

Institution: Bournemouth University		
Unit of Assessment: 32		
Title of case study: KIMA: Improved wellbeing through participatory visual sound art		
Period when the underpinning research was undertaken: 2011 – 2020		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Dr Oliver Mag Gingrich	Post-Doctoral Researcher in Media and Arts Practice	September 2018 – current
Dr Alain Renaud	Research Associate Visiting Research Fellow	2008 - 2015 2015 - current
Period when the claimed impact occurred: 2018 – 2020		
Is this case study continued from a case study submitted in 2014? No		
1. Summary of the impact (indicative maximum 100 words)		
<p>Practice-based research at Bournemouth University (BU) has contributed to the Analema Group's KIMA project, producing three multi-sensory installations which have been exhibited at galleries - including Tate Modern - museums and festivals across the UK, as well as online. Engagement with these participatory artworks has:</p> <ul style="list-style-type: none"> • improved wellbeing by increasing feelings of social connectedness, particularly during the first UK-wide Covid-19 lockdown; • raised awareness of the benefits of participatory art among clinicians and decision makers; • provided evidence for how digital platforms can enable art collections and museums to stay relevant in the 21st century; • increased public discourse on art and health, including the negative effects of urban noise on wellbeing. 		
2. Underpinning research (indicative maximum 500 words)		
<p>In 2017, the All-Party Parliamentary Group on Arts, Health and Wellbeing published the results of an inquiry into practice and research in the arts in health and social care (Creative Health: The Arts for Health and Wellbeing, 2017). It found that 82% of people in deprived communities across London enjoyed greater wellbeing after engaging with the arts, and that participatory arts activities help to alleviate anxiety, depression, and stress. The report was clear that more research was needed to better understand the impact of art on health and wellbeing. Furthermore, recent research shows an increase in loneliness, isolation and sensory deprivation during Covid-19. The Office for National Statistics (2020) estimates that the wellbeing of almost half of UK adults (48%) has been negatively affected during the pandemic.</p> <p>Dr Oliver Gingrich and Dr Alain Renaud are practice-based researchers at BU and members of the Analema Group, an arts collective which creates participatory experiences on the intersection between art and technology, exploring relationships between sound, colour, light, movement and form. Renaud contributes to the Analema Group as a specialist in sound design and three-dimensional (3D) sound diffusion whilst Gingrich specialises in presence, immersive</p>		

technology and real-time visualisation. Gingrich ensures research anchors artistic practice in a wider contemporary media arts discourse on participatory art and its societal potential.

The Analema Group has created transformative, multisensory experiences with a focus on audience participation through KIMA, an art and research project investigating the visual properties of sound.

KIMA: Voice [R1, R2, R3] is a participatory art installation which allows audiences to engage in collaborative sound and music making. A visual interface represents voices in real-time, displaying harmonies between two voices as 3D form, inviting participants to find harmonies between their voices. The artwork has been displayed at the Art in Flux Exhibition at Ugly Duck, Digital Catapult, London, the By Other Means Gallery, London, and the Event Two exhibition at Royal College of Art and Great Exhibition Road Festival [R1], as well as University College London's 'Art (I)Relevance: artificial intelligence and art futures' symposium at the Barbican.

Working with researchers from the Centre for Performance Science (CfPS), a partnership of the Royal College of Music and Imperial College London, Gingrich and Renaud looked at what the experience of such harmonies can mean for the individual in a social context [R2]. In pairs, participants explored the harmonies between their voices to measure feelings of social connectedness, happiness, loneliness and feeling in tune with one another. The resulting evidence demonstrated within-person change for perceived social connectedness, feeling in tune, and happiness [R3].

KIMA: Noise [R4, R5] is an interactive sound art piece, developed in conjunction with urban noise and health expert Professor Stephen A. Stansfeld (Queen Mary University of London); which discusses the negative effect of urban noise on social behaviour, health, and wellbeing [R4, R5]. The installation visually displays noise thresholds detrimental to human health, based on real-time streams of daytime urban street noise captured near the Tate Modern. A touch screen allows the audience to draw visual impressions of this noise and move the 3D sound-scape in real-time, with the idea of control over noise being central to the artwork [R5].

The art piece was embedded into a framework of talks, workshops and a 30-minute documentary art film, which facilitated discussion about urban noise, its effect on health, and the power of public influence to control the effects and impacts of noise [R5]. KIMA: Noise resonated with public bodies across London, receiving support from Arts Council England (GBP14,599) as well as in-kind support from the Mayor of London Culture Team, Southwark Council, and Kensington and Chelsea Council's Arts, Cultural, and Health and Wellbeing Alliance. The artwork was exhibited at Tate Modern and the Association for Cultural Advancement through Visual Art's Maxilla Space in 2019, and the film premiered at BU, Iklectic Art Lab and Art in Flux in June/July 2020.

KIMA: Colour was created by Analema Group in collaboration with scientists and curators from the National Gallery and data and algorithm experts from King's College [R6]. The artwork allows audiences to experience a deeper understanding of both the art and science of colour in National Gallery paintings. Novel techniques such as spatial 360-degree video transform the colour data into light and sound installations.

The online artwork was accompanied by a study conducted by Gingrich and Renaud, in collaboration with the National Gallery's research team, to better understand the societal impact of new media art on interest in historic cultural artefacts. An online survey [R6] compiled feedback from visitors to KIMA: Colour. All users reported that they were able to navigate the environment in 360-degrees; 54.6% confirmed that the 360 soundscapes improved the visual experience of colour in the artwork and 63.6% attested that the experience made them curious to revisit the original artwork after lockdown [R6]. Exhibited online at National Gallery X, KIMA: Colour made cultural experiences accessible to audiences at home during the first UK-wide Covid-19 lockdown.

3. References to the research (indicative maximum of six references)

R1 is a practice-based output, exhibited at the Great Exhibition Road Festival (GERF), organised by the V&A museum of art and design, the Science Museum, the Natural History Museum and Imperial College. GERF is attended by over 60,000 people. R2, R3 and R5 are peer-reviewed, published conference proceedings, accessible via OpenScience. R4 is a practice-based output, exhibited at the Tate Modern and enabled by funding from Arts Council England (GBP14,599). R6 is a practice-based output commissioned and funded by National Gallery X.

R1: Gingrich, O., Emets, E., Renaud, A. and Negrao, D. (2019). KIMA: Voice. Great Exhibition Road Festival, Imperial College, 29-30 June 2019.

R2: Gingrich, O., Tymoszuk, U., Emets, E., Renaud, A. and Negrao, D. (2019). KIMA: The Voice - Participatory Art as Means for Social Connectedness, *Electronic Visualisation in the Arts (EVA 2019)*, 8-11 July 2019, London.

R3: Gingrich, O., D'Albore, P., Emets, E., Renaud, A. and Negrao, D. (2020). Connections: Participatory art as factor for social cohesion, *Electronic Visualisation in the Arts (EVA 2020)*, 6-9 July 2020, London.

R4: Gingrich, O., Emets, E., Renaud, A. and Negrao, D. (2019). KIMA: Noise. Installation, workshop and performance. Tate Exchange, Tate Modern. November 2019.

R5: Gingrich, O., Emets, E., Renaud, A. and Negrao, D. (2019). KIMA: Noise. Monograph. Published by Analema Group. ISBN 978-1-5272-5276-9.

R6: Gingrich, O., Emets, E., Renaud, A. and Negrao, D. (2020). KIMA: Colour in 360. Gallery X, London.

4. Details of the impact (indicative maximum 750 words)**Improved wellbeing through increased social-connectedness amongst participants**

Social connectedness plays an important role in wellbeing, and those living in global cities, such as London, often suffer from social isolation and loneliness. A pivotal role of the digital arts is to connect the public through a cultural offering and shared experiences of participatory art.

The Health, Economic, and Social impact of the ARTs (HEartS) study, led by the CfPS, included analysis of KIMA: Voice. As demonstrated by R3, the study of 144 KIMA: Voice participants showed increases in social connectedness, feeling in tune with others, and happiness, concluding that audiences' wellbeing profits from participatory art engagement. With over 4,000 visitors to KIMA: Voice, the findings from R3 indicate a significant impact on the wellbeing and mental health of participants. The CfPS states, "KIMA: Voice effectively demonstrates that participatory arts can contribute to perceived social connectedness among the public, alleviating side effects of social isolation and loneliness" [E1].

In 2020, KIMA: Voice was longlisted for the coveted Lumen Award. Founder and Director of Lumen Art Projects states that BU's research "is exemplary in actively connecting members of the public through shared sound experiences [...] and contributes to a breaking down of societal barriers [...]. Research outcomes of the HEartS study [...] quantitatively measured the impact of the KIMA: Voice artwork on perceived social connectedness, happiness and loneliness, and was able to show a significant link between creative engagement and mental health" [E2].

"This kind of [research] helps to assess and evidence the role media art and participatory art can play [in] the public's mental wellbeing, in an increasingly fragmented society. In times when the public is facing increased challenges from social isolation, and sensory deprivation, it is important to provide active cultural incentives to break down societal barriers, and to encourage

the public to engage creatively with one another. The pioneering participatory media artwork KIMA: Voice plays a role not only in actively encouraging creative engagement by the public, but also in assessing its impact on mental wellbeing,” [E2]

The National Gallery credits KIMA: Colour as a “means to foster social connectedness” during the Covid-19 pandemic [E3a]. New, remote audiences were able to engage in “shared experiences of cultural heritage” [E3a], with over 2,000 unique views on YouTube and a combined social media reach of over 100,000 people [E3b]. “Through this new type of participatory art, and the ensuing exchange via social media, our audiences were able to remain socially connected [...] in a shared cultural experience, at a time when museums were not accessible to the public,” [E3a] An NHS consultant and arts therapy Professor at Brunel University further emphasises “the important contribution of [BU] research and the use of participatory arts for improving social connectedness to mediate wellbeing for people who may not otherwise access social support” during Covid-19 [E4].

Increased awareness of the benefits of participatory art amongst clinicians and decision makers

From a clinical perspective, many severe physical and mental health issues could be prevented with early interventions focusing on building trust through social connectedness [E4]. The NHS consultant and arts therapy Professor notes that the KIMA artwork provides “ethical and safe ways of building connections between participants that have the potential to impact on a range of health issues through mediating interpersonal connectedness” [E4]. Furthermore, the consultant states that their own clinical practice has been enhanced through use of ‘non-clinical’ spaces to widen accessibility to therapeutic interventions and investigation into participatory arts engagement within clinical interventions [E4].

Over 30 policy makers and experts for voluntary, community and social enterprise organisations attended a talk hosted by Kensington and Chelsea Council on KIMA: Noise, called Head_Space. Kensington and Chelsea Social Council commented, “Participatory art offers huge potential for [...] engaging audiences who wouldn’t otherwise consider or care about topics such as noise pollution”. Through KIMA: Noise, the Analema Group “are spreading the message that we all have a role to play in changing our environmental landscape for the better” [E5]. This deeper understanding of the link between participatory art and social connectedness benefits creative practitioners and public decision-makers, particularly post Covid-19, when the need for societal connectedness is paramount.

The Department for Environment, Food and Rural Affairs (DEFRA), which has “overall lead responsibility for policy on noise management in England”, acknowledged the important role of this research in raising awareness of the health effects associated with noise among the general public [E6]. “Participatory art such as KIMA: Noise is so important [...] as it communicates through a different medium to those traditionally employed by Government, and can therefore broaden the scope of public debate and help to inform policy decisions related to impacts of sound and noise.” [E6]

Supporting historic art collections and museums to stay relevant in the 21st century

KIMA: Colour received coverage from 19 regional news outlets across the UK and Ireland, raising awareness of the National Gallery’s great masterpieces [E7]. Together with the gallery’s researchers, Gingrich and Renaud demonstrated the potential of media art to raise a renewed interest in classic art forms with a significant online reach of 158,000 people [E3a, E3b]. The introduction of digital platforms “proved the resilience of the Gallery during its greatest crisis since World War II” and demonstrated that it can “stay relevant in a world that emphasises participatory, immersive experiences” [E8]. Furthermore, over 50 curators, scientists, technical specialists and university students involved in the development of KIMA: Colour gained a greater understanding and first-hand experience of the potential of immersive art and the use of digital platforms to engage new audiences [E3a, E8] and expand appeal, “especially to communities who may feel historically excluded” [E8].

Increased public discourse on the effects of urban noise

Noise pollution has significant and measurable effects on sleep patterns, concentration, social behaviour and heart rates, which can lead to increased risk of stroke, coronary heart diseases and diabetes – yet public awareness around the subject remains limited. Only by understanding the problem are people able to help themselves via targeted interventions. Through a series of creative public and community activities, including: three art installations, expert panel discussions, workshops, talks and the creation of a documentary, KIMA: Noise contributed to public awareness of the effect of noise on health [E9].

The Tate acknowledges that Analema Group's KIMA: Noise at Tate Modern in 2019 addressed local, national and international audiences [E10] by focusing on noise pollution across Southwark Council, where daytime baseline levels for urban noise reaches 80db on a weekday. (Prolonged exposure to noise above 70db has the potential to harm hearing.) Beneficiaries of the impact included live and online audiences of 1,973 people and a social media reach of approximately 165,000 [E11, p.15]. Awareness of the effects of urban noise on health and wellbeing was raised among local community representatives, local and national policy makers and the wider public, provoking a public debate and encouraging those affected to help themselves [E9, E10].

5. Sources to corroborate the impact (indicative maximum of 10 references)

E1: Centre for Performance Science. (2021). Testimonial letter, 15 February.

E2: Lumen Art Projects. (2021). Testimonial letter, 12 January.

E3:

E3a: National Gallery. (2020) Testimonial letter, 20 September.

E3b: National Gallery Data and Insight. (2020). *Analema at NGX: Website and social media report* [Powerpoint Presentation].

E4: Central and North West London NHS Foundation Trust. (2021). Testimonial letter, 10 February.

E5: Chelsea and Kensington Social Council. (2020). Testimonial letter, 18 December.

E6: Department for Environment, Food & Rural Affairs. (2020). Testimonial letter, 7 September.

E7: PDF summary of media coverage.

E8: National Gallery X and Kings College London. (2021). Testimonial letter, 18 February.

E9: Barts and The London School of Medicine and Dentistry, Queen Mary University of London. (2020). Testimonial letter, 12 March.

E10: Tate Exchange. (2020). Testimonial letter, 10 March.

E11: Analema Group. (2020). *KIMA: Noise, Final Activity Report*. Arts Council National Lottery Project Grants.