The Connections in Relationships Among Autistic and Neurotypical Adolescents Participating in a Virtual, Inclusive, Performative Music Therapy Group

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THE CONNECTIONS IN RELATIONSHIPS AMONG AUTISTIC AND NEUROTYPICAL ADOLESCENTS PARTICIPATING IN A VIRTUAL, INCLUSIVE, PERFORMATIVE MUSIC THERAPY GROUP

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ABSTRACT

This study examined the connections in relationships among autistic and neurotypical adolescents in a virtual, inclusive, performative music therapy group. The researcher utilized a one-group pretest-posttest design. There is a lack of research involving inclusive music therapy groups with adolescents. As such, this research was needed in order to provide opportunities for adolescents to connect in an inclusive music therapy group, aligning with the neurodiversity movement in uplifting autistic voices rather than focusing on improving perceived deficits of autism. Four participants engaged in four inclusive, performative music therapy sessions through active music-making and sharing music preferences. They each completed a pretest and posttest to measure if there were any changes in their connections with each other utilizing the Index of Peer Relations (IPR, Hudson et al., 1990, 1993), a self-reported measure, and a researcher-created measure to collect data. Data were analyzed through descriptive statistics, paired-sample \( t \) tests, and thematic analysis. Results indicated a slight increase in connectedness with the whole group, and with three of the four participants, though the differences were not significant. Other individual and group results varied in the direction of change and amount. Results revealed that all participants felt more connected in some areas and that there were changes in how connected they felt and the depth of their connections. An inclusive, performative music therapy group has the potential to create connections among adolescents and providing more opportunities for inclusive experiences may help to further the field of music therapy in a neurodiversity-affirming and strengths-based direction.

Keywords: music therapy, connectedness, inclusion, neurodiversity, autism, adolescents
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**Introduction**

Healthy relationships have the potential to contribute to an individual’s overall well-being. Moreover, healthy relationships may help someone to find their place in their community. In adolescence, individuals develop their self-identity, which includes discovering who they are in relation to their peers and to their community (Broderick & Blewitt, 2020; McFerran & Wigram, 2010). Adolescence is a challenging phase for any individual as they discover their self-identity and place in relationships and their community, but generally, it is more difficult for autistic adolescents. Autistic adolescents are expected to develop skills that will eventually lead to independent living, which involves fitting in to the community by minimizing or masking their perceived deficits. This includes suppressing stimming and special interests, forcing eye contact, and eliminating reactions when overstimulated (Winter, 2012). Research has shown that masking and utilizing therapies that diminish individual differences and enforce compliance actually creates harm to autistic self-identity (McGill & Robinson, 2020). This may inhibit an adolescent’s development of their self-identity, which is an imperative component of being included with their peers and community. Therefore, creating inclusive opportunities in which all adolescents can be themselves may start to build naturally created inclusive communities.

One example of an inclusive opportunity is the performative component of community music therapy. This framework of music therapy moves away from the privatized, individualistic nature of therapy, and aims to work with the whole person in terms of the communities that person is involved with (Ruud, 2004). A community performance as part the music therapy

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1 Autistic self-advocates prefer to use identity-first language (ASAN, 2021). For this study, the researcher utilized the preferred language of autistic individuals. As such, the term autistic was used throughout this paper, and neurodiverse was used to refer to a group of autistic and neurotypical individuals.

2 Stimming is used in place of self-stimulatory behavior in order to reflect the words of Winter (2012) and other autistic self-advocates.
process has the potential to create a support system for the members of the music therapy group. This support system includes the members of the ensemble and the larger community. The focus becomes not on pathology or individual members, but the relationships between the members and between the group and the larger community.

Background

Group music making, in general, offers a plethora of opportunities to create and develop relationships. When group music making is facilitated by a music therapist, the music therapist can foster the development of relationships between group members. Aigen (2013) explored the way jazz musicians interact while musicing, and how their way of interacting correlates with music therapy practice. He discussed in detail the roles jazz musicians take; in particular, supporting roles and soloists. In music therapy practice, music therapists take on a supportive role, providing structure for the client’s music to enable the clients to express themselves fully and freely. If the client were to take on the supportive role, Aigen argues, this may show the client that they can care for others in the same way others care for them. The role of the soloist is one that allows individuals to express their musical personality, which relates to their personality outside of music. If both the therapist and client act as a soloist within the music therapy process, then they can both be their authentic selves and create a collaborative and egalitarian therapeutic relationship.

The points Aigen (2013) made resonated with the researcher, and she began to consider the possibilities of performative music therapy groups in increasing social interaction and creating relationships between members of the group. Each group member has the potential to create authentic, collaborative, and egalitarian relationships with other members as well as have
an equally important and participatory role. The opportunities within such a group can provide a supportive and inclusive environment.

The interest in creating inclusive opportunities comes from the researcher’s own personal and professional experiences when observing inclusion opportunities for autistic students. Due to the personal nature of these experiences, first person language will be used in the following section. According to the Individuals with Disabilities Education Act (IDEA, 2004), a student with an individualized education program (IEP) must be educated in their least restrictive environment (LRE). This means that all students must have the opportunity, to the maximum extent possible, to participate in general education classes, whether it is a core class or an elective. I have seen autistic students sitting in general education classes, but not actually participating or engaging with others. Rather, I have witnessed autistic students sitting at a table with only special education peers working on their own work, without ever interacting with the teacher of the class or their neurotypical peers. This is similar to the individualized instruction they receive in the special education classroom. In both classrooms, though autistic students are physically present, given the lack of interaction with others in the classroom, they do not seem to be cognitively, emotionally, or socially present.

The lack of inclusive social opportunities is concerning for all students. Despite being placed in the LRE, autistic students do not seem to have the opportunity to interact with their neurotypical peers. The reverse is also true; neurotypical students do not have many opportunities to interact with their autistic peers. This may be due to numerous factors, including limited opportunities for teachers and therapists to coordinate these opportunities; a lack of education on IDEA and autistic students; and the teacher’s own ideas and beliefs about inclusion. One opportunity for inclusive, neurodiverse experiences are within music classes. All students
begin in the same place when learning an instrument, no prerequisite skills are required, and it is possible to be on grade-level without starting in kindergarten, like students would need to for core classes. Many students do not know how to read music and they do not know how to play an instrument. From my own observations, the opportunity for autistic students to learn an instrument alongside their neurotypical peers does not often occur. Too often, autistic students sit on the side and listen or are placed in the percussion section playing an instrument that cannot be heard. Perhaps if students start from the same point, there may be a stronger opportunity to build relationships.

These experiences of observing the lack of true inclusive opportunities, coupled with the influence of Aigen’s (2013) article, prompted the interest in this research. I became interested in examining the connections in relationships among autistic and neurotypical adolescents within an inclusive, performative music therapy group.

**Music Therapy**

Music therapy, in the words of Edith Boxill (2007), is a process that occurs “when music, as an agent of change, is used to establish a therapeutic relationship, to nurture a person’s growth and development, [and] to assist in self-actualization” (p. 6). The therapist and client engage in the therapeutic process together through a variety of specifically designed music experiences. Music therapy encompasses four music therapy methods of experience: improvisation, recreative, composition, and receptive experiences. Improvisation is spontaneously creating music in the moment; recreative experiences incorporate pre-composed songs; composition involves writing a new song or piece of music; and receptive experiences consist of listening to music and responding to it (Bruscia, 2013).
Community Music Therapy

Community music therapy can be defined as “encourag[ing] musical participation and social inclusion, equitable access to resources, and collaborative efforts for health and wellbeing in contemporary societies” (Stige & Aarø, 2012, p. 5). The profession of music therapy is changing to include more people and the communities and cultures they belong to, which shifts the perspective of working with an individual to working with an individual within the communities they are a part of (Ruud, 2004).

Community music therapy is driven by a series of components: participation, resource-oriented, ecological, performance, activism, reflection, and ethics (Stige & Aarø, 2012). The acronym PREPARE reflects these components. Though the researcher did not work solely within this framework, she drew on the participatory, performative, reflective, and ethics-driven aspects throughout this research. The performative nature of community music therapy is of particular importance to this research. Historically, performance was considered contraindicated and counterproductive in music therapy (Stige et al., 2016). However, those who practice music therapy from a community music therapy framework consider performance to be beneficial to the therapeutic process as it has the potential to “create and sustain networks of relationships between and amongst people, institutions, and communities” (Stige, et al., 2016, p. 165).

Though it often seems like there is a separation between the performers, or musicians, and the audience, there are factors at play that connect the two groups. Audience members come to show support, and they may have helped musicians prepare. Live performances may motivate someone to start playing music or may introduce them to a new genre. The musicians perform to show their hard work in creating and learning music. They connect with the other musicians in the group and the audience in this shared experience, and oftentimes, people learn more about
themselves and others when performing. These varied experiences of performers and audience members can create unique connections.

**Adolescents and Performance.** McFerran and Wigram (2010) wrote that “teenagers are always performing” (p. 243) in the sense that they are more aware of how others perceive them and may change their actions because of these perceptions. Within music therapy, teenagers perform through music listening or active musicing, and reveal their identity through this music (McFerran & Wigram, 2010; Ruud, 1997). Community music therapy aims to redefine the purpose of performance in therapy and connect performers within music therapy groups to their community outside of the music therapy space. Though music listening and active musicing within the music therapy space are not a performance per se, it is still performative in that individuals are performing their identity (Ruud, 1997) and connecting to the community formed within music therapy.

**Autism**

Autism spectrum disorder (ASD) is characterized by deficits in social, communication, and behavioral skills (CDC, 2020). It is estimated that 1 in 44 children aged eight years have been diagnosed with ASD as of 2018 (CDC, 2020; Maenner, et al., 2021). Whereas the CDC utilizes the term *deficit* to describe ASD characteristics, the Autistic Self Advocacy Network (ASAN, 2021), uses the term *differences*. These differences include the way autistic people think, process their senses, move, communicate, and socialize. ASAN (2021) emphasizes that every autistic person is different, and that their differences from non-autistic people are natural.

**Neurodiversity**

Neurodiversity “describes the neurology and personhood of autistic people through the lens of human diversity” (Robertson, 2010, para. 4) and argues that autistic individuals have a
combination of strengths and weaknesses, the same as any person. Because neurodiversity includes both autistic and neurotypical individuals, the term neurodiverse typically refers to a group of autistic and neurotypical individuals.

The neurodiversity movement started in response to the medical model’s view of autism and the marginalization of autistic people because of the medical model’s views. Neurodiversity celebrates the differences of autistic people rather than seeing those differences as deficits that need to be corrected. This movement aims to create a culture to promote well-being and pride in self (Kapp et al., 2013) and encompasses a “philosophy of social acceptance and equal opportunity for all individuals regardless of their neurology” (Ventura33, n. d., para. 1). The neurodiversity movement also ascribes to the social model of disability, which assumes that disability is not a result of autism but rather, the result of an unaccommodating society (den Houting, 2018). These views align with the strengths-based, collaborative, and activist approach of community music therapy.

**Inclusion**

Including autistic individuals in groups, communities, and cultures are core components of the neurodiversity movement. Within special education and disability language, inclusion is when autistic students spend time with their neurotypical peers. Inclusion is a two-way street, however; for as much as autistic individuals need to interact with their neurotypical peers, neurotypical peers need to interact with autistic individuals. Natural interactions may promote an understanding of communication and relational styles while also expanding individuals’ worldview. The neurodiversity movement as well as those working within a community music therapy framework strive to create opportunities for natural interactions in a collaborative and strengths-based way.
Connections in Relationships

According to McFerran and Wigram (2010), connectedness relates to an adolescent’s “perceptions about whether they are welcome, cared for, and acceptable” (p. 71). This, along with competence, resilience, and the development of self-identity, make up healthy adolescence (McFerran & Wigram, 2010). Adolescents experience great periods of changes and growth in this time and as such, have the potential to increase their cognitive and social competence, while developing resilience to their life experiences in order to connect with others in meaningful ways.

Review of Literature

This study addressed the connections in relationships created through a virtual, inclusive, performative music therapy group process with neurodiverse adolescents. Creating opportunities for neurodiverse individuals to interact and connect is an important facet of human development, for both autistic and neurotypical people. Considering every individual interacts and communicates differently, it is just as important for neurotypical individuals to have opportunities to interact with autistic individuals as it is for autistic individuals to interact with neurotypical individuals. Rather than developing skills minimizing perceived deficits of autistic individuals in order for them to interact and connect with neurotypical individuals, this study placed equal weight on the experiences of autistic and neurotypical adolescents in their development of relationships.

Much of the research involving autistic individuals focuses on improving the skills classified as being deficient in order for autistic individuals to integrate into their community. Within the diagnostic criteria for autism, social communication and interaction and restricted, repetitive patterns of behavior are the two main perceived deficits that classify autism as a
disability. Social communication and interaction include social-emotional reciprocity, sharing interests and emotions, and nonverbal communication like eye contact and facial expressions. Restricted and repetitive patterns of behavior include stereotyped motor movements, inflexibility, perseverative interests, and differing sensory needs (CDC, 2020). As such, treatment for autistic individuals often focuses on improving the areas of perceived deficits.

A review of the literature revealed much of the music therapy research for autistic adolescents aligns with the trends of other professions in that treatment focuses on improving perceived deficits. Therefore, this literature review consists of sections addressing these perceived deficits as well as sections moving away from this focus. Those sections consist of the development of relationships and inclusion. The following sections include music therapy work with neurotypical adolescents and virtual music and music therapy.

Due to the number of results when searching “music therapy and autism,” the researcher limited this literature review to studies from the last 15 years (2006-2021) and those including autistic adolescents and adults, aged 13 or older.

**Music Therapy and Autism**

As noted, autistic individuals may engage in stereotypical motor movements, have different sensory needs, and may appear inflexible to unexpected changes. Music therapy is often implemented as a means to decrease symptom severity with the aim of improving social function (Boso et al, 2007; Fernandes, 2016; Gold et al., 2010; Iseri et al., 2014; Lundqvist et al., 2009; Mateos-Moreno & Atencia-Doña, 2013). Gold et al. (2010) found a significant improvement in symptom level when music therapists utilized techniques specific to music therapy (such as improvisation) as compared to techniques that were less specific to music therapy practice (such as free play). Fernandes (2016) also studied the techniques utilized by music therapists, and
found that the use of social, emotional, behavioral, imagination, and communication techniques decreased stereotypical autistic behaviors. The decrease of stereotypical autistic behaviors aligns with earlier research investigating the same effect (Iseri et al., 2014; Lundqvist et al., 2009).

Social Communication in Music Therapy with Autistic Adolescents and Adults

Social communication combines the domains of social skills and communication skills to develop communication abilities with a wide variety of people. Music therapy has been found to be beneficial in addressing social communication among autistic individuals (Baker & Krout, 2009; Iseri et al., 2014; Pasiali et al, 2014; Pavlicevic et al., 2014; Thompson & McFerran, 2015; Walworth et al., 2009). Foundational skills of social communication include emotion identification, emotional regulation, developing social skills, and developing and understanding nonverbal communication, divided into sections below.

Emotion Identification and Regulation

Music therapy may be indicated for helping autistic adolescents identify emotions, regulate emotions, and/or manage stress (Hillier et al., 2012; Mateos-Moreno & Atencia-Doña, 2013; Poquerusse et al., 2017; Quintin et al., 2011). Quintin et al. (2011) conducted a study comparing autistic and neurotypical adolescents’ identification of emotions in music. Results yielded no differences in accuracy of their identification of an emotion portrayed within a musical clip between the autistic and neurotypical adolescents when their verbal intellectual abilities were matched. The researchers also found that the emotions identified with greater accuracy with the neurotypical group were also those identified more accurately with the autistic group, which suggests emotion identification differences in autism may only occur within the verbal domain.
Learning to manage stress is one component of emotional regulation. Poquérusse et al. (2017) tested levels of stress through salivary α-amylase before and after music therapy groups. They found a significant difference in the participants’ levels of stress between the music therapy group and the control group, with a decrease in stress among music therapy group participants. This suggests that music therapy can reduce the stress levels of autistic individuals. Hillier et al. (2012) examined the level of anxiety during and after participating in group project-based music sessions, and they reported similar results.

**Developing Social Skills**

A perceived lack of social skills may inhibit one’s ability to function within their community. The development of social skills has been addressed within music therapy research (Eren, 2015; Gooding, 2011; Pater et al., 2019; Porter et al., 2016). To provide music therapists with a way to describe their work in addressing social skills, Pater et al. (2016) created a model for music therapists to adapt to their clients, create connections, and challenge clients in order to show different social behaviors. This model offers guidelines for the therapeutic setting, therapeutic process, music, and generalization that emphasize the importance of facilitating changes in social behavior.

Other studies focused on the improvement of social skills (Eren, 2015; Gooding, 2011; Porter et al., 2016). Porter et al. (2016) studied children and adolescents through free improvisation in music therapy compared with usual care and found a significant effect in increasing interactions only with the participants who were over 13 years of age. This implies there is a benefit in providing opportunities for a variety of interactions with adolescents.
Developing and Understanding Nonverbal Communication

People communicate in a variety of ways: with voice, gestures, movements, and music, among others. Through musical interactions, an understanding of individuals’ communication styles may develop. Musicing allows individuals to express themselves and to learn about how others express who they are. Accordingly, musicing has the potential to foster the development of communication skills. Learning another person’s communication style is important in creating a strong relationship, for it creates opportunities for meaningful interactions. Silverman (2008) presented the case of a 29-year-old woman. Silverman (2008) described certain nonverbal communications she presented and his interpretations of those communications. He discovered how she communicated her wants and needs gesturally and physically, and how she confirmed that his interpretations were correct. His case study provided a new perspective; typically, the client is presented with the need to learn how to communicate with the therapist, but communication is reciprocal, and the therapist needs to learn how the client communicates and how to communicate with the client.

Developing Relationships

Music therapy research has focused on different components involved in establishing and maintaining relationships (Abourafeh, 2018; McFerran & Shoemark, 2013; Pavlicevic et al., 2014; Swaney, 2020; Thompson & McFerran, 2015). Musical interactions may facilitate the development of relationships (McFerran & Shoemark, 2013). In music therapy, the therapist listens to the client’s music and takes responsibility for establishing structure. Within that structure, the client may initiate interactions spontaneously; this process leaves space for both the client and therapist to create music together. This natural process of music creation has the potential to nurture relationships. Similarly, Swaney (2020) described the mutuality of
CONNECTIONS IN RELATIONSHIPS IN AN INCLUSIVE MUSIC THERAPY GROUP

relationships through the music therapy process: “curiosity of another, invitation of another, celebration of another, and recognition of another” (p. 72). These principles may create the foundation of relationships with all individuals involved in the music therapy process.

Providing opportunities for musical interactions and experiences may promote an inclusive environment and facilitate the development of relationships. Thompson and McFerran (2015) argued that even when music therapy is not the primary therapeutic treatment, it provides clients with additional opportunities to expand their experiences and interact with others. Music therapy groups for young adults are valued for the opportunities to communicate and socialize with others, while being a part of an accepting and supportive environment (Abourafeh, 2018; Pavlicevic et al., 2014). This implies that music therapy groups have the potential to offer healthy opportunities for inclusion.

**Developing Sense of Self**

Self-identity is established during adolescence and contributes to developing autonomy and connectedness (Pfeifer & Berkman, 2018). Echard (2019) explored self-identity through her music therapy work with three adolescent clients. She described how her work shifted from skill-based goals with children to finding meaningful experiences with adolescents. The shift in focus to self-identity led her clients to experience more freedom to express who they were in music and deepened the therapeutic relationship.

Abourafeh (2018) explored the experience of an autistic adolescent in relationship-based music therapy and reported similar findings. Through interviews with the adolescent and his father, two interconnected themes emerged: “freedom of self” and “forging meaningful relationship.” Individual themes included “range of musical-emotional experiences” and “growth.” The important components of music therapy for this adolescent were the connections
he made with the music therapist, interns, and peers, while being his authentic self. As the adolescent reminisced about his time in music therapy through the interview, he developed a sense of pride in who he was and who he became. This interview was an opportunity for an autistic adolescent to speak about his experiences, thus supporting the neurodiversity movement.

**Developing Peer Relationships**

Hillier et al. (2012) examined the relationships between autistic adolescents and adults when participating in group music sessions working toward the creation of a short movie and soundtrack. Hillier et al. (2012) used the Index of Peer Relations (Hudson et al., 1990, 1993) in their study to measure participants’ level of acceptance within the peer group and to determine how the participants viewed and evaluated their peer group. Results indicated that peer relationships were significantly more positive after participation in group music sessions. It is important to note that rather than others completing the measure for the autistic individuals, the participants completed the report themselves.

**Community Inclusion**

Though inclusion and acceptance within a community are important in adolescent health (McFerran & Wigram, 2010), there is a significant lack of literature detailing inclusivity in music therapy with neurodiverse adolescents. McFerran and Rickson (2014) developed a strengths-based, collaborative model for creating inclusive opportunities within a school setting. This model incorporates five key features: ecological emphasis, participatory ethos, being actively reflexive, being resource-oriented, and considering performative dimensions. Music therapists are encouraged to utilize this model as a means to work within the individual’s systems and communities in order to create inclusive opportunities and environments. These features align with community music therapy’s notion of PREPARE (Stige & Aarø, 2012).
Schwantes and Rivera (2017) described themes that emerged from an inclusive music group with neurodiverse college students. These themes include connections between the music and the creation of a community, the ideas of what a community is, what participation looked like, how an equal playing field was created, and changes that occurred within the residence hall community outside of the music group. These themes imply that a community was created through these sessions and the connections made within the group extended outside of it as well.

**Inclusive Performance**

Mitchell (2019) described an inclusive, participatory performance program that takes place within an adolescent mental health treatment facility. This program is called *Coffee House* and is an opportunity for all members of the treatment facility community to showcase their individual musical styles. Staff and clients perform together, reducing the hierarchical barriers between staff and clients because they are seen as equals in all aspects of the performance. Mitchell (2019) conducted interviews with staff and clients about the potential benefits of the *Coffee House* program. Qualitative data analysis revealed the following themes: anyone can participate, performers succeed through participating, there are no expectations of quality, a supportive atmosphere is created, many barriers are eliminated that are present in other settings, it is inclusive in that staff and clients perform with each other, the performance breaks down the hierarchy between staff and clients, and roles become fluid during the performance.

**Music Therapy with Neurotypical Adolescents**

Music therapy research with adolescents focuses heavily on pathology. McFerran and Wigram (2010) completed a systematic review of literature on music therapy with adolescents until 2008 and found five categories of challenges that adolescents face. These are disability, mental illness, emotional and behavioral problems, illness, and being “at-risk.” The first four
categories make up nearly 84% of the total studies and 58% of the studies were conducted in an institution. This implies there may be a limited number of studies conducted with neurotypical adolescents, particularly in community settings.

**Virtual Music and Music Therapy**

Because this study was conducted virtually due to health risks associated with COVID-19, it was important to include a section about the experiences of music group participants and music therapists. Draper and Dingle (2021) surveyed music group participants to understand their perspectives on the group they were involved with on virtual platforms and retrospectively, in the same group face-to-face. The participants surveyed found meaning and motivation to continue in their music group, though their sense of belonging to the group was lower and not all of their psychosocial needs were met through virtual groups.

Levstek et al. (2021) considered the experiences of young people’s participation in virtual music groups through a survey. They found greater development in the participants’ intrapersonal outcomes than in their interpersonal outcomes. Participants regained their identity as musicians through the group, but through greater autonomy rather than through social connections. It was not possible to music together in the groups in this study, which limited the musical connections; however, a new community was formed virtually through their prior experiences in face-to-face groups and through the adaptations made in order to have the music group continue to meet.

Baker and Krout (2009) presented a case study of working with an autistic adolescent virtually in songwriting. Results suggested that social interaction was not inhibited by technology, the virtual setting was just as valuable to the adolescent as in-person sessions, and the adolescent seemed more creative and freer in communication when in virtual sessions.
Conclusions From the Literature

Overall, there is limited music therapy research involving autistic adolescents. Of the studies that do address music therapy with autistic adolescents, the majority focus on autism as a pathology, with the aim of improving skills in the areas of perceived deficit. However, there are promising studies about autistic adolescents that include developing a sense of self-identity, developing peer relationships, and being included within their community. These studies demonstrate how the strengths of each adolescent, regardless of neurodiversity, can foster meaningful relationships with the self, peers, and the larger community. There is a gap in the literature involving both autistic and neurotypical adolescents within an inclusive music therapy group that puts equal weight on all members’ perspectives of their relationships with each other.

Research Questions

The literature herein largely focuses on improving the perceived deficits of autism, whereas this research focuses on acceptance and inclusion in a community through neurodiverse peer relationships. This study examined the connections in relationships built between autistic and neurotypical adolescents as a function of a virtual, inclusive, performative music therapy group process. The research questions are as follows:

1. Are connections in relationships built within a virtual, inclusive, performative music therapy group?
2. How connected do neurodiverse adolescents feel towards each other after participating in a virtual, inclusive, performative music therapy group?
3. Is there a difference in connectedness between neurodiverse adolescents before and after participating in a virtual, inclusive, performative music therapy group?
Method

The purpose of this pre-experimental research was to examine the connections in relationships built between autistic and neurotypical adolescents as a function of participating in a virtual, inclusive, performative music therapy group process.

Research Design

A one-group pretest-posttest design was utilized for this research. This design is considered pre-experimental because of the lack of a control group and only one treatment was offered (Jones, 2016). One group of participants participated in treatment and all participants completed a measure before and after treatment. The treatment in this study was the music therapy group process and was defined as the independent variable. The dependent variable was the pretest and posttest, a self-reported measure (Jones, 2016).

Participants

Seven participants between the ages of 13 and 19 who live in the Austin, Texas area were recruited for the study. Four participants were available to complete the measures and the music therapy sessions. Participants were asked to meet on a video conferencing platform four times over the course of two weeks. Participants were chosen based on the inclusion criteria listed below:

For autistic adolescents:

- a diagnosis of autism spectrum disorder (ASD) as determined by the DSM-V
- are between the ages of 13 and 19
- have been playing an instrument for three years or longer
- can read at a 7th-grade level, shown by an understanding of the invitation email, interest form, and consent form
have a cognitive functioning level of a 12-year-old or older, shown by an understanding of the invitation email, interest form, and consent form

For neurotypical adolescents:

• are between the ages of 13 and 19
• have been playing an instrument for three years or longer
• can read at a 7th-grade level, shown by an understanding of the invitation email, interest form, and consent form
• have a cognitive functioning level of a 12-year-old or older, shown by an understanding of the invitation email, interest form, and consent form

Recruitment Procedures

Following Institutional Review Board (IRB) approval, participants were selected through convenience sampling (Jones, 2016). This was completed by emailing the band and orchestra directors at a local high school and any of the researcher’s private clients that met the inclusion criteria. Bias may have occurred due to the established relationship between the researcher and her private clients, as well as potential relationships established between students at the high school. The implications were that these established relationships may affect group cohesion, thus the need for a pre-test and a post-test to determine if there were differences.

The invitation email detailed the purpose of the research and the method of inquiry. Additionally, it included an interest form for students to fill out. The interest form included more detailed information about the study; including, what was asked of each student within the music therapy group, as well as questions involving the band or orchestra instruments they play, how many years they have played them, and identifying songs they are familiar with playing from a
list. Seven participants met the inclusion criteria, and four completed the self-reported measures and the music therapy sessions.

**Materials**

The Index of Peer Relations (IPR; see figure 1), a self-reported measure, was used as the primary data for analysis (Hudson et al., 1990, 1993). The IPR is a 25-item scale that indicates dysfunction in peer relationships. The questions are worded in such a way that it is appropriate for individuals who have a cognitive functioning level of a 12-year-old or older. The questions consist of positive and negative statements, with 12 positive statements such as “I get along well with my peers”, and 13 negative statements such as “my peers treat me badly”. The IPR is scored from 0-100 with a lower score indicating the presence of little to no dysfunction. No training is required to administer or score the IPR. The scale has been tested for reliability and validity with adolescents between ages 12 and 18 (Forte & Green, 1994) and was found to have excellent reliability and strong validity, thus implying it is an accurate measure of peer relationships.

The researcher created a self-reported measure as an additional posttest to ask more targeted questions for this particular group process. There were three Likert-type ratings, from one to six, with one being the least and six being the most to describe what the group process was like for each participant, and three short answer questions. The measure is included in Appendix E.

**Procedure**

Music therapy sessions took place on Zoom, a video conferencing platform. Once consent for the study was received, the researcher communicated with participants to schedule each session. Each participant engaged in four group music therapy sessions with the other participants. The first session lasted 1 hr 30 min. This time provided opportunity to complete the
self-reported measure and participate in music making. The second and third session lasted 1 hr. These two sessions were spent engaging in active music making. The fourth session lasted 1 hr 30 min. This time frame was spent making music together for 1 hr and then completing the final self-reported measures.

During the first session, introductions of each participant were made before administering the self-reported measure. Every participant completed the measure independently while on the video conference call. They were on the same screen while completing the self-reported measure; if any participant had a question, they would meet with the researcher in a breakout room. Upon collection of the completed measures, the group began musicing. After the completion of the final music therapy session, the self-reported measure was administered again, and the researcher-created measure was completed.

**Music Therapy Session Protocol**

The proposed protocol for all of the sessions follows:

- **session 1 only**: make introductions and complete the self-reported measure
- **education about roles**: describe the different roles of an ensemble, introduce concepts of soloing, give structure and guidance for solos, if needed
  - This step will be necessary if participants are unfamiliar with playing in a small ensemble.
- **music-making**: utilizing a combination of recreative, receptive, composition, and improvisation methods, the participants will engage in a variety of music experiences
  - Recreative experiences include playing familiar songs for their individual instrument, either individually or as a group.
  - **improvisation experiences may include:**
- adding improvisation sections to re-created songs
- building a piece from the ground up, starting with percussion, then a bass line, harmonies, melody, and finally soloing
  - Participants will be invited to take turns soloing and will take turns as they feel comfortable doing so.
- improvise entire songs by the participants and therapist
  - **change roles:** participants may take turns leading the ensemble and instruments change roles (for example, a tuba plays the melody instead of the bass line)
  - Participants changing roles and leading may only happen if and when the participants feel comfortable doing so.
  - Receptive experiences may include listening to other group members perform for the group.
  - Composition experiences may include writing new songs together as a group.
- **reflection on the music-making:** discuss what occurred in the music, including such topics as what they liked and did not like, changes they want to make for the next session, what songs they want to work on, what kind of music they would like to make (improvisation, recreative, a song they compose), and any questions they have
  - The purpose of this discussion is to aim to create a collaborative environment.
- **session 4 only:** complete the self-reported measure and close out the time together

While it was the intention of the researcher to complete the study in-person, the study was completed virtually due to risks associated with COVID-19. This limited the capacity for live musicing to take place, and the protocol was adjusted to best provide music experiences
that the participants were willing to engage in. The protocol that occurred due to the group being virtual follows:

- **session 1**: Participants introduced themselves and shared the type of music they had been listening to recently. They then completed the self-reported measure independently via a Google form sent to their email. Once they completed the form, the researcher explained options for what the sessions could look like (listed in the proposed protocol). The participants decided to share songs they had been listening to recently and talk about those songs. Each participant shared one song. One participant showed the group *Every Noise at Once* (McDonald, n.d.), and the group spent some time looking at different genres they thought were interesting. The session ended with the group deciding they were willing to try playing either funk or metal music in the next session.

- **session 2**: The group had decided to try playing metal music with their instruments. The researcher spent time educating them on a way to make a metal sound, and the group members requested to have some time to work on the sound on their own. The group came back together, and one participant played a bassline while the others took turns improvising on top of the bassline. At the end of the session, the group decided they wanted to try playing “Let It Go” from *Frozen* (Anderson-Lopez & Lopez, 2013) in the next session.

- **session 3**: The researcher presented the group with sheet music for “Let It Go” (Anderson-Lopez & Lopez, 2013). The group again requested time to practice on their own. Once the group came back together, roles were decided for playing the piece. The percussionist decided to make up a beat to play throughout the song, the tubist decided to play the bassline throughout, and the alto saxophonist and violist decided to alternate
playing the melody. The group played through the piece twice, without much success due to lag on Zoom.

- **session 4**: The participants agreed to attempt improvisation with funk music. The researcher spent time educating the group on funk music and gave them options on how and what to play. To ease the stress of trying to play together on Zoom, the researcher suggested they take turns playing a few measures at a time within a structured improvisation. Once they had played for a while, the group decided they wanted to do another song share. They each shared a song and talked about why they chose it and what they liked. The participants then completed the self-reported measure independently via a Google form sent to their email. Once they had all finished, they said their goodbyes and closed out their time together.

**Data Collection**

Each participant completed the IPR (Hudson et al., 1990, 1993) prior to the start of musicing in the first session and immediately after the final music therapy session, as outlined in the procedure, for a total of two measures per participant, eight in total. Each participant also completed a brief researcher-created measure consisting of three Likert-type questions and three open-ended questions. All measures were completed independently by each participant. The self-reported measures were administered via a Google form sent to the participants’ email while on the video conference call at the start of the first session, immediately prior to the start of the music therapy session, and immediately following the end of the final session. No accommodations were needed to ensure completion of the measure.
Data Analysis

Descriptive and inferential statistics, which make predictions about relationships between variables and how that can be generalized to greater populations (Meadows, 2016), were used to analyze the data from the IPR (Hudson et al., 1990, 1993). A paired sample t test was used to compare pretest and posttest group means, and descriptive statistics were used to compare individual scores. Based on the research questions, the differences found between the pre- and post-test measures indicated the closeness of the peer relationships within the group. The researcher-created measure was analyzed through descriptive statistics and qualitative thematic analysis. A statistician was hired to run the statistical tests.

Data Protection

Participants were assigned a code to keep their identity confidential, in order of when consent was received. When questionnaires were collected, the researcher labeled each one with the code for the participant to ensure confidentiality and stored the questionnaires in a locked filing cabinet within the researcher’s private office. Data will be kept for up to one year after completion of the study. The data of participants who were unable to make any of the music therapy sessions were destroyed immediately. Only the researcher had access to the identifiable data; the researcher’s assigned thesis advisor and the hired statistician had access only to de-identified data.

Ethical Considerations

A proposal for this research was submitted to Molloy College’s Institutional Review Board (IRB) for review and acceptance prior to the start of recruitment on December 18, 2021. Revisions were needed for the consent forms and statistician and the proposal was resubmitted on February 2, 2022. The initial proposal, utilizing an in-person group, could not be approved...
due to the COVID-19 pandemic. Changes were made to account for virtual implementation of the research, and the proposal was resubmitted on February 21, 2022. IRB approval was received on February 22, 2022, with the number 1852206-1.

Informed Consent

Once interest forms from potential participants were received, the researcher contacted the parents or caregivers of every participant to confirm that their child was permitted to participate in the study. The researcher sent informed consent forms to the parents of students under 18 and to the students over 18 to sign for their child or themselves, respectively. Each participant under 18 were also asked for assent and to sign the adolescent assent form. The researcher recorded the date consent was received and whether or not it was granted.

Results

This study examined the nature of the connections made within relationships in a virtual, inclusive, performative music therapy group. Participants completed the IPR (Hudson et al., 1990, 1993), a 25-item self-reported test that measures the level of dysfunction in peer relationships. A decrease in score shows less dysfunction, and for the purpose of this study, an increased connection to the participant’s peers.

Each participant completed one measure prior to the start of sessions and one after completion of the sessions while on the video conference call. They were all on one screen and if they had a question, went into a breakout room. The sessions took place on March 22, 24, 29, and 31, 2022. Each started at 5:30 p.m. with the exception of March 29, which started at 6:00 p.m. The first and last session lasted 1 hr 30 min, and the second and third session lasted 1 hr.

Descriptive statistics were used to compare individual scores from the IPR and researcher-created measure, and inferential statistics, in the form of paired-sample t tests, were
used to compare group means from the IPR. The independent variable for this was the music therapy sessions and the dependent variable was the pretest and posttest. Short answer questions from the researcher-created measure were analyzed with qualitative thematic analysis. A statistician was hired to run the tests.

**Participants**

Four participants completed the IPR (Hudson et al., 1990, 1993), the researcher-created measure, and the music therapy sessions. The participants ranged in age from 15 to 18 years old ($M = 16.75; SD = 1.26$). The group included three female adolescents and one male adolescent. Every participant was recruited from the same high school, and it was noted that they did not interact outside of the classes they had in common. The researcher had no previous relationship with any of the participants. Experience on their instrument ranged from 3-7 years, and the instrumentation included viola, alto saxophone, tuba, and percussion.

**Individual Scores**

Individual scores were described in order to gain a deeper understanding of the participants’ individual differences and similarities within the IPR (Hudson et al., 1990, 1993). Descriptive statistics were used to describe the differences in the scores for each participant based on total score, the positive and negative scores, and the individual questions.

**Total Score**

Participants’ individual scores were totaled and examined to determine any differences between the first session and the last session. A decrease in score in the posttest indicated less dysfunction in the peer relationships and a greater connection to the other members of the group. Scores for each are outlined in Table 1. The scores of participants A (PA), C (PC), and D (PD) decreased, while participant B (PB) increased. The largest differences in scores were in PA and
PB, with a decrease of 41 points from 92 to 51 for PA, and an increase of 22 points from 69 to 91 for PB.

PC and PD had lower scores at their pretests, thus showing less of a difference between their pre- and posttest. Because a lower score indicates less dysfunction overall, this may be why there was not as great of a change in their scores. PC answered 11 out of 25 questions with the lowest score possible (1) in the pretest, and 24 out of 25 questions as a 1 in the posttest. PD answered 12 questions with a 1 in the pretest and 20 as a 1 in the posttest. PC decreased 17 points from 43 to 26, and PD decreased 11 points from 45 to 34.

Table 1

<table>
<thead>
<tr>
<th>Participant</th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>PA</td>
<td>92</td>
<td>51</td>
</tr>
<tr>
<td>PB</td>
<td>69</td>
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<td>43</td>
<td>26</td>
</tr>
<tr>
<td>PD</td>
<td>45</td>
<td>34</td>
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</tbody>
</table>

Positive Versus Negative Statement Scores

The IPR (Hudson et al., 1990, 1993) is divided into positively worded statements and negatively worded statements in order to minimize the bias from only having one or the other. The positive and negative statements of the scale were totaled separately for each participant to investigate the differences between the pretest and the posttest for each type of statement. The largest differences in scores were for PA and PB. PA’s scores decreased 28 points for the positive statements and 13 points for negative. PB’s positive statement score increased 17 points. PB’s negative statement score, however, increased only 5 points. PB started with similar scores for both positive and negative statements, 35 and 34, respectively, but the difference in score for the positive statements was larger than for the negative statements. This is true for the other
participants as well. Their positive statement scores changed more between the pre- and posttest than their negative statement scores, though their scores decreased while PB’s increased. PA and PC had the greatest decrease in their positive statement scores, with PA decreasing from 60 to 32, and PC from 27 to 13.

Table 2

<table>
<thead>
<tr>
<th>Participant</th>
<th>Positive Pretest</th>
<th>Positive Posttest</th>
<th>Negative Pretest</th>
<th>Negative Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>PA</td>
<td>60</td>
<td>32</td>
<td>32</td>
<td>19</td>
</tr>
<tr>
<td>PB</td>
<td>35</td>
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</tr>
<tr>
<td>PC</td>
<td>27</td>
<td>13</td>
<td>16</td>
<td>13</td>
</tr>
<tr>
<td>PD</td>
<td>30</td>
<td>21</td>
<td>15</td>
<td>13</td>
</tr>
</tbody>
</table>

Differences in Individual Questions

For each participant, the changes from the pretest to the posttest were compared individually and with the group. The statements of the IPR (Hudson et al., 1990, 1993) are listed in figure 1 for reference only. PA (figure 2) had decreases of up to 4 points for 17 questions, stayed the same for five questions, and increased 1 point in one question. PB (figure 3) had a decrease of up to 2 points in four questions, stayed the same for 7, and increased up to 4 points for 14 questions. PC (figure 4) decreased up to 2 points in 14 questions and stayed the same in 11. PD (figure 5) decreased up to 2 points in 9 questions, stayed the same for 13, and increased 1 point in three questions.

The only questions where all of the participants decreased their scores were for question 5 (“I don’t feel like I am ‘part of the group’”) and question 21 (“My peers regard my ideas and opinions very highly”). Only PA and PB decreased for question 24 (“My peers seem to look down on me”), but PC and PD marked the lowest score possible (1) in both the pretest and the posttest. PA, PC, and PD all decreased in questions 1, 2, 5, 7, 8, 11, 12, and 21; PB showed an
increase for all of those except questions 5 and 21, which decreased, and 8, which stayed the same. All of these statements fell into the positive statement category as well, except for questions 2 and 5.

**Figure 1**

*Index of Peer Relations*

1. I get along very well with my peers.
2. My peers act like they don’t care about me.
3. My peers treat me badly.
4. My peers really seem to respect me.
5. I don’t feel like I am “part of the group.”
6. My peers are a bunch of snobs.
7. My peers understand me.
8. My peers seem to like me very much.
9. I really feel “left out” of my peer group.
10. I hate my present peer group.
11. My peers seem to like having me around.
12. I really like my present peer group.
13. I really feel like I am disliked by my peers.
14. I wish I had a different peer group.
15. My peers are very nice to me.
16. My peers seem to look up to me.
17. My peers think I am important to them.
18. My peers are a real source of pleasure to me.
19. My peers don’t seem to even notice me.
20. I wish I were not part of this peer group.
21. My peers regard my ideas and opinions very highly.
22. I feel like I am an important member of my peer group.
23. I can’t stand to be around my peer group.
24. My peers seem to look down on me.
25. My peers really do not interest me.

*Note.* This table shows the statements on the IPR (Hudson et al., 1990, 1993).

Positive Statement Numbers: 1, 4, 7, 8, 11, 12, 15, 16, 17, 18, 21, 22

Negative Statement Numbers: 2, 3, 5, 6, 9, 10, 13, 14, 19, 20, 23, 24, 25

There were no questions in which all of the participants increased their score, for PC had no questions that increased in score. PA was the only participant with an increase in question 20

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(“I wish I were not part of this peer group”); the other members stayed at the same score for the pre- and posttest. PB was the only one with an increase in questions 1, 2, 3, 4, 6, 7, 11, 12, 13, 16, and 25. PB and PD showed increases in questions 17 (“My peers think I am important to them”), 18 (“My peers are a real source of pleasure to me”), and 22 (“I feel like I am an important member of my peer group”).

**Figure 2**

*PA IPR Answers*
CONNECTIONS IN RELATIONSHIPS IN AN INCLUSIVE MUSIC THERAPY GROUP

Figure 3

*PB IPR Answers*

![Bar chart showing Pretest and Posttest scores for PB IPR Answers.](chart_1)

Figure 4

*PC IPR Answers*

![Bar chart showing Pretest and Posttest scores for PC IPR Answers.](chart_2)
Mean Group Scores

The mean scores of the group were analyzed to further understand the changes that occurred in the group, inclusive of every member. Descriptive and inferential statistics, in the form of a paired-sample *t* test, were used in order to examine the mean scores of the group. The individual scores were then compared to the group scores. Table 3 highlights the *p* values of the mean scores for the scale, the positive statements, and the negative statements. A *p* value of less than 0.05 is considered statistically significant.

Table 3

*Group Scores*

<table>
<thead>
<tr>
<th>Score</th>
<th>Pretest <em>M</em></th>
<th>Posttest <em>M</em></th>
<th>Pretest <em>SD</em></th>
<th>Posttest <em>SD</em></th>
<th><em>p</em> value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>62.25</td>
<td>50.5</td>
<td>23.085</td>
<td>28.942</td>
<td>.432</td>
</tr>
<tr>
<td>Positive</td>
<td>38</td>
<td>29.5</td>
<td>15.033</td>
<td>18.625</td>
<td>.356</td>
</tr>
</tbody>
</table>
**Total Score**

The mean score for the pretest was 62.25 ($SD = 23.085$) and 50.5 ($SD = 28.942$) for the posttest, showing an overall group decrease in score, which implies less dysfunction overall. However, this difference was not statistically significant ($p = .432$). The scores for PC and PD were below the mean for both the pretest and the posttest while PA and PB were above the mean for both.

**Positive Versus Negative Statement Scores**

The mean pretest score for the positive statements was 38 ($SD = 15.033$), and the posttest score was 29.5 ($SD = 18.625$). For the negative statements score, the pretest score was 24.25 ($SD = 9.866$) and the posttest was 21 ($SD = 13.614$). The changes in positive and negative scores were not significant ($p = .356$ and $p = .554$, respectively). This follows the same trend as the individual scores, in which there were lower scores for the negative statements in the pre- and posttests, and both positive and negative statement scores trended down.

PA and PB sat above the mean for both the pretest and the posttest of the positive statements score. Additionally, they were above the mean for the pretest of the negative statements score. However, for the posttest, only PB was above the mean. PC and PD were below the mean for the pretest and the posttest of both the positive and negative statements scores. PA was below the mean for the negative statement posttest.

**Differences in Individual Questions**

A paired sample $t$ test was run for the mean score of each question. One question reached significance at the $p < .05$ level: question 5 (“I don’t feel like I am ‘part of the group’”). This is one of the only two questions in which all participants decreased their score. The other, question 21 (“My peers regard my ideas and opinions very highly”), had a calculated $p$ value of .066,
showing weak evidence of a trend, approaching significance. Another question that showed weak evidence \((p < .1)\) was question 8 (“My peers seem to like me very much”).

There were a few questions that showed no difference between the pretest and the posttest. These included questions 13 (“I really feel like I am disliked by my peers”), 16 (“My peers seem to look up to me”), and 25 (“My peers really do not interest me”). Though there were changes in the individual scores for each of these questions, the mean for the group showed no differences.

**Researcher-created Measure**

The researcher-created measure (see Appendix E) consisted of three Likert-type questions and three short answer questions. The Likert-type questions ranged from 1-6 from least to most. These questions were analyzed through descriptive statistics. The first question (how difficult was it to connect with other participants over Zoom?) had a mean score of 3.75 \((SD = .5)\). PA, PB, and PD were above the mean, and PC was below. The second question (do you feel closer to other group members since participating in this group?) had a mean score of 5 \((SD = .82)\). PA was below the mean, PB and PD were the same as the mean, and PC was above. The final Likert-type question (did Zoom allow you to get to know the other group members?) resulted in a mean score of 4.25 \((SD = 1.5)\). PA and PB were below the mean, and PC and PD were above.

The short answer questions addressed the most challenging part, the easiest part, and any moments that stood out to participants, and were analyzed through thematic analysis. PA, PC, and PD all discussed technology issues as the most difficult part, and PB described the most challenging part as “trying to avoid being closed off/quiet with people I hardly know.” The easiest part for the group was sharing their interests and listening to others talk about theirs. PA
felt like it was easy to talk about their interests without being judged, PB felt the easiest part was listening to the group’s opinions, PC felt like speaking about what they liked and connecting was easy, and PD felt like it was easy to relate to others and have people who understand music and playing in a band or orchestra.

PA, PC, and PD contributed moments that stood out to them; PB indicated there were no moments for them. PA shared a love of the Minecraft (Mojang Studios, 2011) soundtrack in a session, and they “expected someone to cringe or have a hesitant reaction.” They were surprised that other people could relate to them in that moment. PC shared a few moments that stood out to them. They included discussing different types of music everyone liked, “when we got to compare and connect on our similar music preferences”, and memories that were associated with certain songs or types of music. PD shared that it made them happy when other group members liked the song they chose to share with the group.

Summary

Results varied between each participant, though there were certain trends that arose through data analysis. Within the IPR (Hudson et al., 1990, 1993), one statement, “I don’t feel like I am ‘part of the group,’” reached significance for the group, trending toward feeling like this statement was less true. Results for total score, positive and negative statements, and the other individual statements did not reach significance. However, some changes were noted with the descriptive statistics. The total score for the group did decrease overall, and three of the participants’ total scores decreased. Each participant showed decreases for some of the individual statements, thus indicating some increase in closeness among the other participants.

In the researcher-created measure, the participants felt it was somewhat difficult to connect over Zoom but that they did feel closer to the other participants and that they could still
Connect in a virtual environment. The short answer questions revealed their thoughts on the group about what was difficult, easy, and stood out to each of them. Responses included issues with technology being difficult, sharing music preferences and listening to others as easy, and moments of connection and similarities as standing out to them.

**Discussion**

The purpose of this study was to investigate the connections in relationships built within a virtual, inclusive, performative music therapy group, how connected neurodiverse adolescents feel after participating in the group, and if there is a difference in connectedness between the neurodiverse adolescents before and after participating in the group. The IPR (Hudson et al., 1990, 1993) was used as pretest and posttest, and descriptive statistics and a paired-sample t test were utilized to analyze the individual and group data. In hopes of gathering more group-specific experiences, a researcher-created measure was used as a second posttest. This measure was analyzed through descriptive statistics and thematic analysis. Results indicated changes between the beginning of the music therapy sessions and the end, though not all group members felt similarly. Only one statement on the IPR showed a significant change for the group. Though the change in total group score was not significant, results indicated a slight trend toward feeling more connected.

The research questions guiding this research were as follows:

1. Are connections in relationships built within a virtual, inclusive, performative music therapy group?

2. How connected do neurodiverse adolescents feel towards each other after participating in a virtual, inclusive, performative music therapy group?
3. Is there a difference in connectedness between neurodiverse adolescents before and after participating in a virtual, inclusive, performative music therapy group?

**Building Connections**

Individually, three participants showed a slight trend toward feeling more connected, and one participant indicated less connection. There was a slight increase in connection as a group; thus, a performative music therapy group has the potential to build connections within peer relationships. Through sharing their own music, the participants may have started to feel closer to each other. A notable moment from the music therapy sessions was when the participants all spoke about their preferred music. When speaking about it, their musical preferences appeared to be very different, but after listening to each participant’s song choice, one participant mentioned how they were more similar than they previously thought, and the other group members agreed. This may have aided in building connections with each other.

One participant noted that a moment that stood out to them was that they were not judged for sharing music that they liked. This experience might have helped them to feel accepted and connected to the others. This aligns with Mitchell (2019) and Pavlicevic et al. (2014), who found that there were opportunities for inclusion and for connections to be made within a nonjudgmental environment. Another participant noted that it was challenging for them to “avoid being closed off,” and easy to listen to the other group members about their music preferences. Trying to be open to the music experiences and being “curious of another” (Swaney, 2020) through listening to other participants may have influenced the development of their connections.

**Depth of Connectedness**

The depth of the connection participants felt toward the other group members was variable. Two participants felt more connected than the other two at the start of the sessions, and
still experienced an increase in their connection toward the group members. One felt less connected to the others after completion of the sessions. However, the changes in individual statements on the IPR (Hudson et al., 1990, 1993) showed some increase in connection for all participants. There were two statements in which all participants decreased their score and two statements when the score stayed the same. The variations in how the scores changed for each participant may reflect the depth of their connections with each other. McFerran & Wigram (2010) wrote that the way in which adolescents engage with music may influence the depth of their connections to others, either by using music to connect, or by using it to isolate themselves.

The statement “my peers regard my ideas and opinions very highly” from the IPR (Hudson et al., 1990, 1993) was one of the statements in which all participants felt more strongly about in the posttest. Additionally, one participant noted that they liked when the other participants enjoyed their song choice, and three of the participants described connections and relating to each other as moments that stood out to them. By all participants sharing their music, they may have felt heard and that their opinion was important, and also invited others into their musical world. This “invitation of another” (Swaney, 2020) provides more opportunities to connect through the music experience, thus creating the potential for deepening connections with other group members.

**Differences in Connectedness**

Results from this study indicated differences in connectedness within individual statements, between group members, and with the group as a whole. A notable difference in connectedness is with the statistically significant difference with the statement “I don’t feel like I am ‘part of the group.’” This statement changed in that all participants felt like this was less true
after the completion of the music therapy sessions. This implies that they felt like they were more part of the group following the sessions and were more connected.

Other individual statements varied in how they changed for each participant and for the group, and no other statements reached statistical significance. These results suggest that each participant had a unique experience within the group process, showing individual differences in their perception of connectedness. The total scores also varied for each participant, though each of them showed differences in connectedness from the pretest to the posttest. Three participants decreased their score, thus feeling more connected, and one increased, feeling less connected. It is important to note that though one participant did feel less connected, it is still a difference in how connected they felt and is important to include in the data. Considering this data an outlier or excluding the scores from analysis would go against the foundational components of the research study. This participant merely had a different experience than other group members, but their contributions and voice are just as important as the others.

Results also indicated an increase for the group as a whole, but the differences were not significant, suggesting that there were some differences in connectedness from the pretest to the posttest. Additionally, within the researcher-created measure, all of the participants noted feeling closer to each other within the rating scale questions. This aligns with Hillier et al. (2012), which reported an increase in acceptance as a function of participation in a music group. The performative music therapy group process seems to have had a positive effect on participants’ feelings of acceptance and connectedness.

**Implications for Music Therapy Practice**

A performative music therapy group has the potential to create connections among neurodiverse adolescents. Connectedness is one of the main components for adolescent health
CONNECTIONS IN RELATIONSHIPS IN AN INCLUSIVE MUSIC THERAPY GROUP

(McFerran & Wigram, 2010) and encouraging connectedness among peers can help adolescents integrate into their communities and move into healthy adulthood.

This is one of few studies including inclusive music therapy groups and one that places equal value and weight on each participant’s perspective, regardless of neurotype. This research does not compare autistic and neurotypical perspectives on their connections with each other, and as such, created an inclusive and accepting music therapy space.

As music therapy continues to grow and expand, inclusive groups such as the one in this study can move the profession toward alignment with the neurodiversity model and away from the deficit model. Clinicians and researchers need to continue to celebrate and uplift autistic voices and consider their perspectives as equally important. Taking all of these factors into consideration and practice have the potential to reframe clinician’s work into more of a strengths-based model focused on adolescents’ developmental health.

Limitations

There were several limitations with this study. First, a small sample size limited the possibility to show significant changes from the pretest to the posttest. There were further limitations within the measure. Though the IPR (Hudson et al., 1990, 1993) is a valid and reliable measure, it is limited in that it is a self-reported measure and based on opinion. It is dependent on the participants’ honesty and how they were feeling the day they completed each measure. Outside events and factors may also have affected how each participant answered.

A further limitation is the fact that there were only four sessions over the course of two weeks. The short amount of time for these sessions limited the breadth and depth of relationships that could develop, and a study that runs longer may provide more accurate results concerning the development of relationships.
The necessary change to a virtual music therapy group created other limitations with the study. Revisions to the research proposal caused a delay in IRB approval; therefore, recruitment was delayed and there was a lack of time to complete the music therapy sessions. This also prompted a change in the protocol and eliminated the possibility of a performance for the community, thus limiting the extent to which the group could be considered performance based.

**Further Research**

Further research is needed in order to examine and explore neurodiverse and inclusive music therapy groups. It is recommended that this study be replicated with a few considerations. First, a larger sample is needed in order to draw conclusions about the effect of this type of group on relationships. This could either be completed with a larger group, or with multiple, smaller groups and include a control group. This sample should also include greater neurodiversity and a larger number of neurodivergent individuals, which would be more representative of the population as a whole. The music therapy groups should run for longer in order to give enough time for relationships to develop. Replicating this study with other age groups can provide further information as well. Second, an in-person replication of this study is necessary as the world moves back into in-person activities and events. Comparing in-person to telehealth groups is also an important consideration because telehealth and virtual ways of accessing a greater community continue to be valuable and accessible options.

Additionally, the intention of this study was to include a performance. Including a performance may affect the way in which group members perceive their connections to each other, regardless of how experienced each group member is as a musician. In aligning with community music therapy tenets, a performance incorporates a larger community in the therapy process, and that aspect was missing from this study.
Finally, in a replication of this study, it would be important to broaden the sources of input for data. Since it is a valid and reliable measure, the IPR (Hudson et al., 1990, 1993) could be used in conjunction with another valid and reliable test measuring similar outcomes. A mixed-methods design could examine the effect of the music therapy group, and interviews and other input from group members could explore their perspectives more fully. This would give more of a voice to each individual and the collective group, aligning with the neurodiversity movement. In addition, if a community performance takes place, audience members could contribute their perspectives and provide other perceptions of the experience.

**Conclusion**

The aim of this study was to create an inclusive, performative music therapy group in which neurodiverse adolescents could build connections in relationships. Through the music therapy process, connections were made, even though results varied in how they were made on the individual and group level. Individual voices were considered with equal importance to create an even playing field in their contributions to the group.

Results revealed an increase in connection with the group as a whole and with three of the participants individually. One statement on the IPR (Hudson et al., 1990, 1993) reached statistical significance, “I don’t feel like I am ‘part of the group,’” and participants felt like this statement was less true after completion of the session. Another statement neared significance, “my peers regard my ideas and opinions highly”, and participants agreed with this statement more in the posttest than in the pretest. Based on these statements, and through their statements about connecting through sharing music and talking about their preferences, it seems like a supportive and inclusive environment was created through the music therapy group process. Within this nonjudgmental music therapy space, participants may have felt accepted and like
they belonged to the group. A performative music therapy group has the potential to create inclusive opportunities for adolescents to build connections within peer relationships.
References


asan/about-autism/


CONNECTIONS IN RELATIONSHIPS IN AN INCLUSIVE MUSIC THERAPY GROUP


Levstek, M., Barnby, R. M., Pocock, K. L., & Banerjee, R. (2021). “It all makes us feel together:” Young people’s experiences of virtual group music-making during the
https://doi.org/10.3389/fpsyg.2021.703892

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https://doi.org/10.15845/voices.v19i1.2701


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https://doi.org/10.1111/cdep.12279


https://doi.org/10.1080/08098139709477889


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https://doi.org/10.1007/s10803-010-1146-0
CONNECTIONS IN RELATIONSHIPS IN AN INCLUSIVE MUSIC THERAPY GROUP


https://www.ventura33.com/neurodiversity


Appendix A

IRB Approval Letter

DATE: February 22, 2022

TO: Laura Silvestain
FROM: Molloy College IRB

PROJECT TITLE: [1852206-1] The Connections in Relationships Among Autistic and Neuroligical Adolescents Participating in an Inclusive, Performance-Based Music Therapy Group

REFERENCE #: New Project

ACTION: APPROVED

APPROVAL DATE: February 22, 2022

EXPIRATION DATE: February 21, 2023

REVIEW TYPE: Expedited Review

REVIEW CATEGORY: Expedited review category #6

Thank you for your submission of New Project materials for this project. The Molloy College IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

You may proceed with your project.

This submission has received Expedited Review based on applicable federal regulations.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require that each participant receives a copy of the consent document.

Please note that any revision to previously approved materials must be approved by this committee prior to initiation. Please use the appropriate revision forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others (UAP/IRSOs) and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

This project has been determined to be a MINIMAL RISK project. Based on the risks, this project requires continuing review by this committee on an annual basis. Please use the appropriate forms for this...
procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of February 21, 2023.

Please note that all research records must be retained for a minimum of three years after the completion of the project.

If you have any questions, please contact Patricia Eckardt at 516-323-3711 or peckardt@molloy.edu. Please include your project title and reference number in all correspondence with this committee.

Sincerely,

Patricia Eckardt, Ph.D., RN, FAAN
Chair, Molloy College Institutional Review Board

This letter has been issued in accordance with all applicable regulations, and a copy is retained within Molloy College IRB's records.
Appendix B

Informed Consent

Molloy College IRB
Approval Date: February 22, 2022
Expiration Date: February 21, 2023

Music Department:
1000 Hempstead Avenue
Rockville Centre, NY 11571
516.323.3320

Title of Study: The Connections in Relationships Among Autistic and Neurotypical Adolescents Participating in an Inclusive, Performance-Based Music Therapy Group

This study is being conducted by:

Principal Investigator:
Laura Silvestain, MT-BC
Music Therapy Graduate Student, Molloy College
lsilvestain@lions.molloy.edu
303.472.9652

Thesis Advisor:
Amanda MacRae, PhD, MT-BC
amacrae@molloy.edu
609.346.3995

Key Information about this study:
This consent form is designed to inform you about the study you are being asked to participate in. Here you will find a brief summary about the study; however, you can find more detailed information later on in the form.

- You are being asked to complete this informed consent form because you meet the following inclusion criteria, which you indicated on the interest form:
  - Are between the ages of 13 and 19
  - Have been playing an instrument for three years or longer
  - Can read at a seventh-grade level
  - Have a cognitive level of a 12-year-old or older
- If you are a private client of the principal investigator, you meet the above inclusion criteria, as well as meet the requirements for a diagnosis of autism
CONNECTIONS IN RELATIONSHIPS IN AN INCLUSIVE MUSIC THERAPY GROUP

- Participation in this research study will require up to six hours of the participant’s time, which is spread over 4 weeks:
  - Session 1: up to 2 hours to make introductions, fill out a form about relationships, and create music together
  - Session 2 and 3: 1 hour to create music together
  - Session 4: approximately 2 hours to create music together, perform together, and fill out the form
- All private information will be de-identified to minimize risk of breaking confidentiality

Why am I being asked to take part in this study?

The purpose of this study is to investigate the nature of connections in relationships among autistic and neurotypical adolescents within a virtual performance-based music therapy group, with each participant playing their major instrument. You are being asked to take part in this study because you are an adolescent musician, who indicated from the interest form that you were interested in playing music in a small group with peers.

What will I be asked to do?

At the start of the sessions, you will be asked to fill out a short, standardized test that asks questions about different parts of your connections to other group members. There will be 6-8 group members in total. At the end of the sessions, you will fill out the same test.

During the four music therapy sessions, you will be asked to play your primary instrument. This may include reading familiar or new music. You may also be asked to improvise and/or solo if the group and you feel comfortable. Structure and directions will be given for these improvisations. Music listening, sharing, and composing may also occur in these sessions.

Where is the study going to take place, and how long will it take?

This study will take place on a video conferencing platform, and scheduling of sessions will occur after all participants have returned consent. There will be four sessions: one or two per week. The first and final session will be up to 2 hours long, and the second and third will be one hour long. The total time commitment is approximately 6 hours.

What are the risks and discomforts?

Potential risks include that the participants could get made fun of, they may have performance anxiety, or they may experience reduced self-esteem if they cannot keep up with others musically. These are minimal risks, and if the participants feel discomfort, the principal investigator will be available for support and will also provide information about local counseling services.

What are the expected benefits of this research?

**Individual Benefits:** This study may not necessarily provide any direct benefits to participants. It will provide the principal investigator with information about the nature of relationships built within a performance-based music therapy group, and may be beneficial to students, educators, and clinicians. There may be benefit in the relationships
CONNECTIONS IN RELATIONSHIPS IN AN INCLUSIVE MUSIC THERAPY GROUP

Do I have to take part in this study?

Your participation in this research is voluntary and is not required. If you decide to participate in the research, you may change your mind and stop participating at any time without penalty or loss of benefits to which you are already entitled.

What are the alternatives to being in this study?

Instead of being in this research, you may choose not to participate.

Who will have access to my information?

Only the researcher will have access to identifiable private information during this study. All information will be kept in a filing cabinet in the principal investigator’s locked, private office. Information will not contain any identifiers. Only de-identified information will be shown to the thesis advisor and hired statistician. Research results will be presented in the written thesis and will not contain information linking the research to the participants.

How will my [information/biospecimens] be used?

Identifiable private information that is collected over the course of the study will have all identifiers removed to ensure confidentiality and will not be used for future research studies.

To ensure that this research activity is being conducted properly, Molloy College’s Institutional Review Board (IRB), whose members are responsible for the protection of human subjects’ rights for all Molloy-approved research protocols, have the right to review study records, but confidentiality will be maintained as allowed by law.

Can my participation in the study end early?

You may voluntarily withdraw from the study at any time without penalty.

Will I receive any compensation for participating in the study?

No compensation will be given for participating in this study.

What if I have questions?

Before you decide whether you’d like to participate in this study, please ask any questions that come to mind now. Later, if you have questions about the study, you can contact the principal investigator, Laura Silvestain at 303-472-9652 or lsilvestain@lions.molloy.edu, or the thesis advisor, Dr. Amanda MacRae at 609-346-3995 or amacrae@molloy.edu.

What are my rights as a research participant?

You have rights as a research participant. All research with human participants is reviewed by a committee called the Institutional Review Board (IRB) which works to protect your rights and welfare.
If you have questions about your rights, an unresolved question, a concern, or complaint about this research you may contact the IRB contact the Molloy IRB office at irb@molloy.edu or call 516-323-3000.

**Documentation of Informed Consent:**

You are freely making a decision whether to be in this research study. Signing this form means that:

1. you have read and understood this consent form
2. you have had your questions answered, and
3. after sufficient time to make your choice, you have decided to be in the study.

You will be given a copy of this consent form to keep.

---

Your signature ____________________________ Date __________

Your printed name __________________________ Date __________

Signature of researcher explaining study __________________________ Date __________

Printed name of researcher explaining study __________________________
Title of Study: The Connections in Relationships Among Autistic and Neurotypical Adolescents Participating in an Inclusive, Performance-Based Music Therapy Group

This study is being conducted by:

Principal Investigator:
Laura Silvestain, MT-BC
Music Therapy Graduate Student, Molloy College
lsilvestain@lions.molloy.edu
303.472.9652

Thesis Advisor:
Amanda MacRae, PhD, MT-BC
amacrae@molloy.edu
609.346.3995

Key Information about this study:
This consent form is designed to inform you about the study your child is being asked to participate in. Here you will find a brief summary about the study; however, you can find more detailed information later on in the form.

- You are being asked to complete this informed consent form because your child indicated that they meet the following criteria:
  - Are between the ages of 13 and 19
  - Have been playing an instrument for three years or longer
  - Can read at a seventh-grade level
  - Have a cognitive level of a 12-year-old or older
- If your child is a private client of the principal investigator, your child meets the above inclusion criteria, as well as meets the requirements for a diagnosis of autism
• Participation in this research study will require up to six hours of the participant’s time, which is spread over 2-4 weeks
  o Session 1: up to 2 hours to make introductions, fill out a form about relationships, and create music together
  o Session 2 and 3: 1 hour to create music together
  o Session 4: approximately 2 hours to create music together, perform together, and fill out the form

• All private information will be de-identified to minimize risk of breaking confidentiality

Why is my child being asked to take part in this study?

The purpose of this study is to investigate the nature of connections in relationships among autistic and neurotypical adolescents within a virtual performance-based music therapy group, with each participant playing their primary instrument. Your child is being asked to take part in this study because your child is an adolescent musician, who indicated that they were interested in playing music in a small group with peers.

What will my child be asked to do?

At the start of the sessions, your child will be asked to fill out a short, standardized test that asks questions about different parts of their connections to other group members. There will be 6-8 group members in total. At the end of the sessions, your child will fill out the same test.

During the four music therapy sessions, your child will be asked to play their primary instrument. This may include reading familiar or new music. Your child may also be asked to improvise and/or solo if the group and your child feel comfortable. Structure and directions will be given for these improvisations. Music listening, sharing, and composing may also occur in these sessions.

Where is the study going to take place, and how long will it take?

This study will take place on a video conferencing platform and scheduling sessions will occur after all participants have returned consent. There will be four sessions: one or two per week. The first and final session will be up to 2 hours long, and the second and third will be one hour long. The total time commitment is up to 6 hours.

What are the risks and discomforts?

Potential risks include that the participants could get made fun of, they may have performance anxiety, or they may experience reduced self-esteem if they cannot keep up with others musically. These are minimal risks, and if the participants feel discomfort, the principal investigator will be available for support and will also provide information about local counseling services.

What are the expected benefits of this research?

**Individual Benefits**: This study may not necessarily provide any direct benefits to participants. It will provide the principal investigator with information about the nature of relationships built within a performance-based music therapy group, and may be beneficial to students, educators, and clinicians. There may be benefit in the relationships
CONNECTIONS IN RELATIONSHIPS IN AN INCLUSIVE MUSIC THERAPY GROUP

built within the group, such as positive social experiences and increased awareness of others, peer tolerance, acceptance, self-esteem, or confidence.

Does my child have to take part in this study?
Your child’s participation in this research is voluntary and is not required. If your child decides to participate in the research, you and/or your child may change your mind and stop participating at any time without penalty or loss of benefits to which your child is already entitled.

What are the alternatives to being in this study?
Instead of being in this research, you may choose for your child not to participate.

Who will have access to my child’s information?
Only the researcher will have access to identifiable private information during this study. All information will be kept in a filing cabinet in the principal investigator’s locked, private office. Information will not contain any identifiers. Only de-identified information will be shown to the thesis advisor and hired statistician. Research results will be presented in the written thesis and will not contain information linking the research to the participants.

How will my child’s information be used?
Identifiable private information that is collected over the course of the study will have all identifiers removed to ensure confidentiality and will not be used for future research studies.

To ensure that this research activity is being conducted properly, Molloy College’s Institutional Review Board (IRB), whose members are responsible for the protection of human subjects’ rights for all Molloy-approved research protocols, have the right to review study records, but confidentiality will be maintained as allowed by law.

Can my child’s participation in the study end early?
You and/or your child may voluntarily withdraw from the study at any time without penalty.

Will I receive any compensation for participating in the study?
No compensation will be given for participating in this study.

What if I have questions?
Before you decide whether you’d like your child to participate in this study, please ask any questions that come to mind now. Later, if you have questions about the study, you can contact the principal investigator, Laura Silvestain at 303-472-9652 or lsilvestain@lions.molloy.edu, or the thesis advisor, Dr. Amanda MacRae at 609-346-3995 or amacrae@molloy.edu.

What are my child’s rights as a research participant?
Your child has rights as a research participant. All research with human participants is reviewed by a committee called the Institutional Review Board (IRB) which works to protect your rights and welfare.
If you have questions about your child’s rights, an unresolved question, a concern, or complaint about this research you may contact the IRB contact the Molloy IRB office at irb@molloy.edu or call 516-323-3000.

Documentation of Informed Consent:

You are freely making a decision for your child to be in this research study. Signing this form means that
1. you have read and understood this consent form
2. you have had your questions answered, and
3. after sufficient time to make your choice, you have decided for your child to be in the study.

You will be given a copy of this consent form to keep.

_________________________________________  ____________
Your signature                                   Date

_________________________________________  ____________
Your printed name                                Date

_________________________________________  ____________
Signature of researcher explaining study         Date

_________________________________________
Printed name of researcher explaining study
Appendix C

Adolescent Assent Form

MOLLOY COLLEGE

ADOLESCENT (Ages 13-17) ASSENT TO PARTICIPATE IN RESEARCH

The Connections in Relationships Among Autistic and Neurotypical Adolescents Participating in an Inclusive, Performance-Based Music Therapy Group

You are being asked to participate in a research study conducted by Laura Silvestain, MT-BC, Principal Investigator, and Amanda MacRae, PhD, MT-BC, Thesis Advisor, and associates from the Music Therapy Department, at Molloy College, Rockville Centre, NY. You were selected as a possible participant in this study because you have been playing a band or orchestra instrument for 3 or more years and you are willing to play in a virtual music therapy group of 6-8 musicians for one to two days per week for 2-4 weeks, for a total of four times. Your participation in this research study is voluntary.

Why is this study being done?

This study is being done to examine connections between teenagers in a performance-based music therapy group, with each person playing their primary instrument.

What will happen if I take part in this research study?

Please talk this over with your parents before you decide whether or not to participate. We will also ask your parents to give their permission for you to take part in this study. But even if your parents say “yes” you can still decide not to do this.

If you volunteer to participate in this study, the researcher will ask you to do the following:

After being introduced to everyone in the group, you will be asked to fill out a short test that asks you about your connections to the other people in the group. You will then play music with the group, playing familiar and/or new music. You may be asked to improvise if you feel comfortable, and directions will be given about the improvisation. After the fourth and final session, you will fill out the same test as at the beginning.

How long will I be in the research study?

Participation in the study will require approximately six hours of your time over the course of four weeks.

Are there any potential risks or discomforts that I can expect from this study?

Though there aren't any anticipated risks, you may experience some discomfort. For example, you could get made fun of, you may have performance anxiety, or you may experience reduced self-esteem if you cannot keep up with others musically. If at any time you feel any discomfort, the researcher will be available for support and will also provide information about local counseling services.
Are there any potential benefits if I participate?

You may benefit from the study by the relationships built within the group, such as positive social experiences, and increased awareness of others, peer tolerance, acceptance, self-esteem, or confidence. The study may benefit students, educators, and clinicians from the information gained about the nature of relationship built within the music therapy group.

Alternatives to participation

You may choose not to participate without any consequences. You may also stop participating at any time during the research study.

Will I receive any payment if I participate in this study?

You will receive no payment for your participation.

Will information about me and my participation be kept confidential?

Any information that is obtained in connection with this study and that identify you will remain confidential. It will be disclosed only with your permission or as required by law. Confidentiality will be maintained by means of coding any identifying information and only the researcher will see the identifying information.

- Withdrawal of participation by the investigator

The investigator may withdraw you from participating in this research if circumstances arise which warrant doing so. If you are unable to maintain the COVID safety standards or are actively harming other participants, you may be removed even if you would like to continue. The investigator will make the decision and let you know if it is not possible for you to continue. The decision may be made to protect the health and safety of yourself and others.

What are my rights if I take part in this study?

You may withdraw from the study at any time and discontinue participation without penalty or loss of benefits to which you were otherwise entitled.

You can choose whether or not you want to be in this study. If you volunteer to be in this study, you may leave the study at any time without consequences of any kind. You are not waiving any of your legal rights if you choose to be in this research study. You may refuse to answer any questions that you do not want to answer and still remain in the study.

Who can answer questions I might have about this study?

In the event of a research related injury, please immediately contact one of the researchers listed below. If you have any questions, comments, or concerns about the research, you can talk to the one of the researchers. Please contact Laura Silvestain at
303-472-9652 or lsilvestain@lions.molloy.edu or Amanda MacRae at 609-346-3995 or amacrae@molloy.edu

If you have questions about your rights as a research participant, or you have concerns or suggestions and you want to talk to someone other than the researchers, you may contact the Molloy IRB at 516-323-3000 or irb@molloy.edu.

SIGNATURE OF STUDY PARTICIPANT

I understand the procedures described above. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

___________________________________________________________
Name of Participant

___________________________________________________________    ______________
Signature of Participant                                      Date

SIGNATURE OF PERSON OBTAINING ASSENT

In my judgment the participant is voluntarily and knowingly agreeing to participate in this research study.

___________________________________________________________   ______________
Name of Person Obtaining Assent                              Contact Number

___________________________________________________________   ______________
Signature of Person Obtaining Assent                          Date
Appendix D

Interest Email and Form

Hello Ms. Lee and Mr. Ewer,

My name is Laura Silvestain, and I am a board-certified music therapist working in the area. I am also a second-year music therapy graduate student at Molloy College in New York. I am completing my thesis this year, investigating the connections in relationships built between adolescents within a virtual performance-based music therapy group process. In order to complete my research, I am needing to recruit a few adolescent musicians to take part in four group music therapy sessions in February. Sessions will take place after school hours on a video conferencing platform, and scheduling of sessions will occur once all participants are recruited to ensure they can attend the sessions. They will need to be able to play an instrument, but no other prior preparation or knowledge about music therapy is needed.

If you believe you may have students interested in taking part in this study, will you please forward them the attached interest form? Information about the study is also included within the form.

Students can email me directly with the interest form and any questions at lsilvestain@lions.molloy.edu. They may also call 303-472-9652 if they have any questions.

Thank you for your time and your willingness to help,

Laura Silvestain
Hello! My name is Laura Silvestain, and I am a music therapist working in the Austin area. I am currently completing my thesis as part of my master’s degree at Molloy College. My thesis is looking at the relationships that are formed through playing music in a virtual performance-based music therapy group. I am reaching out to you because I need a few high school musicians to participate in my research! In order to participate in this research, you need to play a band or orchestra instrument and be willing to play in a group of 6-8 people four times over 2-4 weeks. These sessions will take place on a video conferencing platform (such as Zoom) to minimize the risk of COVID. The first session will take up to 2 hours, the second and third session will last 1 hour, and the final session will take up to 2 hours. I will schedule with the group for the best day and location for everyone once I have everyone’s information.

Before the start of sessions, you will fill out a form that asks questions about how you feel about the group of people you will be making music with. You will also fill out this form after they are all completed.

During music therapy sessions, you may play your instrument, listen to others playing, listen to songs, and compose songs. We may play arrangements of songs, improvise based on a set structure, or freely improvise. Experience in improvising is not needed, but you will need to be able to read music. Arrangements will not be difficult and can be adapted and taught in a variety of different ways to help you play with the group! Though you will be playing your instrument, there is no pressure to play with the precision that is needed for UIL and other competitions.

In order to be included in this group, I do need to collect some information. The information I need is on the next page. Please return the information to me as soon as you can by emailing me at lsilvestain@lions.molloy.edu. If you have any questions, you may email me or call me at 303-472-9652.

Thank you, and I look forward to hearing from you!
Laura
Interest Form

Name:

Age:

Parent/Caregiver’s name(s):

Parent/Caregiver’s email(s):

Parent/Caregiver’s phone number(s):

Instrument(s) you play:

Years you have played each instrument:

Favorite songs to play:

Please check if you are familiar playing any of the songs below:

___ Counting Stars by OneRepublic
___ Runaway Baby by Bruno Mars
___ Industry Baby by Lil Nas X
___ Bye Bye Bye by NSYNC
___ Centuries by Fall Out Boy
___ Levitating by Dua Lipa
___ Yellow Submarine by The Beatles
___ Good 4 U by Olivia Rodrigo
___ Beggin’ by Maneskin
___ Bad Guy by Billie Eilish

Please return this form by email to: lsilvestain@lions.molloy.edu
Appendix E

Researcher-Created Measure

Each question is rated on a scale from 1 to 6, with 1 being the least and 6 being the most.

1. How difficult was it to connect with the other participants over Zoom? 1 indicates not difficult and 6 indicates extremely difficult.

2. Do you feel closer to other group members since participating in this group? 1 indicates not at all and 6 indicates much closer.

3. Did Zoom allow you to get to know the other group members? 1 indicates not at all, and 6 indicates extremely well.

4. What was the most challenging part of being in this group?

5. What was the easiest part of being in this group?

6. Were there any moments that stood out to you?