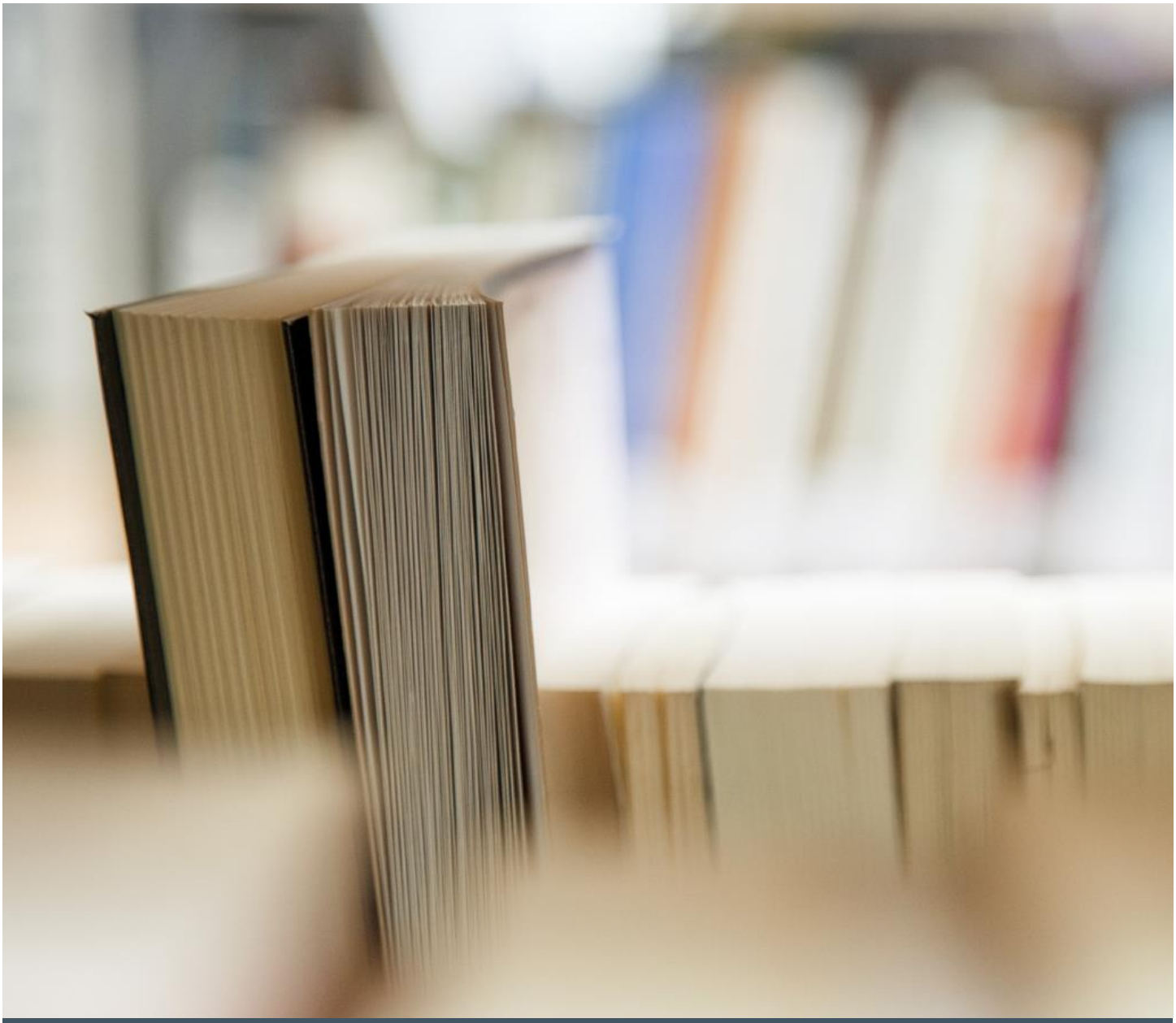

Sounds of Progress:

Putting Music to Work for Blind, Low Vision, Partially Sighted and Visually Impaired People.

Percussion Play, RSBC & The Amber Trust

10/1/24

White Papers

Sounds of Progress: Putting Music to Work for Blind, Low Vision, Partially Sighted and Visually Impaired People.

Forewords

"RSBC welcomes the Sounds of Progress paper exploring the way in which accessibility can be improved for blind and partially sighted children and young people. Every day, we see the clear value that music brings to the children we work with, yet often it is not as accessible to them as it should be. Music is such a passion for many vision impaired children, and so they should unquestionably be able to enjoy music in an inclusive way that fulfils their creative potential.

Not all businesses are like Percussion Play and consider the needs of disabled consumers when designing and developing outdoor musical instruments to bring to the market. However, with the "purple pound" being worth £274 billion a year to the UK economy, we'd really encourage businesses to take an inclusive approach to the blind and partially sighted people that are their potential consumers and ensure their accessibility to music.

Working with organisations like Amber Trust helps our families understand how music can be incredibly fulfilling to their blind or partially sighted child and working with Percussion Play demonstrates to us that there are businesses out there that wholeheartedly embrace the principles of inclusivity and accessibility, so that every child can enjoy music."

Julie Davis, CEO, Royal Society for Blind Children

The Amber Trust was pleased to collaborate with Percussion Play, the RSBC, and importantly, blind and partially sighted children and their families, to explore ways of improving access to musical play. Early childhood musical play is paramount, acting as the foundation for what may become a lifelong engagement with music.

Percussion Play has been exemplary in their commitment to creating outdoor instruments that are fully inclusive for all children. The steps they have taken to achieve this goal should be common practice, not the exception.

We welcome the Sounds of Progress paper and hope it will shed light on the value of music for blind and partially sighted children, the importance of working in partnership as organisations, as well as with the young people such projects aim to support.

Sophie Amstell

CEO, The Amber Trust

Introduction

This white paper seeks to consider and explore the ways in which music—and specifically outdoor musical play—might be mobilised in better ways in order to improve its accessibility and enjoyment for blind, low vision, visually impaired and partially sighted children and adults.[1] In addition, it will map out the particular benefits that music and musical play might afford to blind and visually impaired individuals, as well as consider certain existing obstacles to access.

In recent years, various disability advocacy networks, researchers, and communities worldwide have increasingly noted the ways in which ableist frameworks in society structure the ways in which we perceive and interact with the world around us. This includes our everyday encounters with music. Music and musical play are well known and have long been recognised to be profoundly beneficial for both children and adults in all sorts of ways, in all sorts of contexts. It has been shown to improve anxiety levels, nurture feelings of well-being, and promote relaxation, and therefore music therapies of all kinds are considered by many to have a strong therapeutic effect.[2] Research has particularly shown that a specific engagement with the act of playing musical instruments is able to 'induce multiple responses – physiological, movement, mood, emotional, cognitive and behavioral'.[3] These benefits are often multiplied in the case of outdoor musical play, given how interactions with fresh air, the outdoors, and the natural world are also consistently also linked with similar physical, cognitive, emotional, behavioral and social positive impacts.[4] Recent work by researchers from the Amber Trust and University of Roehampton has demonstrated that with regard to early years musical development:

> children who are severely visually impaired represent an exceptional cohort of the population as a whole; while the full range of musical ability is present, a relatively high percentage display exceptional levels of musical development beyond that of their sighted peers, including those with severe cognitive and language delays.[5]

Clearly, musical play and training opportunities can be extremely beneficial for blind and visually impaired children and adults, often with these people being 'exceptional[ly]' well-suited to and demonstrating high aptitudes for musical development, learning and creative expression, often higher than their sighted peers. However, as with several forms of non-normative or creative therapeutic interventions, as well as musical training opportunities, the benefits offered up by music—developmentally, therapeutically, and creatively—are often significantly limited by various obstacles to access. Given that in the world, many play structures and parks, schools, workplaces, libraries and community spaces are primarily designed with able-bodied or nondisabled people in mind, equitable access to these spaces for blind, low vision and visually impaired children and adults to these spaces and the music experiences within them is often also

[1] Throughout this white paper, alongside the term 'blind'—which generally refers to total blindness (complete loss of sight) or legal blindness, we move primarily between the terms 'low vision', 'partially sighted', and 'visually impaired'. 'Low vision' is generally used, more commonly in the US, to describe individuals with severe visual impairments whereby visual acuity is severely impacted and is not able to be altered further by the use of glasses or contacts. The terms 'visually impaired' (more commonly used in the UK than the US) and 'partially sighted' are used to refer to individuals with partial vision in one or both eyes. Some of such individuals prefer the term 'partially sighted' to be used when referring to them, and some prefer the term 'visually impaired'. For this reason, this white paper attempts to move between these different terms in order to demonstrate respect for a broader number of blind, low vision, visually impaired and partially sighted individuals in self-determining preferred use of relevant language.

[2] Moula, Zoe, Karen Palmer, and Nicola Walshe. "A Systematic Review of Arts-Based Interventions Delivered to Children and Young People in Nature or Outdoor Spaces: Impact on Nature Connectedness, Health and Wellbeing." *Frontiers in Psychology*, 13, (2022).

[3] Francis, David 'The Powerful Role of Music in Society.', Music Magic (2008).

[4] Twohig-Bennett, Caoimhe, and Andy Jones. "The health benefits of the great outdoors: A systematic review and meta-analysis of green space exposure and health outcomes." *Environmental Research*, 166, (2018). pp. 628-637

[5] Voyajolu, Angela, Rosie Axon and Adam Ockelford. 'The Impact of Visual Impairment on Early Musical Development.' *The Oxford Handbook of Childhood Learning and Development in Music,* Oxford University Press, 2023. pp. 822-837.

restricted or limited in various ways.[6][7][8]

This white paper will draw attention to some of these obstacles to access and attempts to map out potential ways in which music itself—especially musical instrument design for outdoor musical play—might help to provide new ways in which to interrogate and move beyond the ableist frameworks through which much of the world and its systems operate to disable and disempower blind, low vision and visually impaired children and adults. Firstly, the white paper will examine the positive social, physiological, emotional, and cognitive impacts of musical play, and how and why these might be particularly beneficial for blind and visually impaired people. Secondly, it will examine some of the existing obstacles to accessing these benefits. Finally, it will employ feedback from several anonymized blind, low vision and visually impaired users of a set of Percussion Play outdoor musical instruments in order to map out some provisional ways in which music might be mobilized to create more genuinely inclusive play environments for blind and visually impaired individuals in order to help minimize the impact of some of these obstacles to accessing musical play and its benefits.

Why Music?: Cognitive and Developmental Benefits

As many studies have demonstrated, the practice of active music making, regardless of age or musical ability, can bring with it all kinds of cognitive and developmental benefits. In research across many fields, it is clear that 'scientists are increasingly recognising the ability of music to elicit physiological and cognitive responses, and to elicit and evoke images and associations that seem to be unique to each human being'[9]. The impacts of exposure to music in early years on brain and cognitive development has also been widely studied. For example, exposure to music and musical training have been demonstrated to have links with language development[10] and phonological awareness,[11] spatial-temporal awareness,[12] executive function,[13] working memory,[14] attention,[15] spatial reasoning,[16] and much more. It has also

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[6] Holt, Louise. "Childhood disability and ability: (Dis)ableist geographies of mainstream primary schools." *Disability Studies Quarterly,* 24.3 (2004).

[7] Rocco, Tonette S., ed. Challenging Ableism, Understanding Disability, Including Adults with Disabilities in Workplaces and Learning Spaces: New Directions for Adult and Continuing Education, Number 132. Vol. 118. John Wiley & Sons, 2011.

[8] Stafford, Lisa. "Planning Inclusively: Disrupting 'Ableism' to Make Communities Just for All." QUT Centre for Justice Briefing Papers 10 (2020): 1-4.

[9] Bourdon, Etienne. *Environmental Enrichment for Human Health: A Salutogenic Vision* (2024). Nova Science Publishers. https://doi.org/10.52305/YKPU4625

[10] Patel, A. D. (2011). Why would musical training benefit the neural encoding of speech? The OPERA hypothesis. Front. Psychol. 2:142. doi: 10.3389/fpsyg.2011.00142

[11] Vidal, Maria Manuel, Marisa Lousada, and Marina Vigário. "Music effects on phonological awareness development in 3-year-old children." Applied Psycholinguistics 41.2 (2020): 299-318.

[12] Rauscher, F. H., and Zupan, M. A. (2000). Classroom keyboard instruction improves kindergarten children's spatial-temporal performance: a field experiment. Early Childhood Res. Q. 15, 215–228. doi: 10.1016/S0885-2006(00)00050-8

[13] Frischen, Ulrike, Gudrun Schwarzer, and Franziska Degé. "Music lessons enhance executive functions in 6-to 7-year-old children." Learning and Instruction 74 (2021): 101442.

[14] Roden, I., Grube, D., Bongard, S., and Kreutz, G. (2014). Does music training enhance working memory performance? Findings from a quasi-experimental longitudinal study. Psychol. Music 42, 284–298. doi: 10.1177/0305735612471239

[15] Kasuya-Ueba, Yuka, Shuo Zhao, and Motomi Toichi. "The effect of music intervention on attention in children: Experimental evidence." Frontiers in Neuroscience 14 (2020): 757.

[16] Padulo, C., Mammarella, N., Brancucci, A. et al. The effects of music on spatial reasoning. Psychological Research 84, 1723–1728 (2020). https://doi.org/10.1007/s00426-019-01182-6

been linked with socio-emotional learning, emotional regulation and the development of social skills.[17]

As has been noted, studies consistently show a clear correlation between visual impairments and significantly enhanced musical ability, auditory perception, rhythm and natural aptitude—especially for individuals with either congenital or early blindness or low vision.[18] [19] Research studies conducted over the past twenty years have also consistently shown there to be a relationship between people with visual impairments and an elevated likelihood of having highly advanced musical-processing skills such as absolute pitch.[20] [21] For children born with blindness or low vision resulting from Septic-Optic Dysplasia (SOD), a genetic disorder affecting early brain development, it was estimated that approximately 1 in 16 excel in one or more areas of musical performance, often despite other learning difficulties,[22] whilst approximately half of the children included in a 2010 study who were born with visual impairments as a result of Retinopathy of Prematurity (RoP), a condition that affects significantly premature or severely underweight babies, demonstrated a development in 'exceptional music-processing skills',[23] including that of absolute pitch, within their first 24-36 months, often also alongside managing other moderate to severe learning difficulties.[24]

Given the significance of such statistics—as well as many others in the literature—it follows that the cognitive and developmental benefits offered by musical play, exposure to music, and music therapies to all are likely to be particularly beneficial and well-suited for blind and visually impaired individuals. In particular, those most likely to experience the positive impacts of musical training, exposure, play, and therapeutic interventions are likely children and adolescents with congenital or early blindness due to the presence of statistically significant capacities for highly advanced and detailed acoustic engagement.

Why Music?: Benefits for Mental and Psychosocial Health

In addition to these benefits, the potential for music to induce positive impacts on mental health cannot be overstated. As is stated by the Centers for Disease Control and Prevention (CDC), drawing on guidance from the World Health Organisation (WHO), the term mental health 'includes our emotional, psychological, and social well-being. It affects how we think, feel, and act. It also helps determine how we handle stress, relate to others, and make healthy choices'.[25] Mental health is an 'integral and essential component' of overall health, is 'not merely the absence of disease or infirmity' and therefore — it is important to note — mental health means more than just the absence of mental illness. Mental illness refers to a broad range of medically recognisable and diagnosable conditions that result in the

[17] Váradi, Judit. "A review of the literature on the relationship of music education to the development of socio-emotional learning." Sage Open 12.1 (2022): 21582440211068501.

[18] Zhang, Linjun, et al. "Congenital blindness enhances perception of musical rhythm more than melody in Mandarin speakers." The Journal of the Acoustical Society of America 145.5 (2019): EL354-EL359.

[19] Wan, Catherine Y., et al. "Early but not late-blindness leads to enhanced auditory perception." Neuropsychologia 48.1 (2010): 344-348.

[20] Hamilton, Roy H., Alvaro Pascual-Leone, and Gottfried Schlaug. "Absolute pitch in blind musicians." Neuroreport 15.5 (2004): 803-806.

[21] Wiśniewska, Milena. "Absolute pitch in persons with visual impairments." Aspekty Muzyki 8 (2018): 263-284.

[22] Ockelford, A., et al. "Focus on music." Exploring the musical interests and abilities of blind and partially-sighted children and young people with septo-optic dysplasia. Instytut Edukacji, Uniwersytet Londyński (2006).

[23] Voyajolu, Angela, Rosie Axon, and Adam Ockelford. "The Impact of Visual Impairment on Early Musical Development." (2023).

[24] Ockelford, A., & Matawa, C. (2010). Focus on Music 2: Exploring the musicality of children and young people with Retinopathy of Prematurity. London: Institute of Education.

[25] Centers for Disease Control and Prevention. 'About Mental Health: Mental Health Basics'. CDC, June 28th, 2021.

'significant impairment of an individual's cognitive and rational abilities',[26] whilst mental health is rather 'a state of well-being in which an individual realizes [their] own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to [their] community'.[27]

Mental health is influenced by a variety of biological, developmental, genetic, psychosocial, circumstantial, environmental, and socioeconomic factors and can in many cases be managed by using prevention techniques, diagnosis, treatment and rehabilitation. Poor mental health is often associated with experiences of traumatic events, persistent socioeconomic pressures (including medical financial burdens), violence, rapid social change, poor or difficult working conditions — including high stress environments — physical ill health, unhealthy lifestyles, and human rights violations.[28] A significant body of literature suggests that blind and visually impaired people are at 'increased risk' for developing specific mental health conditions.[29]

Particularly, the correlation between low vision or partial sightedness is associated with depressive symptoms.[30] [31] According to one study, it is estimated that almost a third of blind or visually impaired individuals will experience mild depressive symptoms,[32] whilst in another study of adults with either severely low vision or blindness, 45.2% reported moderate depressive symptoms compared with the control group of which just 16.6% reported the same.[33] Whilst fewer studies have been conducted concerning anxiety and other related symptoms in relation to blind and partially sighted individuals, researchers have also found there to be a trend correlating symptoms of anxiety and anxiety related disorders with experiences of blindness and visual impairment, in both adolescents[34] and adults.[35]

Studies have also been conducted examining the impact of the process of sight loss on mental health, where this transition has been associated with 'reduced mental health and decreased social functioning', as well as 'socio-emotional issues […] relating to diagnosis, coping with deterioration of sight, experiencing loss, experiencing changed perceptions of self in relation to others, experiencing others in a changed way and experiencing rehabilitation'.[36]

Music and musical play are well-known, both within the literature and in culture at large, to have significant positive impacts on mental health. Exposure to music and musical play are highly correlated with feelings of wellbeing,

[26] Ibid.

[27] Mental Health: Strengthening our Response'. Fact Sheet no. 220. World Health colorion (WHO), March 30th 2018.

[28] Ibid.

[29] Demmin, D. L., & Silverstein, S. M. (2020). Visual Impairment and Mental Health: Unmet Needs and Treatment Options. Clinical Ophthalmology, 14, 4229–4251. https://doi.org/10.2147/OPTH.S258783

[30] Choi, H.G., Lee, M.J. & Lee, SM. Visual impairment and risk of depression: A longitudinal follow-up study using a national sample cohort. Sci Rep 8, 2083 (2018). https://doi.org/10.1038/s41598-018-20374-5

[31] Zhang X, Bullard KM, Cotch MF, et al. Association between depression and functional vision loss in persons 20 years of age or older in the United States, NHANES 2005- 2008. JAMA Ophthalmology, 2013. doi:10.1001/jamaophthalmol.2013.2597

[32] Rees G, Tee HW, Marella M, Fenwick E, Dirani M, Lamoureux EL. Vision-specific distress and depressive symptoms in people with vision impairment. Invest Opthalmol Visual Sci. 2010;51(6):2891. doi:10.1167/iovs.09-5080

[33] Mayro EL, Murchison AP, Hark LA, et al. Prevalence of depressive symptoms and associated factors in an urban, ophthalmic population. Eur J Ophthalmol. 2020:112067212090170. doi:10.1177/1120672120901701.

[34] Garaigordobil M, Bernarás E. 'Self-concept, self-esteem, personality traits and psychopathological symptoms in adolescents with and without visual impairment.' Span J Psychol. 2009;12(1):149–160. doi:10.1017/S1138741600001566

[35] Donoyama N, Takeda F. 'Mental Health and Related Factors among Massage Practitioners with Visual Impairment.' Ind Health. 2007;45(2):191–198. doi:10.2486/indhealth.45.191

[36] Thurston, Mhairi, Allen Thurston, and John McLeod. "Socio-emotional effects of the transition from sight to blindness." British Journal of Visual Impairment 28.2 (2010): 90-112.

emotional regulation,[37] lowered anxiety levels,[38] improvements in mood,[39] self-esteem levels,[40] and much more. Whilst many of the barriers to psychological wellbeing for blind and partially sighted children and adults relate to the ways in which society is structured—either through direct and indirect ableist discourse in culture, geographies and architectures of exclusion that inhibit blind and other disabled individuals from fully 'participating' in society, social stigma, economic burdens created for individuals through requiring specific technologies, care work and medical expenses—there are still various ways in which music might be mobilized to promote and safeguard mental health and wellbeing.

Obstacles to Access: Interrogating Ableism

Given the persistent evidence for music having a unique therapeutic effect and unique set of benefits on both children and adults of all ages, in terms of improving mental and psychosocial health and aiding with cognitive development, it follows that many blind and partially sighted individuals would likely benefit significantly from increased access to musical play, musical training, and musical therapies. However, studies suggest that there are several barriers to accessing such exposure to and engagements with such forms of music and musical play. Indeed, even access to more traditional forms of mental health care and intervention for blind and partially sighted individuals appears to be extremely limited by various factors, with an estimated 91% of blind and visually impaired individuals experiencing depressive symptoms are not receiving treatment for these issues.[41] In a similar fashion, in a study examining visually impaired older adults who had met clinical criteria for anxiety and/or mood disorders, more than a third of these had not had any contact with mental health services at any time during the previous six months.[42] These statistics can be traced back to some of the earlier societal issues we encountered, such as social stigma, environmental and architectural exclusion, lowered self-esteem and self-worth based upon internalizations of structural ableism, financial burdens associated with blindness and visual impairments, and more. Particularly individuals have drawn attention to the ways in which the focus placed on practical skills-based learning, rehabilitation and other physical aspects when people are experiencing vision loss, for example, at times displaces the emotional and psychological needs of blind and partially sighted individuals.[43] Furthermore, studies have shown that the majority of mental health professionals lack the appropriate toolkits to adequately provide support for blind, low vision and partially sighted service users or clients, citing lack of funding, lack of expertise and knowledge, and lack of accessibility.[44] This shortage of qualified

[37] Bednarz, Linda F and Bob Nikkel. 'The Role of Music Therapy in the Treatment of Young Adults Diagnosed with Mental Illness and Substance Abuse.' Music Therapy Perspectives, vol. 10, no. 1, 1992. pp. 21-26.

[38] Parada-Cabaleiro, Emilia, Anton Batliner, and Björn W. Schuller. "The effect of music in anxiety reduction: A psychological and physiological assessment." Psychology of Music 49.6 (2021): 1637-1653.

[39] Ahmad, Nawaz, and Afsheen Rana. "Impact of music on mood: Empirical investigation." Research on Humanities and Social Sciences. ISSN (Paper) (2015): 2224-5766.

[40] Sharma, Mamta, and Tanmeet Jagdev. "Use of music therapy for enhancing self-esteem among academically stressed adolescents." Pakistan Journal of Psychological Research 27.1 (2012): 53.

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[42] van der Aa HPA, Hoeben M, Rainey L, van Rens GHMB, Vreeken HL, van Nispen RMA. Why visually impaired older adults often do not receive mental health services: the patient's perspective. Qual Life Res. 2015;24(4):969–978. doi:10.1007/s11136-014-0835-0

[43] Nyman SR, Gosney MA, Victor CR. Emotional well-being in people with sight loss: lessons from the grey literature. Br J Visual Impairment. 2010;28(3):175–203. doi:10.1177/0264619610374171

[44] Leigh IW, Powers L, Vash C, Nettles R. Survey of psychological services to clients with disabilities: the need for awareness. Rehabil Psychol. 2004;49(1):48–54. doi:10.1037/0090-5550.49.1.48

therapeutic practitioners also presents a significant obstacle to accessing mental health care or socio-emotional learning spaces that sighted counterparts are unlikely to experience.

In addition to these obstacles, which focus specifically on difficulties for blind and partially sighted individuals of all ages in accessing mental health care and therefore the musical therapies that exist as a fundamental part of it, it would also be useful to briefly draw attention to some obstacles to accessing musical play and training that is experienced by visually impaired and blind individuals. Access to conventional musical training is a key example. Various studies have concluded that the act of learning to play a musical instrument can be shown to present particularly complex challenges.[45] [46] As well as generally having more limited access to learning resources,[47] individuals can face additional costs based on how expensive and difficult braille music scores are by comparison to written paper music scores.[48] In addition, much like in the mental health care sector, sighted music teachers are often ill-equipped and underqualified, lacking the knowledge and expertise to be able to excel in teaching music to blind, low vision and visually impaired students. Though steps have been taken and valuable attempts in research and praxis are currently being made in order to move music teaching for blind and low vision students out of the ableist frameworks in which much musical training currently operates,[49] there is still much work to be done.

The Future of Music: Developing Inclusive Play

For these reasons, it is essential that organisations, governments, businesses, charities, and advocacy communities work together in order to make musical play more accessible and inclusive for blind and partially sighted children, adolescents and adults. To this end, in 2024, the Royal Society for Blind Children (RSBC), partnered with the Amber Trust and outdoor musical instrument manufacturers Percussion Play in delivering two group and individual-focused musical workshops and instrument demonstrations for blind and visually impaired children and adolescents in the UK. The sessions were designed partly to garner feedback from these individuals in order to assist with developing adjustments to or new designs for outdoor musical instruments—mainly used in parks and trails, school and kindergarten playgrounds, care centers, senior living centers, supported living centers, libraries and more—with the aim of making them more accessible and user-friendly for blind, low vision and partially sighted users.

During the workshops, several key themes emerged as valuable and significant feedback in order to facilitate the possible development of new design elements and/or new percussion instruments. Whilst instruments were consistently rated as 'very accessible' or 'accessible', with 70% of responses rating the instruments collectively as 'very accessible' and 30% as 'accessible', there were still several key strands for suggested development and improvement. However, the instruments still left significant space for development and improvement in order to make them as accessible and inclusive as possible for blind and partially sighted individuals. For example, one participant noted how redesigning some beater handles to be larger would be beneficial to enable individuals to play more easily, noting that 'some of the handles or grip was too small to hold while playing [on account of] sensory issues'. Another noted the ways in which instruments ought to be positioned in ways that enable people of various heights to reach them, in order to

[45] Abramo and Pierce. 2013. An ethnographic case study of music learning at a school for the blind. Bulletin of the Council for Research in Music Education195 (2013), 9.

[46] David Baker and Lucy Green. 2016. Perceptions of schooling, pedagogy and notation in the lives of visually-impaired musicians. Research Studies in Music Education 38, 2 (Dec.2016), 193–219.

[47] Tiiu Ernits and Kadri Kutsar. 2017. Problems of music education for blind and visually impaired people in Estonia. Problems in Music Pedagogy 16 (2017).

[48] Hyu-Yong Park. 2015. How useful is Braille music?: A critical review. International Journal of Disability, Development and Education 62, 3 (May2015), 303–318.

[49] Lu, Leon, et al. ""Why are there so many steps?": Improving Access to Blind and Low Vision Music Learning through Personal Adaptations and Future Design Ideas." ACM Transactions on Accessible Computing 16.3 (2023): 1-20.

both ‘prevent injury and ensure that all individuals get an equal opportunity when playing the instruments’.

Another participant, in relation to questions concerning the preferred texture and surface of the instruments, commented on an appreciation for ‘tactile and interesting’ surface textures, whilst emphasizing the importance of avoiding the use of rough surface textures so as to circumvent ‘concern about damaging fingers, which is a prime concern for a braillist’. Another response similarly pointed to the ways in which one instrument allowed for different parts of it to be ‘explored’ whilst remaining texturally smooth and free from ‘rough edges’. However, it was also noted by another participant that texture could be usefully employed for communicating differences in notes or the types of sounds being produced by an instrument. Specifically, this user suggested that ‘different textures on the instruments could be used to depict a high note and a low note. For example, using rough texture to signify a low note, and a shiny texture to signify a low note.’ Going forward, manufacturers would need to consider balancing such creative suggestions for better facilitating communication and information about outdoor musical instruments and the sounds they produce for blind and partially sighted users, with concerns around levels of roughness on instruments and their potential impacts, particularly upon braillists. However, these suggestions certainly represent potentially very effective tools and methods for ensuring that information about instruments is effectively communicated through means other than high contrast colour and reflectiveness, in order for blind and severely low vision children and adults to have similar levels of access to and information about certain instruments.

In addition to texture, several responses emphasized the role of colour, contrast and reflectivity or ‘shiny’ surfaces in making such percussion instruments more accessible and inclusive for partially sighted and visually impaired individuals. One response noted the importance of ‘mixing both shiny and matt colours’, and that akin to earlier suggestions regarding texture, ‘shiny’ and ‘bright’ colours might be utilized to display ‘high notes’, whilst ‘darker colours’ might be used to show ‘low notes’. Another response similarly used the language of ‘shiny’ and ‘bright’ colours as something which would be of significant benefit. This trend was also confirmed by further survey responses regarding a stainless-steel tongue drum, where participants all responded enthusiastically, with one participant particularly noting its ‘lovely metallic finish’. Another set of brightly coloured drums also drew positive reactions, with participants stating that they ‘really liked [the way in which they] felt different from other drums’, others labelling them as ‘excellent, highly visual’, with multiple participants expressing a desire for more different sized versions of the same drum. Individuals similarly noted the role of colour contrast, commenting on another brightly coloured instrument’s ‘excellent, high contrast, visually attractive [and] stimulating’ qualities. In order to improve accessibility, one participant noted that for partially sighted users, the addition of brightly coloured beater posts could be beneficial. Moving forward, it is essential to consider the ways in which to ensure that both blind and partially sighted individuals’ needs and desires are met in any new design, design adjustments or adaptations—employing colour, texture, haptic communication and other creative means in order to create genuinely inclusive and equitable musical environments and better equip and empower blind and visually impaired musicians—child, adolescent, and adult—to experience and benefit from the profound, unique power and impact of outdoor musical play.

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