, concentration, patience, a tolerance and awareness of others and much dedication to be able to play together. The pleasure of making music in a group motivated the teenagers to continue despite the challenges that they faced, and they can be proud of themselves for their achievements.

References

- Aigen, K. S. (2014). *The study of music therapy: Current issues and concepts*. Routledge Taylor & Francis Group.
- American Psychological Association. (2020). *Publication manual of the American Psychological Association* (7th ed.). American Psychological Association.
- Ansdell, G. (2016). *How music helps in music therapy and everyday life*. Routledge.
- Ansdell, G., & Pavlicevic, M. (2006). *Beginning research in the arts therapies a practical guide*. London Jessica Kingsley Publishers.
- Baron-Cohen, S. (2008). *Autism and Asperger syndrome*. Oxford University Press.
- Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and Implementation for novice researchers. *The Qualitative Report*, 13(4), 544–559.
<https://doi.org/10.46743/2160-3715/2008.1573>
- Beaumont, M. (2014, September 12). *The Vines' Craig Nicholls: "I already thought I was a genius."* The Guardian. <https://www.theguardian.com/music/2014/sep/12/the-vines-craig-nicholls-i-already-thought-i-was-a-genius>
- Bennett, H. S. (2017). *On becoming a rock musician*. Columbia University Press.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Bruscia, K. E. (2005). Standards of integrity for qualitative music therapy research. *Voices: A world forum for music therapy*, 5(3). <https://doi.org/10.15845/voices.v5i3.238>
- Carron, M. (2000). *Music groups*. www.midwestmusictherapy.com.

http://www.midwestmusictherapy.com/Midwest_Music_Tx/music_groups.html

- Corbett, B., & Simon, D. (2013). Adolescence, stress and cortisol in autism spectrum disorders. *OA Autism*, 1(1). <https://doi.org/10.13172/2052-7810-1-1-348>
- Dalemans, R., Wade, D. T., van den Heuvel, W. J., & de Witte, L. P. (2009). Facilitating the participation of people with aphasia in research: a description of strategies. *Clinical Rehabilitation*, 23(10), 948–959. <https://doi.org/10.1177/0269215509337197>
- Dawson, J., Durepos, G., Mills, A. J., & Wiebe, E. (2009). *Encyclopedia of case study research* (pp. 943–944). Sage.
- Epstein, S., Elefant, C., & Thompson, G. (2019). Music therapists' perceptions of the therapeutic potentials using music when working with verbal children on the autism spectrum: A qualitative analysis. *Journal of Music Therapy*, 57(1). <https://doi.org/10.1093/jmt/thz017>
- Eren, B. (2015). The use of music interventions to improve social skills in adolescents with autism spectrum disorders in Integrated group music therapy Sessions. *Procedia - Social and behavioral sciences*, 197(1), 207–213. <https://doi.org/10.1016/j.sbspro.2015.07.125>
- Fernández, R. C., Vázquez, M. D. M., & Ferreiro, F. J. (2014). Music therapy in adolescent disruptive behaviour. *Procedia - Social and behavioral sciences*, 132(132), 608–614. <https://doi.org/10.1016/j.sbspro.2014.04.361>
- Finlay, L. (2002). Negotiating the swamp: the opportunity and challenge of reflexivity in research practice. *Qualitative research*, 2(2), 209–230.
- Finlay, L., & Gough, B. (2003). *Reflexivity: a practical guide for researchers in health and social sciences* (pp. 209–230). Blackwell Science.

- Gadberry, A. L., & Harrison, A. (2016). Music therapy promotes self-determination in young people with autism spectrum disorder. *International journal of School & Educational Psychology*, 4(2), 95–98. <https://doi.org/10.1080/21683603.2016.1130580>
- Given, L. M. (2008). *The Sage encyclopedia of qualitative research methods*. Sage Publications.
- Green, J., & Thorogood, N. (2004). *Qualitative methods for health research*. Sage Publications.
- Grosso, K. (2011, December 5). *A Conversation with James Durbin: His new album, music and autism | Psychology Today South Africa*. [Www.psychologytoday.com](http://www.psychologytoday.com).
<https://www.psychologytoday.com/za/blog/autism-in-real-life/201112/conversation-james-durbin-his-new-album-music-and-autism>
- Hillier, A., Greher, G., Poto, N., & Dougherty, M. (2011). Positive outcomes following participation in a music intervention for adolescents and young adults on the autism spectrum. *Psychology of Music*, 40(2), 201–215.
<https://doi.org/10.1177/0305735610386837>
- HPCSA. (2016). 2017. Form 223 - Ethical rules of conduct. 1st ed. [ebook] Ethical and professional rules of the health. HPCSA.
- Kaplan, R. S., & Steele, A. L. (2005). An analysis of music therapy program goals and outcomes for clients with diagnoses on the autism spectrum. *Journal of music therapy*, 42(1), 2–19.
<https://doi.org/10.1093/jmt/42.1.2>
- Kolb, B. M. (2018). *Marketing research: A concise introduction*. Sage.
- Krüger, V. (2008). Musikterapi som læring i praksisfellesskap: en fortelling om et rockeband. In *nmh.brage.unit.no* (pp. 397–411). Norges Musikkhøgskole.

<http://hdl.handle.net/11250/172159>

LaGasse, A. B. (2014). Effects of a music therapy group intervention on enhancing social skills in children with autism. *Journal of music therapy*, 51(3), 250–275.

<https://doi.org/10.1093/jmt/thu012>

Leavy, P. (2017). *Research design: quantitative, qualitative, mixed methods, arts-based, and community-based participatory research approaches*. Guilford Press, Cop.

Lebenhagen, C. (2019). Including speaking and nonspeaking autistic voice in research. *Autism in adulthood*, 00(00), 1–4. <https://doi.org/10.1089/aut.2019.0002>

Marx, S. (2012). *The Sage encyclopedia of qualitative research methods* (p. 795). Sage Publications.

Matthews, B., & Ross, L. (2010). *Research methods: a practical guide for the social sciences*. Pearson Longman.

Maxwell, J. A. (2013). *Qualitative research design: An interactive approach* (3rd ed.). Sage Publications.

Mcferran, K., Philippa Derrington, & Suvi Saarikallio. (2019). *Handbook of music, adolescents, and wellbeing*. Oxford University Press.

Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: a guide to design and implementation* (4th ed.). Jossey-Bass, Cop.

N/A. (2019). *Kodi Lee | Musician, pianist, entertainer, AGT golden buzzer winner!* Kodi Lee. <https://www.kodileerocks.com/>

North, A. C., Hargreaves, D. J., & O'Neill, S. A. (2000). The importance of music to adolescents. *British Journal of educational psychology*, 70(2), 255–272.

<https://doi.org/10.1348/000709900158083>

Overy, K., & Molnar-Szakacs, I. (2009). Being together in time: Musical experience and the mirror neuron system. *Music perception*, 26(5), 489–504.

<https://doi.org/10.1525/mp.2009.26.5.489>

Pavlicevic, M. (2003). *Groups in music: strategies from music therapy*. Jessica Kingsley Publishers.

Pavlicevic, M. (2004). Taking music seriously: Sound thoughts in the newer South Africa.

Muziki, 1(1), 3–19. <https://doi.org/10.1080/18125980408529729>

Picci, G., & Scherf, K. S. (2014). A two-hit model of autism. *Clinical psychological science*, 3(3), 349–371. <https://doi.org/10.1177/2167702614540646>

Ponterotto, J. G. (2005). Qualitative research in counseling psychology: A primer on research paradigms and philosophy of science. *Journal of Counseling Psychology*, 52(2), 126–136. <https://doi.org/10.1037/0022-0167.52.2.126>

Rapin, I., & Tuchman, R. F. (2008). Autism: definition, neurobiology, screening, diagnosis.

Pediatric clinics of North America, 55(5), 1129–1146.

<https://doi.org/10.1016/j.pcl.2008.07.005>

Richards, L. (2015). *Handling qualitative data: a practical guide*. Los Angeles, California: Sage.

Rickard, N. S., & McFerran, K. (2012). *Lifelong engagement with music: Benefits for mental health and well-being*. Nova Science.

Robertson, P. (2017, September 5). *Gary Numan: I don't see my Asperger's as a disability - it's an advantage*. Express.co.uk. <https://www.express.co.uk/life-style/health/850136/gary-numan-aspergers-disability-singer-synth-pop>

- Saarikallio, S., & Erkkilä, J. (2007). The role of music in adolescents' mood regulation. *Psychology of Music*, 35(1), 88–109. <https://doi.org/10.1177/0305735607068889>
- Saldaña, J. (2011). *Fundamentals of qualitative research*. Oxford University Press.
- Saunders, M., Lewis, P., & Thornhill, A. (2009). Understanding research philosophy and approaches to theory development. In *Research Methods for Business Students* (pp. 106–135). Pearson Education.
- Schall, C., Wehman, P., & Carr, S. (2014). Transition from high school to adulthood for adolescents and young adults with autism spectrum disorders. In *Adolescents and adults with autism spectrum disorders* (pp. 41–60). Springer.
- Shi, Z.-M., Lin, G.-H., & Xie, Q. (2016). Effects of music therapy on mood, language, behavior, and social skills in children with autism: A meta-analysis. *Chinese Nursing Research*, 3(3), 137–141. <https://doi.org/10.1016/j.cnre.2016.06.018>
- Small, C. (1998). *Musicking: the meanings of performing and listening*. Middletown Wesleyan Univ. Press.
- Soshensky, R. (2011). Everybody is a star: Recording, performing, and community music therapy. *Music therapy perspectives*, 29(1), 23–30. <https://doi.org/10.1093/mtp/29.1.23>
- Teachman, G., McDonough, P., Macarthur, C., & Gibson, B. E. (2017). A Critical dialogical methodology for conducting research with disabled youth who use augmentative and alternative communication. *Qualitative inquiry*, 24(1), 35–44. <https://doi.org/10.1177/1077800417727763>
- Teachman, G., Mistry, B., & Gibson, B. E. (2014). Doing qualitative research with people who wave communication impairments. *SAGE research methods cases part*, 1.

<https://doi.org/10.4135/978144627305013514660>

- Tenaille, F. (2002). *Music is the weapon of the future: fifty years of African popular music*. Lawrence Hill Books.
- Terre Blanche, M., Durrheim, K., & Painter, D. (2014). *Research in practice: applied methods for the social sciences*. Juta And Company Ltd.
- Tervo, J. (2001). Music therapy for adolescents. *Clinical child psychology and psychiatry*, Vol. 6(1), 79–91.
- Tervo, J. (2005). Music therapy with adolescents. *Voices: A world forum for music therapy*, 5(1). <https://doi.org/10.15845/voices.v5i1.216>
- The AutistiX. (2020). *The AutistiX unique rock band*. The AutistiX. <https://www.theautistix.com/>
- van Steensel, F. J. A., Bögels, S. M., & Perrin, S. (2011). Anxiety disorders in children and adolescents with autistic spectrum disorders: A meta-analysis. *Clinical child and family psychology review*, 14(3), 302–317. <https://doi.org/10.1007/s10567-011-0097-0>
- Volkmar, F. R., & Wiesner, L. A. (2018). *Essential clinical guide to understanding and treating autism*. Hoboken, New Jersey Wiley.
- Whipple, J. (2004). Music in intervention for children and adolescents with autism: A meta-analysis. *Journal of music therapy*, 41(2), 90–106. <https://doi.org/10.1093/jmt/41.2.90>
- Wigram, T. (2019). *Comprehensive guide to music therapy, 2Nd edition*. (S. L. Jacobsen, L. Ole Bonde, & I. Nygaard Pedersen, Eds.; pp. 424–428). Jessica Kingsley.
- Wigram, T., & Gold, C. (2006). Music therapy in the assessment and treatment of autistic spectrum disorder: clinical application and research evidence. *Child: Care, health and development*, 32(5), 535–542. <https://doi.org/10.1111/j.1365-2214.2006.00615.x>

- Wigram, T., Nygaard Pederson, I., & Ole Blonde, L. (2019). *Comprehensive guide to music therapy, 2Nd Edition*. Jessica Kingsley.
- Yin, R. K. (2012). *Applications of case study research* (3rd ed.). Sage.
- Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Sage Publications, Inc.



Appendix A

Description of Research for Applicants

Study Title: Becoming a Rock Band: Music Therapy with Autistic Teenagers

This study will be exploring the process and outcomes of playing in a rock band made up of teenagers with Autism Spectrum Disorder (ASD). Dates and times that suit you will be discussed once participants have been selected. Ten two-hour sessions will be held weekly at a studio in Norwood, Johannesburg. Physical distancing will be strictly adhered to. Participation in this study is entirely voluntary and your child may withdraw at any stage without any negative consequences.

A medical diagnosis of ASD is a necessary requirement, and the applicant must be between the ages of 13 and 19 during the study period. Band members will not be selected on “musical ability” and no previous musical experience is necessary. The applicant must also meet all the following requirements to be considered for inclusion in the study:

- Must be able to answer opinion-based questions regarding the study either verbally, in writing or using a generative Augmentative and Alternative Communication (AAC) system.
- Must be physically capable of deliberately playing a sound on an instrument. Where possible suitable instruments will be allocated or adapted to suit the needs of participants (for example a guitar can be tuned to a simpler tuning allowing one to play chords with one finger).
- Must be between the ages of 13 and 19 years old.
- Must be willing to wear hearing protection during the sessions and be able to tolerate loud noises. I will supply in-ear and over-ear noise protection. If necessary, drum sounds can be muted using rubber mats. (I will supply these.)

The group will be as diverse as possible in terms of gender, race, speaking/non-speaking and physical ability. The sessions will be video recorded.

All information will be treated as confidential and private. Pseudonyms will be used in all written documents. Only myself and my supervisor will see the video recordings. These will be transcribed, and the transcriptions will be archived for 15 years at the Music Therapy offices at the University of Pretoria in a password protected electronic format (the original video data will be destroyed). Future researchers may choose to use these transcribed notes and your confidentiality will be ensured.

For more information on the study contact:

Graeme Sacks

graeme.sacks@gmail.com

0824506740



Appendix B

Application Form

Please answer all questions

1. Applicant's name _____
2. Applicant's date of birth _____
3. Applicant's gender: _____
4. Does the applicant have an official medical diagnosis of ASD? _____
5. Is the applicant available for 2-hour music sessions on a weekly basis in Norwood, Johannesburg? (time to be negotiated) _____
6. Does the applicant have transport to and from sessions? _____
7. Is the applicant able answer opinion-based questions regarding the study either verbally, in writing or using a generative Augmentative and Alternative Communication (AAC) system? _____
8. Is the applicant physically capable of deliberately playing a sound on an instrument?
_____ (Where possible suitable instruments will be allocated or adapted to suit the needs of participants)
9. Is the applicant prepared to wear (either over ear, or earplugs) hearing protection?
_____ (This will be provided)
10. Is the applicant prepared to be in a noisy environment? _____

Parent/guardian Details:

Parent/Guardian name: _____ Signature: _____

Parent/Guardian Contact No: _____ Date: _____

Email: _____

Relationship to applicant: _____

RESEARCHER & SUPERVISOR SIGNATURE:

Researcher Name: _____

Researcher Signature: _____ Date: _____

Supervisor Name: _____

Supervisor Signature: _____ Date: _____



Appendix C

Questionnaire

Responses are unedited

Questions	Sapphire	Will	Rosie	Ace
What was it like being part of the band?	It was great fun.	It was fun. I learned new instruments that I never played before.	It was good	Fun
What did you find enjoyable about playing in the band?	I enjoyed choosing different instruments.	I like playing together and working together in a band.	Singing, cool to sing with Will	Playing drums and piano
What did you find difficult?	I always get frustrated with my apraxia.	I did not find anything difficult	Guitar was a little bit hard	To sit for very long
How did you feel before going to each session?	I was excited.	I felt excited	Sometimes nervous	Sad
How did you feel after each session?	I felt very motivated to make music.	I felt normal and excited	Happy	Calm
Did you learn anything new about yourself (if yes, what did you learn)?	Yes, I learnt that I like to play guitar and drums.	Yes I learned that it's important to play together	Not able to answer	No answer
What was it like being with the other band members?	It was most enjoyable to be with others.	They were doing their best and I had fun	Really fun	Fun

What did you learn about the other band members?	I learnt that they have strengths and weaknesses too.	I learned that some band members were a bit anxious from wearing the mask, one could not talk verbally but can communicate by writing	Songs	No answer
What surprised you the most about playing in a band?	How much I enjoyed being with others.	We sounded good together	(Rosie's mother answered) her engagement with the group	No answer
Is there anything you think might make the sessions better?	Having lessons on specific instruments.	Having more than one drum kit as more than one person found them fun	(Rosie's mother answered): no	I would like to listen to music
Would you do it again?	Yes	Yes	Yes	Yes
Do you have any other thoughts or suggestions?	I would love to carry on with the band.	No	No	No answer



Appendix D

Parent/Guardian Information

Study Title: Becoming a Rock Band: Music Therapy with Autistic Teenagers

Dear _____,

My name is Graeme Sacks and I am studying for a Music Therapy Master's degree at the University of Pretoria. As part of my studies, I am conducting a research project on the benefits (if any) of playing in a rock band made up of teenagers with Autism Spectrum Disorder (ASD). It is my hope that the band members might gain useful insights skills such as better communication, increased self-esteem and confidence.

Music therapy uses music to enhance well-being and health. Your teenager does not need to be able to play a musical instrument in order to come for music therapy sessions.

I will be facilitating 10 sessions, lasting around two hours each. The sessions will be video recorded, so that I can look at them afterwards to write about what happened. However, these recordings will only be used for the study, and will be kept confidential. This means that only my supervisors and I will see them.

You are free to choose whether your teenager takes part in this study or not. If you do choose to let them take part, you can change your mind at any time during the study without any consequences. If your teenager does leave the study, the information I have gathered from her/him will be destroyed (I will blur out their face in the video data).

When I write the final report, I will not use your teenager's real name or any other information that might identify who your teenager is. This is to protect their identity and privacy. If you or your teenager would like a copy of the final report, it will be provided for you.

The information gathered during this project will be securely stored in a password protected electronic format at the University of Pretoria for a minimum of fifteen years. This is normal for any research done through the University. Future researchers may use this transcribed data with pseudonyms (not the video recordings) for additional studies. Confidentiality will be maintained. I would greatly value the participation of your teenager in this study. If you are willing to let them take part, please complete the attached application form and consent form.

My contact details are below. Please feel free to contact me if you have any questions or concerns.

Graeme Sacks

Researcher / Student

Email: graeme.sacks@gmail.com

Number: 082 450 6740



Appendix E

Parent/Guardian Consent Form

Study title: Becoming a Rock Band: Music Therapy with Autistic Teenagers

I _____, parent/guardian of _____

hereby give my consent for my teenager to take part in this research. I understand that my teenager will take part in music therapy sessions, and that the research will look at how playing in a rock band might benefit teenagers with Autism.

I hereby give my consent for these sessions to be video recorded, understanding that these recordings will only be used to write about the music therapy process, and will not be made public. I understand the above agreement, and I agree that my child can participate in this study

on this _____ (day) of this _____ (month) and this _____ (year).

Parent/Guardian name: _____ Signature: _____

Parent/Guardian Contact No: _____ Date: _____

Email: _____

Relationship to applicant: _____

Researcher Name: _____

Researcher Signature: _____ Date: _____

Supervisor Name: _____

Supervisor Signature: _____ Date: _____



Appendix F

Participant Information

Study title: Becoming a Rock Band: Music Therapy with Autistic Teenagers

Dear _____,

Hi, my name is Graeme Sacks and I am studying a Music Therapy Master's degree at the University of Pretoria. As part of my studies, I need to do a research study. I want to find out if autistic teenagers get any benefit from playing together in a band. I also want to see how you work with each other while you're making music together. I hope that the band members might learn some useful things, like better ways of communicating with each other, and how to feel more confident about yourself.

Music therapy is a type of therapy that uses music to help people feel better. You don't need to be able to play a musical instrument to come for music therapy sessions.

We will be doing ten sessions together. They will last around two hours each. The sessions will be video-recorded, so that I can look at them afterwards to write about what happened, but these recordings will only be used for the study and no one other than me and my teacher will see them.

You are free to choose whether you want to take part in this study or not. If you do choose to take part, you can change your mind at any time, no problem. If you do choose to leave the study I won't keep any of the information that I have about you.

When I write the final report, I won't use your real name or any other information that might identify who you are. This is to keep your information private. If you or your parent/guardian would like a copy of the final report, I will give one to you.

When I look at the video recordings and write up what we did together this information will be kept safe at the music therapy offices at the University of Pretoria for fifteen years. This is normal for any research done through the University. If another researcher wants to use this information they can look at what I've written but they won't see the videos. They won't know who you are at all.

I would really appreciate it if you would take part in this study. If you want to take part, please fill in the attached assent form.

My contact details are below. Please feel free to contact me if you want to ask me anything about the project. Your parent/guardian also has my contact details.

Graeme Sacks

Researcher / Student

Email: graeme.sacks@gmail.com

Number: 082 450 6740



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YUNIBESITHI YA PRETORIA

Appendix G

Participant Assent Form

Study title: Becoming a Rock Band: Music Therapy with Autistic Teenagers

My name is _____

Yes, I agree to take part in this study:

No, I don't want to take part in this study:

Yes, I'm happy for the sessions to be video recorded:

No, I don't want the sessions to be video recorded:

Today's date is: _____

Here is my signature: _____

This is a phone number where you can get hold of me: _____

RESEARCHER & SUPERVISOR SIGNATURE:

Researcher Name: _____

Researcher Signature: _____ Date: _____

Supervisor Name: _____

Supervisor Signature: _____ Date: _____

Appendix H

Advertisement for participants




UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

School of the Arts
Music Therapy

A MUSIC THERAPY RESEARCH STUDY
WITH AUTISTIC TEENAGERS

BECOMING A ROCK BAND

Who can apply?
Teenagers who have been diagnosed with
Autism Spectrum Disorder (ASD) and can
attend **2 music sessions a week** in
Johannesburg.

**NO MUSIC TRAINING OR
EXPERIENCE NECESSARY**

For more information or to apply, contact
graeme.sacks@gmail.com

Appendix I

Song lyrics by Sapphire

Child In Me

Remind me
Remind me
Of who I am
And remind me
In so many ways
Who I can be

Child in me
Not plain to see
How I've grown
Into my own

Remind me
Remind me
Child in me

Harry Potter Flies A Hippogriff

Harry Potter flies a hippogriff
Harry Potter flies so high
Head of an eagle, body of a horse
Harry Potter flies so high

Over rivers, high in the sky
Wind in his hair, lingering there
Harry Potter flies a hippogriff
Harry Potter flies so high

Close To Rainbows

Misty morning
Not much light
Restless feeling
Try to fight

Pin my hopes
On falling stars
Wasting times
In stupid bars

Wish a limo
Would offer me a ride
Magically make
My sorrows hide

Where is the rainbow
In this storm?
Can I come close
When I am alone?