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Parents and Teachers' Perceptions of Online Music Sessions for Children with Autism During the Covid-19 Pandemic in Malaysia: An Exploratory Feasibility Study

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Abstract

Autism is a neurological disorder that manifests as social communication skill limitations, fixated interests and rigid behaviours. During the COVID-19 pandemic in Malaysia, online lessons became the norm and it transformed the way teachers and parents collaborated to ensure that children with autism continued to receive education from home. However, parents of autistic children noticed a marked regression in basic living skills and communication skills in their children during the pandemic. The importance of music has been indicated by a growing body of research as it can help children with autism maintain and develop social and communication skill. While research during the pandemic revealed that children with autism's age, cognitive functioning, family income, parent education and cultural background are factors that may influence treatment selection and outcomes, parents and teachers' positive and negative perceptions of online learning experiences with the child may also contribute to it. The purpose of this exploratory study was to gauge the perceptions of parents and teachers towards online education in order to determine the feasibility of introducing music therapy-based online music classes for children with autism as a potential means to promote and preserve their social and communication skills. A total of 59 teachers and 69 parents participated in this study by answering a prepared online survey questionnaire through Google Docs. The findings were analysed using conventional content analysis and later with descriptive statistic on SPSS. The findings from this study indicated that parents are more interested in having online music sessions with their children compared to teachers. Teachers are less interested due to the lack of musical skill to deliver quality online sessions with music. Based on parents and teachers' overall perceptions, this study found that children with autism had the potential to benefit from online music lessons aimed at stimulating social and communication skills. However, this study also found that both parents and teachers needed training in the use of technology to increase their confidence in using online platforms. Futher research is needed to develop a suitable coaching model to equip both parents and teachers in assisting autistic students during online music lessons.

Keywords: Autism, Malaysia, Parents, Teachers, Online Music Lessons

Introduction

Autism Spectrum Disorder (ASD) is a neurological disorder that is associated with symptoms such as limited social communication skills, difficulty in dealing with transitions, rigid behaviour, and obsessive interests (American Psychiatric Association, 2014). The prevalence of autism worldwide over the last few decades. In the United States, the Centers for Disease Control and Prevention (CDC) reported in 2018 that 1 in every 44 children have been diagnosed with autism, which is an increase from 1 in every 150 children in 2000 (Maenner et al., 2018). In Malaysia, the Ministry of Health (MOH) has noted an increase in the prevalence of children diagnosed with autism over the last 15 years. As of 2021, the prevalence of children with autism was 1 out of 589 children under the age of 18 years old (CodeBlue, 2022), compared to 1.6 out of 1000 in 2006 (Ramachandram, 2019). Another study conducted by Low and colleagues (2021) to investigate the lay knowledge of autism among the Malaysian community revealed that while the respondents could relate to autism as a form of learning disability, most were not too familiar with identifying the social communication and language deficits that are present among those with autism.

Early detection and intervention for individuals with autism can improve their quality of life and reduce additional costs associated with managing the disorder as they grow older (Koegel et al., 2014; Rogge & Janssen, 2019). Furthermore, early diagnosis can increase accessibility to interventions for children with autism (Montiel-Nava et al., 2017). However, research has shown that early detection and intervention practices in many low- and middle-income countries in the Asia Pacific region have been inadequate (Samms Vaughan, 2014). Local research from recent years has shown that the average diagnosis period for autism in Malaysia is between 46 and 66 months, indicating a delay in diagnosis (Ramachandran, 2019; Apok & Saleh, 2020). Factors that contribute to delayed diagnosis in low- and middle-income nations may include low education levels of parents, low socioeconomic status, limited knowledge of autism and healthcare in general (Montiel-Nava et al., 2017).

Literature Review

Music Intervention for Children with Autism

Music is a form of intervention that helps to develop the communication skills of individuals with autism (Fong & Lee, 2012; Janzen & Thaut, 2018; Lim, 2010). Music education has been one of the subjects presented for children with autism as it helps to develop both their communication skills and musical knowledge (Fong & Jelas, 2010; Lee & Fong, 2012). In addition, music is a motivating alternative to target select skills of students with autism such as speech and memorisation of learned concepts that are otherwise difficult to attain using non-music approaches (Lee, 2006). Research indicated that the cortical speech areas of the brain of children with autism has stronger activations when listening to songs compared to solely speech (Lai et al., 2012). Further evidence by Lai and colleagues also suggested that there were higher frontal-posterior networks during the song condition among children with autism, suggesting a higher level of engagement during musical stimuli. Hence words, sentences and phrases that needed to be learned by students can be written into a song and sung, cultivating their ability to express the written language (Vailland et al., 2020).

A feasibility study conducted by Tim and colleagues (2021) also shown that music-assisted programme targetted on verbal acquisition can be beneficial for autistic children that has limited verbal skills. Consistent with previous literature, the outcomes of this study

revealed that autistic children shown increased attention to words when they were accompanied with music. Musical activities that were conducted in a group help increase their concentration and shared attention among their peers (Chiengchana & Trakarnrung, 2014). Research done by Johnson and Lagasse (2022) mentioned that peer-assisted learning during group musical activities can help foster the development of social skills among students with autism. The inclusive environment with typical peers, coupled with musical activities, can promote social engagement among students with autism and their peers.

Music intervention that includes parents during the session has been a growing topic of interest in recent studies (Hernandez-Ruiz & Braden, 2021; Hernandez-Ruiz & Lehrer, 2022). Research interviews conducted by Hernandez-Ruiz and Lehrer on multiple parents with autistic children revealed that parents were not only interested in participating in music therapy sessions with their children, but are also eager to learn up music strategies in order to support their children during music therapy sessions. Hernandez-Ruiz conducted another study of an intervention model under music and non-music conditions involving both the parent and child to analyse the verbal and non-verbal responses of them both. The results showed that the non-verbal responses of parents increased under music conditions during the intervention. Furthermore, the child has also displayed increased joint attention with the parent under music conditions during the interventions (Hernandez-Ruiz, 2020).

Online Learning during the COVID-19 Pandemic

During the COVID-19 pandemic in Malaysia, all physical classes were suspended in accordance with the Ministry of Education Malaysia's (MOE) statement on school closures 2020 (Fong et al., 2021). Consequently, students needed regular internet access to continue their education. A survey by the Malaysian Communication and Multimedia Commission (2020) revealed that 70.5% of Malaysians had internet access during the pandemic. To ensure that learning continued from home, the Malaysian government implemented several home-based learning initiatives, with teachers conducting online classes using internet resources such as Google and Youtube (Ramly et al., 2021). Parents also played a crucial role as home-based teachers, assisting their children with homework during and after online classes. However, since the shift to online learning happened abruptly, some parents were unprepared and unaware of the current classroom procedures for their children. As a result, parents had to be more involved in meeting their children's educational needs (Ramly et al., 2021)

Online music activities became a norm in Malaysia during the pandemic and teachers were required to prepared teaching materials suitable for teaching online (UCSI Institute of Music, 2020). During this period, teachers were not the only ones responsible for educating the students, but parents and caretakers too were assisting the children as they spent more time with them at home. Despite the lack of local research to indicate the feasibility of online music sessions for children with autism, research from other countries has showed that online music activities involving virtual reality can bring about potential social benefits for children with autism (Pedersen et al., 2022). A study done by Pedersen and colleagues (2022) indicated the creation of a virtual reality (VR) classroom setting for students with autism allowed music therapist to engage and encourage them to further develop social communication skills in a simulated environment resembling similarly to the physical classroom. The use of telehealth was found to be a viable alternative overseas for children with Autism, throughout the time of the pandemic (Simacek et al., 2021). Based on their study regarding the recent trends, telehealth increases the accessibility of the service to families living in locations geographically inaccessible and lessens the costs of delivery.

Challenges faced by children with autism during the Movement Control Order (MCO)

According to research, the abrupt change of having lessons conducted online caused distress among children with autism as their daily routine has been disrupted. A study done by Kamaruzaman and colleagues (2022) explored the situation of home-based online learning for children with autism during the pandemic and discovered that it takes about 4 weeks for the children to get accustomed to online learning. While it takes more time for children with autism to adapt to a new routine, other local researches indicated that children with developmental disorders, including those with autism, has either displayed challenging or new behavioural issues such as inattention, irritability and poor sleep quality (Fauzi et al., 2022). Research abroad has also reported similar experience among parents having to deal with the new onset of behavioural issues that arose among their children with autism due to the decreased support that was offered physically by rehabilitative services during the time at home (Colizzi et al., 2020; Patel et al., 2020). Malaysian families have noticed a regression of basic living skills and communication skills among their special needs children throughout the time of the Movement Control Order (The Star Online, 2021). These challenges, coupled with the lack of psychosocial support from rehabilitative services for their children during the Movement Control Order, has also increased stress and impacting their overall health of the parents themselves (Fong et al., 2021).

Despite knowing that music can enhance communication skills, there is little evidence in music research to support the feasibility of conducting online music sessions for students with autism. In addition, there is also a gap in local literature regarding the challenges faced by Malaysian parents and teachers while assisting students with autism in their continuous education through online lessons.

Methodology

The purpose of this this exploratory study was aimed at examining the perceptions of parents and teachers towards online education in order to determine the feasibility of introducing music therapy-based online music classes for children with autism as a potential means to maintain and develop their social and communication skills.

This study involved a non-governmental organisation which was known for providing both educational and educational services for children with autism in Klang Valley.

Furthermore, this exploratory study used the non-probability sampling method. The participants volunteered themselves to participate in the study. The study involved parents and teachers who responded to the survey. The criteria for parents in this study is that they must have a child that has been diagnosed with autism. For the selection criteria for teachers, they must already have prior experience in teaching students with autism. All participants are associated with the organisation.

The survey was in the form of an online questionnaire where participants were requested to respond to a series of questions. The questionnaire was formulated by the researcher and later distributed online through a Google Form link to the participants between October 2021 to November 2021. The data collected from this survey was analysed using conventional content analysis (Kodracki & Wellman, 2002) and SPSS (version 26). The conventional content analysis was used to developed codes from the themes that emerged from the data regarding the perceptions of both teachers and parents towards online education. The codes were later utilised in descriptive statistic from SPSS in the terms of frequencies and percentages to determine the feasibility of introducing music therapy-based online music classes.

All participants who responded in this study are anonymous. Formal ethical clearance has been given by the organisation before the data collection.

Results

A total of 69 parents and 59 teachers participated in this survey. The diagram below shows the interest of parents in online music sessions and also the interest of teachers in using music during online teaching sessions with children.

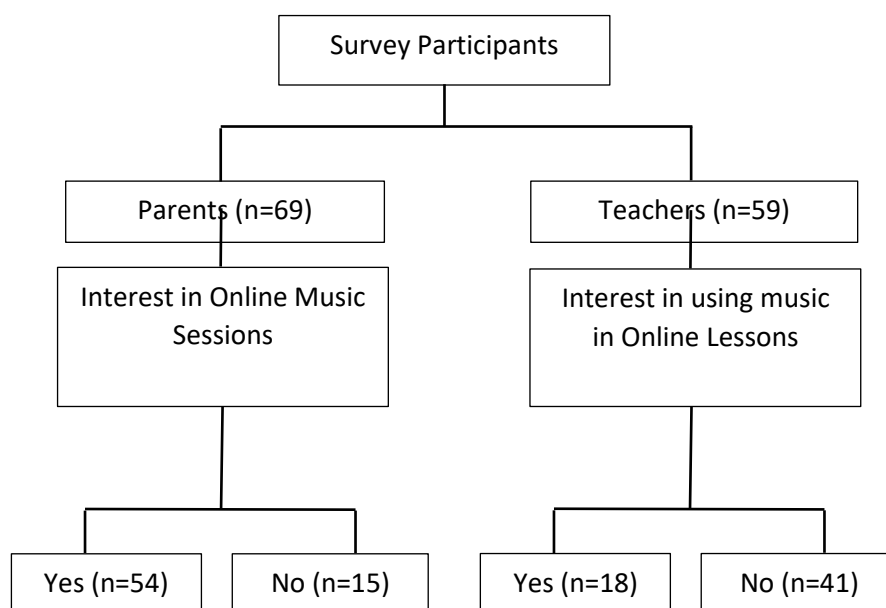


Diagram 1: *Survey Participants*

Based on Diagram 1, among the 69 parents, 54 (78.3%) of them are interested in attending online music sessions with their child whereas 15 (21.7%) are not interested. For teachers, 41 (69.5%) of them are not interested in using music in their online sessions whereas 18 (30.5%) of them are interested.

Mixed experiences by parents while assisting children in online lessons

These subjective responses were coded following the process of conventional content analysis, where recurring themes naturally emerge from them and were taken into account (Kodracki & Wellman, 2002). From the parents' survey, parents reported a mixture of experiences as they assisted their children during online lessons. The themes that emerged from the responses given by parents included "Good Experiences", "Neutral", and "Poor Experiences". Some parents noted good experiences, one mentioning "able to attend classes along with child" and the other mentioning "able to know more of what has been taught online, and "monitoring the strengths and weakness of the child". There were poor experiences as well, with some parents mentioning that they had to "try many times as the children are not confident with showing themselves on camera while online", "difficult compared to learning in a physical classroom", and "child does not like to sit still at one place during online lessons". Some responses of parents with neutral experiences included "different days can be different depending on the mood of the child" and "satisfactory". This

leads to the further analysis of responses regarding the possible challenges parents may face while assisting children during online lessons.

Challenges faced by parents while assisting children in online lessons

Table 1

Challenges faced while attending online lessons with child

Variables	N	Percentage(%)
Not available	2	13.3
Child can't focus	6	40
Poor internet connection	1	6.7
Child reluctant to cooperate	4	26.7
Others (time clash, demands from other children etc.)	2	13.3

Based on Table 1 above, further analysis was done on the group of parents and teachers who are not interested in online music sessions to understand the possible factors that may have influenced their decision.

From the parent survey, those who are not interested expressed the challenges faced throughout the time assisting their child during online lessons. Some of the more common challenges included the inability of their child to focus (40%) and the reluctance of their child to cooperate during online lessons (26.7%). Other challenges that parents face included the clash of session timings to their work hours, meeting the needs of their other children, and poor internet connection.

The results stated above can be attributed to the anxiety by both parents and children that were associated with the abrupt transition to learning online from physical lessons due to the COVID-19 pandemic. These results were reflective to what was reported by Pellicano, Brett, den Houting, Heyworth, Magiati, Steward and Stears regarding the negative effects of social isolation towards individuals with autism as well as their families (Pellicano et al., 2020). The abrupt changes of routine, fear of job loss, illness and stress of constantly caring for their children with autism may be some of the contributing factors that increased levels of stress on both emotional and social well-being of the child and parents during their time isolated at home (Anuar et al., 2022). This also further reiterates the concern Malaysian parents have upon noticing a regression in social skills among their children (The Star Online, 2021). The challenges highlighted by parents in this survey require adequate attention because in order for the online music session to be beneficial and effective, the well-being of both parent and child should be considered (Hernandez-Ruiz, 2019; Steinberg et al., 2020).

Preparedness of parents in assisting their children during online lessons

Parents play an integral part in the learning experience of their child with autism. Research done by Hernandez and colleagues (2021) highlighted that the well-being of the parent does influence the ability of the child to communicate socially. As parents spend more time at home with their children compared to teachers during the pandemic, parental stress and fatigue have increased when they are faced with challenges assisting their child during online lessons. The mental health of parents caring for children with autism has been affected during the COVID-19 lockdown.

Based on the Malaysian Ministry of Health (MOH), Talian Kasih and The Woman Aid Organization reported an increase in call-ins throughout the time of the Movement Control Order (MCO) amid the COVID-19 pandemic (Rosli et al., 2022). Another local research done by Anuar and colleagues (2022) on parental coping attitudes during the pandemic has shown that 83.1% of women acting as the caregiver has experience stress while caring for their children with autism during MCO (Anuar et al., 2022). Parents are finding it challenging to cope caring for their children with autism while at the same time experiencing anxiety regarding the possibility of job loss, financial stability, illness and overall quality of life.

Recent research has shown positive outcomes of parent-child dyads during musical sessions when parents feel confident and included in part of the session planning (Hernandez-Ruiz, 2020). This process gives the practitioner a more assistive role in coaching the parent, enabling them to realise their potential in training their child so that better quality social interaction can occur between them. This allows parents to also enjoy the musical sessions and not a tasking chore of just following the instructions given by the practitioner, which is the traditional “top-down” method commonly used by practitioners in therapies. (Wainer et al., 2017; Pasiali, 2020). A recent exploratory study by Hernandez-Ruiz (2023) investigated the feasibility of having parent coaching sessions of music interventions for children with autism. From the study outcome, families that participated in the weekly coaching sessions through video conferencing online has improved in their ability to address and respond to the needs of the child. The results of the study further showed that parents find these coaching sessions to be useful, effective and supportive as these coaching methods are adapted to suit the culture, needs and strength of the family.

Hence, we see that music-therapy based online sessions can be feasible with suitable parent coaching sessions. The parent-coaching sessions should provide resources that are culturally applicable, suited to the needs and the strengths of the parents involved.

Lack of interest among teachers due to lack of training in using music online with students with autism

Table 3

Subgroup analysis of 41 teachers not keen on online lessons

Item	N	Percentage (%)
Tried music in online classes		
Yes	16	39%
No	25	61%
Received music training		
Yes	1	2.4%
No	40	97.6%
Interested to receive basic training to use music in online lessons		
Yes	19	46.3%
No	22	53.7%

Based on the results previously highlighted, there were disparities in the findings whereby most parents are interested in online music lessons whereas the majority of the teachers are not interested.

Thus, a subgroup analysis in Table 3 was done on the 41 teachers who were not keen on using music during online lessons. 16 (39%) of these teachers had attempted using music in their classes whereas 25 (61%) of them had not done so. However, only 1 (2.4%) out of 41 (97.6%) teachers have received some form of music training. These findings may be factors which contribute to the hesitancy of teachers in incorporating music into their online lessons. 19 (46.3%) of these teachers have expressed their interest whereas 22 (53.7%) are not interested in receiving basic training to using music in their online lessons. The results further suggests that with the proper assistance or guidance, teachers may be more determine to overcome their hesitancy and potential try to use music during their online classes. Research overseas as indicated that training can help teachers to be more prepared and equipped to conduct online music sessions, given that it may benefit children with autism. The outcome of training teachers may help them in effectively provide instructional strategies that are flexible and easy for parents to utilise while assisting their children during the sessions (Draper, 2021).

Preparedness of Teachers Teaching Children Online

Throughout the time of the pandemic, teachers find it challenging to constantly catch up with technology to effectively teach online (Biasutti et al., 2021). Biasutti and colleagues (2021) expressed in a survey among music teachers that preparation for online teaching takes up a lot of time. Teachers have to spend more time creating a music curriculum that can be delivered effectively to students online. It was highlighted that opportunities for professional development in the area of online teaching are necessary to increase the feasibility of online learning as a viable alternative in music education. In addition, it is important to source out the best strategies from teachers and therapists to support the continuous education of children on a virtual platform (Ameis et al., 2020). Nigel and colleagues (2020) mentioned that virtual lessons with careful planning can help reduce anxiety levels and enable children with autism to cope with their transition to distance learning during the pandemic.

The understanding of the needs of the child is important for the teacher as they draft out their lesson plan for the students online. In Malaysia however, research data regarding awareness of this neurological disorder among Malaysian special needs teachers is limited. A survey carried out by Yasin and Wei (2017) on a population of special education teachers in Malacca indicated that teachers were provided with a generic training to manage students with different disabilities within the physical classroom and not just limited to children with autism. The survey results showed that the use of social stories and other social decision-making strategies in class are lesser as it is less applicable in the Malaysian context. The research later concluded that the quality of teaching and lesson delivery for students with autism needed to be further examined in the local context. This may indicate that finding educational models that can be adapted to fit the cultural needs in Malaysian special needs education is crucial in order to create an effective educational plan for the student. Another study by Balang and colleagues (2021) stated that teacher readiness in special needs education is still an underlying issue as teachers in PPKI (Program Pendidikan Khas Integrasi) schools are often limited in experience and preparedness when tasked to teach and manage students with special needs. In East Malaysia, a study done by Teo and colleagues (2020) showed that educators for those with autism in Sarawak has expressed that opportunities to receive professional training to further advance their skills as teachers are limited, resulting into constant self-reliance to adapt to the education situation for students with special needs. From the interviews conducted by Teo and colleagues among the educators, the industry is mostly run by non-governmental organisation, which makes it challenging for these

organisations to properly pay or train them to further advances their teaching skills. In order to counter this challenge, educators in Sarawak constantly go through the process of trial-and error to determine the best teaching practises for their students, given that it is more cost effective and practical.

These local researches indicated a recurring pattern of the lack of educational training for special needs teachers that are culturally appropriate. In addition, the limited financial given to teachers by non-governmental organisations may be one of the factors due to the lack of educational training for teachers, leading them to constantly rely on themselves to search for solutions to overcome each educational challenges they face while teaching children with special needs (Teo et al., 2020). Despite these challenges, these researches also reflect that special needs teachers in Malaysia generally rely on hands-on experience to make ends meet for the students, not easily deterred by the circumstances.

Discussion

From the results of this study, it is suggested that the majority parents are being faced with challenges such as busy schedule, personal wellbeing, and technical difficulties while assisting their child during online lessons. Participants in the study were mostly parents that have more than one child, hence it was a challenge as they have to attend to the needs of their other children besides their child with autism. In addition to that the distraction of experiencing technical difficulties such as poor connection or underwhelming digital equipment while assisting their children during online lessons, prospects of unemployment and uncertainty of the future may have a significant impact on the wellbeing of parents. The situation of parents being overwhelmed is similar of another research done by Kaku and colleagues (2020), who carried out a survey to find out the coping mechanism of parents with autistic children during the pandemic. The outcome of their study revealed that most participating parents experienced the initial feeling of helplessness and uncertainty while managing the behavioural changes of their children at home (Kaku et al., 2020).

Parent coaching can be helpful for parents facing the above-mentioend challenges, as it equip parents in developing better communication habits with their child after each sessions with guidance from the therapist. Parent-mediated interventions are known to increase overall satisfaction between the parent and the child and can decrease fatigue and stress for them. Research done by Hernandez-Ruiz and Braden (2021) using the Parent-Coaching Early Start Denver Model (PC-ESDM) has helped parents to be equipped on assisting their child during music therapy sessions. Another recent study by Hernandez-Ruiz has also examined the feasibility of providing parents virtual coaching of music interventions for children with Autism situated in a low-resource country. The outcome of the feasibility study revealed the participating parents find that virtual coaching supportive and helpful as they are given access to important information effectively (Hernandez-Ruiz, 2023). Hence, a culturally modified version of the PC-ESDM model can be adopted to suit the cultural and specific strengths and parental needs in a Malaysian context to guide parents in overcoming communication challenges, improve their receptivity and encourage their participation in musical activities with their child.

Contrary to the results of parents, a majority of teachers that participated in this study were not keen on incorporating music into their online lessons. However, based on the subgroup analysis (Table 3) of the 41 teachers that are not interested in using music during their online classes, 19 (46.3%) of them still showed interest in receiving basic music training. A possible factor of these results may be due to the lack of musical training among teachers, leading to

the lack of confidence in incorporating music during online lessons. In addition to these results, past findings in Malaysian special needs education research may have also shown a recurring pattern of a hesitant mindset due to the lack of experience, training and resources provided for special education needs teachers to manage students with special needs (Wei & Yasin, 2017; Teo et al., 2020; Balang et al., 2021). The result from the current study regarding hesitancy and the lack of confidence among special needs teacher can be reflected in the study done by Wei & Yasin (2017), which pointed out the lack of practices strategies provided for teachers during their training to manage students with autism. This leads to teachers having inadequate knowledge and haphazard competence in educating their students.

The haphazard competence among teachers is highlighted again by a qualitative study conducted by Balang and colleagues among 11 PPKI teachers. Through interviews, their research outcome revealed that some PPKI teachers do not have the basics or knowledge in special education, leading to increased burden when they're given assignments. In addition, some PPKI teachers do not have the tendency to seek additional knowledge to improve or prepare themselves for teaching, thus affecting the quality of teaching. Another factor pointed out in this qualitative study is that PPKI teachers have additional responsibilities besides teaching, which includes but not limited to: handling administrative work, disciplinary management and being a substitute teachers for others outside of their job scope (Balang et al., 2021).

Hence, with these findings showing the struggles special education teachers face during physical lessons, it is imminent that this issue may have been further magnified during the time of the pandemic during online lessons. An alternative suggestion to support special needs teachers if they wish to use music during online lessons is to get trained music teachers to join in their team. Local organisations supporting children with autism could consider the hiring of music teachers that are trained to teach children with autism to conduct online music lessons. Research done overseas by Laura and colleagues (2022) suggested that the collaboration of special education teachers along with music therapist can help to develop a better Individualized Education Programs (IEP) that promotes self-determination among students. This can be a cost-effective solution where the organisation acquires the best quality of music delivery for the children without having to spend extended time to train existing special needs teachers on music education. In the Malaysian context, this can also lighten the workload of the existing special needs teachers and encourage them to work in a more collaborative manner with the music teacher to create a better online learning experience for the students. In addition, the education programs that are created by the teachers for online home-based learning should also involve the family that is assisting the student. This is to further encourage students to socially engage with both the teacher and family members. Teachers can facilitate online home-based learning activities for parents to participate with their children during online sessions, which include watching educational films, listening to stories and podcasts together (Patrascoiu, 2022). A collaborative learning environment enables the teachers to gain another perspective of building community resilience, and mobilising educational resources for their children during the time of the pandemic by creating suitable educational practices, having taken into the account the needs of the community.

It is also important that this collaborative learning experience helps minimise the learning barriers experienced by students with autism. These barriers include but not limited to: participation in online sessions, interaction of students with what they were taught and how they were taught, availability of the students and the learning environment (Patrascoiu,

2022). These barriers can be considered while designing music lessons for online learning. Musical materials which incorporate visual prompts and imitation during singing or music movement activities can also be useful for online lessons as it helps to improve both social and verbal communication skills for autistic children (Lim et al., 2022).

Conclusion

The purpose of this study was to find out the perspectives of both parents and teachers regarding online music sessions for children with autism in order to determine the feasibility of conducting music sessions online. The online experience for both teachers and parents has shown that despite facing challenges, they acknowledge the potential music has in helping students with autism and they have expressed their interest in incorporating music online. However, what can be considered in future research is to create a coaching model that is relevant in the Malaysian context to adequately equip both parents and teachers of students with autism. By doing so, this can create a collaborative learning environment where teachers and parents benefit in experience, and also minimise educational barriers that are experienced online.

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