

**Developing scales to measure
perceptions of liveness at music festivals
from attendees who are Deaf, disabled
or neurodiverse**

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Presentation Overview

- Discuss accessibility for people who are d/Deaf, disabled or neurodiverse to music festivals
- Introduce Accessible Digital Futures
- **Consider 'liveness'**
- **Describe on-going research on liveness scales**
- **Share future directions**

Disability in the UK

“An individual can be classified as disabled if they have ‘a physical or mental impairment that has a ‘substantial’ and ‘long-term’ negative effect on (their) ability to do normal daily activities” (The Equality Act, 2010)

- In 2020/21, **24 percent of the UK population** (16 million people) had a “physical or mental health condition or illness that has lasted or is expected to last 12 months or more” (House of Commons Library 2023:1)
- “More than a quarter of UK residents will be aged 65 years or over within the next 50 years” (Office for National Statistics, 2018)

Some music context

*The music industry is exclusive, it **discriminates** against pretty much all the protected characteristics of the Equality Act **and** poverty*

“73% of disabled respondents felt they had to compromise their health or wellbeing to do their job (vs 52%)” UK Music Diversity report (2024)

*Accessibility refers to **“measures put in place to address participation by those with impairments”*** Finkel, Sharp & Sweeney (2019. 2)

- **Attitude is Everything** “connect disabled people with music and live event industries to improve access together”
- At **Falmouth University** “we work towards an equitable and diverse world”

Accessible Digital Futures

- Existing ICT augmentations can increase access
- **Hearing loops** which deliver a wireless signal for hearing aids (Hearing Link Services, 2023)
- Time synchronised text in the form of **closed captioning** (Mahoney 2023)
- **Sign language interpretation** on a big video screen
- **Haptic ICT** deploys tactile sensations to ***“stimulate the sense of touch in a user experience”*** (Mass Challenge 2021)

Haptic Technologies

- Touch is one of the **“big five”** senses (Sensory Trust 2020:3)
- Identified by Robertson et al (2015:580) as a likely element of future audience experiences at music festivals.
- **“Deep-seated correlations”** between the senses of hearing and touch (Jack et al 2015)
- Haptic ICT deploys tactile sensations to **“stimulate the sense of touch in a user experience”** (Mass Challenge 2021)
- **Vests, dance floors, benches, gloves, sneakers ...**

My Research

Considers **‘liveness’**, haptic technology and potential digital futures for accessible live performances for people who are d/Deaf, disabled or neurodivergent at music festivals



Image: Attendees at NIN at Eden Sessions 2022 – credit Adrian Bossey

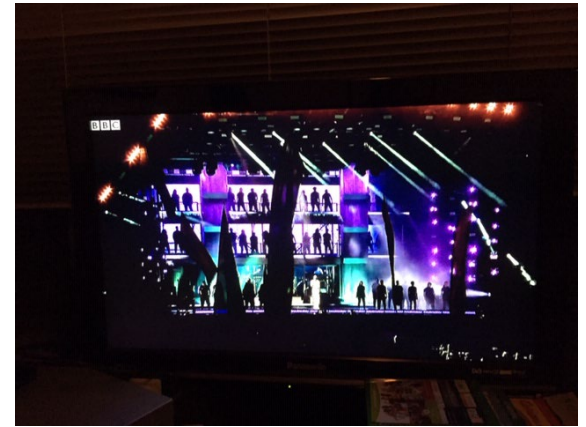


Image: Stormy live at Glastonbury 2019, ‘live’ on BBC; on my TV – credit Adrian Bossey

Liveness

- ***“The quality or state of being live”*** (Merriam-Webster Dictionary, 2023)
- ***“A performance, **heard or watched** at the time of its occurrence, as distinguished from one recorded on film, tape, etc”*** (Oxford English Dictionary)
- Covers a range of mediums including television, theatre, and live music

Requires presence of both audience members & performers, **however, do all parties need to be physically co-located at a moment in time?**

Two main conflicting viewpoints

- 1. ***“Performance’s only life is in the present (it) cannot be saved, recorded (or) documented”*** Phelan (1993:146) so live music requires physical, geographical, and timely co-presence of musician and audience (Tsangaris, 2020)
- 2. Liveness ***“is not an absolute condition”*** so performances may include both live and ICT enhanced elements (Auslander 2008:109)
- Digital liveness is a way of ***“being involved with something”*** (Auslander, 2012: 10) wherein audiences experience liveness when they consciously accept ICT enhanced performances as live in response to their positioning as being live

Liveness 4.0

- Innovation pertaining to the senses of taste, smell, heat, or body location may also inform the ICT enhanced future of music festivals and other hybrid or virtual events
- Haptic technologies can be contextualised as belonging to Schwab's concept of "Industry 4.0" (2016: 12) within hybrid and virtual events

Building on Kim's contention (2017) that a new age brings a new paradigm of liveness, Bossey (2023) proposed that **a new concept of 'liveness 4:0' to consider ICT enhanced augmentation in both physical and biological domains**

Research to date ...

- This presentation considers the development of scales to measure audience perceptions of liveness at music festivals
- Three phases of research will be considered:

An initial phase carried out item development processes, to produce three pre-test liveness Likert scales

Phases two and three started to develop a liveness scale attendees who are d/Deaf, disabled or neurodiverse

Liveness Scales ... Phase One

- Two iterations of primary research were carried out to collect / interpret empirical evidence **from 164 respondents**
- Formats and viewpoints generating the greatest acceptance or resistance were identified
- Findings from three test liveness scales, suggested that ***‘it is possible to develop liveness scales to measure attendee perceptions of liveness at music festivals’*** (Bossey 2023)

However, significant further development, expert review and simplification needed to improve ease of use and reliability of responses, in alignment with Churchill and Peter (1984:364)

Liveness Scales ... Phase Two

Thesis; it may be possible to develop a scale to measure perceptions of liveness at music festivals from attendees who are d/Deaf, disabled or neurodiverse

- An initial scale development process informed primary research which was carried out at the Live Audience Accessibility & Augmentation (LAAA) project.
- [LAAA](#) Project installed a haptic dance floor at Falmouth University over a period of 4 days in May 2023 to gather audience responses & deliver knowledge exchange outputs

76 respondents completed questionnaire during LAAA

Liveness Scales ... Phase Three

- A third phase of research commenced with further reflection and enhancement which was intended to further developed a scale to measure perceptions of liveness at music festivals from attendees who are Deaf, disabled or neurodiverse
- This resulted in a revised scale, which was tested at [Boomtown Fair](#) in August 2023 and the [Deaf Rave Festival](#) in October 2023

141 respondents completed the revised (phase three) questionnaire on-site at the two music festivals. **This data is currently being analysed**

Findings (phases two and three):

- On-going theme of the need to further develop, review and simplify the scale to improve ease of use and reliability of responses (Churchill & Peter 1984:364)
- Increasing focus on on-site augmentation, for clarity

Common theme around challenges of gaining questionnaire response and move towards increasingly designed paper-based iterations (from digitised approach via mobile devices)

On-going Research

On-going research measuring audience perceptions of liveness after experiencing the [BEAT BLOCKS](#) haptic flooring system on-site at Cheltenham Jazz Festival, Meltdown & Tropical Pressure

- Two further iterations of the scale were developed following additional expert input through a questionnaire
- Additional responses were also sought from the audience at Meltdown and Tropical Pressure

Live Audience Accessibility & Augmentation Project (LAAA)



Image: Attendees at LAAA Project using BEAT BLOCK haptic floor CREDIT Matt Jessop



IMAGE: Attendees at LAAA Project DEAF RAVE DJ Workshops CREDIT: Matt Jessop

LAAA 2 Project(s)



Image: Attendees in Woojer vests at Boomtown Fair 2023 Deaf Rave takeover – credit Adrian Bossey



Image: Attendees using BEAT BLOCKS haptic floor at Cheltenham Jazz Festival CREDIT Rah Petherbridge .

Thank You

- **Hopefully we have time for a discussion ...**
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