

A review of music events in virtual reality (VR)



1. Introduction

Over decades, the music industry has constantly been impacted by technology. The notion of mediated events is not a new concept. Live music, however, is a social and sensory-rich experience and capturing and delivering on it successfully is yet to have been perfected. This observation led to further exploration of technology in this space, which is of particular importance given the opportunity that the national restrictions have inadvertently provided. Therefore, this study investigates the acceptance of commercial VR systems, in the mediation of music events, given the holistic immersion that this technology provides over its counterparts such as TV and internet livestreams.

3. Method and Implementation

A subjective survey was designed to gain an understanding of the consumer behaviour and user experience of VR and non-VR based music event alternatives. The survey used theories of music event motivations/satisfiers and the Event Experience Scale (EES) (Richards 2020).

With reference to 'attendance' frequency in VR and non-VR based music event alternatives before and after the introduction of COVID-19 national restricts, the survey collected data on participants':

1. reasons for non-attendance in VR based music events and
2. expectations and experiences of VR based music event limitations.

Key findings:

- Increase in attendance frequency was greater in VR based events.
- Average EES score pattern of VR based music events somewhat resembles what is likely to be found at a typical live music event.
- 'Novelty' dimension on average scored highest in EES.
- 73% of dataset A and 80% of dataset B agreed that commercial VR could not replicate a typical live event experience.
- Overall a strong correlation (0.70) between expectations vs. experience was found however a weak (-0.29) correlation was found for 'Novelty aspects'
- 'Interaction between crowd and artist(s)' was found to be the most prevalent answer in both datasets.

5. Conclusion

The results implicate that there is generally higher satisfaction in VR based music events over non-VR based music event alternatives. However, this is limited as many aspects that are core to the live music event experience were still lacking. In its current application, VR fails to meet key factors of the Technology Acceptance Model (TAM) which indicates a negative attitude towards the technology in this service (Marangunic and Granic 2015).

To theoretically improve the acceptance of VR in the mediation of music events, the increase of essential aspects that are core to the experience is required. These were found to be aspects that relate to social interaction, specifically the 'Interaction between crowd and artist(s)'. This can be achieved by simulating visual cues through motion capture and embodied avatars (Smith and Neff 2018).

References

- MARANGUNIC, N. and A. GRANIC, 2015. Technology acceptance model: a literature review from 1986 to 2013. *Universal Access in the Information Society*, 14(1), 81-95
- RICHARDS, G., 2020. Measuring the dimensions of event experiences: applying the Event Experience Scale to cultural events. *Journal of policy research in tourism, leisure and events*, 12(3), 422-436
- SMITH, H. and M. NEFF, 2018. *Communication Behavior in Embodied Virtual Reality*. ACM, pp.1-12

2. Aims and Objectives

Objectives:

- Identify the factors that contribute to the desirability of a live music event using previous literature.
- Recognise the technologies in use that deliver alternative forms of live music events.
- Determine the hardware and software-based limitations of current VR systems.
- Collect relevant information and data to understand the success of VR in the delivery of music events.
- Depict the necessary technology and technical requirements needed for VR systems to simulate the typical live music event experience.

Aims:

- To identify the extent to which current commercial VR systems can be used to simulate the live music event experience.
- To determine the technology and technical parameters that lead to the increase in mediated live music event's immersion and engagement.

4. Results

	Affective engagement	Cognitive engagement	Physical engagement	Novelty
Mean	4.21	3.65	3.81	4.54
Standard deviation	2.14	2.34	2.40	2.01

Table 1: EES scores by experience dimension

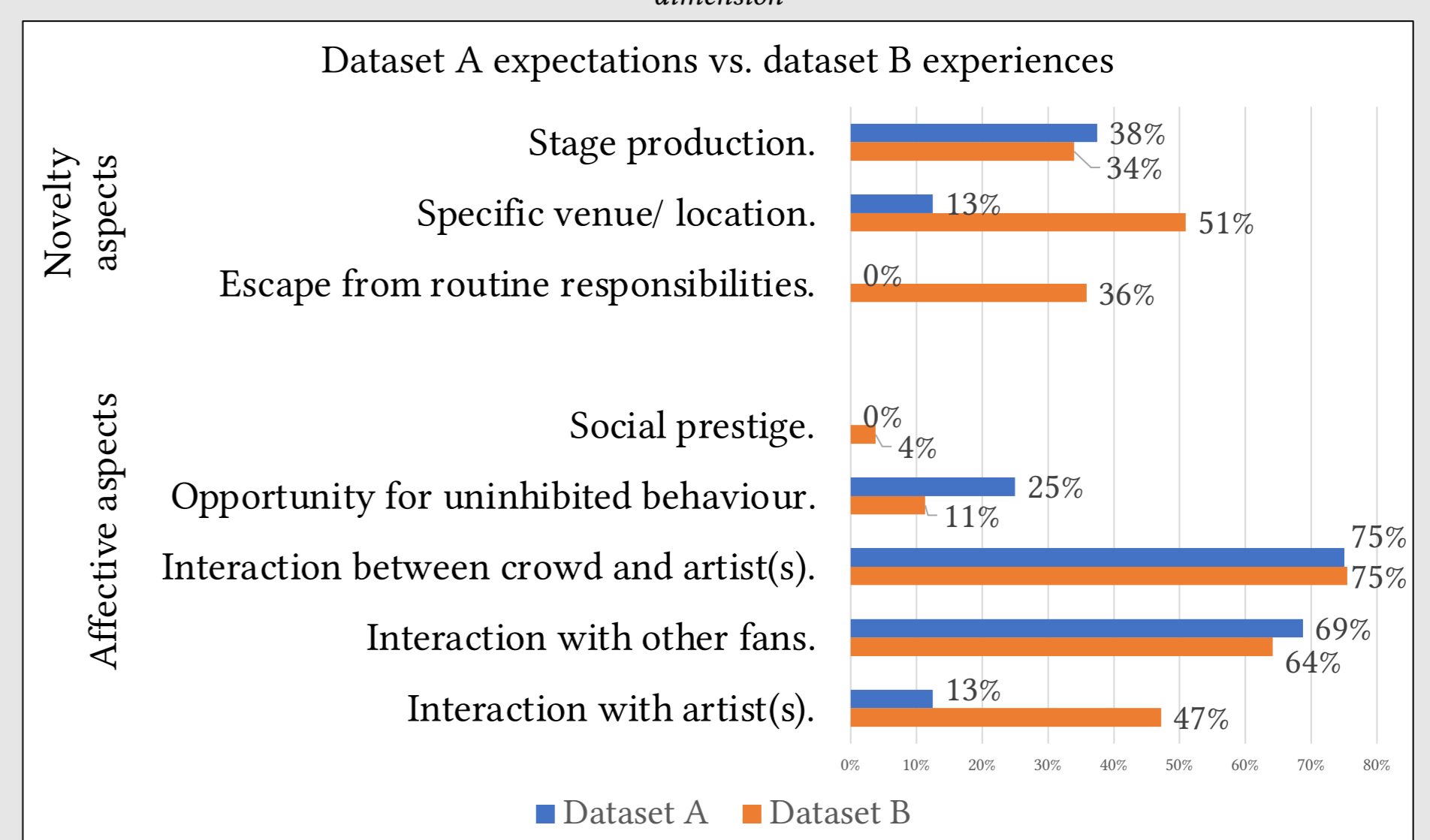


Figure 1: Dataset A's responses vs. dataset B's responses