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The Collaborative Roles of Music Therapists and Teachers in  
Working with Children and Adolescents with Autism Spectrum  
Disorder: An Integrative Review of the Literature



Miss Estelle Li En Ng

An Independent Study Submitted in Partial Fulfillment of the  
Requirements  
for the Degree of Master of Arts in Music Therapy  
Inter-Department of Arts Program in Music Therapy  
GRADUATE SCHOOL  
Chulalongkorn University  
Academic Year 2022  
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น.ส.เอสแตล ลี เอน อีง

สารนิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาศิลปศาสตร  
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Independent Study Title	The Collaborative Roles of Music Therapists and Teachers in Working with Children and Adolescents with Autism Spectrum Disorder: An Integrative Review of the Literature
By	Miss Estelle Li En Ng
Field of Study	Music Therapy
Thesis Advisor	Associate Professor PORNPRAPIT PHOASAVADI, Ph.D.
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Accepted by the GRADUATE SCHOOL, Chulalongkorn University in  
Partial Fulfillment of the Requirement for the Master of Arts

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เอสแตล ลี เอน อีง : -. ( The Collaborative Roles of Music Therapists and Teachers in Working with Children and Adolescents with Autism Spectrum Disorder: An Integrative Review of the Literature)

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# # 6488107420 : MAJOR MUSIC THERAPY

**KEYWORD:** Integrative review, collaboration, role, music therapy, teachers, educators

Estelle Li En Ng : The Collaborative Roles of Music Therapists and Teachers in Working with Children and Adolescents with Autism Spectrum Disorder: An Integrative Review of the Literature. Advisor: Assoc. Prof. PORNPRAPIT PHOASAVADI, Ph.D. Co-advisor: JINHYUNG LEE, Ph.D.

Music therapists often work in collaboration with teachers or educators to promote the development of adaptive, cognitive, emotional, communication and social domains of children and adolescents with Autism Spectrum Disorder (ASD) in schools. Collaboration between music therapists and teachers involve the performance of various roles such as providing direct interventions and consultancy services. It is understood from studies that defining roles of team members contribute to successful team work. Therefore, a deeper understanding of how these two team members work together could inform professional development and enhance collaborative work. Yet, there is a lack of a comprehensive overview of how these professionals work together to benefit children and adolescents with ASD. As a result, this integrative review investigated the collaborative roles that music therapists and teachers perform when working with children and adolescents with ASD. In addition, this review also explored the goals, music interventions and titles used for the interventions performed by music therapists and/or teachers to further understanding of the work associated with roles. A search was done with multiple databases, including *ERIC*, *SCOPUS*, and *PubMed* as well as journals such as *Journal of Music Therapy*, *The Arts in Psychotherapy* and *Voices*. This process resulted in the identification of 12 articles that described the collaboration of music therapists and teachers serving children and adolescents with ASD in schools. Analysis of the selected studies found that music therapists and teachers perform different and multiple roles during collaboration for various clinical and research purposes. The review also demonstrated that collaborative work targeted a range of goal domains, and a variety of interventions were utilised. Implications for future clinical practice as well as potential research directions were discussed.

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Field of Study: Music Therapy  
Academic Year: 2022

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## ACKNOWLEDGEMENTS

I would like to express my heartfelt appreciation and gratitude to the following individuals:

Dr Jin-Hyung Lee, whose unwavering and unconditional guidance and encouragement throughout this Independent Study journey as well as the master's degree programme have been invaluable;

Dr Pornprapit Phoasavadi, for her support in relation to running the master's degree programme as well as to this paper;

Ms Eta Lauw, my clinical supervisor during my third practicum, for warmly welcoming me into the world of music therapy for special education. I would also like to extend my gratitude to the therapy department at AWWA School for their kindness and encouragement during my internship;

My husband, who has been a constant source of support throughout my 'A' Levels, my Bachelor's degree and now my Master's degree, a sounding board and a study partner as we both pursue our individual post-graduate endeavours;

My friends and especially, my classmates Ball Boonrak, Prim, Woon and Peeraya, who have been pillars of support throughout my master's degree programme;

Last but not least, I would like to express my deepest appreciation to my family and my in-laws, for their unwavering and unconditional love, support and understanding as I constantly venture into roads less travelled.

Estelle Li En Ng

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## **CHAPTER 1**

### **INTRODUCTION**

Music therapists work across many populations and settings, often in collaboration with other professionals, particularly in helping children with developmental disabilities (Register, 2002, p. 309). Collaboration among different professionals provides the platform for these children to be understood “holistically” as well as an opportunity for solutions that address their needs at a more comprehensive level (Twyford & Watson, 2008, p. 60). One such group of developmental disabilities that collaborative work is engaged in is when working with children and adolescents with Autism Spectrum Disorder (ASD). Studies have highlighted that these children and adolescents often struggle with areas of development such as in communication and language, executive functioning, social skills development, emotional perception as well as joint attention (Lindsay et al., 2013; Ozonoff et al., 1991; Pethybridge, 2013; Vaiouli et al., 2015). Therefore, collaboration between music therapists and key education professionals such as teachers can benefit these children and adolescents.

In a study conducted by Vaiouli et al. (2015), the researchers showed that collaboration between music therapists and special educators in a primary special education classroom helped to promote increased levels of responding to and initiating joint attention among children. These skills were also reported to have transferred across settings (Vaiouli et al., 2015). In addition, Kern et al. (2007b) conducted a study illustrating how the collaboration between music therapists and teachers assisted children to independently transit to school in the morning. Therefore,

collaboration between music therapists and educators can have a beneficial impact on children and adolescents with ASD.

Collaborative work requires music therapists and educators or teachers to work together towards a defined goal (Register, 2002; Rickson & McFerran, 2007). In a professional team, all members typically have two fundamental domains of roles, namely *implementary* and *collaborative* (Vodopivec & Hmelak, 2015). While the former refers to the tasks that professionals are employed to do, the latter refers to tasks and behaviours performed within collaborative relationships (Vodopivec & Hmelak, 2015). Among the current literature, there are numerous variations in the roles when the collaborations between music therapists and teachers take place. For example, music therapists played the role of interventionists while teachers played the role of evaluators in some studies (Pater et al., 2022; Schmid et al., 2020). On the other hand, music therapists provided the role of consultants while teachers played the role of interventionists in some studies (Kern et al., 2007a; Kern et al., 2007b).

Literature about team work has highlighted that teams perform best when members have clearly defined roles (Belbin, 2010; Vodopivec & Hmelak, 2015). In collaborative teams, music therapists offer their perspectives on and experiences with evidence-based therapeutic interventions to meet with educators who also bring their experience in educational strategies as well as background knowledge of students (McAfee et al., 2022). Since music therapy is an allied health profession that provides services with specific goals in mind, having a comprehensive review of literature on how and why music therapists and educators collaborate can inform future professionals who may be considering collaboration. Until this day, there are no known studies that are aimed at drawing a comprehensive picture of the different

types of roles and collaborations that music therapists and teachers perform when working with children and adolescents with ASD.

Therefore, the purpose of this study is to conduct an integrative review of literature. Integrative reviews are known to be an approach that provides *synthesis* on both empirical and theoretical studies of either mature or new and emerging topics, in order to establish new perspectives on a selected topic (Toronto & Remington, 2020; Torraco, 2016; Whittemore & Knafl, 2005). Synthesis is defined as the “creative process” that incorporates and consolidates existing ideas with new interpretations to develop new ways of understanding a given topic (Torraco, 2016, p. 409). For emerging topics such as the one addressed in this paper, an integrative literature review provides “holistic conceptualisation and synthesis of the literature” that would result in a preliminary “conceptualisation of the topic” such as developing a new “model or framework” (Torraco, 2016, p. 410). Moreover, having comparable methodological rigours to systematic reviews, integrative reviews can facilitate establishing clinical guidelines and addressing clinical questions (Ard & Wheeler, 2016; Hanson-Abromeit & Moore, 2014).

As a result, the overall objective of this integrative review is to provide an overview of how music therapists and teachers collaborate when they provide interventions to children and adolescents with ASD in terms of roles as well as goal domains, intervention types and titles or descriptors of interventions conducted by music therapists and teachers. It is hoped that this literature review will contribute to existing concepts on collaboration, provide considerations for collaborative work, point out gaps in existing literature and make recommendations for future research and discussions.

## 1.1 Research Questions

The research questions for this study are:

1. What are the roles of music therapists and teachers when collaborating to co-treat children and adolescents with ASD?
2. What are the goals, intervention types, and titles used when implemented by music therapists and/or by teachers?

## 1.2 Definition of Terms

### *Collaboration*

Generally, collaboration refers to the framework of working cooperatively with other team members or professionals towards a shared agenda (Register, 2002). Collaboration may involve sharing and exchange skills and information from one team member to another (Jones & Rapport, 1997). In the field of music therapy, collaboration may be presented in three models: multidisciplinary, interdisciplinary, and transdisciplinary (Johnson, 2002).

### *Teams*

Music therapists who collaborate or work with other professionals to serve their clients often work in *teams*. Existing discourse of teams refer to teams being made of a group of professionals working together for a “common purpose” (Twyford & Watson, 2008, p. 13). Team members gather, share and consolidate knowledge with each other; there is a perceived “collective responsibility” in which each member strives to fulfil shared goals within a clearly defined role structure (Twyford & Watson, 2008, p. 13). As such, the concept of *teams* provides a foundation to

understanding how music therapists and another team member, specifically the teacher, work together to support children and adolescents with ASD.





## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 Collaborative Work in Special Education

A discussion about the concept of *collaboration* in special education necessarily begins with an inquiry of the term *consultation* because the former emerged from the latter concept (Cook & Friend, 1991). It is pointed out in literature that the practice of consultation gained popularity as a strategy when there was more demand for a particular highly trained professional service than the actual capacity of the agency in the early 1900s (Cook & Friend, 1991). In the field of human services, consultation became a “means of delivering services” in which a highly trained professional will engage in *consultation* to guide the less trained professionals who will directly provide the needed services (Cook & Friend, 1991, p. 24). Later, the consultative approach extended to the field of special education beginning from the Vermont Consulting Teacher programme (Cook & Friend, 1991). Cook & Friend illustrated the consultative approach in the following way:

Using a consultative approach, highly trained special education teachers served as consulting teachers to assist general education teachers who then provided special services in general education classes to students with disabilities. Vermont consulting teachers had adjunct faculty status at the University of Vermont and could offer staff development activities in which participants received course credit. (1991, p. 25)

This strategy allowed for expertise and professional skills “to be multiplied” and therefore reach out to a “greater number of clients” (Cook & Friend, 1991, p. 25).

By the late 1980s, there was a shift towards *collaboration* in special education following the trend in other human services towards working relationships that emphasised “mutual respect” (Cook & Friend, 1991, p. 25). In general, collaboration can be conceptualised as “a style for direct interaction between at least two co-equal parties voluntarily engaged in shared decision making as they work toward a common goal” (Cook & Friend, 1991, p. 25). It is not uncommon that “problem-solving, consultation, ... teaching arrangements, and the like ...” are associated with collaborative practices in literature (Cook & Friend, 1991, p. 25). Collaboration has been conceived as a key ingredient in teams producing high quality of work in preschools and schools and contributing to the development of students (Vodopivec & Hmelak, 2015). Furthermore, collaboration among professionals allow for a “continuity of service” and a provision of “holistic service” to clients (Register, 2002, p. 310). Therefore, collaborative work will continue to be in demand in special education given the rise of increased diversity among students as well as the need for specialised expertise and knowledge among professionals (Cook & Friend, 1991).



## **2.2 Collaborative Work among Music Therapists and Teachers for Special Education**

A recent study showed that professional collaborative endeavours conducted by music therapists has been focused on serving children with special needs in the educational setting (Spring, 2010; Twyford & Watson, 2008). Some literature attributed the shift towards collaboration and consultation to the increased advocacy for *inclusion* in school settings since the implementation of the Individuals with Disabilities Education Act (IDEA) in 1990 in the United States (Smith & Hairston,

1999). Typically, collaborative work requires music therapists and team members such as educators or teachers to work together towards a defined goal (Register, 2002; Rickson & McFerran, 2007). Often, these goals are aligned with the clients' Individualised Education Plans (IEP) (Johnson, 2002). Music therapists can provide direct services and interventions to clients while working within different collaborative team approaches such as in multidisciplinary, interdisciplinary or transdisciplinary approach (Johnson, 2002). Music therapists may also work with teachers and educators in the form of consultancy (Johnson, 2002; McAfee et al., 2022). The typical goal of music therapists when they provide consultative services to teachers is to develop their capacity for “support(ing) diverse learning needs” of students (Gillespie, 2018, p. 29). As consultants, music therapists may provide support to teachers in areas such as to provide training to classroom staff to “implement basic music activities” and “collecting and providing appropriate music resources in the form of song sheets, song books, recordings, and instruments” (Johnson, 2002, p. 99).

In special education settings, music therapy utilises music to help children and adolescents achieve functional goals and objectives (Daveson & Edwards, 1998).

Music therapists are likely to work with teachers or educators because teachers are known for their “knowledge about special needs education and autism” (Li, 2018, p. 72). Teaching staff were also valued for having a holistic understanding, perspective and background of the children because they spend time with the students in the classrooms and beyond, and during their transitions in between activities (Brooks, 2017; Kern et al., 2007b; McAfee et al., 2022). In some instances where music therapists were not working full-time in schools, teachers became “central” to clients

attending music therapy sessions by “forming a bridge” between music therapy sessions and other aspects of clients’ school life (Bruce & High, 2011, p. 63). As music therapy can provide an “alternative to traditional teaching methods”, it seems practical for music therapists to team up with teachers or educators in implementing interventions (Daveson & Edwards, 1998, p. 450).

### **2.3 Collaborative Music Therapy Approach for Children with ASD**

During the mid-twentieth century, much of the literature about the use of music with children with ASD highlighted the children’s “apparent unusual musical ability and attraction to music” (Reschke-Hernández, 2011, p. 173). One of the pioneering textbooks entitled *Music Therapy in Special Education* was written by pioneers of improvisational music therapy methods for children with ASD, musician Paul Nordoff and special education teacher Clive Robbins (Oldfield, 2011). The now established Nordoff and Robbins approach originated when the two collaborated within the context of special schools (Oldfield, 2011). Nordoff and Robbins postulated that music served as a “nonthreatening medium” to children with ASD and that they were “more likely to become engaged in a musical experience than in other environments” (Reschke-Hernández, 2011, p. 173). Over the decades, music therapy has addressed a variety of goals for children with ASD such as to improve social skills, encourage expressive language, promote self-expression, and address behavioural issues (Fees et al., 2014; Li, 2018; Reschke-Hernández, 2011).

With reference to existing literature, there are varying ways that music therapists and teachers can collaborate while working with children and adolescents with ASD. In O’Donnell’s study, the music therapist implemented music therapy

interventions for a child with ASD to develop coping strategies in unstructured aspects of the child's life (1998). During the collaboration, the music therapist sought consultations from the child's classroom teacher with respect to the child's coping behaviours to better understand him (O'Donnell, 1998). The music therapist also described that both the music therapist and teacher worked together to evaluate the child's progress as a result of music therapy (O'Donnell, 1998). Researchers Kern and Aldridge (2006) demonstrated another way to collaborate with educators in their study that aimed to promote peer interaction and meaningful play among four children with ASD. The first author, also the music therapist in the study, consulted with classroom teachers to establish the intervention goals and strategise the implementation of the intervention (Kern & Aldridge, 2006). In addition, the music therapist planned and created musical interventions based on the principles of music therapy, provided consultative service and trained the teachers to implement the interventions for the children (Kern & Aldridge, 2006). Evaluation of the interventions was done by the music therapist in this study (Kern & Aldridge, 2006). Another collaborative approach was described in Barnes' study (2010) in which teachers provided physical prompts or assistance during music therapy sessions conducted by the music therapist, including modelling a behaviour for the children with ASD. Therefore, there are different collaborative approaches among music therapists and teachers for children and adolescents with ASD.

## **2.4 Problem Identification and Purpose**

Researcher on team work, Belbin, argued that teams are effective when the roles of the members are clearly defined (Belbin, 2010; Vodopivec & Hmelak, 2015).

Belin concluded in his study that teams perform better when members are aware of their roles (2010). According to Brajša's concept of teams, teams are considered “successful” when teams are producing more output than the “sum of knowledge, capabilities and specialties of individual members” (Vodopivec & Hmelak, 2015, p. 1069). Furthermore, defining roles was also proposed to be the first step within a framework for collaboration between special educators and music therapists (McAfee et al., 2022). It could be inferred that definition of roles allows team members to communicate and advocate for their areas of expertise as well as to understand the purpose of each role (McAfee et al., 2022). Therefore, a study dedicated to collaborative roles among music therapists and teachers would be a stepping stone to an understanding of how music therapists and educators may collaborate successfully.

Current literature about team work focuses on goals, and therapeutic outcomes of music therapy (Geist et al., 2008; Guerrero et al., 2014; Hobson, 2006). There is not yet any study exploring the nature of team work among music therapists and other professionals as its focal point although such collaborations or consultations have been noted in existing literature (Register, 2002). Given that music therapists will continue to work closely with other professionals especially teachers or educators when supporting children with ASD, it is important to understand how music therapists work collaboratively.

In Kenneth Bruscia's *Defining Music Therapy*, he highlighted a quandary in that non-music therapist professionals who adopt methods of music therapy may be “doing music therapy” but they should not be described as “music therapists” (2014, p. 72). With regards to the professional identity of music therapists, Rickson emphasised that when music therapists are playing the role of consultants, guide

consultees, such as teaching staff, on music therapy *strategies*, it should be clarified that consultees are *not* music therapists (2012). Given the possible blurring of boundaries in roles of music therapists and teachers as they work together to support children and adolescents with ASD, there needs to be a deeper inquiry and clarification on how their roles are perceived in existing clinical practice and literature. There is also a need to investigate how interventions are described or portrayed when they are implemented by music therapists and when they are implemented by educators (Kern et al., 2007a; Li, 2018).

Exploring on these issues, it can be postulated that there is a need for a comprehensive review on the roles performed by music therapists and teachers when working with children and adolescents with ASD as well as goals and titles of interventions with respect to the interventionists. Until this day, the current author could not find studies that focused on this issue.

It is hoped that the results of the integrative review will shed light on the roles that music therapists and teachers take when working together towards goals for their clients, and provide music therapists with an understanding of possible ways to work with teachers in the educational setting. In addition, the study seeks to understand how interventions between music therapists and teachers are conceptualised differently in order to preserve the boundaries between music therapists and teachers. Finally, this review hopes to reveal the gaps in current literature and point to possible future directions for research in this field.

## **CHAPTER 3**

### **METHODOLOGY**

#### **3.1 Integrative Review**

The objectives of integrative reviews include defining concepts, reviewing, and reassessing theories, analysing evidence, and investigating methodological issues of specific subjects (Whittemore & Knafl, 2005). In the field of music therapy, integrative reviews compile and outline existing research and point out issues that have not been addressed yet, thereby indicating directions for future research (Hanson-Abromeit & Moore, 2014). Integrative reviews within the field of music therapy have been conducted to deepen the understanding of various clinical issues and suggest improvements to clinical practice (Ard & Wheeler, 2016; Haslbeck, 2012; Lauzon, 2019). Given the literature available and the need to explore various collaborative roles, an integrative review will be able to provide a systematic and rigorous method to compile and discuss research findings about how collaborative music therapy is provided for children and adolescents with ASD. Adapted from Whittemore and Knafl's methodology (2005), the process of this integrative review was conducted in five stages:

1. Problem identification
2. Literature search based on search strategy, and identification of studies based on inclusion and exclusion criteria
3. Data evaluation stage
4. Data analysis stage, following data extraction and coding
5. Presentation of results



### 3.2 Search Strategy

A comprehensive search was performed between 21 December 2022 and 5 January 2023 over databases *EBSCOhost*, *ERIC*, *PubMed*, *PsychInfo* and *SCOPUS*. In addition, a hand-search was conducted in the following music therapy journals: *Journal of Music Therapy*, *Nordic Journal of Music therapy*, *British Journal of Music Therapy*, *The Arts in Psychotherapy*, and *Voices*. Search terms included “music therapy” or “music therapist”, “teacher” or “educator”, “autism” or “asperger’s syndrome”, and any other variations of these.

### 3.3 Inclusion and Exclusion Criteria

For this paper, literature was identified according to the following inclusion and exclusion criteria. The inclusion criteria were:

1. Studies of any design (qualitative, quantitative, mixed methods);
2. Studies that involved children and adolescents below 16 years old enrolled in schools;
3. Studies that provided music therapy services to children or adolescents with ASD or Asperger’s syndrome or groups that included individuals with such diagnoses;
4. Studies that involved a credentialed music therapist and a teacher, assistant teacher or special educator;
5. Articles written in English.

Articles were excluded based on the following exclusion criteria:

1. Studies that provided telehealth practices;
2. Studies that provided combined interventions;

3. Articles that were not clinically-based studies (i.e. book chapters or reviews).

### 3.4 Identification of Studies

To ensure the selection of relevant studies, the researcher examined the use of music therapy as an intervention, the inclusion of children and adolescents with ASD, and collaboration with teachers or educators as a condition for each study. Based on the inclusion and exclusion criteria, the selection process involved three levels, including examination of titles of the articles, full analysis of abstracts, and reading of the full text. Any irrelevant or duplicated articles were removed at each step. The data from the remaining studies were reviewed, analysed, and categorised based on the findings.

### 3.5 Data Extraction and Coding

The organisation of data on the roles of music therapists and teachers was adapted from the guideline set forth by Robb and Carpenter (Robb et al., 2011) which focused on the recommendations from two reporting guidelines: *Consolidated Standards for Reporting Trials (CONSORT)* and *Transparent Reporting of Evaluations with Non-Randomised Designs (TREND)*. These reporting guidelines aim to “improve the transparency and specificity of reporting music-based intervention research” (Robb et al., 2011). Following Robb and Carpenter’s reporting guideline, the following data were extracted:

- Intervention process (who selected the music, how the music was delivered, intervention materials, intervention strategies)
- Intervention delivery schedule (frequency and duration of sessions)

- Interventionist
- Setting (special education, mainstream or inclusive/integrated setting)
- Unit of delivery (individual or group sessions)

In addition to these guidelines, the following information was extracted as it was deemed specific to the research questions:

- Profile of participants (if interventions were provided to children with ASD only or if the group of participants had a mix of both children with ASD and children with other disabilities or neurotypical children)
- Specific role(s) of music therapist and teacher
- Details of collaboration (including any content and duration of meetings between music therapists and teachers, content, duration and frequency of training provided by music therapists to teachers)
- Goal(s) and outcome of intervention(s)
- Outcome measures
- How interventions were titled
- Any discussions, observations, or reflections about collaborative approach, collaboration between music therapists and teachers and roles assigned

Other general characteristics of reviewed studies were extracted:

- Author(s)
- Year of publication
- Country of study
- Research methodology

Thereafter, information fields such as goal of intervention and type of roles were coded into categories. Trustworthiness of data coding was ensured through

triangulation with existing literature as well as between the researcher and her research advisor.



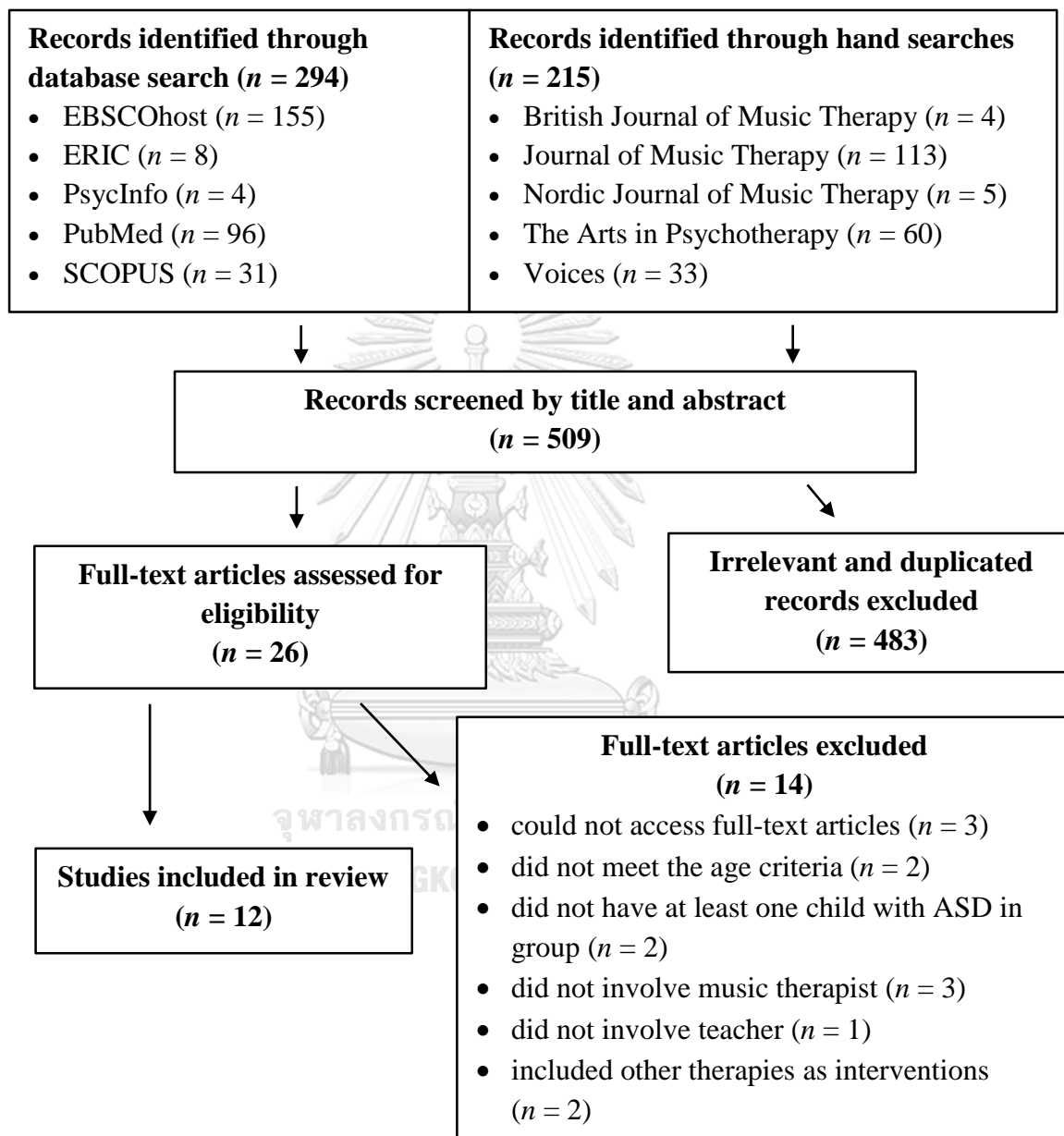
## CHAPTER 4

### RESULTS

#### 4.1 Overview

Out of 509 studies found, the literature search yielded 12 studies that met the inclusion criteria. According to Figure 1, 497 studies were excluded as they were either duplicates, did not meet the inclusion and exclusion criteria or not relevant to the purpose of the integrative review. A list of key information about the articles are shown in Table 1.



**Figure 1***Flowchart of Literature Search Process*

**Table 1***Key information of studies*

Author(s) (Year)	Country	Research Methodology
O'Donnell (1998)	United States	Phenomenology, grounded theory
Brownell (2002)	United States	Quantitative case study
Kern and Aldridge (2006)	Germany	Experimental case study
Kern et al. (2007a)	United States	Experimental case study
Kern et al. (2007b)	United States	Experimental case study
Barnes (2010)	United States	Qualitative practitioner research
Pethybridge (2013)	Scotland	Basic qualitative research
Fees et al. (2014)	United States	Qualitative focus group research
Vaiouli et al. (2015)	United States	Mixed methods research
Li (2018)	China	Qualitative participatory action research
Schmid et al. (2020)	United States	Quasi-experimental research
Pater et al. (2022)	Netherlands	Quantitative single-subject pretest-posttest research

The selected studies were published from years 1998 to 2022 and were conducted in a variety of countries, including China ( $n = 1$ ), Germany ( $n = 1$ ), the Netherlands ( $n = 1$ ), Scotland ( $n = 1$ ) and United States of America ( $n = 8$ ). Among the selected studies, the mode of the research methodology was experimental case study ( $n = 4$ ). Two of the studies were quantitative research that utilised a single-subject pretest-posttest design ( $n = 1$ ) and quasi-experimental research ( $n = 1$ ). Qualitative methodologies utilised phenomenology and grounded therapy ( $n = 1$ ), practitioner research ( $n = 1$ ), basic qualitative research ( $n = 1$ ), focus group research ( $n = 1$ ) and participatory action research ( $n = 1$ ). Only one study utilised a mixed-methods research methodology.

The information pertaining to the intervention setting and population of the studies has been summarised in Table 2. Interventions discussed in the included

studies were provided in multiple settings, predominantly in school settings such as classrooms or playgrounds ( $n = 10$ ), at home ( $n = 1$ ) and at a community centre ( $n = 1$ ). The interventions were carried out in either groups ( $n = 5$ ) or individually ( $n = 7$ ). Participants of most studies selected were made of children only with ASD ( $n = 11$ ) except for one study which had participants with ASD, mixed diagnoses and neurotypical children.





**Table 2***Information about intervention setting and population*

Author(s) (Year)	Setting	Unit of delivery	Diagnoses	Age
O'Donnell (1998)	Elementary public school	Individual	ASD only	9 years old
Brownell (2002)	Secluded area in elementary school	Individual	ASD only	6-9 years old
Kern and Aldridge (2006)	Playground of an inclusive community-based childcare programme	Group	ASD only	3-5 years old
Kern et al. (2007a)	Inclusive childcare classroom	Individual	ASD only	3-4 years old
Kern et al. (2007b)	Inclusive childcare classroom	Individual	ASD only	3-4 years old
Barnes (2010)	Public preschool classroom	Group	ASD only	3-5 years old
Pethybridge (2013)	Nursery classroom	Group	ASD only	Not mentioned
Fees et al. (2014)	Inclusive preschool classroom	Group	Mixture of ASD, neurotypicals and other diagnoses	3-5 years old
Vaouli et al. (2015)	Special education school's music room	Individual	ASD only	5-7 years old
Li (2018)	Community Centre	Individual	ASD only	4-7 years old
Schmid et al. (2020)	Special education self-contained classroom	Group	ASD only	5-11 years old
Pater et al. (2022)	Home, with the exception of some in school	Individual	ASD only	4-16 years old

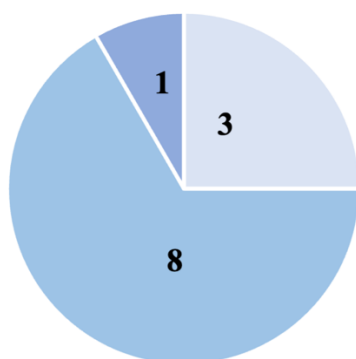
## 4.2 Research Question 1

### What are the roles of music therapists and teachers when collaborating to co-treat children and adolescents with ASD?

Music therapists and teachers in the selected studies took on either single, double or triple roles, as illustrated by Figures 2 and 3 respectively. In most studies, music therapists and teachers had two roles ( $n = 8$ ). Music therapists took a single role in three studies and three roles in one study. On the other hand, teachers performed one role in two studies, three roles in one study, and four roles in one study.

**Figure 2**

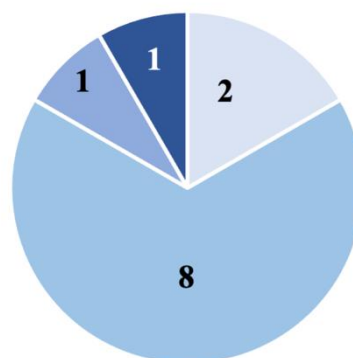
*Number of roles undertaken by music therapists*



■ One ■ Two ■ Three

**Figure 3**

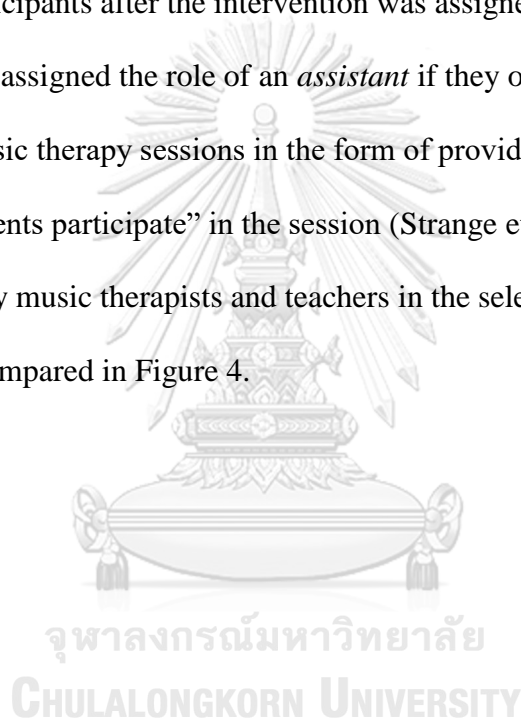
*Number of roles undertaken by teachers*



■ One ■ Two ■ Three ■ Four

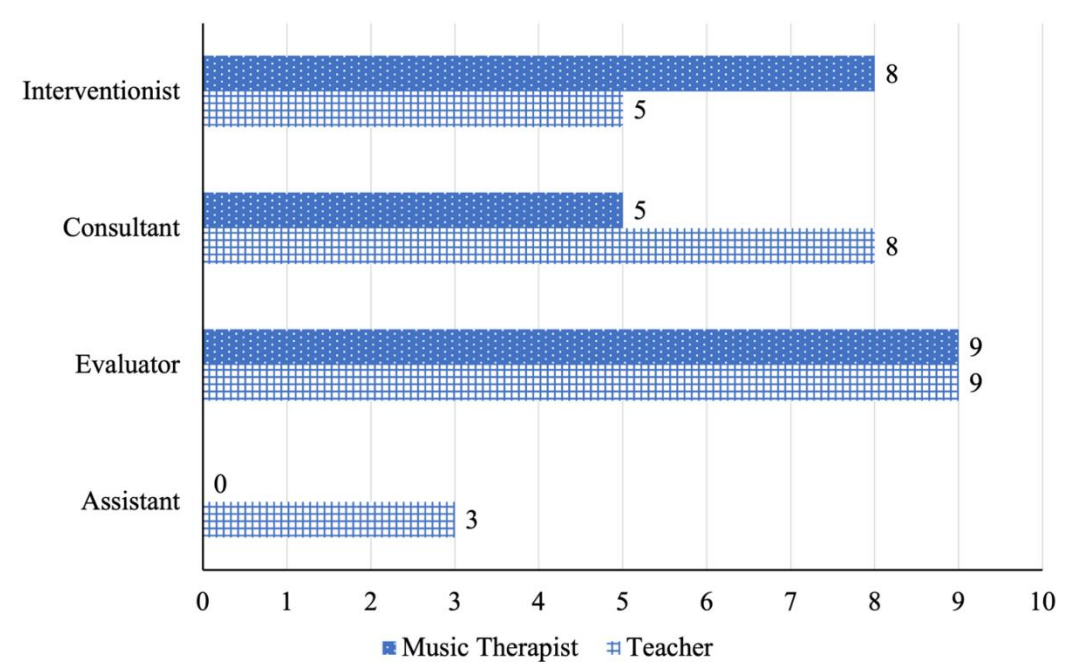
Among the selected studies, the roles performed by music therapists and teachers have been classified as *interventionist*, *consultant*, *evaluator*, and *assistant*. For this review, the role of *interventionist* was given when a team member implemented the intervention to children and/or adolescents with ASD i.e. direct

service delivery. A *consultant* was someone who “educate(d)” or “advise(d)” the other team member on a particular topic (Register, 2002, p. 309). In addition, the role of a consultant was allocated when the team member provided consultation to “consultees” with the main goal of improving the client’s level of functioning and “enhancing the functioning of the consultee” (Kampwirth, 1999). A team member involved in the process of evaluation in the form of providing feedback about the behaviours of participants after the intervention was assigned the role of *evaluator*. A team member was assigned the role of an *assistant* if they observed and/or participated in music therapy sessions in the form of providing “physical or practical support to help clients participate” in the session (Strange et al., 2017, p. 14). The roles carried out by music therapists and teachers in the selected studies were categorised and compared in Figure 4.



**Figure 4**

*Comparison of roles of music therapists and teachers*



Among the selected studies, music therapists performed three roles, namely, evaluator ( $n = 9$ ), interventionist ( $n = 8$ ) and consultant ( $n = 5$ ), while teachers performed four roles in the form of evaluator ( $n = 9$ ), consultant ( $n = 8$ ), interventionist ( $n = 5$ ) and assistant ( $n = 3$ ). It should be highlighted that one study indicated that both the music therapist and teachers performed the role of interventionists, resulting in the total number of interventionists to exceed the number of studies selected (Li, 2018).

The roles accomplished by either music therapists and/or teachers in the studies were presented in Table 3. Among the studies, interventions were either conducted by music therapists only ( $n = 7$ ), teachers only ( $n = 4$ ) or both the music therapist and teacher ( $n = 1$ ).

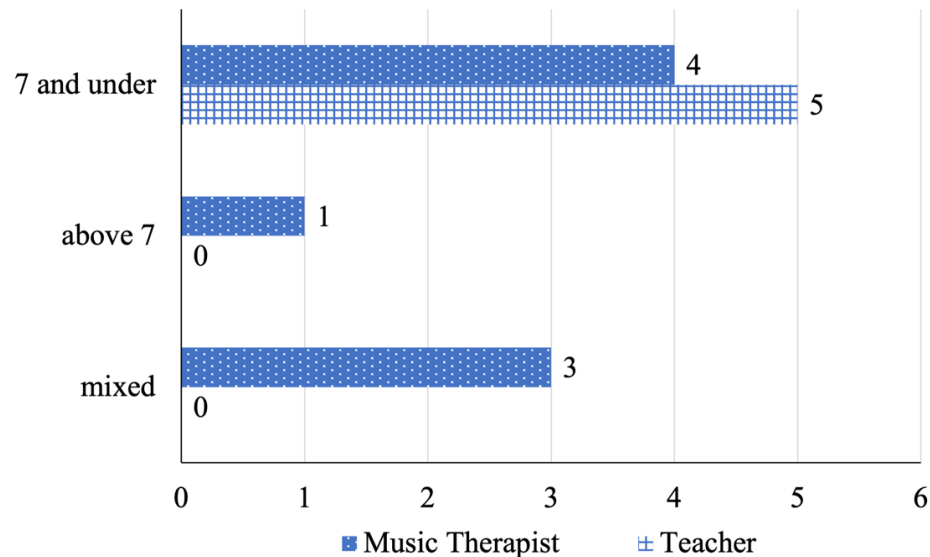
**Table 3***Roles in relation to team member*

Author(s) (Year)	INT	CON	EVL	AST
O'Donnell (1998)	M	T	M, T	
Brownell (2002)	M	T	M, T	
Kern and Aldridge (2006)	T	M, T	M	
Kern et al. (2007a)	T	M, T	M, T	
Kern et al. (2007b)	T	M, T	M	
Barnes (2010)	M		M, T	T
Pethybridge (2013)	M	T		T
Fees et al. (2014)	T	M	T	
Vaiouli et al. (2015)	M	T	M, T	
Li (2018)	M, T	M, T	M, T	T
Schmid et al. (2020)	M		T	
Pater et al. (2022)	M		M, T	

*Note.* INT: interventionist; CON: consultant; EVL: evaluator; AST: assistant; M:

music therapist; T: teacher

Among the nine studies that described consultation as part of the collaborative process in Table 3, there was an equal number of studies identifying consultants as both music therapists and teachers, and teachers only ( $n = 4$ ). One study indicated consultants to be only music therapists. Among the four studies with teachers as interventionists, music therapists served as consultants. On the flipside, in studies with music therapists as interventionists ( $n = 8$ ), 75% of studies described teachers performing the role of consultants ( $n = 6$ ). The outcome of most interventions was evaluated by both music therapists and teachers ( $n = 7$ ), with some being evaluated by only music therapists ( $n = 1$ ) or only teachers ( $n = 2$ ). Among studies with the role of assistant ( $n = 3$ ), it was noted that the role was performed by teachers. Of these three, the interventionists were music therapists.

**Figure 5***Comparison of interventionists across age groups*

An analysis of interventionists across age groups was depicted in Figure 5. Among the selected studies, teachers were described to conduct interventions for children who are seven years old and below ( $n = 5$ ) while music therapists were described to carry out interventions for all ages included in this study. The breakdown of the age groups that music therapists provided interventions for is as follows: participants seven years and below ( $n = 4$ ), above the age of seven ( $n = 1$ ) and across mixed age groups of seven years old and below and above the age of seven ( $n = 3$ ).

#### **4.3 Research Question 2**

**What are the goals, intervention types, and titles used when implemented by music therapists and/or by teachers?**

An overview of the actual goals of interventions, and their accompanying musical interventions for interventions implemented by music therapists only,

teachers only and both music therapists and teachers are respectively summarised in Tables 4, 5 and 6.

**Table 4**

*Characteristics of interventions implemented by music therapists*

Author(s) (Year)	Intervention goal(s)	Musical intervention(s)
O'Donnell (1998)	Promote coping strategies in unstructured aspects of life	Chanting, fantasy play, instrumental play, music and movement, singing, verbalisation
Brownell (2002)	Promote personal social behaviour	Musical adaptation of social story, verbal prompting
Barnes (2010)	Promote shared attention, interpersonal interaction, and communication	Body movements/dancing, instrument play, listening, and vocalisations/verbal communication
Pethybridge (2013)	Improve participation, interpersonal timing and anticipation of turn, sustain conversation in music, increase awareness of peers and participate, extend the time seated	Instrumental play, singing songs
Vaiouli et al. (2015)	Promote engagement	Call-and-response songs, Improvisation, singing songs,
Schmid et al. (2020)	Promote social communication	VOICSS method: singing songs, musical and verbal prompting
Pater et al. (2022)	Promote social interaction	Papageno Music Therapy Programme (PMTP): improvisation, and structured techniques such as singing songs

**Table 5***Characteristics of interventions implemented by teachers*

Author(s) (Year)	Intervention goal(s)	Musical intervention(s)
Kern and Aldridge (2006)	Promote peer interaction and meaningful play	Song intervention
Kern et al. (2007a)	Promote independence of self-care routine	Song intervention, lyric intervention, verbal prompting
Kern et al. (2007b)	Promote independence in transition	Song intervention, verbal or physical prompting
Fees et al. (2014)	Promote behavioural self-regulation of learning to wait	Social story song

**Table 6***Characteristics of interventions implemented together*

Author(s) (Year)	Intervention goal(s)	Musical intervention(s)
Li (2018)	Promote educational skills, self-expression and self-esteem, spontaneous communication, joint attention and sustained attention, imitation, eye contact, turn-taking, and musical responses	Developing Communication Through Music (DCTM): singing songs, improvisation, vocal imitation, instrumental play

The actual intervention goals from Tables 4, 5 and 6 were classified and coded into goal domains according to Table 7 below.

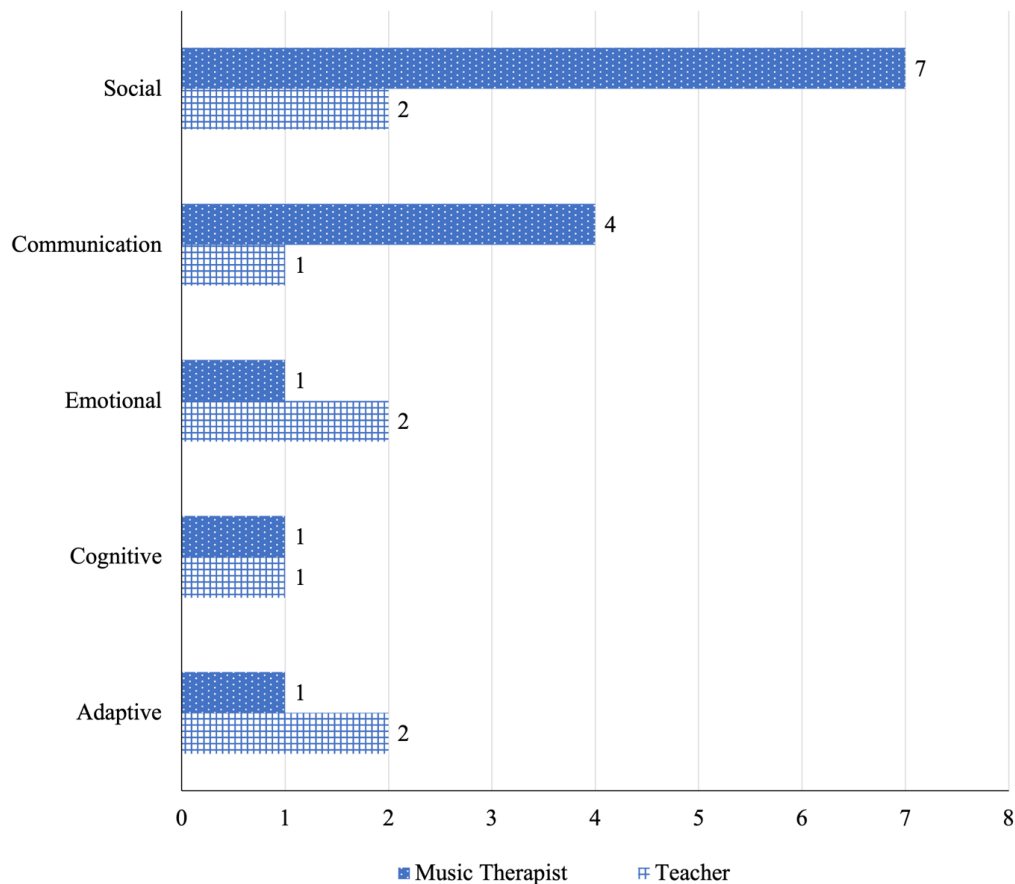


**Table 7**

*Comparison of goals and interventions according to the intervention provider*

Goal domains	Intervention goal(s)	
	Interventions by music therapists	Interventions by teachers
Social	Promote personal social behaviour, shared and joint attention, interpersonal interaction, social communication, participation, engagement, anticipation of turn and turn-taking, awareness of peers, extend the time seated, eye contact	Promote peer interaction and meaningful play, joint attention, eye contact, turn-taking
Communication	Promote social communication, spontaneous communication, conversation in music, musical responses	Promote spontaneous communication, musical responses
Emotional	Promote self-expression, self-esteem	Promote behavioural self-regulation of learning to wait, self-expression, self-esteem
Cognitive	Promote educational skills, sustained attention, imitation	Promote educational skills, sustained attention, imitation
Adaptive	Promote coping strategies in unstructured aspects of life	Promote independence in transition, and self-care routine

Based on this codification, a comparison of interventionists across goal domains is presented in Figure 6.

**Figure 6***Comparison of interventionists across goal domains*

In all, music therapists worked on 14 goal domains while teachers worked on 8 goal domains according to Figure 6. An analysis of the literature showed that the most common goal domain targeted in the studies when music therapists are interventionists was social ( $n = 7$ ), followed by communication ( $n = 4$ ). There were equal number of studies ( $n = 1$ ) describing interventions to be targeting emotional, cognitive and adaptive goal areas for interventions implemented by music therapists. Among the studies with teachers as interventionists, social, emotional and adaptive goal domains were addressed in two studies while communication, and cognitive goal domains were targeted in one study each.

**Table 8***Titles of interventions when implemented by music therapists only*

Author(s) (Year)	Titles of intervention
O'Donnell (1998)	music therapy with elements of play techniques
Brownell (2002)	"story song intervention" (p. 126); "musical presentation of information" (p. 139);
Barnes (2010)	music therapy
Pethybridge (2013)	music therapy interventions
Vaiouli et al. (2015)	"child-centered, improvisational, music therapy intervention" (p. 73)
Schmid et al. (2020)	specialised music therapy intervention
Pater et al. (2022)	music therapy

**Table 9***Titles of interventions when implemented by teachers only*

Author(s) (Year)	Titles for intervention
Kern and Aldridge (2006)	Songs, "teacher-mediated interventions" (p. 289)
Kern et al. (2007a)	Song intervention, lyric intervention
Kern et al. (2007b)	Songs, "teacher-mediated interventions" (p. 1269)
Fees et al. (2014)	"Social story song" (p. 73)

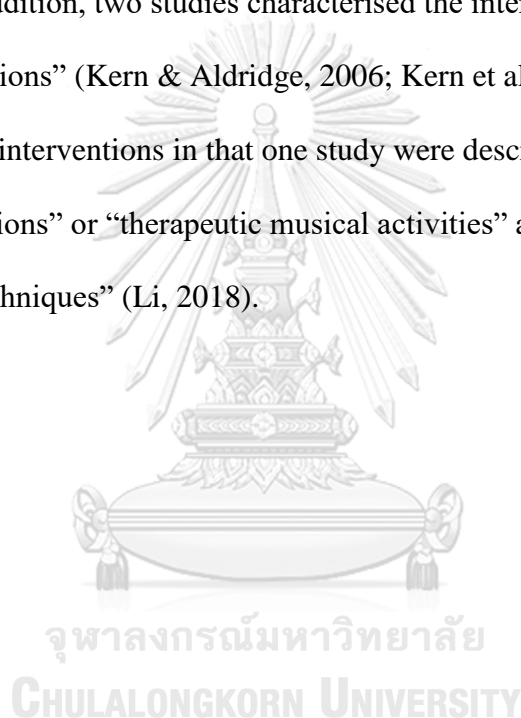
**Table 10***Titles of interventions when implemented by both music therapists and teachers*

Author(s) (Year)	Titles for intervention
Li (2018)	Therapeutic musical activities; "apply(ing) music therapy techniques in early year special needs education" (p. 74); "musical activities" (p. 74)

The titles of interventions in studies describing interventions implemented by only music therapists ( $n = 7$ ) are presented in Table 8 while the titles of interventions in the studies describing interventions conducted by only teachers ( $n = 4$ ) are

presented in Table 9. The titles of interventions of the one study that described both music therapists and teachers as interventionists are summarised in Table 10.

With reference to Table 8, authors of all but one study (Brownell, 2002) described interventions with the term “music therapy”. One study (O'Donnell, 1998) described the intervention to contain “elements of play techniques”. According to Table 9, all studies described the interventions with the actual name of intervention or method used. In addition, two studies characterised the interventions as “teacher-mediated interventions” (Kern & Aldridge, 2006; Kern et al., 2007b). From Table 10, it is noted that the interventions in that one study were described with the terms “musical interventions” or “therapeutic musical activities” and as applications of “music therapy techniques” (Li, 2018).



## CHAPTER FIVE

### DISCUSSION

Based on the integrative review of 12 studies, four key themes that emerged during the review will be discussed. They are: (1) trend of publications across the years; (2) the importance of the teacher-student relationship in early schooling period; (3) the nature of consultation between music therapists and teachers; and finally, (4) considerations for music therapists when providing consultation to teachers on conducting music-based interventionists.

#### 5.1 Summary of Results

This review sought to understand how music therapists and teachers collaborate when providing interventions for children and adolescents with ASD among existing literature. In particular, this review focused on the roles that music therapists and teachers perform when collaborating as well as the types of goals, interventions and titles of interventions when implemented by music therapists and/or teachers. Out of 509 studies found via the initial search, 12 studies met the inclusion criteria for this review. The 12 studies included in this analysis were conducted using different research methodologies and took place in various countries (Table 1). The studies were conducted in multiple settings with interventions delivered in groups or individually (Table 2). The analysis revealed that music therapists and teachers take on distinct and diverse roles while collaborating for different clinical and research objectives.

## 5.2 Discussions based on Research Questions

### *5.2.1 Research Question 1 What are the roles of music therapists and teachers when collaborating to co-treat children and adolescents with ASD?*

From the results, music therapists and teachers may perform multiple roles while collaborating to work with children and adolescents with ASD. According to Figure 2, music therapists were described in the selected studies to perform between one to three roles. The roles included: evaluators, interventionists, and consultants (Figure 4). On the other hand, teachers were described in the selected studies to perform between one to four roles (Figure 3). According to the studies, the roles were: evaluators, consultants, interventionists, and assistants (Figure 4).

Thereafter, a comparison of the type of roles fulfilled by team members in the selected studies was conducted. According to Table 3, the role of interventionist was performed by only music therapists in seven studies, only teachers in four studies, and both music therapists and teachers in one study. It was also found that among the four studies in which the interventions were conducted by only teachers, music therapists in the selected studies provided a consultative role (Table 3). Although the number of articles selected for this review is small, this result suggests that music therapists working with children and adolescents with ASD in the school setting may expect to not only provide direct music therapy services (i.e. implementing interventions), but also provide indirect music therapy services (i.e. providing consultative services to other professionals). This is supported by existing literature in that music therapists working in the education-related settings reported providing consultative services to educators benefits students (Register, 2002).

Given that the number of music therapists working in schools may be a small fraction as compared to the number of educators, music therapists may need to manage their time and prioritise their caseload. Hence, the findings may provide music therapists who are new to school-related settings with valuable insights to the various roles that they could assume when collaborating with teachers. For example, music therapists could provide the service of consultation to teachers on the use of music-based interventions to resolve or manage classroom behaviours such as promoting transitioning between home to school (Kern et al., 2007b) and promoting independence of self-care routines (Kern et al., 2007a). With that, music therapists may focus on addressing more emotional or challenging needs of children and adolescents with ASD such as in terms of discovering coping strategies (O'Donnell, 1998). Having said this, it should be noted that there are considerations that music therapists should take into account when teachers perform interventions. These considerations will be discussed in sections 5.5 and 5.6.

In addition, according to Table 3, only three studies were found to describe the role of assistants when music therapists and teachers collaborate in which teachers provided physical and visual prompts to children during music therapy sessions (Barnes, 2010; Li, 2018; Pethybridge, 2013). The provision of assistance by teachers or educators in the form of physical support during music therapy sessions has been well documented in existing music therapy literature (Strange et al., 2017).

Finally, the review analysed interventionists by age groups of participants in the selected studies and found that music therapists implemented interventions for children of all age groups while teachers only implemented interventions for

participants seven years old and below (Figure 5). Although the number of selected studies is small, a discussion of these results will be offered in section 5.4.

***5.2.2 Research Question 2 What are the goals, intervention types, and titles used when implemented by music therapists and/or by teachers?***

This integrative review illustrated a variety of goals and intervention types described in the 12 selected studies based on the interventions conducted by only music therapists, only teachers, and both music therapists and teachers (Tables 4, 5 and 6). The review identified five main goal domains addressed by music therapists and teachers, namely, social, communication, emotional, cognitive and adaptive. A majority of the goal domains targeted by both music therapists and teachers were social and communication goals. According to Figure 6, 11 out of 14 goals (78.6%) addressed by music therapists and 3 out of 8 goals (37.5%) addressed by teachers were that of social and communication goals. This is reflective of existing literature in that the social and communication skills are common domains of difficulties for children and adolescents with ASD (Pethybridge, 2013). The review found that music therapists in the selected studies used a variety of intervention types when conducting interventions including the use of songs, improvisation and instrumental play (Table 4) while teachers in the selected studies utilised songs composed by music therapists as the interventions (Table 5). In the study where interventions were conducted by music therapists and teachers, a myriad of intervention types were used including singing songs, improvisations, and instrumental play (Table 6).

Thereafter, the titles of interventions were analysed according to the interventionists. With reference to Tables 8, 9 and 10, the titles and descriptions



utilised to describe the interventions conducted by the various interventionists were different. When music therapists conducted the interventions, the terminology “music therapy” was mostly used (Table 8). However, when teachers conducted the interventions, the interventions titled the intervention based on its name i.e. “song intervention” or “lyric intervention” (Table 9). Two studies made emphasis on the interventionists by characterising interventions as “teacher-mediated interventions” (Table 9). With regards to the one study where both music therapists and teachers performed as the interventionists, the researcher described the same intervention as “therapeutic musical activities” or “apply(ing) music therapy techniques in early year special needs education” (Table 10).

The difference in terminologies could reflect the difference in the basis of the interventions in that music therapists were conducting *therapy* but teachers were not. Interventions conducted by music therapists were therapeutic and founded about the concept of reflexivity in which the therapists are constantly “adjust[ing] to the child” (Pater et al., 2022, p. 5) and adopting empathetic therapeutic techniques such as imitating, reflecting, emphasising (Bruscia, 2014). On the other hand, when teachers conducted the interventions, the interventions were focused on providing additional music-based “educational ... strategies” for the teachers to use to manage the behaviours of the children or adolescents with ASD or to manage classrooms (Kern & Aldridge, 2006, p. 272).

Collaborative work among professionals may blur boundaries and potentially mislead people into thinking that music therapy can be provided by other professionals. However, the existing literature demonstrates the distinction in the objectives and scope between music-based interventions offered by music therapists

and teachers. Furthermore, the titles of the interventions in the selected literature accurately reflect that differentiation as well.

### 5.3 Publication Trends and Recommendations

The review suggested that there is an increase in research publications regarding collaboration between music therapists and teachers for children and adolescents with ASD over the years, beginning in the 1990s. According to Table 1, one study was selected from the late 1990s (O'Donnell, 1998) followed by four studies in the first decade of the 2000s (Brownell, 2002; Kern & Aldridge, 2006; Kern et al., 2007a; Kern et al., 2007b) and five studies in the second decade (Barnes, 2010; Fees et al., 2014; Li, 2018; Pethybridge, 2013; Vaiouli et al., 2015). Two studies were published in the early 2020s (Pater et al., 2022; Schmid et al., 2020). This seemed to be reflective of the advocacy and increasing trend of incorporating inclusion practices in school settings in 1990 in the United States (Smith & Hairston, 1999).

Additionally, this review highlighted limitations of conducting clinical trials concerning children and adolescents with ASD. Individuals with ASD have “heterogen(eous)” characteristics which makes systematic experimental methodologies such as randomised controlled trials (RCTs) difficult to pursue (Pater et al., 2022, p. 15). Authors have also highlighted external factors that may have affected the outcome measure including incidents that occurred prior to students receiving intervention which may impact their moods and behaviours (Brownell, 2002). As such, almost half of the selected studies have adopted another experimental methodology by using single subject experimental design in which the subjects themselves act as their own controls (Table 1). This reflects the recognition that

single-subject designs are more favourable for “practice-oriented implementation(s)” (Wambaugh & Schlosser, 2014).

## **5.4 The Importance of the Teacher-Student Relationship in Early Schooling**

### **Period**

From this review, the results found that teachers performed the role of interventionists only for participants aged seven and younger. A possible reason could be that teachers play a pivotal role in the context of a child’s early schooling period. Regardless of disability status, the schooling period of children seven years and younger represents their formative years in the education system, which is a new system, marking a shift in the context of their development (Eisenhower et al., 2015). During this period, children generally undertake the work of adapting to the demands of the school environment (Eisenhower et al., 2015; Pianta, 2010), and teachers play a critical role in ensuring “positive inclusive experiences” for these children (Flynn & Kieff, 2002, p. 21).

Existing literature has demonstrated the impact of teacher-student relationship in optimising a child’s engagement in school (Margetts et al., 2021). As children with ASD are often observed to have social, communication and cognitive challenges, “teachers may play a more active, hands-on role in helping students with ASD to meet the everyday demands of school” as teachers serve as a key component in the context of school environment (Eisenhower et al., 2015, p. 268). Some studies suggest that close teacher-student relationships promote “secure-based relationships and trust” which would promote a safer classroom environment for children “necessary for learning” (Manti et al., 2013, p. 74).

Besides facilitating academic learning, teachers are also responsible for facilitating peer relationships (Eisenhower et al., 2015), increasing social experiences (Flynn & Kieff, 2002), decreasing maladaptive behaviour (Manti et al., 2013), and early school adjustment (Birch & Ladd, 1997). Furthermore, studies have shown that effective teacher strategies such as emotional support, communication and provision of structure, contribute to the development of academic skills of children in special education schools (Manti et al., 2013). Likewise, some of these aforementioned responsibilities were reflected in this review. For example, teachers implemented interventions to promote social domains such as peer interaction and meaningful play (Kern & Aldridge, 2006), promote adaptive behaviours such as independence in transition (Kern et al., 2007b), and promote emotional regulation such as in behavioural self-regulation of learning to wait (Fees et al., 2014). Thus, these reasons may provide explanations for teachers or educators to perform interventions for younger children.

Furthermore, while teachers were interventionists, music therapists, being experts in music, served as consultants. Music therapists provided training to teachers and guided teachers to “integrate the [musical] strategy into practice” (Fees et al., 2014, p. 76; Kern & Aldridge, 2006). An in-depth discussion about the nature of consultation will be discussed in section 5.5.

## **5.5 The Nature of Consultation**

Besides implementing the interventions, a key role performed by music therapists and teachers was the role of consultants.

### ***5.5.1 Music Therapists as Consultants***

Consultative services provided by music therapists appeared to be part of the partnership approach that were common to “contemporary practice” in education settings characteristics by the expectation for therapists or “specialists” to train and support teachers to incorporate interventions into classroom routines (Kern et al., 2007a, p. 46). From the selected studies, it can be seen that music therapists in school settings were regarded as experts in the domain of therapy, for example, nursery teachers identified unique therapist techniques such as keeping interactions and sessions “non-judgemental” and “provid[ing] children with freedom to play” which enabled students to feel “valued and important” (Pethybridge, 2013, p. 29). In addition, music therapists had specific and specialised skills and training in using music for therapeutic outcomes (Pethybridge, 2013). This reflects the global advocacy towards inclusive education systems in which music therapists “work with educators...to enable them to use music to support student learning and development” (Rickson, 2012, p. 277).

Moreover, it can be inferred that music therapists provide consultations to teachers in order to support the latter’s needs. In doing so, music therapists provided educators with another resource – through music – to better manage students in the classroom setting. For example,

One teacher commented that she did not struggle with misbehaviour but rather, helping the children “...learn how to behave in the classroom; that is my issue.”... The intent of the selected social story song, “The Wait Song,” was to encourage the individual child to regulate his or her behaviour in response to the song prompt... Teachers reported the intervention to be

effective; that is, children waited in response to the prompt. (Fees et al., 2014, pp. 73-74)

Through consultation with music therapists, teachers were able to learn a new classroom management strategy, in this case, a social story song intervention, to prompt the children to learn to wait. This outcome of consultation was also reflected in a study by Coombes and Tombs-Katz (2015) in which teaching staff in a small town in the West Bank were equipped with skills to use music to better manage their students' behaviour in class after participating in interactive therapeutic music skill-sharing projects initiated by music therapists.

In addition, other responsibilities of consultants identified in this review were creating and designing the interventions, for example, composing or re-creating songs unique to the individual child (Fees et al., 2014; Kern & Aldridge, 2006; Kern et al., 2007a; Kern et al., 2007b). Another crucial component of consultation was staff development in which music therapists provided directions or "protocols" (Fees et al., 2014, p. 72) and trained teachers on implementing the interventions and in some studies, trained teachers on the use of music therapy principles as well as providing supervision to teachers (Fees et al., 2014; Kern & Aldridge, 2006; Kern et al., 2007a; Kern et al., 2007b; Li, 2018). This corresponds with existing literature in that music therapists often use consultation as an opportunity to clearly describe and detail the principles of the therapeutic use of music (Kampwirth, 1999; Register, 2002).

It is also noteworthy to highlight that in Li's study of DCTM in a community centre in China, the researcher-practitioner investigated teaching competencies and incorporated these factors into the interventions for children with ASD (2018). The author reflected that,

To support these teachers in teaching, the fundamental techniques of interaction and observation seemed hugely important for them to introduce the DCTM with their daily teaching. It was not only because of the ways these skills benefit these children, but also because they increase these early years teachers' competency. (Li, 2018, p. 223)

In all, these illustrations of consultative services by music therapists reflect the term “music therapist teacher support” coined by Steele, Crooke & McFerran (2020), referring to instances in which “the music therapist intended to impart knowledge, skills, or any guidance to a teacher through their interaction” (p. 1). The review by Steele et al. (2020) advocates the importance of focusing on teachers' needs when providing consultation to teachers. Not only would music therapists be able to “expose” teaching staff to “other ways of seeing and being with their students, the authors argued that the consultation could support teachers to advance their inclusive teaching practices in the classroom (Steele et al., 2020, p. 13).

#### **5.5.2 Teachers as Consultants**

With reference to the studies selected, teachers provided consultation to music therapists in terms of selecting the students for the music therapy programme or intervention, defining the problem, planning intervention goals, and coordinating music therapy schedules (Brownell, 2002; Kern & Aldridge, 2006; Kern et al., 2007a; Kern et al., 2007b; Li, 2018; O'Donnell, 1998; Pethybridge, 2013; Vaiouli et al., 2015). In the eyes of music therapists, teachers were well-acquainted with the children and adolescents in the context of the classroom (Pethybridge, 2013). As a result, some took reference from teachers about “baseline” behaviours (Kern et al., 2007a, p. 45),

and interpretation of behaviours of the children and adolescents with ASD (Kern & Aldridge, 2006; O'Donnell, 1998).

## **5.6 Considerations for Music Therapists when Providing Consultation to Teachers on Conducting Music-Based Interventions**

It was found that various musical and technical strategies were utilised in studies examining interventions delivered by teachers to ensure successful implementation of music interventions. The following considerations were included: (1) the use of songs; (2) making music materials simple; and (3) navigating team dynamics and cultural factors.

### **5.6.1 *The use of songs***

The use of composed songs was reported in the four studies which described positive outcomes of interventions when conducted by teachers. Music therapists prepared one song targeting specific needs of selected children or adolescents, either using original compositions (Kern & Aldridge, 2006; Kern et al., 2007b) or using re-creative methods such as “piggy-backing technique” (Fees et al., 2014; Kern et al., 2007a). Training and supervision were offered by music therapists in the four studies. The studies suggest that song interventions could be “easily implemented by teachers” and were perceived to be more “motivating” than typical verbal instructions provided by teachers (Kern et al., 2007a, p. 50). Besides, findings suggest that another positive outcome of teacher-mediated song interventions in inclusive classrooms is regulating the behaviours of their peers on top of regulating the behaviours of the target child or adolescent (Fees et al., 2014; Kern et al., 2007b).



Despite the small number of studies, these studies have recommended for the use of songs with two considerations. Firstly, musical elements of song interventions, including lyrics and melody, need to be “accura[te]ly” executed in order for the interventions to yield positive outcomes (Kern & Aldridge, 2006, p. 289). Secondly, teacher-mediated song interventions could be based on existing songs or melodies which are familiar to teachers to facilitate their learning and retention of musical material (Fees et al., 2014; Kern et al., 2007a). This results in increased “retention by the children” and therefore higher chances of successful outcomes from the interventions (Fees et al., 2014; Kern et al., 2007a).

#### ***5.6.2 Making musical materials simple***

Yet, the researchers emphasised that there were cases where interventions by teachers did not produce the anticipated results. One study reported less favourable outcomes when interventions were conducted by teachers. In Li’s study, the researcher devised a DCTM programme which utilised a myriad of interventions including many precomposed songs, improvisation, instrumental play, and vocal imitation (2018). According to the researcher, teachers involved in the study lacked familiarity with musical skills and materials, and how to conduct the planned interventions (Li, 2018). This study utilised more music therapy techniques that required music therapy training as compared to the four studies mentioned above. Besides, among the song interventions, it was noted that teachers faced difficulties with “parts of the musical characteristics of the songs” (Kern et al., 2007b, p. 1269). As a result, the interventions were not always successful and, in some instances, even

caused distress among the children. One such instance was highlighted in the study by Kern et al. (2007b),

...in both cases the teachers did not implement the change in music indicating the good-bye part of the songs (step four of the greeting routine). Interestingly, and perhaps coincidentally, it was exactly this part that distressed both target children. (p. 1269)

Therefore, in working with teachers, music therapists should keep the musical structures of interventions simple and straightforward for teachers.

### ***5.6.3 Navigating team dynamics and cultural factors***

While it was not the aim for the selected studies to investigate the team dynamics between teachers and music therapists, some studies touched on the nuances within the collaborative relationship. In one study, the author described the working relationship to be “one of the most cooperative and actively engaged teams” in which teachers and the music therapist shared similar values of “empathy, positive regard, and authenticity” (Barnes, 2010, p. 262).

However, collaboration between music therapists and teachers was not always smooth sailing as indicated in one study (Li, 2018). The author described the issue of a lack of communication between music therapist and teachers, in which, upon request of the child’s parent, another teacher joined a session led by the therapist without the prior knowledge of both therapist and the teacher in-charge, resulting in a change in group dynamics and “br[eaking] the balance in the classroom” (Li, 2018, p. 163). The author recounted that the additional teacher, who was not involved in the preparation and planning of the session, ended up taking control of the music for one

intervention, resulting in a loss of connection with the child (Li, 2018, p. 163). In addition, it may be inferred that the author, who was the music therapist in the study, had differences in approaches as compared to her teacher counterparts. The author pointed out that the contrasting levels of reflexivity, observational skills, and child-centered approach between the trained music therapist and teacher posed challenges in effectively meeting the child's needs through collaborative interventions (Li, 2018). The difficulties highlighted contribute to the existing literature about challenges experienced within a collaborative relationship (Li, 2018). Challenges documented in other existing literature include misunderstandings, the use of condescending or rude tones of voices when talking to children, and team members not being involved in the collaboration (Allgood et al., 2006).

Furthermore, there was a brief indication of the impact of cultural factors on teamwork in one study: the additional teacher, who abruptly joined the session, was not told to leave the session because it would not be aligned with "Chinese customs" (Li, 2018, p. 117). While none of the authors in the selected studies discussed about the effect of culture on the collaborative relationship, Li's study (2018) provided a glimpse into implicit and shared "traditions of thought and behaviour" that music therapists, collaborators and clients are situated (Hays, 2001, p. 14). Future studies could delve further into the influence of cultural factors on collaborative music therapy.

## **CHAPTER 6**

### **CONCLUSION**

#### **6.1 Summary of Findings**

In summary, this review has consolidated the existing literature that music therapists and teachers collaborate when working with children and adolescents with ASD in schools. This was done by responding to two research questions, being “What are the roles of music therapists and teachers when collaborating to co-treat children and adolescents with ASD?” and “What are the goals, intervention types, and titles used when implemented by music therapists and/or by teachers?”. This review also provided insights that roles are constantly evolving in response to the needs of team members.

#### **6.2 Limitations**

Although this integrative review was conducted following systematic guidelines, there were limitations inherent in this study. Although this review was conceived via a thorough search of five online databases and a hand search of five music therapy journals, it is possible that certain literature may have been inadvertently excluded. The inclusion and exclusion criteria limited the depth of articles selected in that materials not published in English were excluded. Full-text articles of studies that could not be accessed by the researcher were also omitted. As the fundamental considerations in terms of collaborative approaches and environments may differ, telehealth practices were excluded in this study, although it was noted that none came up during the literature search phase. In order to keep within the scope of collaboration between music therapists and teachers, studies that

mentioned a mixture of therapy approaches were excluded. From the initial search, two such articles were excluded (Hairston, 1990; Head, 2002). As such, this study does not depict all possible ways of collaboration between music therapists and teachers within the context of this review working with this population of children and adolescents. Moreover, studies could possibly be missed out due to a difference of key terms used within the titles or abstract.

In terms of the analysis of literature, this review was only limited to information described and presented in existing literature. Information such as the details and nuances of collaboration between music therapists and teachers may not be described by the authors of included studies, and qualitative perception of collaboration by music therapists and teachers may not be the focus of the selected studies, leading to incomplete reporting in this integrative review. Besides, as it was not the intention to discuss the effectiveness and efficacy of interventions, this study did not provide in-depth analysis and comparisons on the effectiveness and efficacy of interventions across interventionists.

As a result, the results of this discussion should not be taken to represent the spectrum of collaborative work done between music therapists and teachers when working with children and adolescents with ASD in schools due to the small number of articles reviewed.

### **6.3 Suggestions for Future Research**

Currently, few studies exist that focus on collaborative aspects of music therapists and other team members such as teachers and educators (Register, 2002). Future research could shed light in the qualitative experiences of both music therapists

and teachers during the collaboration process. Researchers could also delve into the influence of culture onto collaborative relationships. Another direction of research could be in the arena of telehealth given that the Covid-19 pandemic triggered the rise of home-based learning or distance learning practices in schools and opened the possibility of collaborative telehealth practices in special education schools (Goh et al., 2023; Pang & Balakrishnan, 2022).

Currently, service delivery models are rarely identified or defined in existing literature (Thompson & Arns, 2019). The position of music therapy service in schools will affect the role of music therapists within the team, especially in contributing to the IEP of students (Ritter-Cantesanu, 2014). Therefore, it would also be worthwhile to consider models of service delivery used in schools, and how it impacts the way professionals collaborate to serve children and adolescents with special needs.

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