

Arts & Wellbeing

*A review of the social value of place-based
arts interventions*

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DECLARATIONS

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RG led the study funding application, designed the literature review methodology, performed initial literature search, article screening, full text screening for the call for evidence and

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INTRODUCTION

In the UK, the instrumentalisation of art and culture to achieve socioeconomic outcomes and using an ‘evidence base’ to justify the value of public spending on culture is not novel[1]. Over the past thirty years, there has been a growing interest and research in the social value of arts and culture, particularly in improving health, wellbeing, and social inequalities [2]. Research in the field of creative health has focussed on the effectiveness of arts interventions in improving diagnosed health conditions. In contrast, little attention has been paid to the instrumentalisation of art and culture to improve wellbeing in healthy populations. High-quality impact evidence of those interventions on individuals (wellbeing) and community (social inequalities) is needed to inform future policy, identify new strategies for practice, and raise new questions for further research.

Over the past ten years, an accumulation of reviews of research and evaluation on creative health have been published, contributing to developing an evidence base that aims to inform policy and practice[3-6]. Cautious but positive outcomes have been reported on the value of arts interventions in treating and managing physical and mental health conditions. The World Health Organization (WHO) Europe and the UK Department for Digital, Culture, Media and Sport (DCMS) published a review concluding the arts have an essential role in promoting health and reducing social and health inequalities[7, 8]. Criticism of the quality of sources included in the review led to a claim for rigorous and systematic reviews that lead to reliable results[2]. Similarly, there has been a proliferation of cultural mega-events that claim to generate social, cultural and economic value for the hosting cities[9]. These events range from a continent- (e.g., European Capital of Culture)[10-14], to country- (e.g., UK City of Culture)[15], to borough-wide scale (Liverpool Boroughs of Culture)[16]. The value of cultural mega-events and the valuation strategies adopted have been topics of extensive academic debate, with contradictory outcomes [16-19].

The present review of the social value of place-based arts interventions emerges in the intersection of these two research fields – creative health and wellbeing, and cultural mega-events – inheriting the research challenges. It arises from the need to understand the emerging findings of the evaluation of Coventry UK City of Culture (CoC) 2021 led by the University of Warwick and Coventry University. Preliminary results claim that i) participation in arts and culture improves mental wellbeing as measured by the Warwick-Edinburgh Mental Wellbeing Scales (WEMWBS); and ii) hyper-local events and co-production approaches may be key drivers of participation in areas/populations with historically low levels of participation in arts and culture.

Evidencing the value of arts interventions to wellbeing and social inequalities are located in the intersection of different research fields (health, sociology, cultural policy, arts) with different (even contradictory) epistemological and methodological approaches. Furthermore, different disciplines' conceptual constructs, theories and methods lead to measuring social value differently. The challenge of this review was to capture, understand and synthesise the plurality of definitions of wellbeing, arts interventions and social inequalities and how the social value was assessed across disciplines. As such, there is a need to clarify a series of assumptions and definitions that guided the review.

Our approach to *arts interventions* was guided by creative health research, namely the Davies, *et. al.*[20] definition of arts referenced within the WHO scoping review[7] on evidence on the

role of the arts in improving health and wellbeing, and Davies & Clift[21] arts and health glossary. Art is valued on its right beyond mere utility, emerging from an individual and collective creative process that fosters imaginative, aesthetic, emotional and intellectual responses for both producers and audiences. Davies, *et. al.*[20] and Davies & Clift[21] offer five primary art forms (performing arts: visual arts, design and craft; literature; culture; online, digital and electronic arts). These art forms present a list of activities and events that aim to cover several means of active and receptive participation. It is particularly relevant to this review to highlight going to museums and participating in community events and festivals as included within the definition of art and culture. The distinction between active and receptive participation is also relevant – active participation refers to creating art, in contrast, receptive participation refers to experiencing art (e.g., attending a concert as part of an audience)[2].

The Office of National Statistics (ONS) Measuring Wellbeing Programme and WWCW define wellbeing as ‘how we are doing’ as individuals, as communities and as a nation, and how sustainable this is for the future’[22]. The National Institute of Health and Clinical Excellence (NICE) define *wellbeing* as a ‘dynamic state in which the individual can develop their potential, work productively and creatively, build strong and positive relationships with others, and contribute to their community’[23]. As such, wellbeing is a complex balance of multiple individual (e.g., physical and mental health, cultural capital, sense of purpose), social (e.g., social capital, civic engagement), economic (e.g., employment, housing, social welfare) and environmental (e.g., air quality, safety), factors that interact with each other, and are dynamic over time. Wellbeing is both subjective (individual experiences), and objective (e.g., life expectancy, household income). It is heavily influenced by economic, social, health, and education policies, hence adversely impacted by social inequalities[7]. Both value and challenge of capturing wellbeing are due to the subjective nature of some aspects. Wellbeing can be assessed using several standardised measures, including transnational organisations’ measures such as the OECD *Better Life* indicators[24], the WHO-5 Wellbeing Index[25], and the European Social Survey[26, 27]; national frameworks such as the UK’s National Wellbeing Framework[22], and widely validated scales, such as WEMWBS[28].

We draw on Bourdieu’s constructs of cultural and social capital[29] to study the effects of social inequalities both in determining access and participation in culture, and to discuss the impact of place-based arts interventions on social and health inequalities. To situate individuals in social space, Bourdieu introduced his theory of capital. Capital is cumulative in its institutionalised or embodied forms enabling individuals and groups to be inscribed in social structures. Individuals socialised in specific environments, sharing life conditions within a certain group, which, according to Bourdieu’s theoretical framework, creates a homology between the social, physical and lifestyle spaces – people belonging to the same group or community share aesthetic preferences, cultural practices, life choices and opportunities, which are markers of their social class. These systems of dispositions or habitus is ‘internalised and converted into a disposition that generates meaningful practices and meaning-giving perceptions’[30].

Social capital is a durable network of institutionalised relationships that individuals accumulate. As mentioned to Pinxten & Lievens[31], Bourdieu never described how to measure social capital, which is problematic when aiming to capture the impact of arts intervention on social capital. Still, its institutionalised (formal and informal networks) and embodied (trust) forms can be captured. Bourdieu emphasised the material and symbolic benefits to individuals of their social networks. Similarly, Granovetter’s[32] network theory understands social capital as a resource, although did not explicitly use the concept[33] –

individuals albeit forming weak ties, benefit from a wider pool of connections and information. Inspired by Bourdieu[29, 30], Granovetter[32] and other sociologists and economists, Halpern[34]’s conceptual framework defines social capital as an adhesive that binds individuals together. This definition is close to the one proposed by ONS, WWCW and HMT Green Book Supplementary Guidance – ‘Social capital is a term used to describe the extent and nature of our connections with others and the collective attitudes and behaviours between people that support a well-functioning, close-knit society’[35, 36]. Both constructs of social capital as a resource and norm (adhesive) are used in this review.

Cultural capital institutionalised (education), objectified (possession of cultural goods), and embodied (values and tastes) - refers to the collection of symbolic elements that one acquires through being part of a particular social class. The institutionalised and embodied forms of cultural capital are health determinants – health-related knowledge for example influences healthy lifestyles, and cultural practice across the life course increase the cognitive reserve that acts as a protective factor in dementia[37]. Research examining the impact of social and cultural capital on creative health is still insufficient[31], despite recent developments[37, 38]. The belief that cultural capital positively affects health and wellbeing has developed from multidisciplinary perspectives. The positive effect of aesthetic experiences that help individuals to make meaning of their life experiences comes from a philosophical approach. Its effects on brain structure and cognitive functioning originate in health research. Its positive impact on emotional regulation is shown in psychological studies. Finally, sociological research indicates that cultural capital as social distinction and a symbolic resource can be used to improve health and life opportunities[31].

Social class distinction, in broad strokes, depends on the interplay of three forms of capital (social, cultural and economic) that are valuable resources regarding attainment, social mobility and preserving wellbeing and health[29, 31, 37]. The social gradient in health is the individuals’ position determined by the intersection between social class and a series of health indicators – the lower the socioeconomic status, the worse the health outcomes[39]. Social class therefore is a significant health and wellbeing determinant[40, 41].

Social prescribing is a prescription of non-medical interventions in the community to address social isolation and/or long-term physical and/or mental health conditions. Social prescribing is a form of community referral to activities such as voluntary and arts and culture that has demonstrated evidence of improving mental and physical health[55]. In England, social prescribing is part of the NHS Long-Term Plan.

Finally, *impact* is demonstrated by the measurable change generated by a specific intervention. Here an arts intervention is any art activity or event delivered with individuals and groups in a particular place during a defined period. The Economic and Social Research Council[42] defines impact as ‘the demonstrable contribution that excellent research makes to society and the economy’ detailing that it can be instrumental towards influencing policy and practice, reframing debates and building capacity.

We conducted a systematic search and narrative synthesis of the literature on the impacts of arts interventions/events/mega-events on individuals (wellbeing) and community (social inequalities) to answer the research question *What is the social value of place-based arts and culture interventions at an individual and societal level in the UK and Europe?* In this review, all standardised wellbeing measures were considered along with grounded theory approaches[43] where uncoded wellbeing constructs emerged from qualitative data. To make sense of the enormous volume of data, 10 domains and 43 indicators of the UK’s National

Wellbeing Framework[22] were used to aggregate standardised and grounded theory wellbeing constructs. The review includes studies and grey literature on place-based arts and culture as interventions that offer at least one comparator and include at least one wellbeing outcome. Arts interventions where the reduction of social inequalities is an aim were also considered. There were no restrictions regarding study types and sociodemographic characteristics of healthy populations. The review is limited in scope to the UK and Europe due to its contextual significance and comparability, covering the past 10 years. Preliminary and exploratory data demonstrated that only from 2014 onwards there was a significant increase in publications and citations in this field.

We aimed to determine the effectiveness of place-based arts interventions to improve wellbeing outcomes on healthy populations[44]. The review opens by describing the policy context underpinning the review and its development. The methods section offers a detailed insight into the procedures adopted by the review search, screening and synthesis. In the results section, we developed a narrative synthesis of the findings of included studies, exploring the relationships between studies and cross-themes (*Events, Museums, and Community*)[30]. The review discusses the i) the role of place; ii) mechanisms of change (*processes, people and inputs*); iii) the value of heritage to improve wellbeing; and iii) the role of inequalities in shaping cultural access and participation and the contribution of place-based arts interventions in mitigating social and health inequalities. Finally, it contributes to advancing the research in arts and wellbeing by combining creative health, cultural mega-events and social sciences research to develop a theory of how the arts intervention works, why, for whom and with which wellbeing outcomes.

CONTEXT & POLICY BACKGROUND

THE CONTEMPORARY CULTURE, HEALTH AND WELLBEING FIELD

The accelerated development and organisation of the UK's culture, health and wellbeing field in recent years has encouraged greater scrutiny of the evidence base on the social value of participating in arts and cultural activities, particularly with reference to the sector's contribution and value to health and social care. As such, this review represents a timely intervention by WWCW and partners, not just in complementing its own existing evidence base on wellbeing policy and practice, but also in supporting a key contemporaneous area of cultural policy and sector development. There have been a number of landmark initiatives, which have enhanced strategic advocacy of the wellbeing benefits of arts and culture, and in turn rely upon the ongoing support and development of robust research in the field and a reliable evidence base (discussed in more detail below).

These include for example the National Centre for Creative Health (NCCH), launched in 2021 as an outcome of the extensive All-Party Parliamentary Group on Arts Health and Wellbeing (APPAHW) inquiry conducted between 2015 and 2017. The resultant report, *Creative Health*, is celebrated as the most comprehensive appraisal to date of the role of arts and creativity in supporting both physical and mental health across the life course¹. The NCCH was established to action numerous recommendations made in the report, each designed to make creative health an integral component of health and social care systems. These include support for the advancement of research in the field, in collaboration with a number of strategic research partners.

National networks such as the Culture Health and Wellbeing Alliance² (CHWA) have also been instrumental in advancing practice in the field and promotion of its value, via activities including an annual conference and categorised awards, each recognising best practice in the field following a nomination process. These initiatives have facilitated a platform and strategic space therefore for ongoing research, innovation, thought leadership and knowledge exchange. Through this platform, there has also been considerable alignment with relevant public health agendas and enhanced cross-sector collaboration, through members' active involvement with key strategic initiatives including the National Academy for Social Prescribing (NASP). Developments in social prescribing in particular, whereby patients or service users presenting with mild to moderate mental health concerns are referred to a social activity, have enabled a more integrated and coherent communication and application of the value of arts and culture in mental health and wellbeing.

There are also examples of good collaborative practice and strategic organisation at a regional level, including long-standing arts and health networks such as Arts and Health Southwest³. The work of the NCCH itself is organised into regional *Hubs* with selected Integrated Care Systems; *Hives* with regional Academic Health Science Networks; and place-based co-production *Huddles* across the UK. There is also evidence of regional culture, health and wellbeing initiatives being developed in tandem with broader socio-economic policies and

¹ <https://ncch.org.uk/why>

² <https://www.culturehealthandwellbeing.org.uk/>

³ <https://www.ahsw.org.uk/>

agendas, including for example in collaboration with devolved administrations, each with strong political leadership and support from Metro Mayors and combined local authorities. The Greater Manchester Creative Health City Region 2024⁴ (part of the Great Place scheme and an NCCH *Hive* partnership) is one such example, along with the Leeds Arts, Health and Wellbeing Network⁵.

PRIORITISING PLACE-BASED INTERVENTION AND DEVELOPMENT

WWCW's strategic interests in placemaking connect explicitly with community wellbeing⁶ and the national levelling-up agenda. Given developments described above, this review's focus on place-based cultural interventions also reflects a growing trend and renewed emphasis on *place* in cultural policy, sector development and funding strategies more broadly. Again, this is reflected by recent strategic initiatives, including for example the DCMS Cultural Development Fund *Cultural Placemaking*⁷ scheme and Arts Council England's *Creative People and Places*⁸. The rationale behind such initiatives is to link situated, place-based experiences of creativity and cultural heritage to ideas and practices of community development and wellbeing, civic renewal and economic regeneration.

Place also features prominently in Arts Council England's Creative Health and Wellbeing⁹ agenda. Designed to complement and help to fulfil the *Let's Create 2020-30* strategy, the document sets out how the council's work on creative health will tackle health inequalities by positioning creativity at the 'heart of people's lives'; connecting people with their communities through creativity; and supporting creative innovation in the professional culture, health and wellbeing field. The social prescribing movement in particular is referenced throughout the document, as a platform for enhanced collaborative work with the NHS; for maximising the potential impact of arts and culture in health and social care; and enhancing place-based partnerships and approaches. The Arts and Humanities Research Council (AHRC) has similarly invested in *Place* as a strategic research theme, which will develop an evidence base to demonstrate 'the many ways in which the arts and humanities can contribute to understanding past and present places and shaping future places'¹⁰.

Place has always featured in cultural policy-making, particularly in more conventional approaches to culture-led economic regeneration, whereby the hosting of cultural festivals, or capital investment in cultural infrastructure (e.g. a new theatre or gallery), is expected to generate a significant economic return on investment for host cities and urban environments, usually via enhanced tourism and visitor spend. Such approaches are represented in the review's findings and via the commissioning partnership's connection with the UK CoC programme. Their conventional emphasis on economic regeneration and impact however have limited the extent to which their social value, especially impact on individual and collective wellbeing, can be measured and understood. This is encouraging a reimagining of place-based

⁴ <https://greatplacegm.co.uk/culture-health-wellbeing/>

⁵ <https://www.lahwn.co.uk/>

⁶ <https://whatworkswellbeing.org/category/places-and-community/>

⁷ <https://culturalplacemaking.com/>

⁸ <https://www.artscouncil.org.uk/creative-people-and-places-0>

⁹ [Creative Health & Wellbeing | Arts Council England](#)

¹⁰ <https://www.ukri.org/blog/place-matters-the-arts-and-humanities-and-the-place-agenda/>

approaches⁹, representing a shift away from major capital investments in a time of scarce public funding, and away from short-term, competitive, ‘beauty contest’ interventions that require a resource-intensive bidding process[45].

In a health and wellbeing context, place-based strategies prioritise more sustainable, asset-based community development approaches (ABCD). The aim of ABCD is to ‘promote and strengthen the factors that support good health and wellbeing, protect against poor health and foster communities and networks that sustain health’[46]. An important prerequisite is to recognise the assets available to achieve change, including the individual, organisational, associational, economic, cultural and physical resources available to communities. The strategic platforms described above continue to support the development of such approaches. The NASP-led *Thriving Communities* programme¹¹ for example has funded several arts and cultural projects, as part of its network of voluntary, faith and social enterprise groups supporting communities impacted by the Covid-19 pandemic in England.

In terms of evidencing and promoting the health and wellbeing value of arts and culture as community assets, we are seeing influential work in the museums sector as anchor cultural institutions. The Arts Council England-funded National Alliance for Museums Health and Wellbeing was a forerunner of the CHWA, which provided training and development in the planning, delivery and evaluation of health and wellbeing programming. As part of its Museums Change Lives campaign, the Museums Association¹² also advocates best practice across the sector. Based on extensive research on community engagement work by a regional museum consortium, Morse [47] conceptualises the museum as a space of social care, highlighting their networked role in local ecologies of clinical and non-clinical services and in meeting a range of place-based community needs. The contribution of museums to community wellbeing is also considered in the findings of the review.

RESEARCH, EVIDENCE AND THE PRACTICE OF EVALUATION

Building on the foundations described above, the objectives used to guide this review, as defined and underpinned by the wider work of WWCW, emphasise the need for more sophisticated and synergised approaches to *formative* evaluation in the culture, health and wellbeing field. Specific WWCW interests include:

- key drivers of impactful arts and cultural events and any wider catalysts for action and change (e.g. public realm improvements; institution building);
- mechanisms of success in the delivery of cultural co-creation models at scale;
- the role of anchor institutions and asset-based approaches in generating wellbeing impacts in arts and culture;
- the role of people (social and human capital) and place (built and natural environment) in generating wellbeing impacts.

Despite the growing critical mass and research portfolio in the culture, health and wellbeing field, led by reputable scholars and policy influencers, the evidence base is subject to recurring critique. Research is typically small-scale and under-resourced, meaning that only short to medium-term outcomes are reported on a summative basis, using various and inconsistent

¹¹ <https://socialprescribingacademy.org.uk/thriving-communities/>

¹² <https://www.museumsassociation.org/campaigns/museums-change-lives/enhancing-health-and-wellbeing/#>

methods and measures of wellbeing. This is widely acknowledged by members of the research field and associated stakeholders, including research funders and commissioners. Thus, in recent years there has been more of a commitment to longer-term, interdisciplinary, population-level academic studies and to improving the culture and practice of evaluation in the sector. Significant interventions include the AHRC-funded Cultural Value programme, including the landmark *Understanding the Value of Arts and Culture* report published in 2016 and the subsequent launch of the Centre for Cultural Value¹³ (CCV) led by the University of Leeds in 2019.

Recent work by the CCV focuses on the ethical practice of evaluation work in and with arts and cultural organisations and the quality and usefulness of available sector-wide data. The former includes the co-creation of an ethical framework for evaluation, structured on a set of core principles agreed by participating arts professionals, researchers, policy-makers and audiences. Fundamentally, this work identified that evaluation research should be ‘beneficial’, ‘robust’, ‘people-centred’, and ‘connected’¹⁴. The latter *Making Data Work*¹⁵ project describes a lack of shared standards and analytical norms for cultural sector data, compounded by limited capabilities and poorly connected data infrastructures and strategies. Given the identified developing cross-sector, interdisciplinary infrastructures and capabilities in the culture, health and wellbeing field, this review continues to make the case for rigorous research over rhetorical influence in evidencing the social value of arts and culture.

¹³ <https://www.culturalvalue.org.uk/>

¹⁴ <https://www.culturalvalue.org.uk/our-work/evaluation/evaluation-principles/>

¹⁵ <https://www.culturalvalue.org.uk/our-work/making-data-work/>

METHODS

The systematic review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement (Figure 1). The review followed the Cochrane Handbook [48] suggestion for reporting to the characteristics of included studies – Studies, Data, Methods, Outcomes (SDMO) approach [44]. No ethical approval was required for this systematic review, which involves an analysis of published journal articles.

DATA SOURCES AND SEARCH STRATEGY

Under the guidance of an experienced librarian, the project research assistant (LD) searched five electronic databases between 1st-31st July 2022, including all PubMed, MEDLINE (EBSCO), Web-of-Science databases (BIOSIS Citation Index, BIOSIS Previews, KCI-Korean journal database, Russian Science Citation Index, SciELO Citation Index), Cochrane library and SCOPUS. The search strategy was first designed in Web-of-Science following testing and refining against a set of keywords and then used in the remaining databases (RG, LD). The search covered a spectrum of social sciences and humanities disciplines. No text mining or automation tools were allowed, language was restricted to English, the timescale was restricted to the last ten years, and geographical scope was restricted to the UK and Europe.

The following sensitive search terms were used as keywords to search in all five databases:

((((((((CU=(UK OR 'United Kingdom' OR England OR Scotland OR Wales OR 'Northern Ireland' OR Europe OR Austria OR Belgium OR Czechia OR 'Czech Republic' OR Denmark OR Estonia OR Finland OR France OR Germany OR Greece OR Hungary OR Iceland OR Italy OR Latvia OR Liechtenstein OR Lithuania OR Luxembourg OR Malta OR Netherlands OR Norway OR Poland OR Portugal OR Slovakia OR Slovenia OR Spain OR Sweden OR Switzerland)) AND ALL=(place-bas OR 'place bas*' OR place OR local OR capital OR cit* OR town* OR neighbo*rhood* OR borough*)) AND ALL=(art OR cultur* OR 'art* intervention*' OR 'cultur* intervention*' OR 'art* program*' OR 'cultur* program*' OR participation OR 'cultur* participation' OR 'co-production' OR 'participatory art' OR volunteering OR engagement OR co-creat*)) AND ALL=(event OR 'mega-event' OR 'mega event' OR 'large-scale event' OR 'large scale event' OR 'major event' OR major-event)) AND ALL=('social value' OR wellbeing OR well-being OR wellness OR 'psychological health' OR 'community cohesion' OR 'social *clusion' OR satisf* OR dissatisf* OR belonging OR worthwhile OR happ* OR anxi* OR 'quality of life' OR 'mental health' OR inequalit* OR disparit* OR loneliness OR 'job* satisfaction' OR 'relationship satisfaction' OR autonomy OR resilience OR 'self control' OR self-control OR 'self concept' OR self-concept OR 'self respect' OR self-respect OR 'self esteem' OR self-esteem OR 'self attitude' OR self-attitude OR 'sense of coherence')) NOT ALL=(relig* OR pray OR worship OR doctrine OR theology)) NOT ALL=(sport* OR 'physical activity' OR exercise OR diet OR nutrition* OR eating OR diet)) NOT ALL=(parks OR greenspace* OR 'green space*' OR bluespace* OR 'blue space*' OR nature OR 'natural world' OR 'natural environment' OR countryside OR climate OR marine OR 'environmental education')) NOT ALL=(tour* OR trav*)) NOT ALL=(market* OR econom* OR retail OR finance)) NOT ALL=('health settings' OR hospital OR clinic OR 'health centre')*

Further relevant grey, online or in-press publications were identified through a manual search on search engines and through a call for evidence led by WWCW (launched on 10th August and closed on 26th August 2022). This called for peer-reviewed and grey primary and secondary research, which gathered qualitative or quantitative data. Exclusion and inclusion criteria were specified, and any findings that looked at place-based arts and culture events and their impact on wellbeing outcomes and social inequalities were accepted.

INCLUSION CRITERIA

The inclusion of peer-reviewed journal articles and grey literature sources were defined by the PICO (Population, Intervention, Control, and Outcome) criteria (Appendix 1). Eligible populations included healthy humans with no age restrictions. Studies reporting place-based arts and culture interventions as Intervention and Control, with at least one wellbeing outcome were included. There were no restrictions regarding study types. Further inclusion criteria can be consulted in Appendix 2, including sources with detail enough to be appraised for quality, hence conference abstracts and other similar sources were excluded. Studies in English, which reported interventions in the UK and Europe in the fields of Humanities and Social Science between 2012 and 2022 were included.

STUDY SELECTION

The literature search identified 688 papers. The results were downloaded into Endnote® bibliographic software, and 36 duplicates were removed. Furthermore, an exclusion process was conducted with the search system in Endnote®, excluding 198 records. The manual search identified 212 results, and the call for evidence returned 73 results – one duplicate was removed, and one additional reference was identified through snowball referencing. The screening of papers was conducted in a five-stage process. First, the titles were assessed based on the eligibility criteria (Appendix 1), and secondly, the abstracts were assessed based on the inclusion criteria (Appendix 2). Two authors (RG, LD) screened the papers from the initial database search and the manual search independently of one another with 98% per cent initial agreement. From the call for evidence, two authors (LD and MM) screened the papers independently of one another. Each article was graded as in/eligible using Microsoft Excel. Thirdly, full eligible texts (n=63) were retrieved and examined based on inclusion criteria. Fourthly, full texts (n=26) were screened for study designs that included a comparator (pre-post, intervention-control, baseline and/or self-reporting), resulting in 10 selected for inclusion. Finally, each article from the 26 full texts was to be graded as either included/not included in the systematic review by the three researchers independently of one another (RG, LD, MM). Discrepancies were resolved by consensus amongst the researchers. From the 26 publications initially identified, 14 were selected for inclusion in the analysis including the 10 with a comparator component. The search results are shown in the PRISMA flow chart [49] (Figure 1).

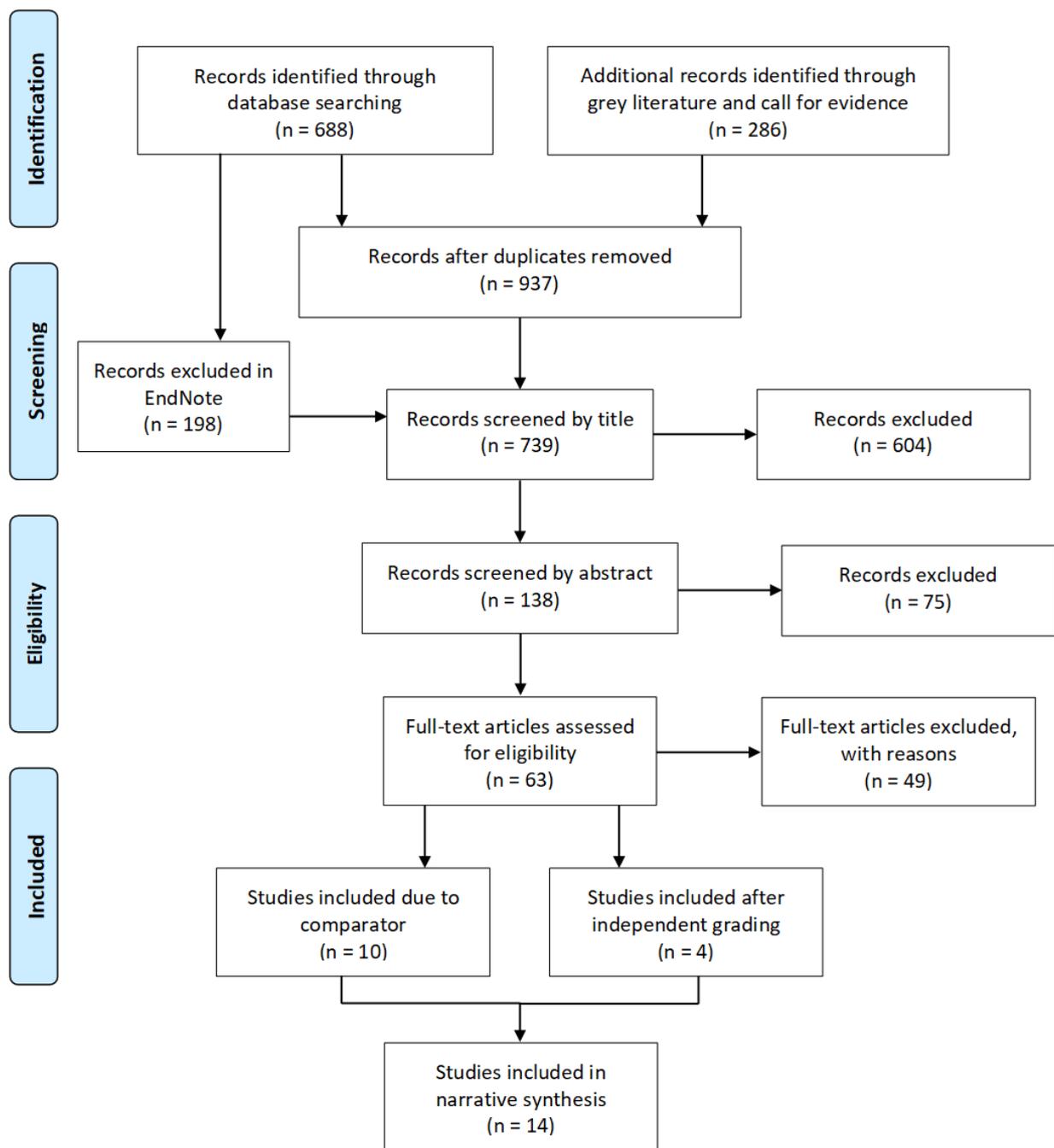


Figure 1 – PRISMA Flow Diagram [49]

DATA EXTRACTION AND CRITICAL APPRAISAL

Data extraction was conducted by one author (LD) and checked by the second author (RG). The two authors (RG and LD) used a data extraction tool designed by WWCW that included the following topics:

- i) ID;
- ii) Reference;
- iii) Year;

- iv) Study overview (design, aim, intervention theme, equity focus of intervention, population, sample description and size, and location);
- v) Intervention (content, duration, method/mode);
- vi) Comparator (type, description, sample description and size, method/mode, data collection time points);
- vii) Data collection (measures/constructs; method; time points);
- viii) Outcome measures (UK's National Wellbeing Framework[21]domains: personal, our relationships, health, what we do, where we live, economy, education and skills);
- ix) Findings (quantitative; qualitative).

Assessment of risk of bias or methodological quality was done using WWCW Quality checklist quantitative evidence of intervention effectiveness from *WWCW Guide to Evidence Review Methods*[50]. This provides a scoring system to determine whether level of confidence in the results is low, moderate, or high. For qualitative research, quality was assessed using an appraisal tool developed by the Critical Appraisal Skills Programme (CASP)[51]. The tool provides a systematic way to consider the quality of the research and make an overall judgement about level of confidence in the data.

NARRATIVE SYNTHESIS

Data was summarised in a structured narrative way by two authors (RG, LD). The narrative synthesis was selected as statistical meta-analysis and other form of synthesis, including meta-ethnography for qualitative studies, was not feasible due to inconsistencies in research designs, outcomes measures, and sample[52]. Missing data was dealt with according to the Cochrane Handbook recommendations – we only analysed the available data[48]. The narrative synthesis aimed to determine the impact of the interventions and the factors shaping the implementation and success of the interventions. The synthesis is structured using SDMO approach providing data on Studies, Data, Methods, and Outcomes[44]. Studies were thematically organised in their themes (Events, Community, and Museum), and six sub-themes (City/Capital of Culture & Music festival; Heritage & Music; Volunteering & Social Prescribing) regarding modes and loci of intervention. The 14 papers were also analysed to identify the following WWCW interest-themes:

- i) The social value (wellbeing) of place-based arts, culture and heritage interventions (14 studies);
- ii) Mechanisms of change (14 studies);
- iii) The value of using place-based heritage assets to improve individual and community wellbeing (7 studies);
- iv) The role of inequalities in shaping cultural access and participation and the contribution of place-based art, culture and heritage interventions in mitigating social and health inequalities (12 studies).

RESULTS

STUDIES

An overview of the characteristics of included studies is provided in [Appendix 3](#). From the included studies, 10 peer-reviewed publications and 4 reports were published by Volunteering for Wellbeing, and the Universities of Hull, Leicester, and University College London (UCL). The 10 peer-reviewed publications were published in journals from diverse academic fields ranging from socio-economic research, urban studies, public health, and music. The multidisciplinary nature of the field is observable on the range of research designs used to evidence impact – further detail on methods of the selected studies is presented below.

The studies were organised in three themes: ***Community*** (n=2), including heritage[53], (n=1) and music[54] (n=1); ***Events*** (n=7), including a music festival[55] (n=1), and Cities/Capitals of Culture[10-12, 14, 15, 55] (n=6); and ***Museum*** (n=5), including social prescribing[23, 56, 57] (n=3), and volunteering[23, 58] (n=2). The studies span from 2013 to 2022 and they took place in the UK[10, 11, 15, 23, 53, 54, 56-59] (n= 10) and Europe[12-14, 55] (n= 4).

Characteristics of the population

The ***Community*** theme studies[53, 54] included children aged 9-12 (n= unspecified) from Brighton and Hove in the Southeast of England [53]; young people (n = 55) aged 13-18 (only 5% of group aged between 16-18) from Sherborne Estate; and young people (n = 23) aged 12-18 (30% of group aged between 16-18) from disadvantaged backgrounds living in Crewe in the Northwest of England[54].

The ***Events*** theme studies included samples comprising city residents from children to older adults[10-15], city and national residents[13, 14], and festival attendees[55]. Culture, Place and Policy Institute[15] reported the impact of Hull, UK CoC, and Steiner *et. al.*[12], a secondary analysis of the impact of European Capital of Culture (ECoC) on the Europeans' *life satisfaction*, neither of which provide a sociodemographic description of their samples. The studies on the impact of the ECoC sampled residents in Maribor 2012 (n=2,156; mean age=49.22) and wider population of Slovenia (n=2,635; 53% female; mean age=50.29)[14]; Liverpool 2008's residents *arts cultural participation* (n=2,252)[10], and quality of life (n= 592; 52% female; mean age = 44)[11]; and residents in Riga 2014's (n = 502), Latvia (n = 1045), and project organisers (n=107). Regarding the study on a music festival[55], the study enquires about festival attendees *generalised trust* (n = 899,500).

The ***Museum*** sub-theme of volunteering included one study with young adults aged 18-25 years, older adults aged 50 plus, and people experiencing mental or physical *health* challenges, *loneliness*, and long-term *unemployment* from London (n=40)[23]; and one study with Manchester residents (young people aged 18-25, older people aged 50+ and armed forces veterans, adults long-term unemployed) with levels of wellbeing below the national average (n = 231)[58]. The ***Museum*** sub-theme of social prescribing included three studies[56, 57, 59]. The sample of Todd, *et. al.*[57] (n=20) was recruited from Thomson, *et. al.*[59], which include older adults age 65-94 years who were at risk of *loneliness* and referred by healthcare organisations (n = 115; 63% female, 82% White British). Criteria excluded those who would be unable to travel or participate due to health concerns. Dodd & Jones [56] provides the

summary of three museum projects with distinct samples: i) older adults (n = 93); ii) school-aged students (n = 5); and iii) young people aged 9-24 years (n = 113).

Interventions

The *Community* theme studies explore arts-based research projects that aim to lower the entry barriers and increase arts and culture participation amongst other wellbeing outcomes through expertly facilitated engagement with local heritage. The theme reports complex heritage and music interventions with children and young people for a significant amount of time (10 workshops[53] and one year[54]), delivered by artists in a school setting[53], and experts and volunteers at two youth clubs[54] for young people from disadvantaged backgrounds in the Northwest of England. The *Community* theme studies contributed to improve the following **outcomes**: subjective wellbeing (happiness and mental wellbeing) through the following **mechanisms of success**: *participatory & receptive art practices* (active participation, and place-based narratives), *cultural networking & social capital* (specialised training, cultural leadership, professional empathy, artistic expertise, and social networking), and *duration & resources* (medium- to long-term, and heritage).

- Echavarria, et. al.[53] reports the processes and outcomes of *Engaging Communities with Cultural Heritage through Place-Based Narratives*, co-designed by a multi-disciplinary team of experts (including artists, a civic group, and specialists in cultural heritage, education, wellbeing and computer science), who deliver the intervention and the associated research strategy. It **aimed** to investigate how communities can meaningfully connect with cultural heritage through creative experiences while lowering the entry barriers to increasing audiences' cultural participation. The **intervention** was delivered in 2 parts in a school: i) psycho-geography and creative methods were used to support children in generating place-based narratives of their daily journeys between home and school (geographical markers) and crafting their houses from physical materials; ii) the houses were then digitised, and the narratives were converted into Augmented Reality (AR) Maps that children could experience and share with the community at an exhibition at the Hove Museum. The study reported improvements in the **outcomes** *subjective wellbeing*(happiness, confidence, and resilience); feelings of pride also emerged after the community event. The wellbeing outcomes emerged from grounded theory-driven data analysis, captured through self-reported feelings and observations. Similarly to the studies reported on the *Cultural Event* theme[14, 15] and Clennon & Boehm[54], storytelling of place-based narratives, community engagement and co-creation with youth audiences (*participatory & receptive art practices*) were the **mechanisms of success** of this intervention. Furthermore, deploying novel technologies were used as strategy to increase children's skills development, (*cultural networking & social capital*) and heritage appreciation throughout medium- to long-term project (*duration & resources*).
- Clennon & Boehm [54] describe the *Young Musicians for Heritage Project*, developed by the Contemporary Arts Department at Manchester Metropolitan University, in collaboration with a series of stakeholders (main **anchor institutions**: Wishing Well, South Cheshire CLASP, and Cheshire East Council). The **intervention** spans across several organisations for one year targeting **social inequalities**. However, the reported data addresses significant work with two community groups: i) *Wishing Well*, at

Sherborne youth club, with weekly creative music and drama session (n=55); and ii) *CLASP: Buzzin'*, South Cheshire, with a weekly creative song writing session (n=23). *Wishing Well* activities involved historical research around Crewe's murders and Crewe's first suffragette that led to heritage-focused music composition. Student volunteers from Manchester Metropolitan University also led drama sessions. *South Cheshire CLASP Buzzin'* was a drop-in group where single-parent young people could socialise, discuss challenging issues, and research historical Crewe guided by an historian. The historical research also led to heritage-focused music composition. *Young Musicians for Heritage Project* **aims** were to encourage young adults to develop their own distinctive and creative engagement with their local heritage, mediated through musical, media and music-technological activities. Adjustments were made to the project's aims to include a focus on wellbeing as researchers and staff recognised the value of creative activities for tackling social exclusion, strengthening communities' ties and reducing health inequalities. Wellbeing **outcomes** were a collateral effect of the intervention and, as such, similarly to *Echavarria, et. al.*[53], capture a posteriori through grounded theory-driven data analysis. These were primarily *subjective wellbeing outcomes*, including self-esteem, emotional awareness, and confidence. The authors also emphasised the importance of social relationships (*our relationships*), and collective self-esteem within the community (*where we live*). The **mechanisms of success** were i) wellbeing and creative activities are inextricably interconnected and are mutually reinforced; ii) flexible delivery that allowed different levels of engagement for different lengths of time; iii) informal and safe learning environment (*participatory & receptive art practices*); iv) expertly-led activities; v) professional empathy facilitated meaningful connections with young people in challenging situations; vi) volunteering and mentoring; vii) building social networks with local organisations embedded the project in the communities (*cultural networking & social capital*); viii) long-term partnerships were established between the communities and the university; and ix) sufficient time and resources ensured sustainability and self-empowerment as long-term legacies (duration & resources).

The **Events** sub-theme reports data from five editions of an annual music festival[55] – *La Notte della Taranta* (Leece, Italy) – of approximately 2 weeks, with concerts every day and a larger closing concert. The studies with the sub-theme Cities/Capitals of Culture report cultural mega-events, such as the ECoC and the UK CoC, between 2008 and 2017. The interventions with the sub-theme Cities/Capitals of Culture include music festivals, participatory art practices and community-led projects, ranging from one-off events to long-term programmes (over 10 weeks), and volunteering initiatives. Cultural mega-events are defined by size, cost, location, duration, attendance, and popularity, and are distinguished from other similar events due to their significance to urban development and cultural policy and governance[60]. In 2017, there were thirty similar titles around the world[9], sharing programmatic strategies to maximise multiple impacts: economic, social, cultural, environmental[16]. The **Events** theme studies contributed to improving the following wellbeing **outcomes**: *subjective* (life satisfaction, feeling worthwhile, happiness, mental wellbeing); *our relationships* (generalised trust); *what we do* (volunteering, arts and culture participation); *where we live* (belonging to neighbourhood); and *education and skills* (human capital); through the following **mechanisms of success**: *participatory & receptive art practices* (active and receptive cultural participation, celebration of shared culture, aesthetically accessible and free activities, ownership), *cultural leadership and social capital* (volunteering, social networking, cultural leadership), and *time and resources* (funding, heritage, and cultural infrastructures). The Events theme studies had

an **adverse outcome** on: *our relationships* (loneliness); *what we do* (unemployment; dissatisfaction with leisure time); *where we live* (crime, belonging to neighbourhood); *economy* (disposable income, public sector debt), that seem to be impelled by the following **drivers of inequalities**[61]: insufficient community-based cultural activities, anti-social behaviour, unemployment, and excessive tourism.

- *Attanasi, et. al. [55]* examines *La Notte della Taranta*, a traditional music festival that takes place annually from 1998 onwards as a collaboration between the nine municipalities of Grecia Salentina (**anchor institutions**), a linguistic and cultural region within the Province of Lecce. *La Notte della Taranta* is a folk music festival constituting a blend of modern musical styles and ‘pizzica salentina’. It is made up of two sub-events: i) *Minor concerts*, a series of 13–15 itinerant concerts of 3 hours each with 3–4 local bands, once per day for two weeks and taking place in the main square of one of the villages, with an audience ranging between 2,000 and 10,000 people each; and ii) *Major Concert* of 2 days which takes place at the end of the *Minor concerts*, in the main square of the smallest village. A reputable Maestro composes an original piece of roughly 5–6 hours to showcase music from Grecia Salentina, accompanied by ‘La Notte della Taranta’ Orchestra, which consists of only traditional instruments. The *Major Concert* reaches an audience of more than 150,000 participants per year (editions 2007–2011). *La Notte della Taranta* is culturally bounded to the local cultural heritage and is a place-specific arts **intervention** (Taranta is a southern Italian dance once considered a remedy for tarantism)[55]. It **aims** to preserve ‘pizzica salentina’, reinforcing the local identity and cultural specificities, and promote cultural heritage. *La Notte della Taranta* seems to strengthen communal ties and increase social coherence by developing a sense of belonging within a community of residents from different backgrounds. The **outcome** of the research was social capital as a bond and a resource itself yielding utility, although it is argued social capital is an elusive concept that is lacking in unique definition. Results of limited scope in time and circumstances led to authors proposing the concept of ‘instantaneous trust’ as a measure of ‘instantaneous social capital’ as the study’s main outcomes (*our relationships*). Although, no results are presented, authors allure to arts and cultural participations (*what we do*) as an outcome of the study. The **mechanisms of success** feed a virtuous circle between cultural and social capital development as the festival is i) a moment for public celebration of shared culture; ii) active and receptive cultural participation (*participatory & receptive art practices*); and iii) an opportunity for communities to access and develop resources through consecutive years (*duration & resources*).
- The *Culture, Place and Policy Institute*[15] accounts for the Hull UK CoC 2017 cultural infrastructures and public spaces development and the *365 Day Cultural Programme* delivered for 1 year. The latter included a range of place-based arts and cultural **interventions** (n=2,800), including volunteer programme (n=2,400; 337,000 volunteer hours); community engagement activities (e.g., creative communities programme); learning programmes (n=56,000 children and young people, over 100 education institutions); and aesthetically accessibly and free events (e.g., *Made in Hull*). Hull UK CoC 2017’s **aims** for society and wellbeing included *developing learning, education and skills, health and wellbeing, and community pride and engagement with a particular focus on social capital, inclusion, reducing isolation and fostering community cohesion, life satisfaction and changing perceptions of marginalised social groups*[15]. Several **outcomes** of Hull UK CoC came under the domain of *subjective wellbeing*, which included happiness, life satisfaction, self-esteem, and confidence, none of which were explicitly

defined in the report. Feeling worthwhile was not a pre-decided measure but emerged as a subjective wellbeing outcome for those participating in the volunteer programme. Similar to Attanasi[55], social capital was measured by loneliness and social isolation (*our relationships*). For the outcome of community cohesion, no explicit definition was provided but several measures were used to assess this, such as connection with community, community at the centre, and sharing/celebrating together. These outcomes come under the domain of *where we live*. In terms of *what we do*, frequency of engagement with volunteering and arts and culture events, as well as confidence to participate, was also a key outcome. Lastly, *education and skills* were measured through volunteer and student perceptions of own personal development as a result of participating in the City of Culture; no specifics were assessed. The **mechanisms of change** for Hull's success come from placing community at the centre. Community ownership of the cultural programme is generated by shared, place-specific stories and narratives. Similarly, to the findings reported by Attanasi *et. al.*[55], the event allowed residents and visitors to share cultural expressions and celebrate a shared heritage. The multi-genre cultural programme provided opportunities for learning and different levels of cultural participation. Free and non-ticketed outdoor events in close proximity to where people live were identified as the most effective for engaging audiences living in the 10% most deprived areas of the county (45.1% of Hull's population). Although, insufficient cultural activities in their neighbourhood were identified as a driver for inequalities (*participatory & receptive art practices*). Equally, another key driver of success regarding the impact of the event on the volunteers' wellbeing was the specialised training, and its contribution to address social inequalities (volunteers were engaged from all backgrounds, with a higher proportion of female volunteers) in line with findings from the sub-theme *Museum volunteering*[14, 15] (*cultural networking & social capital*). Despite reporting neutral effects (decrease in residents' happiness and life satisfaction to levels pre-event from mid-year onwards; and non-significant impact on feelings of loneliness or isolation), Culture, Place and Policy Institute[15] offers no rationale to understand the mechanisms behind lack of impact. Steiner, et. al.[12] presents some drivers for adverse inequalities of Cities/Capitals of Culture on residents' wellbeing that might be applied to understand Hull UK CoC 2017 neutral impacts.

- Regarding Liverpool as the European Capital of Culture 2008, Liu[10, 11] provides little detail of the **intervention** and **aims** of the event beyond its contribution to long-term economic and social change, and increased cultural participation of the city's residents. Nonetheless, the findings provide insight into the legacy programme. Cultural governance and urban development are highlighted as drivers for long-term impact – establishing a dedicated organisation (Liverpool Culture Company) that outlived the event, eight themed years as legacy programme linked with community development initiatives, and an increased funding of culture for two more years after the ECoC. Several cultural and commercial organisations are named as **anchor institutions** for Liverpool ECoC 2008, notably the already referenced Liverpool Culture Company, City Council; Liverpool ONE shopping centre; the Arena and Convention Centre Liverpool, the new Museum of Liverpool, Waterfront, and Bluecoat Arts Centre. **Outcomes** of interest were sociocultural impacts, defined as those that could contribute to the enhancement of quality of life, and were as follows: i) participation and interest in arts/culture; ii) accessibility and inclusion regarding arts/culture events (*what we do*); iii) sense of place and local identity which included sense of community (defined as feelings of belonging to the community) and

crime/feeling safe (*where we live*). In the run-up to the year-long event, Liu[10, 11] identifies communities' ownership programmes in deprived areas of the city (e.g., Creative Communities and Four Corners), community development (e.g. 08 Welcome), larger, public and aesthetically accessible activities (e.g., La Machine/The Spider, Go Superlambananas) (*participatory & receptive art practices*), volunteer programmes (e.g., 08 Volunteer), social networking (*cultural networking & social capital*), and geographically spread communication strategies (*duration & resources*) as the **mechanisms of success**. **Adverse outcomes** on employment (*what we do*), crime and sense of community (*where we live*), and disposable income (economy) were **driven** by neutral impact on employment, anti-social behaviour, insufficient community-based cultural activities, and excessive tourism. These findings align with Culture, Place and Policy Institute[15].

- Fišer & Kožuh[14] characterise Maribor's hosting of the ECoC 2012 as an **intervention** with a focus on hyper-local events and co-production approaches (e.g. urban gardening, art camps in park, activities for the disabled and minorities), free events (e.g., open space concerts), and limited 'high arts' activities (aesthetically accessible). In the aftermath of the 2008 financial crash, Maribor 2012 financial and infrastructural plans were not fulfilled, frustrating the expectations of the cultural sector, and causing political difficulties. Maribor 2012 **aims** to search for a new identity for the city, based on cultural production, and attract national visitors. **Outcomes** assessed were primarily community pride and community reputation (*where we live*); neither were explicitly defined but were measured using questions about how residents feel the ECoC contributes to both pride and reputation. Levels of engagement and participation were also assessed (*where we live*) but were considered a *driver* for community impacts rather than wellbeing outcomes. Maribor 2012 attracted improved national recognition as well as national and online visitors due to its **mechanisms of success**: i) aesthetically accessible and free activities, ii) co-creation with youth audiences, similar to Hull CoC 2017[10, 11, 15], (*participatory & receptive art practices*) and iii) social media communication strategy (e.g. *Life touch*; first ECoC to have an Instagram presence), which is a finding specific to this study (*duration & resources*). The decrease in the sense of pride of the city's residents from mid-event year onwards mirrors the trends observed in Hull UK CoC regarding life satisfaction and happiness, where both measures declined from mid-year, returning to baseline levels once the event was over[15].
- Steiner, et. al.[12] analyses 14 European regions (including the UK) that hosted the ECoC. The ECoC as an **intervention** substantially increased the supply of culture, with an average of 500 events taking place in the year of the event. The study discusses whether hosting the ECoC impacts regional economic development and the life satisfaction of the local population by comparing host and non-host cities before and after the selection is announced, after the ECoC is over, and 2 years post-ECoC year. This trans-European study demonstrates the adverse impacts of hosting a cultural mega-event for the city's residents. Life satisfaction (*personal*) was the main **outcome** of this study, measured using the 'Life Satisfaction Approach', based on national surveys where respondents are asked to rate their overall satisfaction with life. Unemployment (*what we do*), *economy*, and *education* were also assessed as influencers on life satisfaction (subjective). According to Steiner, et. al.[12], being unemployed doubles the negative impacts of hosting the ECoC, as residents struggle to access housing and cultural events. The high/reallocation of public expenditure,

transport disruption, increase in house prices or gentrification, and overcrowding of public places due to excessive tourism seem to be the **drivers of inequalities**.

- Tjarve, et. al.[13] evidences the effects of Riga as the ECoC 2014 using the impact of neighbourhood **intervention** *Road Map* (one of the six thematic lines of the cultural programme) on residents cultural participation. The *Road Map* programme (117 events) included tours planned and guided by the local people, art workshops, photo exhibitions, celebrations, neighbourhood festivals, lectures, and discussions. It **aimed** to develop Riga's neighbourhoods and increase residents' cultural participation. The strategy of developing a large number of small activities in the neighbourhoods seem to have a long-term influence on the city and communities' future developments. **Outcomes** were life satisfaction (*subjective*) which was determined by the authors as how satisfied residents were with their quality of life, participation in culture/leisure opportunities and residents' satisfaction with their leisure time (*what we do*), and cross-sector collaborations in the neighbourhoods (*where we live*). Results from the cross neighbourhood Qualitative Comparison Analysis demonstrate that **mechanisms of success** included a combination of several factors: i) bottom-up approach and the inclusion of local artistic expertise; ii) resident participation in hyper-local social networks; community groups, hyper local NGOs (**anchor institutions**) and cultural leadership (*cultural networking & social capital*); iii) provision of mixed infrastructure (places with cultural value, but not just cultural venues); and iv) investment in soft cultural structures (artists and residents), improving the cultural life in the neighbourhood and playing a significant role in the development of *Road Map*. Insufficient community-based cultural activities were the only **drivers of inequalities** emphasised by a small number of residents.

The ***Museum*** theme studies demonstrated improvements in the following **outcomes**: *subjective wellbeing* (life satisfaction, worthwhile, mental wellbeing), *our relationships* (loneliness, people to rely on), *health* (health satisfaction, depression or anxiety), *what we do* (volunteering), *education and skills* (human capital), through the following **mechanisms of success**: *participatory & receptive art practices* (active participation), *cultural networking & social capital* (intellectual stimulation, specialised training, cultural leadership, professional empathy, artistic expertise, and social networking), and *duration & resources* (medium- to long-term, and cultural infrastructure).

The ***Museum*** sub-theme of Volunteering reports the wellbeing outcomes of museum-based volunteering programmes in the North and South of England [23, 58].

- Thomson, et. al.[23] reports *Give: Volunteering for Wellbeing*, an **intervention** and study implemented at 3 museums, over 15 months, where museum staff and volunteers took part in 14 types of training with slightly different content in each museum, including 'Mental Health First Aid', 'Working with Vulnerable Adults', 'Dementia Awareness' and 'Delivering Audio Object Descriptions'. The *Horniman Museum & Gardens* (HMG) delivered weekly sessions over 2 months; *Natural History Museum* (NHM) delivered 8 fortnightly sessions; and *Valence House Museum* (VHM) delivered 6 sessions. The project **aimed** to i) make heritage more accessible and diversified; and ii) to address health inequalities. As an **anchor institution**, the museum offers specialised volunteer training and mentoring programmes, where participants share learning opportunities with in-house experts. In terms of **outcomes**, mental wellbeing (*subjective*) was not defined but was assessed with standardised measures – the Short Warwick Edinburgh Subjective Wellbeing Scale and the UCL Museum Wellbeing

Measure. Volunteering also resulted in impact on loneliness and social outcomes (*our relationships*), purpose and value (*subjective*), and *education and skills*. Similarly to Culture, Place and Policy Institute[15], the **mechanisms of success** for this intervention were: i) social connections, and support (Volunteer Coordinators), addressing social isolation; ii) continuous learning and skills development via peer to peer support; iii) expertly-led intellectual stimulation, which consolidate volunteer confidence and strengthen feelings of agency; iv) specialised volunteer training and mentoring programmes (*cultural networking & social capital*); v) being a medium-term and well-resourced intervention, which led to volunteers feeling valued with feelings of fulfilment and vi) intrinsic interest and engagement with the natural and local cultural heritage and place-specific collections (*duration & resources*). **Social inequalities** were addressed through recruitment, targeting a diverse cohort of volunteers with a range of needs – young adults aged 18-25 years, older adults aged 50 plus, and people experiencing mental or physical health challenges, social isolation, and long-term unemployment. Still, there was a recruitment bias as participants were already engaged with the museums, and only those able to perform volunteering duties were recruited.

- Warby et. al.[58] examines *Inspiring Futures (IF): Volunteering for Wellbeing*, a three year project delivered at IWM North and Manchester Museum, **aiming** to improve i) consistency and quality in volunteering practice in the museums sector; and ii) wellbeing, through reducing social and economic isolation. The **intervention** involved in-depth interactive learning, experiential group work, and technical content. Participants also gained ‘in gallery’ practice, where they were buddied up with existing volunteers. The training was 6 hours a week for 10 weeks, followed by a 6-week volunteer placement at either the training venue or one of 7 other heritage partners. Placement comprised direct interaction with visitors and providing knowledge about the venue and collections (including object handling, front-of-house welcoming, family learning, and administration/marketing support). Key **outcomes** comprised indicators extracted from National Accounts of Wellbeing and the WEMWBS to measure life satisfaction, overall wellbeing, sense of confidence, sense of purpose, resilience, and sense of belonging (*subjective*). Other outcomes included levels of isolation/closeness to others (*our relationships*), art and culture participation and volunteering engagement (*what we do*), and *education and skills*. In line with Thomson, et. al.[23], this study identifies as **mechanisms of success**: i) social connections, and peer to peer support; ii) continuous learning and skills development; iii) expertly-led and intellectual stimulation activities; iii) specialised volunteer training and mentoring programmes (*cultural networking & social capital*) and iv) long-term duration; v) well-resourced intervention; and vi) engagement with collections and heritage (*duration & resources*). This study provides strong evidence of a museum-based volunteering programme's role in tackling **social inequalities** as the recruitment sample included residents with levels of wellbeing below the national average.

The ***Museum*** sub-theme **Social Prescribing** includes museum-based social prescribing programs.

- Thomson, et. al.[59] **aims** to assess the impact of *Museums on Prescription* on the psychological wellbeing of older adults. *Museums on Prescription* is a museum-based **intervention** comprised of engaging, creative and socially interactive sessions,

including curator talks, behind-the-scenes tours, object handling and discussion, and art activities inspired by the exhibits. Overall, the museums (*n* unspecified) provided 12 programmes of 10-weekly 2-hour sessions conducted over two years (2015-2017). Each participant attended one programme. Identified **Outcomes** were mental wellbeing which was assessed using a standardised measure - the Museum Wellbeing Measure for Older Adults - which assesses psychological wellbeing of an individual as an indicator of mental state through measuring changes in emotions (*personal*). In line with Warby *et. al.*[58], Thomson, *et. al.*[59] identifies as **mechanisms of success**: i) active cultural participation (*participatory & receptive art practices*); ii) specialised training and mentoring programmes; iii) the opportunity to liaise with curators (*artistic expertise and cultural leadership*); iv) engagement with collections and heritage; v) long-term duration; and vi) well-resourced intervention (*duration & resources*). Furthermore, Thomson, *et. al.*[59] highlights the quality of the empathic relationship with museum professionals, students and other volunteers, where participants felt heard and intellectually challenged. **Social inequalities** were addressed through a purposive sample of vulnerable older adults at risk of loneliness and social isolation referred to the programme by healthcare and third sector organisations, illustrating the significance of cross-sector partnership working. Inclusion criteria included ability to give informed consent, not in employment, not regularly attending social or cultural activities, and able to take part in the research.

- Todd, et. al.[57] **aims** to understand how *Museums on Prescription* might reduce social isolation for older people. Todd, *et. al.*[57] reports the same intervention as Thomson, *et. al.*[59]. Qualitative interviews demonstrated the interventions' impact on wellbeing **outcomes**, including happiness, self-esteem, and confidence (*subjective*), loneliness, isolation, and social connections (*our relationships*), and mental health, physical health, and anxiety (*health*). Aligned with Warby *et. al.*[58] and Thomson, *et. al.*[59], Todd, et. al.[57] identifies as **mechanisms of success**: i) active cultural participation (*participatory & receptive art practices*); ii) specialised training and mentoring programmes; iii) the opportunity to liaise with curators (*artistic expertise and cultural leadership*); iv) engagement with collections and heritage; v) long-term duration; and vi) well-resourced intervention (*duration & resources*).
- Dodd & Jones[56] reports the findings of three **interventions**: i) museum-based projects for older adults (including object handling); ii) museum and art gallery activities for school-aged children (object handling); iii) museum visit and handling of historical collections by young people aiming to address health issue of smoking, prompting discussion. Each project lasted one session. The overall project **aims** to create a network of museums in the East Midlands region of England, funded by Arts Council England (ACE) and initiated by the Research Centre for Museums and Galleries (RCMG), based in the School of Museum Studies at the University of Leicester. Each of the reported three projects shares common findings with the other **Museum** theme studies. The key **outcome** was mental wellbeing (*subjective*), which was measured using the Wellbeing Umbrella, a standardised measure capturing changes in emotions. *Education and Skills* was also a key outcome for one of the projects evidenced, measured by assessing changes in awareness and knowledge of smoking as a health-related issue. Dodd, et. al.[56] identifies as **mechanisms of success**: i) young people's opportunities for discussion and having a say; ii) active

cultural participation (*participatory & receptive art practices*); iii) intellectually challenged by specialised training and information on the adverse health outcomes of smoking; iv) while developing meaningful social experiences and empathic relationships with museum professionals, students and other volunteers (*cultural networking & social capital*). Museum collections were used to engage participants with objects, stimulate thinking and curiosity (*duration & resources*). The study addresses **social inequalities** by sampling older people living in the community and in residential or care homes.

METHODS

The selected studies comprise quantitative (n=6), qualitative (n=2), and mixed-methods (n=6) research designs. Of the **Community** theme studies, Echavarria, *et. al.*[53] used a pre-post approach with participants, designed to investigate the impact of a creative intervention within a school, and Clennon & Boehm[54] evaluated the impact of a music-based heritage project in disadvantaged areas by collecting qualitative data during and post-project. The remaining 12 studies were split into two themes: **Events** and **Museum**. Within the first group, Attanasi, *et. al.*[55] gathered longitudinal data to measure the impact of a local music festival over five yearly editions, and the other six studies investigated the impact of City/Capital of Culture events. Three of these six[10, 14, 15] implemented pre-post designs to measure change, one used retrospective data to evidence change[12] and the other two collected data at one-time point, post-event[11, 13]. Of the five museum-based interventions, four provided evidence from pre-post designs[23, 56, 58, 59], and Todd *et. al.*[57] qualitatively explored the impact of Thomson, *et. al.*[59] post-programme. Five studies also made use of comparison groups to evidence impact. Steiner, *et. al.*[12] compared the life satisfaction of cities that had hosted the ECoC with cities in the same region that had not. Fišer & Kožuh[14] compared the findings from Maribor, which had hosted the ECoC, with the wider population of Slovenia (non-host cities). Tjarve and Zemīte[13] compared their findings across five neighbourhoods in Riga; Liu[10, 11] also compared four neighbourhoods in Liverpool. In one of the projects reported by Dodd & Jones[56], findings were compared to a national pilot study of the Museum Wellbeing Measures Toolkit.

A range of measures were used to evidence impact on wellbeing and social inequalities. Validated scales to measure wellbeing included the Life Satisfaction Approach implemented by Steiner, *et. al.*[12], and the museum-based studies' use of the WEMWBS[23, 58], the UCL Museum Wellbeing Measure[23], the Museum Wellbeing Measure for Older Adults[59], and Positive and Negative Wellbeing Umbrellas[56]. Within the event theme, Cultural, Place and Policy Institute[15] collected data on a variety of constructs such as happiness and life satisfaction, though lacked specificity surrounding methodology. Five studies investigating Capitals of Culture used surveys to collect their data on the perceived impacts of the event by the residents[10, 11, 13-15]. For their survey, Liu[10] used 21 measures informed by the literature to measure event legacy. Other studies constructed their own measures to collect quantitative data. Echavarria, *et. al.*[53] investigated changes in wellbeing, confidence, and overall resilience in life, though did not specify how these constructs were defined or measured, and Attanasi, *et. al.*[55] asked questions about trust to measure social capital. Warby, *et al.* [58] used response cards and questionnaires to evidence knowledge and awareness. Six studies collected some or all of their qualitative data using semi-structured interviews [13, 23, 54, 57-59]. Liu[11] used community-based workshops, Clennon & Boehm[54] employed filmmaking

as a participatory art evaluation project, and some of the museum-based programmes incorporated reflective methods such as diaries or maps[23, 57, 59].

OUTCOMES

Subjective

Twelve of the 14 studies included at least one outcome related to subjective wellbeing. Outcomes within this domain relate to personal wellbeing, mental wellbeing, and other individual level wellbeing outcomes. Steiner *et. al.*[12] measured life satisfaction in countries that had hosted an ECoC, comparing scores of host cities with non-host cities. They found that host cities had significantly lower life satisfaction (2.94 v 3.05), a difference which was not present before selection nor after announcement. This finding was not maintained two years after the event, whereby no positive or negative impact on life satisfaction was found. Residents of Hull[15] experienced an increase in mean life satisfaction on a scale of one to ten from baseline to mid-event year (6.85 - 7.2), though similar to Steiner the impact was short term only, and scores declined again after the event (M=6.9) to levels pre-events. It was also found that mean volunteer life satisfaction was significantly higher than other residents (8.2 v 6.9). In Riga[13], however, post-event life satisfaction scores were high, with 85% of residents reporting that they were either satisfied or very satisfied with the quality of life in their neighbourhood as a result.

Echavarria *et. al.*[53] reported that engaging with the creative process increased children's overall mood, with a 45% increase in children feeling very happy. Thomson *et. al.*[23] gathered ratings for six positive emotions pre, during and after the museum programme, finding that all six increased significantly, with 'cheerful' consistently rated as the highest. Exploring these findings qualitatively, Todd *et. al.*[57] found that participants described changes in emotions, in particular feeling happy, cheerful, and joyful as a result of taking part. Some said that without the programme they might have felt low and unloved. Dodd *et. al.*[56] found similar results, showing that positive emotions, which can be used to provide an indicator of individual psychological wellbeing, increased as a result of the programme; means ranged from 3.21 to 3.86 pre session, compared with a range of 3.6 to 4.4 post session. 'Happy' and 'enthusiastic' contributed the most to the overall increase (28% and 27% respectively). In terms of negative emotions, 'anxious' seemed to decrease, though this was statistically insignificant due to sample size. Happiness ratings from Hull's CoC year followed a similar pattern to life satisfaction, rising from baseline (M=7) to mid-event year (M=7.35), then returning once the event was over (6.9). This indicates short-term impact only, however the impact itself was strong: 94% of Hull attendees said they had an enjoyable experience, and 81.4% said the project they took part in made them feel happier.

Thomson *et. al.*[23] also assessed changes in emotion using the Museum Wellbeing Measure to provide an indicator for mental wellbeing; pooled scores for all three museums showed a small improvement post-session versus pre-session, but a gradual decline across the five sessions. The difference between first session (pre M=23.5, post M=27) and last session (pre M=18, post M=19.5) was significant. For subjective wellbeing, pooled SWEMWBS scores for HGM and NHM declined from session 1 (M=27) to 3 (M=22), partly recovered by session 5 (M=24) then stabilised at this average until the last session, however none of these differences were statistically significant. Qualitative analysis revealed possible reasons for the decline in wellbeing – earlier sessions were seen as novel and more enjoyable whereas later ones were demanding and tiring. It was also found that some participants had negative feelings about their

time in the museum coming to an end. Warby, *et. al.*[58], however, found that life satisfaction and all other indicators of wellbeing (overall wellbeing, sense of purpose, self-confidence, not isolated/feel close to others, resilience, and sense of belonging) improved from baseline, with 75% of volunteers' improvement found to be statistically significant. Measures taken 2 and 3 years after the project showed that 60% of participants had significant sustained improvement. This finding could be partially explained by floor effects, as most of the sample had initial levels of wellbeing below the national average when recruited, however some participants showed scores higher than the national average at the year 2 time point.

Other outcomes included self-confidence, self-esteem, and resilience. Echavarria, *et. al.*[53] reported that the creative process made children feel better about themselves, with an 18% increase in children reporting liking themselves and a 15% increase in children feeling liked by other people. There was also a 15% increase in children reporting that they coped with difficult situations happily or very happily. Todd, *et. al.*[57] found that the museum-based programme helped participants build confidence and self-esteem, which was also reflected in Hull UK CoC volunteers' responses where 71% reported an increase in self-esteem and 68% an increase in confidence. The 'No Limits' programme, which aimed to engage children with arts and culture using learning and participation, resulted in 34% of participants saying both self-esteem and confidence had increased. Clennon & Boehm[54] presented case studies built on evidence from a heritage-based music programme for disadvantaged youth, finding the following positive wellbeing outcomes emerged through ongoing engagement with and analysis of the project – 'gaining emotional awareness', 'enhancing self-esteem', 'finding anger management strategies', and 'enhancing self-esteem and confidence around sexual orientation'.

Lastly, feeling worthwhile can influence our personal wellbeing. Qualitative data from the museum-based volunteer programmes showed that as a result of volunteering, the dedicated time and effort increased feelings of value and belonging, which led to purposeful fulfilment[23, 58]. Volunteers experienced connectedness, which led to improvements in self-awareness, sense of belonging, imagination, ability to narrate and relate better to others - thus improving social relationships, and mental and emotional capital.

Our relationships

Attanasi, *et. al.*[55] measured social capital as a result of a local musical festival by assessing trust, which is evidenced to have an impact on other wellbeing outcomes such as quality of life and happiness. For the first festival, instantaneous social capital occurred for 40% of attendees to minor concerts versus 35% for the final major concert, and when analysed longitudinally, results showed that levels declined for first three years then levelled off for last two (last edition – 27% at minor, 21% at major). Strong bonds and mutual trust as a result of the festival created the instantaneous social capital, an effect which was stronger amongst first time festival goers, and individuals with low educational attainment.

The aim of Todd, *et. al.*[57] was to qualitatively explore how social prescribing programs reduce social isolation for older people, therefore loneliness was a key outcome explored in their interviews. During the programme, there was a process of building relationships and meaningful connections, which in turn increased engagement. One participant said the programme 'made me feel less lonely', and there was evidence it supported socialising and created opportunity for further connection afterwards. However, not all participants seemed to want to make social connections, and the authors postulate that rejecting the social experience could be a barrier that increases the likelihood of isolation.

Loneliness was also analysed in the assessment of Hull as UK CoC[15] due to one of the programme aims being to target social isolation. Citywide surveys showed little change in loneliness or social isolation after the programme - in both 2016 and 2017, 11% of respondents reported they felt one or the other. However, focus groups highlighted some positive impacts on an individual level, such as the event helping with feelings of depression and anxiety relating to loneliness. Having people to rely on was also considered an important outcome of the two museum-based volunteer studies[23, 58], as they fostered social inclusion and created networks through their projects.

Health

Todd, *et. al.*[57] qualitatively explored the impacts of a museum-based social prescribing programme, finding that participants discussed aspects of their physical and mental health which are key influencers of wellbeing. They highlighted their own limitations, and how they chose to engage with the programme regardless, often finding that the benefits of the programme outweighed their personal health struggles. Participants became more active as a result, and these limitations seemed reduced. This emphasises the importance of the accessibility and inclusivity of the museum for those with health limitations. Mental benefits included stimulation and memory retention, and participants highlighted the positive impact this had on their self-confidence and the alleviation of anxiety regarding their cognitive abilities.

What we do

Volunteering itself is evidenced to have a positive impact on wellbeing, which was a core theme of the museum-based volunteer studies[23, 58]. It was also a key outcome of the Hull UK CoC programme and during the year over 2,400 residents were trained and deployed as volunteers. After the year was over, the number of residents who said they would feel confident volunteering had risen from 39% to 56%. Warby, *et. al.*[58] reported that after a museum-based volunteer programme, participant perceptions of heritage opportunities had increased, which was maintained after 3 months.

Increased engagement with arts and culture has also been linked to improved wellbeing and was an intrinsic aspect of all 14 studies. Liu[10] showed that Liverpool ECoC impacted residents' interest in arts and culture; 66% of residents took part in an event, and 14% tried a new cultural/arts activity. By neighbourhood, participation rates were Aigburth (78%), city centre (72%), Knotty Ash (59%) then Kirkdale (56%). The ECoC made 37% of respondents more interested in cultural activities, and the percentage of residents who attended other amenities (museums/ galleries) rose from 2007 (35%) to 2009 (53%) – this was higher in Aigburth/city centre than Kirkdale/Knotty Ash. Liverpool city centre gained the most from the programme, reflected in the particularly high levels of engagement and agreement that Liverpool became a better place as a result. When rating the importance of legacy outcomes on a 5-point scale, Liu[10] found that mean 'cultural participation' and 'interest in culture' had both increased through extensive and geographically spread local campaigns (4.1 and 4.07 respectively). After Riga's year as ECoC[13], residents were interested in their neighbourhoods' cultural facilities and leisure opportunities, with 63% saying they would spend their time there. However, out of the respondents who were *not* satisfied with their QOL, 11 said there was not enough cultural activities in their neighbourhood. This demonstrates impact on satisfaction with leisure time, which has been shown to influence wellbeing. Liu[10] found that perceptions of accessibility of the ECoC increased through the year, most significantly in the more deprived areas of Knotty Ash and Kirkdale.

Whether a person is employed or not can impact their wellbeing and is tied to other influential factors such as income and financial health. Liu[10] found that there was some influence on job creation as a legacy of Liverpool hosting the ECoC, but that this was relatively low (M=3.49). Steiner, *et. al.*[12] found that being unemployed doubled the negative effect of hosting an ECoC on life satisfaction. Employment outcomes were also looked at as a result of volunteer-based programmes; Warby[58] reported that 28% of their volunteers progressed to employment or a work opportunity, and Culture, Place and Policy Institute[15] provided evidence that Hull volunteer's skills development would support individuals in future employment.

Where we live

Where we live and our community can have a significant impact on our wellbeing; several studies measured outcomes related to community and belonging. Liu[10] found that all four neighbourhoods experienced a decrease in sense of community from 2007 to 2009 (Kirkdale: 69%-57%; Aigburth: 61%-42%; Knotty Ash: 52%-49%; City Centre: 51%-40%) though it increased *during* the year in Kirkdale and it was the highest across the four neighbourhoods due to more engagement in local community projects. This was likely due to Kirkdale being a more disadvantaged area, so having poorer access to main programme events in the city centre due to travel costs and distance. Interestingly, a later study looking at legacy impacts[11] showed that residents perceived the ECoC as having contributed to community development in a positive way by enhancing social networks and sense of community. Image and identity legacy was the strongest legacy outcome (M=4.32), with residents believing ECoC had enhanced Liverpool's external image and promoted it as a cultural destination. Fišer & Kožuh[14] found that residents of Maribor had significantly higher scores in their opinions about the ECoC's contribution to the reputation of Maribor, compared with the rest of Slovenia (M=3.92 v 3.73), and that both groups' scores went up over time (3.87-3.95 and 3.66-3.80 respectively). Slovenes demonstrated significantly less community pride than residents of Maribor at time point 1 (3.68 v 4.06), but this increased significantly for both groups at the second time point and even more so for Slovenes (4.45 v 4.27).

Hull UK CoC's programme was shown to improve community cohesion, with 87.1% of Hull audiences saying UK CoC placed community at the centre, and 80.3% agreeing it gave everyone a chance to share and celebrate together. After the year was over, a survey showed 38% of residents felt more connected to their local community, as well as more confident to run activities in their community, more listened to, and prouder of their contribution. Crime and how safe we feel can also impact community cohesion, and Liu[10] found that problems relating to anti-social behaviour and noise were found in Liverpool city centre as a result of hosting ECoC, something which was not found in the other three neighbourhoods.

Economy

Economic wellbeing outcomes are enhanced by trust in governing bodies and public spending. Liu[11] looked at large-scale investment and regeneration by authorities as a legacy outcome of Liverpool as ECoC, finding that residents perceived improvement in infrastructure, cultural facilities, and arts and culture events. Tjarve & Zemite[13] found that although ECoC brought lots of cultural opportunities to Riga, there was a major problem of lack of collaboration within and between the cultural sector and other sectors. They identified that a powerful community leader was key for multilateral cooperation.

Education and skills

Increasing education and skills can improve socioeconomic outcomes, which contribute to wellbeing. Two studies assessed education as a mediating factor for other wellbeing outcomes; Attanasi, *et. al.*[55] found that higher educational attainment was associated with reduced social capital outcomes as a result of the festival, and Steiner, *et. al.*[12] found that more highly educated people experienced less of a negative impact on their life satisfaction from hosting the ECoC. Dodd & Jones[56] found that a museum-based visit to address the health issue of smoking had a positive impact on education and awareness, with 69% of participants saying they learnt something new, 65% said their attitude towards smoking had changed, and 67% said in a years' time they would definitely not be smoking.

Education and in particular skills were key outcomes of the two museum-based volunteer studies[23, 58]. Thomson, *et. al.*[59] found that learning information, passing on knowledge, and feelings of agency and confidence increased all participants' ability. Warby *et. al.*[58] found that volunteers' perception of their own skills (communication/presentation skills; educational attainment; knowledge transfer & application; would continue more volunteering; sense of direction about work; attractive skills to organisations/employers) improved post-placement, maintaining at the year two and year three time points. Surveys from the Hull COC programme also found a positive impact on skills and knowledge of Hull residents. As a result of the volunteer programme, 84% of volunteers felt they had gained skills from Hull 2017 volunteer training, and 76% from volunteer shifts, which they felt they could use in other parts of their life. Of the children involved with the 'No Limits' programme, 41% felt they had gained or increased skills and knowledge.

QUALITY ASSESSMENT

Quality assessment of quantitative studies/the quantitative element of mixed-method studies (n=11) was done using a critical assessment framework for quantitative research, taken from the *What Works Centre Guide to Evidence Review Methods*[50]. The 10 elements of the quality checklist used can be scored either 1 (yes) or 0 (no, can't tell or N/A), and the total can be used to assign each study an overall confidence level of low (0-2), moderate (3-6) or high (7-10). Two of the **Museum** themed studies were ranked high in quality[23, 59] and two deemed moderate, though at the higher end of this bracket[56, 58]. All **Events** themed studies were also scored as being of moderate quality[10-12, 14, 15, 55] though one was at the lower end of the bracket[13]. Overall, any quality issues were largely related to lack of clarity surrounding sample characteristics, recruitment methods, analytical methods or statistical outcomes (see Appendix for further detail). Most studies also did not report attrition information nor what was done with any missing data. One **Community** themed study ranked low[53] due to insufficient detail about the methodology of data collection and analysis, including the use of validated measures and whether all data was reported. However, the research was an exploratory use of a novel method of engaging people culturally using technology, for which thorough detail was provided. The preliminary results suggest a positive impact on wellbeing and therefore were considered by the authors to have implications for more robust future research.

Quality assessment of qualitative studies/the qualitative element of mixed-method studies (n=4) was done using a tool developed by the Critical Appraisal Skills Programme. This method of assessment does not recommend a scoring system but can be used to judge the

overall quality of research and level of confidence. Two studies were deemed to be of high quality[23, 57], two moderate[54, 58] and one low to moderate[10]. The latter used a different sample over the four time points which makes evaluating change more difficult, failing to acknowledge sample characteristics or how participants were recruited. They did not justify their use of workshops nor specify how and when data was collected, what format this data took or how it was analysed. However, the quantitative element of this mixed-method design was considered of moderate quality, and the qualitative data acts as a good complement for these findings with implications for future research.

Contributions to the methodological debate

The *Museum* theme studies report interventions designed as research programmes to evidence the effectiveness of museums in improving wellbeing through volunteering or social prescribing. As such, the methodological designs are robust, and the quality of the studies is higher. These studies are led by multidisciplinary teams of researchers that include health researchers (e.g., neuroscientists). They draw on well-tested research designs in health (e.g. single/multiple-centre prospective observational trials with pre-post comparison), using mixed-methods data collection informed by standardised measures of wellbeing (e.g., WEMBWS). Methodological limitations are discussed however, including appropriateness (off-putting in a community context)[62], selectiveness (of participants that do not fit in the inclusion criteria)[56, 57, 59], and accessibility for smaller arts and cultural organisations as these designs are time and resource intensive[63]. The included studies use qualitative data to inform the interpretation of quantitative evidence that, at first sight, might seem anomalous. Thomson, *et. al.*[23] use qualitative data to explain the reasons for the unexpected gradual decline in volunteer mental wellbeing (the first sessions were more enjoyable than the last, as their nature was progressively less leisure-focused and more labour-intensive; the end of the training meant the end of the intervention and potential loss of the positive benefits that participation brought – social interactions, sense of achievement, purposeful use of free time). The same use of qualitative data can be found in Thompson, *et. al.*[59] (the low score of the word 'active' was explained by participants' narratives of feeling 'exhausted' by walking between galleries). More qualitative approaches are needed to understand the underlying mechanisms of change that led to statistically significant results[64].

The *Community* study on music education poses different methodological challenges as a qualitative multi-centre study with an ethnographic approach. The intervention was not designed as a research programme but as an arts-based intervention. The evaluation was led by researchers within the art field aiming to assess the community-based music projects' efficacy in generating creative outcomes. The research question and design were retrofitted to include the emerging wellbeing outcomes throughout the ongoing intervention. Still, the rich qualitative description of the case studies allows an insight into the mechanisms of the arts intervention that led to the reported positive wellbeing outcomes. However, there was a lack of methodological detail (e.g., how many sessions were observed, what criteria was used to select the interviewees, how the observations were registered, and how data was analysed) to evidence the effects of the intervention to improve wellbeing outcomes across all participants, and not just limited to the outstanding experiences reported in the case studies[65]. The authors made the argument for the need to raise awareness regarding the processes behind their reported outcomes (the underlying *mechanisms of change*, the relationship and creativity development), and not just the *measurable end-of-cycle results*[54], which seems to be the value that qualitative studies and grounded theory approaches bring to the field of place-based arts and wellbeing.

Issues in the difference between purposely designed research/intervention and the evaluation of an intervention is also observable in the *Events* theme studies, where all the studies report the evaluation of cultural events. Despite sharing methodologies, the purposes and uses of the knowledge produced by research and evaluation are different. Overall, the research aims to advance knowledge in a certain field by generating data to test and refute theories. Evaluation, on the other hand, produces context-specific knowledge about a certain phenomenon. The contemporary debates on cultural events research/evaluation have been methodological- (e.g., the implications of using certain methodologies) and epistemologically focused (e.g., how the knowledge has been used)[16] with a manifold impact. For policy and practice, evaluation is instrumental in providing evidence of a cultural event's multiple impacts (e.g., residents' cultural practices[10]; community-level wellbeing[14])[66]. Still, it falls short of advancing the knowledge of the field as it is contextually bounded and tends to lack detail on the process and the theoretical debate regarding the underlying mechanisms of change[67]. This is quite the opposite of what is argued by Clennon & Boehm[54] regarding the value of qualitative research within the field of place-based arts and wellbeing. The evaluations' short-term (mega-events impact research tends to be completed the year after the event), insufficient resources, narrow objectives and methodologies (poor quality qualitative research), and poor-quality outputs¹⁶ are the main obstacles for the contribution of cultural events evaluation to inform the field of place-based arts and wellbeing.

DISCUSSION

CONTEXT

The social context facilitates participants' access to and participation in cultural activities and can act as entry barriers or facilitators to increasing audiences' participation[7]. As such, community-settings and museums influence individual and group experiences and are placed as enhancing the potential for change and improving wellbeing and social inequalities[68]. The *Five Ways to Wellbeing* report[68] focused on the community as a social context where complex process and multi-layered resources interact for improving individual and community wellbeing[11, 14, 15, 53-55]. Nonetheless, the relational mechanisms that underpin those processes and resources in the community are less known. Communities tend to be geographically-bounded, have multiple identities, norms, beliefs and (self)perceptions that are dynamic[69]. Public Health England advocates communities both as place-based where people share tangible and intangible heritage and lived experiences, and as assets for social networking, community organisation, volunteering, and developing skills and knowledge – 'building blocks for good health'[70]. Literature is not short on studies where museums and galleries, as community-based assets, are described as social contexts for health and wellbeing prevention and treatment, particularly addressing vulnerable populations with mental and physical health diagnoses. In the UK, the rise of museums in health, social prescribing and other

¹⁶ e.g., the Impacts 08 report – evaluation of Liverpool as European Capital of Culture – was excluded from the review due to poor methodological quality. However, Liu10. Liu, Y.-D., *Socio-cultural impacts of major event: evidence from the 2008 European Capital of Culture, Liverpool*. Social Indicators Research, 2014. **115**(3): p. 983-998, 11. Liu, Y.-D., *Quality of life as event legacy: An evaluation of Liverpool as the 2008 European Capital of Culture*. Applied Research in Quality of Life, 2017. **12**(3): p. 653-670. studies were included while reporting the same research that informed part of the Impacts 08 report.

policy strategies has placed museums as anchor institutions rich in resources for wellbeing interventions which target vulnerable audiences[23, 56-59, 71]. The studies that report museum-based programmes account for the museum as a social environment where participants are aesthetically and intellectually stimulated by participatory practices grounded in the collections and other resources, such as staff expertise[23, 56-59]. The combination of relational participatory practices and the museum space and resources seems to generate meaningful opportunities for contemplative experiences, positive social interactions, and developing new knowledge and skills, which seems to lead to an increase in wellbeing and decrease in social inequalities[59, 71].

Researching the impact of ECoC in Liverpool[10, 11] and Riga[13] neighbourhoods demonstrates that the socio-economic and cultural geography of the cities are heterogenic and different neighbourhoods benefit unevenly from hosting the event, according to their already existing resources and residents' cultural practices. Large-scale, city centre-focussed events and physical infrastructure developments will only benefit the most advantaged communities, which lead to adverse wellbeing outcomes and the exacerbating of social inequalities within the city. The community participatory art practices seem to offset this tendency. According to Klijs *et. al.*[72] social relations act as a buffer for the adverse effects of neighbourhood deprivation on psychologically-related quality of life. These findings are reiterated by the *Events* theme studies that report hyper-local (within the neighbourhood) participatory art practices. These seem to reinforce the cultural practices of residents from disadvantaged neighbourhoods, as they address challenges and topics of interest through meaningful creative processes. Furthermore, Liu[10] reports that residents of Kirkdale became much more confident to participate in the ECoC wider programme due to hyper-local projects that generated opportunities for the community to organise their own events using their schools and community venues as anchor institutions. Events that are culturally bounded and hyper-local (within the neighbourhood) are platforms for communities to celebrate their shared culture. As such, events which are rooted in the cultural background of the place which hosts them lead to an increase in trust among participants, and generate social capital, particularly within historically disengaged communities[10, 13, 15, 55]. The neighbourhood-focused participatory art practices celebrate the community's shared heritage, identity, habits and narratives, which lead to individual and community wellbeing improvement (quality of life, pride and community recognition)[11, 13-15, 55].

An important aspect of the interventions' social contexts across the three themes was the role of networking, partnership and cross-sector collaboration to draw on existing public assets, ensure sustainability, and for the long-term legacies of place-specific wellbeing interventions. Time and resources need to be embedded from the onset to allow the development of well-integrated and strong social ties in the ecology and assets of the community[32]. Cross-sector collaboration has been evolving, with the social prescribing movement demonstrating the value of integration of arts, culture, mental health organisations, health and social care, third sector organisations, youth groups, volunteers, and residents' associations developing strong place-specific networks with clear pathways for residents with complex needs. As such, museums as social contexts are well-placed to offer public health interventions that are community-based, and culturally meaningful.

- *The social value of social prescribing*

The five studies included in the **Museum** theme evidence how museums, as arts on prescription, can contribute to reducing social isolation in disadvantaged communities and act as preventive and restorative actions in the social determinants of health[56-59].

Thomson, *et. al.*[23] account for *GIVE*, a volunteering programme aiming to make heritage more accessible for disadvantaged communities and assess its impact on improving wellbeing. The study claims that museums as heritage settings and community-assets are both safe and stimulating places that use participatory arts practices to break the cycle of social isolation, exclusion, demotivation and depression (MWM scores for all 3 museums showed an improvement post-session versus pre-session, although a gradual decline across all 5 sessions) (subjective and *our relationships*). Warby *et. al.*[58] evidence the effectiveness of socially responsible volunteering practices in Manchester's heritage sector (*IF*), for improving wellbeing and reducing social isolation and economic inequalities while quantifying the value to the wider economy that resulted from these outcomes (*our relationships*, and *what we do*). *IF* demonstrated that museums can be effective settings for tackling social inequalities through mediating access to local services to improve people's wellbeing[58]. Despite the project addressing healthy populations (not medically diagnosed), the project placed museums and volunteering with arts and culture as restorative interventions, with the potential to improve mental health. The Central Manchester Clinical Commissioning Group considered integrating *IF* into the social prescribing provision available for GP practices in Manchester. Both *GIVE*[23], and *IF*[58] museum-based volunteering programmes demonstrated the value of joined-up solutions across sectors (arts, social and health) to tackling local social and health inequalities, achieving positive outcomes, and alleviating the pressures on local health and care services[58].

Thomson *et. al.* [59], Dodd & Jones[56] and Todd *et. al.*[57] account for museum-based intervention inscribed on the social prescribing movement. Thomson *et. al.* [59] and Todd *et. al.*[57] assessed the psychological wellbeing of *Museums on Prescription* for older adults, providing insights into the mechanisms of change that underpin the achieved positive outcomes. *Museums on Prescription* demonstrate that museum-based programmes for older adults improve psychological wellbeing over time (*subjective*). Participants valued the opportunity to liaise with experts (curators, art educators, and volunteers), visit closed parts of the museum, handle collection objects, co-produce activities, which provide them with a sense of privilege and intellectual stimulation in a safe environment. Participants attained learning and skills and improved their social capital (*our relationships*), reporting improved mental wellbeing and happiness (*subjective*)[59]. Improving social inclusion is a crucial outcome as it is a critical social determinant of health into late adulthood[71]. Dodd & Jones[56] advocate for museums and galleries to make health and wellbeing part of their core activity. Reporting on three different museum interventions with older adults and young people, the study provides evidence of the value of museums to creatively address health issues, such as smoking in young people (69% agreed they learnt something new about smoking, 65% changed their attitude towards smoking, 67% said in a year they would definitely not be smoking) (*health*).

The included studies demonstrate the value of museums as community-assets rich in resources (collections, expertise, space, funding attaining capacity) which can contribute to social prescribing and other local and national policy agendas addressing the social determinants of health[41]. Despite, these positive findings, caution is needed when considering the impact of arts interventions in the underlying causes of structural social inequalities[41]. Long-term

community-based participatory art practices seem to address the consequences of social inequalities, but on their own are insufficient to make substantial changes to underpinning structural forces[30]. The positive impact of arts on wellbeing cannot distract from the roots of social and health inequalities, which are socioeconomic (e.g., poor housing, unemployment, etc.), which have been increasing over the last ten years[40], and need to be addressed with targeted policies on education, housing, health and economic redistribution[2].

The **Museum** is a unique cultural heritage setting (collections, safe space, staff expertise available, embedded in the community, partnerships with health and social care) to promote lifelong learning, combining leisure with education, that allows participants to give time usefully, and enhance wellbeing[73-75].

MECHANISMS OF CHANGE

The mechanisms of change (success and drivers of inequalities) identified in the review are discussed in three subsections: *processes*, *people* and *inputs*. The *processes* address how participatory art and receptive practices might improve cultural access and participation, and its value to mitigate inequalities. *People* address how community participation led by local cultural leaders and experts increase social capital. Volunteering is discussed as a strategy to fostering active cultural participation and community engagement, generating positive cultural and social capital[33] and mitigating social and health inequalities[76]. Finally, *inputs* address how the duration and resources invested in the arts interventions lead to heterogenic outcomes. Heritage is an asset used across several studies to engage participants in meaningful connections with place and individual narratives.

Processes: participatory & receptive art practices

Participation is a concept that encompasses multiple modalities of engagement[77]. In a broader sense, participation can be understood as a positive action of an individual towards society. Participatory art practices were born and evolved through the 20th and 21st century as a practice of resistance against the agenda of neoliberal urban development within the society of the spectacle[78]. Participatory art is based on successive cultural[79], educational [80] and social turns[81], as attempts to rethink political potentials of art as forms of production, mediation and consumption, and the practice itself is a relational process that improves active citizenship, cultural participation, and social inclusion. Critiques of political and civic education, social engineering and symbolic domination have been raised[82], still, active participation in community settings through arts practice emerge from the majority of included studies as a common mechanism of success to improve multiple wellbeing outcomes[83]. These art practices assume multiple forms across the different studies, ranging from co-design and co-production, storytelling, volunteering training, cultural heritage research and interpretation, having in common the participants as producers. The studies provide evidence of the relational and creative processes that lead to positive wellbeing outcomes, namely learning new skills (*education and skills*), building relationships, enhancing sense of community and belonging, and developing social capital (*our relationships*), creating and sharing narratives, co-production, exchange of ideas (*what we do*), [59, 68, 72]. Clennon & Boehm[54] argue that participatory arts practices have more long lasting eudemonic effects than hedonic wellbeing, as they not only enable enjoyment but are a vehicle to make sense of and symbolically express difficult feelings and challenging life experiences[54, 56, 57, 59] –

reinterpreting those challenges artistically is a process of self-empowerment (*subjective*)[54]. Storytelling and narratives, as fundamental ways to make sense of reality, have been recognised as strategies of engagement with the surrounding world (e.g., collections, heritage sites) (*what we do*), but also to meaningfully articulate life experiences and forge connections with others within the community (*our relationships*)[15, 53, 54]. The included studies provide evidence on the effects of participatory art practices as processes that are community and participants-centred, flexible, encourage strong partnership working and are thus particularly valuable to engage individuals from disadvantaged backgrounds.

- *The social value of cultural participation*

Since the publication of *Closing the gap* in a generation over ten years ago[39], the health of people living in more deprived areas in England is worse, as social and health inequalities increased[40]. Marmot *et. al.*[39] found that 70% of health outcomes are determined by social factors, the circumstances in which people are born, live, study and work– the lower the socioeconomic position (social, cultural and economic capital[30]), the worse the health[39]. Those have a cumulative effect, accruing advantages or disadvantages throughout the life course[41]. Therefore, acting on those circumstances will reduce social and health inequalities.

Years of austerity policies shrank public spending on education, housing, social and health care removing the buffer that attenuate the adverse effects of economic inequalities, particularly in in the North, Midlands and in Southern coastal towns, leading to an increase in socioeconomic inequalities[40]. The lives for people towards the bottom of the social hierarchy are more difficult due to increased economic inequalities and lack of policies to counteract market failures[40]. The Marmot review in 2020 recommended a life course approach targeting i) education attainment (improving early child development and reducing exposure to adverse childhood experiences); ii) employment and standard of living (improving education will lead to a more capable and qualified workforce), and iii) healthy and sustainable places and communities (cohesive society is a better and healthier place to live). One of the objectives of *Closing the gap*[39] for communities and places was to improve community capital and reduce social isolation. It was believed that socially cohesive communities and neighbourhoods are a protective factor and promote health and wellbeing[39]. *Can place-based arts interventions tackle the social determinants of health to reduce social and health inequalities?*

The value of place-based arts interventions

The Culture, Place and Policy Institute[15] & Liu[11] provide evidence on the contribution of City/Capital of Culture in mitigating social and health inequalities, particularly regarding age, disability and social deprivation. Hull UK CoC 2017 increased the feelings of representation of residents aged 55-64, and improved the cultural participation of audiences who are ‘limited a little’. Individual activities demonstrate successful approaches to increasing these levels of engagement of residents in the 10% most deprived areas. This case demonstrates the value of targeted activities, community engagement and specific provisions, including an increased volume of assisted performances[15]. The same findings are reported by Liu[11], regarding Liverpool European Capital of Culture 2008 programme in Kirkdale (community development legacy; mean = 4.32). Despite the already stated ‘physical and cultural distance’ experienced by Kirkdale’s residents, strong community organisation (e.g., by Rotunda Ltd)[10] and hyper-local cultural activities contributed to increased perceptions of representation within the cultural programme (*there won’t be things for ordinary people* dropped from 37% in 2007 to 21% in 2009, while the other neighbourhoods experienced drops from 10 to 14 %). Recognition of the benefits of the ECoC were spread across the city (*Only the city centre will benefit from*

ECoC dropped 24 %, the highest of the four neighbourhoods). Despite a notable drop in the sense of community (-12% from 69% to 57%), this was the neighbourhood with the highest sense of community pre and post ECoC. These findings align with Tjarve & Zemīte[13] who reported the importance of community groups and especially hyper-local cultural organisations, social networks, and neighbourhood-specific cultural programmes to foster the social impacts of Riga ECoC 2014.

Liu[11] and Steiner, *et. al.*[12] provide evidence on how City/Capital of Culture might contribute to exacerbate social and wellbeing inequalities[61]. The analysis of Liverpool ECoC 2008 negative legacy provides an overview of the negative economic and social effects of the ECoC, namely the deepening of social exclusion (mean = 3.34), and increasing cost of living (mean = 3.14)[11], as well as overall decrease in the sense of community (-11%)[10]. Mega-events tend to generate short-term and poorly paid jobs[11]. Furthermore, urban regeneration tends to lead to local inflation and gentrification, which exacerbate social inequalities. These findings are reiterated by Steiner, *et. al.*[12] who demonstrates the adverse impacts of hosting ECoC on residents' life satisfaction in 14 countries, including the UK. They found that ECoC hosting cities and regions' residents have a significantly lower life satisfaction when compared with residents residing in other regions (2.94 v 3.05). This study goes even further and points out that unemployment doubles the negative impacts of hosting the ECoC. Unemployed residents suffer more with the increased cost of living in the hosting cities, and tend to participate less in the ECoC programme. Residents struggle to access housing and cultural events, due to an increase in house prices, high/relocation of public expenditure, transport disruption, and overcrowding of public places[12]. Only highly educated individuals frequently participate actively in cultural activities, and, as such, benefit from the additional cultural offer that the ECoC brings to the cities – ‘Approximately ten years of additional education offsets the negative effect of this event’[12]. These findings corroborate previous studies on the ECoC's impact and audiences [14, 84, 85]. According to this trans-European study, the ECoC exacerbates social inequalities at micro- and macro-levels. At the micro-level, it demonstrates that there is an increase in life satisfaction for higher income residents, while there is a decrease for lower income residents[12]. At a macro-level, the descriptive statistic demonstrates that hosting the ECoC increases the GDP per capita and growth in the respective region[12], which is linked to an increase in levels of wellbeing. However, in further analysis considering macro-economic control variables, the correlation dissolves. Only the developed European regions (including the UK) suffer less from hosting the ECoC – ‘An additional economic growth of roughly 4% offsets the effect of hosting an ECoC[12]’.

Clennon & Boehm[54], in a study on music intervention in two **Communities**, provide no data on the participants' cultural practices pre-intervention. The study's participants were part of pre-existing community youth groups and, as such, were already engaged with some form of community activism. Still, the qualitative and arts-based data provides an in-depth understanding of how intense active cultural co-creation increased these youth groups' cultural access and participation and seems to have contributed to mitigating social and health inequalities, at individual and community levels (*subjective* and *our relationships*). Participants at *Young Musicians for Heritage Project*[54] where young people living with challenging socio and emotional circumstances (single parent children, domestic physical abuse, LGBTIQ+) for whom arts-based activities, in some cases complemented with mental health provision, improved mental and social wellbeing. Despite wellbeing outcomes not being an aim of the project from the onset, the so called ‘aware-unintended well-being outcomes’[54] seem to happen over time throughout the duration of the project and post-implementation. At an

individual level, biographical elements were blended with heritage research on the 1890 Crewe Murder, where a son murdered his father, to creative rap-writing on domestic physical abuse by the father. Through mentoring with experts where professional empathy was fostered, young people developed trust and confidence to not just openly and confidently discuss their sexuality with *Buzzin'*, but also, later in the project, to support others and create an LGBTIQ+ youth club called *Utopia*[54]. At a community level, the *Young Musicians for Heritage Project*[54] was important to the collective self-esteem of that community, and the study reported the importance of the dissemination of positive results to preserve this community self-esteem, and the positive outcomes that were generated through successful cross-sector networks. These findings aligned with the other *Community* study[53].

Cultural access and participation

The Culture, Place and Policy Institute[6] provides evidence of the adverse effect of social and health inequalities on cultural access and participation, in particular regarding disability, ethnicity, age, and social deprivation[86]. Only slightly over 25% of the residents 'limited a lot' by health conditions or disability, 40% of BAME, and less than 35% of younger people (24 and under) felt their lives and communities were represented in the cultural programme. These perceptions of lack of representation were mirrored in lower levels of cultural participation when compared with other population segments. Only 30% of those 'limited a lot' booked a ticket for an event, compared with 49% 'limited a little' and 53% with no limitations. BAME populations were underrepresented at cultural events – White populations' representation at events was +5.7% compared to the general Hull population, whereas the difference was – 2.2% for Asian ethnicities, and -0.8% for Black British. Similarly, young people were underrepresented with a difference of -7% for those aged 16-24, and -9% for those aged 35-34. Equally, 45.1% of Hull's population residing in the 10% most deprived areas[86] struggled to/did not access the cultural activities. The same findings are reported by Liu[11] regarding the Liverpool ECoC 2008. Despite the residents support of the event, those from the 10% most deprived areas (Kirkdale and Knotty Ash)[86] did not feel represented (*the event only privileges certain people*; mean = 3.54). Location of residence in the city had a significant statistical influence on residents' perceptions of ECoC impact. Communities on the 'geographical peripheral' – i.e. furthest away from the city centre with limited public transport – and those defined as socially deprived – lower cultural, social and economic capital[30] – , had lower participation figures (Aigburth – 78%; City Centre – 72%; Knotty Ash – 59%; Kirkdale – 56%) and, as such, experienced lower positive cultural impacts of ECoC[86]. Both had experienced lower levels of investment in terms of physical renewal/urban regeneration, and cultural programming. Qualitative data points to dissatisfaction with the perceived lack of dedicated cultural programmes for children and young people, in addition cost, timings, location and lack of information were highlighted as barriers of cultural participation[10].

Overall, the ECoC did not contribute to tackling the impact of inequalities in cultural access and participation. On the other hand, intensive engagement activities, such as volunteering and *Museums'* volunteer training [58, 87] stimulated participants to visit museums and galleries and pursue further learning opportunities, increasing their interest and cultural participation.

People: cultural networking & social capital

Social capital theory and research surpasses disciplinary boundaries, emerging in some of the included studies without an explicit definition, which might indicate the normalisation of the scientific concept[88]. Despite its contested meaning, we discuss individuals, resources, relationships, and networks and how place-based arts interventions foster social capital both as a resource[30] and as a norm[33, 35, 36].

Normative social capital[33] builds on Putnam, Coleman, and Hanifan's definition of social capital as a collective good to be assessed at the collective level (e.g., community). It emphasises reciprocity, values, norms, trust and other benefits of bringing people together to generate a collective action and improve the efficiency of the social structure. Normative Social Capital's context are schools, families, and communities that work together for mutual benefit fostering individual and social wellbeing.

Resource social capital[33] reflects the work of Granovetter[32] and Bourdieu[29, 30] for whom social capital is an individual resource, analysed at individual level (e.g., relationships). It focuses on group membership (collectively-owned capital), and networks (acquaintance and recognition) that might provide access to resources. In this definition is important to consider Bourdieu's theory of the 'intermingled' nature of capitals. As a resource, social capital, along with economic, symbolic, and cultural capital can be converted interchangeably from one form of capital to another[29, 30] – social capital may be converted to economic capital in a scenario where a friend facilitates access to a job, gaining further social capital in return. Hence, the value of this definition of social capital to understand and tackle social inequalities. Art interventions focussed on developing social capital within disadvantaged communities might help to alleviate inequalities.

Across the studies included in the themes *Community* and *Museums*, a common mechanism of success was the value of cognitively stimulating social interactions. Community or museum-based participatory art practices are above all social interactions, expertly curated by facilitators (e.g., artists, museum experts) throughout a period of time. The dynamic nature of those social interactions might foster or hinder wellbeing and social outcomes[57]. Hence, there is a need to invest resources in professional roles to provide engaging and empathic professional relationships[89], and time to allow the social ties[32] to be developed, leading to tailored interventions that are co-designed, owned and shared with the participants[23, 54, 58, 59].

Studies from *Museums* theme provide evidence of the interest from participants in interacting with museum staff, artists, educators and volunteers, as they found those learning experiences intellectually stimulating and pleasant due to experts' knowledgeable skills, confidence and professional empathy, developing resource social capital[23, 56-59]. Participants felt intellectually challenged and emotionally engaged by the experts, and aesthetically delighted by the museums and their collections, and benefitted from emotional, intellectual and social quality stimulation[59, 87]. The challenge that the museums still seem to be facing is around representation and inclusiveness of traditionally less engaged communities. The training of museum volunteers using strategies such as peer-support and mentoring seem to be an approach to close the gap between disadvantaged and vulnerable communities and museum expertise[59]. Peer support fosters continuous practice of networking and knowledge transfer amongst staff and volunteers, helping to develop and maintain and revitalise social relations through active engagement in learning and creativity[32], which developed normative social capital.

Clennon & Boehm's[54] study included in the **Community** theme, corroborates the role of expertly-led community participatory art practices where peer mentoring and leadership skill training are also incorporated to tackle social inequalities. These strategies supported the youth groups' independence, illustrated by the emergence of youth leadership groups. The opportunities for participating in cultural networks with experts, community leaders and peers generate both normative and resource social capital. Increased social capital lead to a reduction of social inequities[76].

- *The social value of volunteering*

Several studies, namely Thomson, *et. al.*[23, 59], Dodd & Jones[56], Warby, *et. al.*[58], Culture, Place and Policy Institute[6], Liu[10, 11], and Clennon & Boehm[54] provide evidence on how volunteering helps to alleviate social inequalities.

According to Thomson, *et. al.*[23], in the UK there is 115,000 people volunteering for museums and heritage organisations, which constitutes less than one per cent (0.8%) of all UK volunteers. The highest rates of volunteering were found among those aged 65-74 years (29%), female (23% compared to 21% male), Black/African/Caribbean/Black British (24% compared to 23% White), disabled (24% slightly higher than average 22%), economically inactive (29% than unemployed 19%), from least deprived (29% compared with 15% for deprived areas) and rural areas (29% compared with 21% for urban areas)[23]. Volunteers stated their motivation is to improve things and help other people (46%), and that the remit or cause was also important (31%). Museums seem to be growing their volunteer base also as a strategy to fill previously paid positions left vacant by funding cuts[23]. The same authors argue that little research has been conducted into what has been done to improve museum volunteers' diversity, nor if training and mentoring have positive impacts on individual level and community level wellbeing. In the **Museum** theme, two studies assessed the role of volunteering in museums to mitigating social inequalities and improving wellbeing while addressing the key characteristics and advantages of having the museum as an anchor cultural heritage institution - *GIVE* [23, 56, 59] and *IF* [17].

GIVE [23] [56, 59] demonstrates that museums can be highly effective in providing volunteering opportunities (*what we do*), supporting and enhancing the life possibilities and supporting communities to fulfil their expectations (*our relationships*). *GIVE* helped to make heritage more accessible to people experiencing health inequalities by utilising hidden and unused collections, offering training and mentoring/buddying to new volunteers. *GIVE* participants seemed to be motivated by the need to improve their mental help through meaningful, socially active and intellectually-stimulating activities (*cultural network & social capital*). Building social networks, and doing something purposeful with the time available [73, 74] is perceived as restorative (*personal*).

IF [17] trained and supported local participants in volunteering roles in museums in Manchester. Both projects used target recruitment to address social inequalities. Still, further work is needed to improve diversity in museum volunteers (*GIVE*'s participants were 80% White British)[23]. The long-term outcomes generated value mainly for the participating museums, gaining 30,000 hours of volunteering from 231 local participants even after the project was finished – 47% of the volunteering hours were delivered *after* the completion of the volunteering placement[58]. *IF* increased participants' confidence in taking the next steps in supporting their own wellbeing (75% *IF* helped transform their lives or positively change their perception of their own abilities and skills). In the long-term, almost 60% reported sustained wellbeing improvement over 2-3 years, with new pathways to meaningful life opportunities (30% secured entry to further education or gained paid employment) (*education and skills* and *what we do*). Employment is one of the most significant determinants of health, as it enables financial security, social

mobility, and social networks, and personal growth[39]. *IF* led to reductions in stress, improvements in creativity, aspirations (*personal*), social connections (*our relationships*) amongst people from disadvantaged backgrounds. In terms of life satisfaction (*personal*), participants' scores increased post-placement, then again after year 2, rising to above the national average with a slight dip after year 3. Sense of purpose in particular remained high after year 3, reflecting the GIVE findings. The programme has also led to increased levels of volunteering, and changed attitudes to museums and heritage settings (*what we do*).

Volunteering in the museum is a good example of reverting historical processes of inequality through the development of normative and resource social capital – for example if volunteering in a museum should lead to paid employment when volunteers use their learned skills and social networks to get a job[33]. At the same time, developing and restoring social relationships in the community helps to reduce social isolation and improve mental health and wellbeing.

Regarding the *Events* theme, the literature suggests that the hosting of cultural mega-events tends to increase the residents uptake of volunteering[90]. In Hull UK CoC 2017[15], 92% of volunteers were white British, with a higher proportion of female volunteers (71%), half were employed (51%), and the age profile was diverse. In the case of Liverpool ECoC 2008, the event seems to confirm the literature with volunteering interest increasing significantly (mean = 3.31)[11]. Volunteering in these studies is both a mechanism of success and a wellbeing outcome (*what we do*). Further granular research (or better reporting) would be needed to understand the social capital generated by volunteering in cultural mega-events.

Regarding the *Community* theme, Clennon & Boehm[54] argue for the benefits of volunteering and mentoring in arts and culture interventions as a strategy to cascade leadership skills, and sustain the legacy of the intervention. Volunteering in the community contributes to generate normative social capital. However, no further evidence or rationale is provided on how volunteering in the community contributes to generate resource social value that would mitigate social inequalities, especially within disadvantaged communities.

Fostering a sense of connection, enrichment, and contribution to other people and their stories, appeared to be a major differentiator of heritage volunteering compared with other types of volunteering[75]. Volunteering can be an effective intervention to tackle social and health inequalities by fostering active cultural participation, engagement with heritage over a long-term period, facilitating specialised training and intellectual stimulating environments, social networking with peers and arts and culture experts. Five[23, 58][6][10, 11, 54] studies included in the review provided evidence that volunteering lead to sustained long-term improvements in public health, wellbeing, and employability.

Inputs: duration & resources

Last but not least, from a pragmatic perspective, it is important to discuss the heterogeneity of inputs invested in place-based arts interventions, considering duration (from short- to long-term), funding, and infrastructure (e.g., cultural organisations, collections, heritage).

Long-term and sustainable interventions over time with target recruitment (structures in place to facilitate access and participation) are transversal to all studies as inputs to facilitate wellbeing outcomes and social inclusion. The included interventions range from 1 to 3 years, although there was lack of detail on the length of the neighbourhood-focus interventions of cultural mega-events. Recommendations across the three themes address the need for long-term intervention to sustain effects on wellbeing over several years[10-15, 23, 53-59]. The

issue of duration also impacts the quality of collected evidence. Short-term interventions with immediate post-intervention evaluation are limited in their capacity to capture long-term effects.

Regarding the City/Capital of Culture subtheme of the *Events* studies, Hull UK CoC 2017[15] invested £32.8m in the cultural programme, including the Creative Communities Programme, funded through a grant initiative. Furthermore, the UK CoC initiative attracted an additional £48M for major capital expenditure (e.g., public realm enhancement and cultural infrastructure). Overall, the cultural mega-event had 80 funding partners, including Arts Council England, Heritage Lottery Fund, Big Lottery Fund. From the £32.8m, £6.2m were spend in local organisations' goods and services, with 44p in every £1 reinvested into the local economy. Included studies provided no specific data on the financial inputs for the ECoC Maribor and Liverpool, Steiner, *et. al.*[12] stated however that the cultural mega-events required 'significant' public and private investment. National, city, regional public-sector contributions are, on average, 77.5% of total investments. While the European Union contributes with 1.8%, and private sponsorship with 13% of the average €25.6M of investment on cultural programmes, and between €10M-€220M in capital expenditure. Concerning Riga ECoC 2014, Tjarve & Zemīte[13] state that the *Road Map* programme was 'a large number of small initiatives with limited funding', that 'might be among one of the most sustainable results with significant influence on the local development of the city'. The Qualitative Comparison Analysis demonstrated the value of resources, such as hyper-local cultural organisations and cultural heritage, as drivers of community cultural life. Attanasi, *et. al.*[55] reported that the latest edition of the Music Festival costed €870,000 a year, with over €609,000 being spent only on the final concert (distribution of 70%-30%, respectively). At least 40% of the costs are financed by the region of Apulia, and between 15%-25% by the local private sector.

Regarding *Community* studies, only Clennon & Boehm[54] reports on the financial inputs of the project – £23,500 grant from the Young Roots Heritage Lottery.

In the Volunteering subtheme of *Museums*, Wardy, *et. al.*[58] provided data on the funding invested in the intervention and its social return. *IF*[58] delivered by Imperial War Museums North and Manchester Museum in partnership with eight other museums was also a social return on investment study. From the £557,200 invested by the Heritage Lottery Fund over the three years (2013-2016), *IF* generated social and economic value of approximately £2 million, and approximately £3.50 of social and economic return was created for each £1 invested. Thomson, *et. al.*[23] was funded by The National Lottery Heritage Fund (no figures were disclosed). The study reveals that the majority of respondents received no external funding for their volunteer programmes, and the ones that do, only 10% named their funders (e.g., Esme Fairbairn; Wellcome Trust). On Social Prescribing subtheme, the Thomson, *et. al.*[59] and Todd, *et. al.*[57] study was funded by the Arts and Humanities Research Council. The authors state that museum-based social prescribing is 'low cost' and 'cost-effective' but no specific figures are disclosed.

However, across all studies there is no indication of programmes that scaled up the interventions. In fact, the majority of studies provided poor descriptions of the intervention, particularly regarding the inputted resources, which poses a challenge in terms of replicability and scalability [2].

- *The social value of heritage*

Heritage, as an intangible asset, is a resource used across nine of the included studies[15, 23, 53-59] engaging participants with place, articulating individual narratives, and developing

skills. Hull UK CoC 2017 celebrated the city's heritage. When possible, heritage was included in all events (1 in 2 commissions were inspired by heritage). The main events were based on historical aspects of the city, which reinforced the heritage focus of the programme. Nearly all (91.3%) the audiences felt that using an arts-based approach helped to break down barriers and fostered appreciation, understanding, and increased engagement with heritage (*what we do*). This strategy's outcomes are evidenced by the audiences' increased knowledge of the city's heritage and history (2 in 3 residents; 71% and 70% of visitors from outside Hull rated their learning, respectively 7-10 out of 10), and skills development (23%)[6].

La Notte della Taranta[55] was created in the late 1990s to revitalise the linguistic and intangible cultural heritage of Grecia Salentina (Province of Lecce, Italy) including traditional music ('pizzica salentina'), dance (Taranta), and language (the ancient Greek dialect griko). Attanasi, *et. al.*[55] argued that the heavy investment, financial and otherwise, in the organisation of the festival is a valuable return on investment as the festival leads to socioeconomic development of the host villages. This is due to the visitors' economy, and the strengthening of cultural identity, as the event is grounded in local cultural intangible heritage. The study argues for the correlation between local tradition being celebrated by residents and tourists, and the growth of social capital, innovation, cultural tourism, economic development, and local identity revitalisation. However, the study is focused on trust, and instantaneous social capital, failing to provide evidence of the festival's effectiveness on preserving and fostering intangible cultural heritage[55].

The *Young Musicians for Heritage Project*[54] community art-led youth groups researched Crewe heritage to develop contemporary music expressions, while fostering skills and increasing their mental and social wellbeing (*subjective* and *what we do*). The youth groups worked with local historians and students from the Manchester Metropolitan University connecting heritage, drama and music. Heritage was the thread that wove the young people's interests together; some were interested in trains and railways, while others in murder mystery. Heritage-based creative activities were aligned with the needs and the interests of the group and organically introduced into the youth groups activities. As such, heritage was not viewed as add-on imposed from outsiders, but embedded in the creative activity led by and with the group, creating a new outlet for the participants, some of whom faced challenging emotional/social issues, to develop skills (e.g., networking, leadership, creativity) and improve their subjective wellbeing. Young people's interests were fostered and connected with anchor institutions such as Crewe City Hall, Crewe Heritage Centre, Crewe Victorian Murder Mystery Tour, and literature, such as Charles Dickens' *The Signal-Man*, reconnecting them with their local heritage and increasing their interest and participation in arts and culture (*what we do*).

Engaging Communities with Cultural Heritage through Place-Based Narratives[53] creatively engaged children to produce place-based narratives of their daily journeys between home and school, and afterwards, convert those narratives into AR Maps that the children and their families could experience and share. This study is an example of the combination of arts-based and novel technologies to empower children to interpret, engage and communicate their viewpoints about cultural heritage. The study's contribution resides in the generated social value of arts and technology-oriented identification, interpretation, and dissemination of cultural heritage within the community. The reinterpretation of place-based narratives facilitates the connections between people, objects, sites and events in the urban landscape[53], while improving individual and community wellbeing (*subjective, our relationships, and where we live*). Despite this study being categorised within the **Community** theme, it provides also a contribution to understand the value of anchor institutions such as schools and museums. At

the end of the project, a ‘celebration’ took place at the *Hove Museum* to which all children, their families and friends were invited to see the AR Map for the first time. The children were reported to have felt ‘very proud’ to see the content they had produced being rendered on the screen at the local museum. The recognition of their creativity and work seems to have had a powerful effect on children’s view of themselves and feeling of belong to a neighbourhood (subjective, and *where we live*). This study demonstrated the value of art and technology co-creation with young people to raise awareness about their surrounding cultural heritage, increasing arts and cultural participation (*what we do*), developing digital skills (*education an skills*), enhancing their sense of belonging (*where we live*), and happiness (*subjective*) – there was a 45% increase in children feeling very happy, an 18% increase in children reporting liking themselves, a 15% increase in children feeling liked by other people, and a 15% increase in children reporting that they coped with difficult situations happily or very happily.

Through heritage engagement, participants developed a strong connectedness to human experiences, their surrounding heritage, increased active cultural participation, and developed social and cultural capital. This led to improvements in self-awareness, sense of belonging, imagination, ability to narrate experiences and relate better to other (*personal, our relationships, and where we live*)[23].

OUTCOMES

Community

Echavarria *et. al.*[53] and Clennon & Boehm[54] recruited samples of children and adolescents, aiming to use the local community and place-based narratives to underpin their interventions and create meaningful connections. Echavarria *et. al.*[53] implemented ten workshops at a school, where children created their journey from home to school by constructing their houses from materials, which were then digitised and brought to life using novel technology. The children could then share this with the community, friends and family, and feedback showed they were engaged with this aspect, feeling very proud and eager to show their artwork. Wellbeing outcomes were evaluated before and after the workshops, with the results showing a notable increase in children’s self-esteem, confidence, and resilience. Clennon & Boehm[54] presented evaluation on two significantly longer projects, spanning a year, but found similar positive impacts on individual wellbeing as well as collective self-esteem. The projects worked with disadvantaged youth, exploring the heritage and history of Crewe through music and music technology. Data collection was conducted throughout the course of the project to evaluate its efficacy as well as the underlying mechanisms of relationship building and creative embedding. The authors argue this allowed wellbeing outcomes to emerge over time, giving focus to the process as opposed to the ‘end game’. To evidence this, four individuals’ case studies were presented showing the process of the following wellbeing outcomes: 'gaining emotional awareness', 'enhancing self-esteem', 'finding anger management strategies', and 'enhancing self-esteem and confidence around sexual orientation'. The social value of the project in these disadvantaged areas was also emphasised by the youth group staff, who highlighted its individual/community interconnectedness as a driver for collective self-esteem. This is also reflected by Echavarria *et. al.*[53], where children reported an increase in feeling like by others, indicating meaningful community connection. Clennon & Boehm perhaps offer more depth to Echavarria *et. al.*[53]’s results regarding the mechanisms behind developing self-esteem and confidence through engaging in community-based creative processes, as well as

showing how these processes can impact other outcomes such as emotional awareness and management.

Events

○ *Music festival*

Attanasi *et. al.*[55] investigated instantaneous social capital during a two-weeklong music festival in Lecce, Southern Italy, which lasts for two weeks and consists of daily minor concerts followed by one concluding major concert. The festival celebrates traditional music and is strongly rooted in local cultural heritage. Measures were taken over 5 annual editions of the festival, using trust as a wellbeing outcome to determine levels of social capital. Results showed that the festival creates instantaneous social capital through the mechanism of mutual trust between festival goers and strong bonds between people, and people and place. However, overall levels of social capital declined through the first 3 years and levelled off for the last two. Surveys during the last two years included extra questions on generalised trust, so it is possible this decline may have continued; indeed, the authors postulate that economic decline in Italy has led to perceptions of wider gaps between people and consequently lower generalised trust, which could not be combatted through the shared experience of the festival. Social capital was higher during the minor concerts, which are more reflective of tradition and local culture, than for the major concerts, which lean more towards general entertainment and atmosphere. This suggests connection with culture is a stronger driver for social capital, as attendees feel more connected to those around them due to the shared celebration of heritage. The findings also showed that new attendees experienced higher levels of social capital than regular festival goers, as did tourists, which could indicate that the novelty of the festival fosters excitement at being a part of a connected community, therefore increasing trust in fellow attendees. This is supported by the finding that those who viewed mass gatherings as being a positive thing had higher levels of social capital. Being more highly educated significantly reduced levels of instant trust, suggesting education moderates the effect of a shared cultural event on trust and bonding.

○ *Cities/Capitals of Culture*

Five papers evidenced the impact of hosting ECoC, and one of hosting UK CoC. None looked at generalised trust as a wellbeing outcome, however various measures relating to community, connectedness and belonging were explored. The findings from Liu[10, 11] from Liverpool were particularly interesting as they were somewhat contradictory. Quantitative analysis pre and post ECoC year showed that sense of community in all four boroughs declined from baseline to post-event, though increased slightly during the year in the more deprived area of Kirkdale. However, when evaluating legacy outcomes (2014), residents perceived that the ECoC had positively contributed to community development by enhancing social network and sense of community. Similarly, quantitative measures pre and post UK CoC year showed that Hull residents felt community cohesion had improved as a result and that they felt more connected to their community as the event had given everyone a chance to celebrate and share together. This reflects Attanasi, *et.al.*[55]'s findings that the sharing of a celebration rooted in local culture and heritage can foster connection. Liu[10] found that at the time of hosting, Liverpool city centre experienced increased antisocial behaviour and noise which might in part explain their decline in community cohesion. Related to community connection, focus groups with Hull residents found positive impacts on social isolation and loneliness through the reduction in feelings of anxiety and depression.

Liu[10, 11] also found that image and identity legacy were rated the highest for residents, as they believed hosting ECoC had improved the image of Liverpool and its appeal as a cultural destination. Similarly, residents of Maribor scored significantly higher than the rest of Slovenia when rating community pride and community reputation before their ECoC year, scores which increased for both groups after the year was over. No long-term legacy effects were measured as for Liverpool; however, these findings demonstrate that improved image can geographically extend beyond the host region as a result of hosting ECoC. Steiner *et. al.*[12] also compared ECoC host cities with non-host cities from the same region, measuring the outcome of life satisfaction after the event. It was found that host cities had significantly lower life satisfaction scores when all other variables were controlled for; this difference was not present before the event or after the announcement of their city as host. Residents of Hull showed improved life satisfaction at the mid-point of their year as UK CoC. However, these scores dropped when the event was over, and Steiner *et. al.*[12] found no differences in life satisfaction two years after hosting, suggesting any impacts, positive or negative, are short term only. After Riga's year as ECoC, however, 85% of the 502 residents surveyed reported being satisfied with the quality of life in their neighbourhood suggesting a stronger effect, however no baseline measures were taken for comparison, and no long-term follow-ups were conducted to confirm maintenance. Only the report from Hull addresses loneliness as an outcome, with citywide surveys showing little impact. However, focus groups highlighted how many individuals had benefitted in terms of reducing social isolation and loneliness.

Hull residents showed a similar pattern with happiness outcomes as life satisfaction; a rise in self ratings of happiness during ECoC year which returned to baseline once the event was over. Though different methodologically, this reflects Echavarria *et. al.*[53]'s findings that engaging with a creative process can cultivate feelings of happiness; indeed, 81.4% of Hull residents said the project they took part in made them feel happier. The Hull paper also evidenced impact of the event on self-esteem and confidence, finding an increase from baseline to post-event for children, once again reflecting Echavarria *et. al.*[53]'s findings, as well as for volunteers. The number of residents who agreed they felt confident volunteering rose significantly, as did the number of residents who felt confident to take part in an arts or culture event. Arts and culture participation as an outcome was apparent in Liverpool and Riga findings. For the former, residents showed high levels of engagement during the programme, particularly those living in the city centre, displaying increasing interests in cultural activities as well as attendance to amenities like museums and galleries as a result of hosting ECoC. In terms of legacy effects, this cultural interest and participation was maintained[11]. However, perceptions of accessibility to arts and culture events from residents in the more deprived areas of Kirkdale and Knotty Ash decreased throughout the year, indicating that arts and culture participation, which is a driver of wellbeing, may be more pronounced in more affluent, or geographically closer locations. In Riga, 63% of residents said they would spend their time in their local neighbourhood due to interest in culture and leisure activities. However, of the residents who reported they were not satisfied with quality of life in their neighbourhood, lack of cultural activities was the main reason. Findings showed that in terms of governance outcomes, there was a problem with a lack of collaboration with and between cultural sectors, which may explain some deficiencies in neighbourhood cultural activities despite the opportunities the ECoC brought. Liu[11] instead found that residents perceived positive large-scale investment and regeneration by authorities, particularly improvement in infrastructure, cultural facilities, and arts and culture events, which supports the maintained interest in arts and culture participation.

Steiner *et. al.*[12] found that employment and higher education diminished the negative impacts on life satisfaction as a result of hosting the ECoC. In terms of employment as an outcome, Liu[11] found that ECoC had some long-term impact on job creation, but that this was limited. There was evidence from the report on Hull that skills learnt as part of their volunteer programme has a positive influence on future employment prospects, and many volunteers said they had learned skills they could use in later life. Skills as an outcome in its own right was positively impacted by participating in Hull's year as UKCoC, both for volunteers and children taking part in the 'No Limits' programme.

Museums

○ *Volunteering*

Similarly to Hull's volunteer programme, Warby *et. al.*[58] demonstrated positive impact on skills outcomes, finding that volunteers' perceptions of their own skills from baseline increased when measured after the programme. They also reported that 28% of their volunteers progressed to a work opportunity demonstrating the programmes' impact on employment. Thomson *et. al.*[23] similarly found that learning information and passing on knowledge as part of the volunteer placement increased everyone's ability and embedded wellbeing across the museum. Volunteering itself also has a direct positive impact on wellbeing, and participants from Warby *et. al.*[58] reported an increased perception of heritage opportunities. This also ties in with findings from COC reports, whereby exposure to arts and culture participation can promote cultural interest and opportunity-seeking. Volunteering also increased feelings of value and belonging through dedicated time and effort, leading to purposeful fulfilment. Feeling that what we do is worthwhile can influence individual wellbeing, and volunteering had a positive impact on this outcome. Having people to rely on was also an outcome that emerged as a result of the volunteer programmes fostering social connections and creating networks. This is reflected on a larger scale in some of the COC studies, where people felt more connected to their community as a result of shared participation.

Mental wellbeing was also evaluated before and after the volunteer programmes. Thomson *et. al.*[59] found that SWEMWBS scores declined, then recovered and stabilised by the end of the programme. For the UCLWBM, which measured changes in emotion to determine individual psychological wellbeing, scores improved each session from pre to post measures, but saw an overall decline across the programme. The reduction was significant from the first to the last session. Warby, *et. al.*[58] however, found that all measures of mental wellbeing improved from baseline, which was significant for 75% of participants. This improvement was maintained 2- and 3-years post programme. Though participants were below the national average when recruited, this demonstrates strong evidence to support the efficacy of this type of programme for disadvantaged groups. Qualitative evidence from Thomson *et. al.*[23] suggested that later sessions in their programme were harder and more demanding, perhaps explaining the decline.

○ *Social Prescribing*

Thomson *et. al.*[59] also gathered data on individual psychological wellbeing rating changes in positive emotions, to measure the impact of a museum-based social prescribing study. They found that all six emotions increased as a result, with 'cheerful' contributing the most. Dodd & Jones[56] found similar results; all positive emotions increased, with 'happy' and 'enthusiastic' being the most influential. In terms of negative emotions, 'anxious' seemed to decrease, though this was statistically insignificant due to sample size. Through qualitative analysis of Thomson *et. al.*[59]'s work, Todd *et. al.*[57] found that participants talked about a range of emotions

relating to happiness such as joyful and cheerful, with some even saying they might have felt 'low' and 'unloved' without the project. They also found that the programme helped participants build self-esteem. Results from these studies suggest that social prescribing of museum-based programmes for socially isolated groups can have a positive impact on mental wellbeing and emotions.

Some outcomes from Todd *et. al.*[57] were not explored by other studies, likely due to their qualitative methodology allowing for wellbeing outcomes to emerge instead of being pre-determined. Loneliness was a key outcome, and they found that the prescribing programme helped build relationships and meaningful connections, making participants feel less lonely. This was not true for all, however; some did not want to make those social connections as they did not believe that was the point of engaging with the programme. Participants also discussed health, in particular how the programme helped them overcome mental and physical limitations. At first some were wary that their health would stop them taking part, but participants said the benefits of the programme outweighed any struggles they felt. Aside from the subjective wellbeing outcomes discussed, the only other outcome in the prescribing theme of studies was education – Dodd & Jones[56] demonstrated a positive impact on education and awareness of smoking through a museum-based visit.

CONCLUSION

This review aimed to answer the research question *What is the social value of place-based arts and culture interventions at an individual and community level in the UK and Europe?* The narrative synthesis of the 14 included studies provides a nuanced understanding of the impacts of arts interventions on wellbeing and social inequalities in the UK and Europe. To do so, the review i) provided evidence of the social value of arts interventions to improve wellbeing outcomes across 20 indicators of the UK's National Wellbeing Framework[22]; ii) synthesised the mechanisms of change of place-based art, culture and heritage interventions; iii) discussed the value of place-based heritage in improving wellbeing; and iv) addressed the role of inequalities in shaping cultural access and participation, and the contribution of place-based art, culture and heritage interventions in mitigating social and health inequalities.

The review's contribution is twofold i) evidence of the effectiveness of long-term community-based participatory art practices to improve wellbeing and tackle the social determinants of health and improve wellbeing; and ii) provides an insight into the mechanisms that are more efficient in achieving those outcomes, and contributes to the understanding of the drivers of inequality. Current conclusions are insightful but are limited, and additional, high-quality mixed-methods research is needed to build on these findings.

The **Community** theme demonstrates an increase in children and young people's self-esteem, confidence, resilience (*subjective*), and collective self-esteem and sense of belonging (*where we live*) in disadvantaged youth communities. The studies use *participatory art practices*, particularly place-based narratives and active participation, to address heritage topics and, in one case, the use of new technologies, such as VR (*duration & resources*). Specialised training, hyper-local cultural leadership, professional empathy, and social networking (*cultural networking & social capital*) were also identified as mechanisms of success. These studies evidence how community embedded, medium- to long-term, participatory art practices have more long-lasting eudemonic effects. However, further longitudinal research would be needed

to corroborate these findings. The participants-centred and flexible arts interventions that draw on partnership working were particularly valuable to engage individuals from disadvantaged backgrounds and achieve positive wellbeing outcomes.

The **Events** theme has much more nuanced impacts. None looked at generalised trust as a wellbeing outcome, though various measures relating to community, connectiveness and belonging were explored. Both sub-themes, Music Festival and City/Capital of Culture, introduced a distinction between two typologies of art interventions: i) short-term, large-scale, aesthetically accessible, and free activities, staged in the city centre (e.g., concerts); and ii) hyper-local, co-created, intellectually challenging, expertly facilitated, longer-term and heritage focussed. These findings suggest that the former are arts interventions that can foster receptive participation (*what we do*) due to increased cultural offers and infrastructures, instantaneous trust between participants by celebrating together (*our relationships*), and improved image and identity (*where we live*), but without lasting effects. On the other hand, the latter, using the same mechanisms of success as the **Community** and **Museum** studies, seems to increase *subjective* wellbeing, active participation and volunteering (*what we do*) through place-based narratives, co-creation, and other participatory art practices, promoting social cohesion, community networks (*our relationships* and *where we live*), and improving skills (*education and skills*). Adverse and neutral outcomes are also evidenced, namely the decline in community cohesion (*where we live*) and neutral impact in life satisfaction and happiness (*personal*) in the UK and Europe. Four studies provide evidence on how the City/Capital of Culture might exacerbate social inequalities at micro and macro levels – an increase for high-income, and a decrease for low-income residents in life satisfaction (*personal*) [12]; and only the developed European regions (including the UK) suffer less from hosting the ECoC.

The **Museum** theme provided evidence of how the museum as a heritage and community-asset can be a context for arts interventions that foster wellbeing and tackle health and social inequalities. These studies corroborate the value of social prescribing and volunteering to address social inequalities and increase active cultural participation. Studies from **Museum** and **Community** themes provide evidence of the value of medium- to long-term and heritage projects (*duration & resources*), artistic expertise, cultural leadership and social networking as positive enablers (*cultural networking & social capital*). Active participants and volunteers developed intellectually stimulating activities, creative networks and social connections with artists and other art experts, fostering social capital (*our relationships*). They produce artistic work through long-term participatory art practices (studies lasting up to 3 years), learn knowledgeable skills, and develop confidence in resource-rich, professional, empathic and safe environments (*subjective, health, and education and skills*).

IMPLICATIONS FOR THE WELLBEING & INEQUALITIES DEBATE

Tasked with answering the question *Can place-based arts interventions tackle the social determinants of health to reduce health inequalities?* the review evidences that socially cohesive communities (*social capital*), and active cultural practice across the life course (*cultural capital*) are social and cognitive protective factors that enable health and wellbeing[38].

The museum and the community are favourable contexts for hyper-local, highly engaged, and medium- to long-term art and cultural practices. The museum is a rich heritage setting (e.g., collections, buildings, expertise) that can be a safe and stable environment to engage

participants across the lifespan in medium- to long-term social prescribing programmes. The museum has the infrastructure to foster extensive (weak ties) cross-sector collaborations with health and social care, and intensive networks (strong ties) with experts, community cultural leaders, residents/participants/audiences. Museum-based volunteering was effective to develop cultural and social capital, with sustained long-term improvements in health, wellbeing, and employability.

Those interventions with community artistic expertise and cultural leadership were able to develop heritage-informed, intellectually challenging, and art co-creation activities with children and young people with historically low levels of participation in arts and culture. The medium- to long-term, hyper-local and collectively owned participatory art practices fostered complex social interactions, and sense of community, and increased active cultural participation, which developed cultural and social capital with potential sustained effects in wellbeing, community coherence, and skills.

Investment in cultural infrastructure, urban regeneration and extensive event programmes fostering passive participation in cultural mega-events, with potential rerouting of public spending from other social priorities (e.g., health, affordable housing, etc.), leads to immediate and short-lived positive outcomes that can exacerbate social inequalities in the long-term.

Despite the evidence of the contribution of place-based arts interventions to alleviate the social determinants of health, caution is needed when considering their impact on the underlying causes of structural social inequalities. The review does not address the role of place-based arts interventions in the socioeconomic roots of social and health inequalities (e.g., poor housing, unemployment, food insecurity, etc.).

RECOMMENDATIONS

Aggregating evidence can be the first step to informing policy and practice. Action is needed to raise awareness of its implications, and continue to collect evidence in a continuous effort to improve arts and culture participation and reduce social and health inequalities.

Further attention is needed to develop robust arts interventions that are assessed within sustainable and robust research programmes to demonstrate long-term impacts and produce scalable road maps of *what works* for wellbeing. Equally, further attention is needed to the artistic or aesthetic quality of participatory art practices, both in the delivery and research of the intervention as distinct from other forms of social engagement. Potentially, a focus on the aesthetic quality of participatory art practices might lead to a better understanding of the uniqueness of arts-based participation in generating wellbeing outcomes compared to other forms of participation (e.g., volunteering in non-art organisations). However, a main strength of the present review is its contribution to the knowledge of specific individual and community wellbeing outcomes resulting from participating in arts, culture, and heritage activities, particularly the impact of community projects within cultural mega-events and methodologically robust museum-based programmes.

Through knowledge exchange, wider dissemination and scaling-up, evidence needs to be developed into flexible and usable intervention principles that can be interpreted and re-created in multiple settings with well-designed research programmes. This can be achieved at four levels:

- *Nationally* – develop national policies for action on community-based participatory art practices; ensure proportionate allocation of resources for strategic implementation targeting but not limited to disadvantaged communities.
- *Cross-sector collaborations* – bringing together researchers, practitioners, policymakers, and citizens to fulfil and evidence the long-term community-based participatory art practices' role in tackling the social determinants of health and improving wellbeing.
- *Organisationally* – upskill the health and cultural workforce through training on the more efficient mechanisms in achieving wellbeing outcomes, and research capacity building. Capitalise on existing networks and knowledge of robust research designs that work on participatory art practices.
- *Community* – engage the public through wider, more socially diverse strategies. Develop interventions across the life course, co-design interventions with participants addressing their interests and needs, and integrate those interventions with national policies.

STRENGTH AND LIMITATIONS

Clift, *et. al.*[2] and Belfiore[19] call for rigorous and systematic reviews to synthesise reliable evidence for policy and practice. However, the challenge identified by Belfiore in her 2006 paper is still prevalent in the field – unsatisfactory evaluation methodologies – adding to further challenges arising from the field's progressively multidisciplinary nature.

Overall, most studies evidence short-term individual and community wellbeing outcomes, as long-term benefits are resource intensive, demanding mixed-method longitudinal study designs with the same sample and raising attribution issues. The field of place-based arts and wellbeing is multidisciplinary, with heterogenic methodological approaches, which pose challenges to evidence synthesis. Most funded health research privileges traditional hierarchies of evidence, where randomised controlled trials are at the top. However, these methodological designs are not the most suited to research the social determinants of health[39]. A balance between methodological robustness that allows comparability (e.g., standardise scales of wellbeing) and attribution, with qualitative and arts-based designs that better provide insights into the mechanisms of change is needed.

The review emerges from the awareness of the importance of arts in promoting individual and community wellbeing. It recognises the methodological challenges of capturing the social value of arts interventions from a multidisciplinary angle. One strength of the review lies in its scope, which was focused but comprehensive. The search terms were thorough regarding constructs of place, wellbeing, social value, and arts and culture activities, and criteria allowed for the inclusion of a good range of research with few restrictions on study design, population type, and setting. It could be argued that the high number of excluded words in the search string might have resulted in missing relevant research. For example, 'sport' was excluded as it was not a focus of the review, but some sports-themed research may have been part of a larger evaluation encompassing useful evidence on arts, culture, and heritage themes. However, excluding terms outside the review's aim was deemed necessary due to time constraints. Conducting a call for evidence also allowed for good quality data to be gathered quickly from experts in the field of arts and culture research. Study designs with comparators could be included, which provided robust data, an important contribution in this field given the common criticisms of its lack of methodologically strong evidence.

Another strength of the review was the use of the UK's National Wellbeing Framework[22] as its guide, which specifies outcomes that influence wellbeing and is based on robust evidence. This helped steer and focus the analysis of results to ensure outcomes were relevant to the aim of the review. However, a disadvantage of this method is that valuable outcomes would have been missed if we did not take a flexible, as per example, including personal wellbeing domains and indicators as part of subjective wellbeing. Furthermore, in some studies, two factors in particular – 'arts and culture participation' and 'volunteering' – are considered mechanisms of success to achieve wellbeing outcomes as opposed to outcomes as per the UK's National Wellbeing Framework[22]. Another limitation of the review lies with quality assessment; instead of separating quantitative and qualitative methods; the use of a tool such as the Mixed Methods Appraisal Tool might in future facilitate more robust quality assessment of mixed methods research.

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APPENDICES

APPENDIX 1 - POPULATION INTERVENTION CONTROL OUTCOME (PICO) CRITERIA

Population/Setting	Any
Intervention	place-based arts and culture interventions
Comparison	N/A
Outcome	At least one wellbeing or social inequalities outcome
Study types included in the screenings	No restrictions
To be excluded	<ul style="list-style-type: none">- Non-arts or cultural interventions- Non-place-based / Non-cultural event- Languages other than English

APPENDIX 2 – INCLUSION CRITERIA

Parameter	Inclusion criteria
Condition	Healthy population
Publication dates	2002-2022
Publication types	No limit, including policy reports and grey literature
Study types/designs	<i>Primary and secondary research:</i> Evaluations, RCTs/clinical trials, observational studies (cohort (before and after) and case-control studies), pragmatic trials, impact assessment, meta-analysis
Study subjects/participants	Humans
Age	No limit
Gender	Male, female, non-binary
Interventions	Assess the impact of arts and culture interventions /events/mega events in individuals (wellbeing) and in society (social inequalities)
Outcome(s)	Improve wellbeing outcomes and social inequalities
Follow-up time	NA
Language	English
Research disciplines	Humanities and Social Science
Geographic location/country of study	UK and Europe
Settings/context	City, town, neighbourhood, borough

APPENDIX 3 – CHARACTERISTICS OF INCLUDED STUDIES

Study	Theme	Aim	Setting	Sample	Intervention/event	Comparator	Methods/Measures	Wellbeing outcomes
[1] Echavarría, et al (2022)	Heritage (school project)	To investigate how communities can meaningfully connect with cultural heritage through creative experiences while aiming at lowering the entry barriers to increasing audiences' participation.	A school in Brighton and Hove, UK.	Children aged 9-12 years (n = unspecified)	Part 1: Psychogeography and creative methods were used to help the children generate place-based narratives of their daily journeys between home and school. They crafted their own houses from physical materials. This was done over 10 workshops which were delivered by an artist at the school. Part 2: The houses were digitised, and the narratives were converted into Augmented Reality (AR) maps that children could experience and share at a community event after the workshops.	Pre and post-part 1 of intervention.	Children were asked about their wellbeing, confidence, and overall resilience in life. This was done twice – before the workshops and after the workshops (but before the community event).	Happiness - The process made children feel better about themselves and improved their overall mood. There was a 45% increase in children reporting feeling very happy. Mental wellbeing – i) Confidence - 18% increase in children reporting liking themselves and a 15% increase in children feeling liked by other people. ii) Resilience - 15% increase in children reporting that they coped with difficult situations happily or very happily.
[2] Attanasi, et al (2013)	Heritage (music festival)	To estimate the short-term economic impact of the festival and the level of instantaneous capital it was able to generate.	La Notte della Taranta festival, Lecce, Southern Italy	Attendees of the festival (n = 899,500)	Traditional music festival lasting approximately 2 weeks, with 1 minor concert each day and 1 major concert on the final day	Annually for five consecutive years	A questionnaire was designed to investigate the level of instantaneous social capital generated by the festival. Data was collected every year for 5 years (2007-2011) during the 2-week festival period. Attendees were approached and interviewed at random by the researchers, with the interviews spaced out in blocks of time to avoid	Generalised trust - Used to measure social capital. Results indicate the festival creates instantaneous social capital through a strong bond and mutual trust; this occurred for 40% of attendees to minor concerts v 35% for final major concert. Levels declined for first three years then levelled off for last two (last edition – 27% at minor, 21% at major). This effect is stronger amongst first time festival goers versus regular attendees, as well as for

							interviewing the same person twice.	those who viewed mass gatherings as 'positive'. Higher education was associated with lower levels of social capital.
[3] Liu (2014)	City/Capital of Culture (cultural mega-event)	To answer the following questions: How did Liverpool people get involved with ECoC event? How did ECoC affect Liverpool people's relationship with culture? What did Liverpool people feel about ECoC's potential to change the city and their neighbourhood? Did residents' participation and perceptions differ depending on where they live?	Aigburth, Knotty Ash, Kirkdale and City Centre – Liverpool, UK	Local residents from four neighbourhoods, including BME residents and children/adolescents (n = 2252)	European Capital of Culture hosted 2008 - festivals, concerts, arts, and cultural events	Pre, during, post	Residents were selected from each neighbourhood using convenience sampling, and data was gathered via household surveys – this was done annually in 2007, 2008, and 2009 with the aim of completing 200 interviews in each neighbourhood for each time point. Surveys used open and closed questions to assess the following three key themes: • Views of Liverpool ECoC: how residents engaged with Liverpool ECoC and ECoC events; the perceived benefits and drawbacks of ECoC; and how residents think that ECoC will influence the future of the city. • Cultural participation: how residents define 'culture'; how interested residents are in different types of cultural activity; how often they attend and participate in culture; and what impact Liverpool ECoC has had on this. • Perceptions of Liverpool and individual neighbourhoods: what are	Arts and culture participation - 66% of residents took part in an event, and 14% tried a new cultural/arts activity. By borough, participation rates were Aigburth (78%), city centre (72%), Knotty Ash (59%) then Kirkdale (56%). The ECoC made 37% of respondents more interested in cultural activities. The percentage of residents who attended other amenities (museums/ galleries) rose from 2007 (35%) to 2009 (53%) – higher in Aigburth/city centre than Kirkdale/Knotty Ash. Over time in Aigburth, high levels of engagement with the ECoC programme resulted in increased confidence in its positive impact. Some parents felt a lack of dedicated programming for teenagers caused a barrier to cultural engagement. The city centre agreed that Liverpool became a better place after ECoC, as they gained the most from it, reflected in high cultural participation.

						<p>the best and worst things Liverpool residents feel about Liverpool and their own neighbourhood; how do they feel about the quality of life in their city and neighbourhoods, their concerns about crime, and their perceptions of external views of the city; and how all these changes throughout the ECoC process. Two community workshops were conducted in each neighbourhood in 2008 to gather qualitative data on residents' experiences of participating in Liverpool 08, with BME residents, young people, and parents.</p>	<p>Community - belonging to neighbourhood – All four neighbourhoods experienced a decrease in sense of community from 2007 to 2009 -</p> <p>Kirkdale: 69%-57%</p> <p>Aigburth: 61%-42%</p> <p>KnottyAsh: 52%-49%</p> <p>CityCentre: 51%-40%</p> <p>Stronger sense of community in Kirkdale during the year was due to increased engagement with local community projects.</p> <p>All other indicators of place/local identity also decreased, except for the city centre believing Liverpool was a better place after ECoC: 62%-81%</p> <p>Crime/safety - Residents felt there were problems with noise and anti-social behaviour in the city centre.</p>
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<p>[4] Steiner, et al (2015)</p>	<p>City/Capital of Culture (cultural mega-event)</p>	<p>To analyse whether hosting the ECoC has an impact on regional economic development and the life satisfaction of the local population.</p>	<p>Belgium, Denmark, Finland, France, Germany, Great Britain, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, and Sweden.</p>	<p>Local residents of host cities and non-host cities (n = unspecified) Finale sample included 24 host/ non-host city comparisons from 14 countries</p>	<p>European Capital of Culture - festivals, concerts, arts, and culture events</p>	<p>Host and non-host cities were compared. Data was looked at before ECoC selection after ECoC selection had been announced, and 2 years post-ECoC year.</p>	<p>The Life Satisfaction Approach was used to measure subjective wellbeing, whereby respondents are asked about their general satisfaction with their life on a 4-point scale (not at all - not very - fairly - very). This data was drawn from 'The Mannheim Eurobarometer Trend File 1970–2002' which contained longitudinal repeated cross-sectional surveys. Countries with cities that hosted a ECoC were included, and the measures were compared with cities that did not host GDP per capita. Economic growth was also reported.</p>	<p>Life satisfaction - Individuals living in ECoC host regions had significantly lower life satisfaction than other regions (2.94 v 3.05). Regressions also checked for selection, announcement, and legacy effects. Lower life satisfaction in host cities was not present before the city was selected, ruling out reverse causality. Announcement of the city being host also did not affect life satisfaction. Scores 2 years after the event (legacy) show no positive or negative effect of ECoC life satisfaction.</p> <p>Employment - Being unemployed doubled the negative effect of hosting ECoC.</p> <p>Education - More highly educated individuals experienced less of a negative impact.</p> <p>Economy - Faster-growing economic regions suffered less from hosting.</p>
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<p>[5] Fišer & Kožuh (2019)</p>	<p>City/Capital of Culture (cultural mega-event)</p>	<p>To examine whether the geographical area, time, and level of participation, affect the community reputation and community pride of the citizens living in Maribor during its year as ECoC, compared with the rest of Slovenia</p>	<p>Maribor and the rest of Slovenia</p>	<p>Residents of Maribor (n = 2,156) and wider population of Slovenia (n = 2,635) 53% female, mean age Maribor = 49.22, Slovenia = 50.29</p>	<p>European Capital of Culture - festivals, concerts, arts, and culture events</p>	<p>Maribor and Slovenian populations were compared. Data collected through ECoC and post-ECoC</p>	<p>Data was collected through repeated cross-sectional telephone surveying, halfway through the ECoC year and at the end of the year (new sample at the second-time point) using Computer-Assisted-Telephone-Interviewing (CATI). Respondents had to voluntarily agree to participate in the study. The surveys asked about the following: 1. spontaneous recall of ECoC; 2. contribution of ECoC to Maribor/Slovenia, encouragement of creativity, and community pride in Maribor (Likert scale 1-5); 3. stimulated knowledge of ECoC, and participation in ECoC; 4. future presence at ECoC events (why/why not); 5. ECoC events according to price, versatility, and quality; 6. information about ECoC events; 7. sociodemographic data</p>	<p>Community - belonging to a neighbourhood - People from Maribor demonstrated significantly higher scores in their opinions about ECoC contribution to the reputation of Maribor, compared with the rest of Slovenia's (M=3.92 v 3.73), and both groups' scores went up over time (3.87-3.95 and 3.66-3.80 respectively).</p> <p>Slovenes demonstrated significantly less community pride than residents of Maribor at time point 1 (3.68 v 4.06), but this increased significantly for both groups at the second time point and even more so for Slovenes (4.45 v 4.27)</p> <p>Art and culture participation - Those from both groups who participated more actively in ECoC events reported higher levels of community pride than those who participated more receptively (4.24 v 4.09).</p>
<p>[6] Thomson, et al (2020)</p>	<p>Heritage (Museum)</p>	<p>To address health inequalities of local people, working with museums and partners to make heritage more accessible and</p>	<p>Three museums, London, UK: Horniman Museum and Gardens (HMG), National History Museum (NHM), Valence</p>	<p>Young adults aged 18-25 years, older adults aged 50 plus, and people experiencing mental or physical health</p>	<p>Museum staff and volunteers took part in 14 types of training during the project (slightly different in each museum) HGM: weekly over 2 months NHM: 8 fortnightly sessions VHM: 6 sessions</p>	<p>HMG: pre and post NHM: pre and post VHM: pre and post</p>	<p>HMG: Quantitative data was collected pre and post session for 5 sessions, using the Warwick Edinburgh Subjective Wellbeing Scale and UCL Museum Wellbeing Measure. Qualitative data was collected either after week 3 OR 4 using</p>	<p>Mental wellbeing - Pooled SWEMWBS scores for HGM and NHM declined from session 1 (M=27) to 3 (M=22), partly recovered by session 5 (M=24) then stabilised at this average until the last session, however none of these differences were statistically significant. Pooled MWM scores for all 3 museums</p>

		diversified, and assessing the impact on health and wellbeing.	House Museum (VHM)	challenges, social isolation, and long-term unemployment (including volunteers, volunteer buddies, wellbeing champions, and museum staff) 40 volunteers took part in the project (quantitative analysis, n = 29; qualitative analysis, n = 26)			evaluation interviews. NHM: Quantitative data was collected using the Short Warwick Edinburgh Subjective Wellbeing Scale and UCL Museum Wellbeing Measure. SWEMWBS was conducted pre-session from sessions 2-8, and the UCLMWM was conducted at start and end of sessions 4, 6,7 and 8 (with additional 'thoughts and comments' collected). Qualitative data was collected at the end of the project through several methods, including semi-structured interviews, capturing reflections, wellbeing personal meaning maps, personal wellbeing journeys, and reflective diaries. VHM: Data was collected using the UCL Museum Wellbeing Measure pre and post-each session.	showed a small improvement post-session versus pre-session, but a gradual decline across all 5 sessions. The difference between first session (pre M=23.5, post M=27 and last session (pre M=18, post M=19.5) was significant. Qualitative analysis revealed possible reasons for decline - earlier sessions seen as novel /enjoyable and later ones were demanding/tiring. Some volunteers also had negative feelings about their new roles coming to an end. Worthwhile - Dedicated time/effort, commitment and regularity led to sense of value and belonging, which led to purposeful fulfilment. Education and skills - Learning information and passing on knowledge, feelings of agency, being valued, and confidence increased everyone's ability and embedded wellbeing across museum Loneliness/People to rely on - Establishing social networks, increasing confidence, and fostering social inclusion. Supported in role, built relational social interactions
[7] Warby, et al. (2016)	Volunteering (museum)	To evidence the effectiveness of socially responsible volunteering practices in	10 museums, Manchester, UK	Local residents with levels of wellbeing below the national	Training involved in-depth interactive learning, experiential group work, and technical content. Participants also gained 'on gallery' practice, where they were buddied	Pre, during and post	Quantitative data was taken using a survey which was conducted at 4 time points – before the project after the placement, after year 2 and after year 3. To measure wellbeing,	Life satisfaction - At baseline, participants responded on average that they were satisfied with life less than 'some of the time' - after placement this increased then by y2 it had increased to 'often' (above

		<p>Manchester's heritage sector, for improving wellbeing and reducing social and economic isolation, and to quantify potential value to the wider economy that resulted from these outcomes.</p>		<p>average (n = 231)</p>	<p>up with an existing volunteer. Training was 6 hours a week for 10 weeks, followed by a 6-week volunteer placement at either training venue or one of 7 other heritage partners. Placement comprised of direct interaction with visitors and providing knowledge about the venue and collections (including object handling, front of house welcoming, family learning, administration/marketing support).</p>	<p>indicators were drawn from National Accounts of Wellbeing and WEMBWS and included life satisfaction/overall wellbeing, sense of purpose, self-confidence, not isolated/feel close to other, resilience, sense of belonging. Volunteers' perceptions of their skills were also measured - factors were communication/presentation skills, educational attainment, knowledge transfer/application, would continue more volunteering, sense of direction about work, attractive skills to employers. Change in perception of heritage opportunities was also measured. Qualitative data was gathered via in-depth one to one interviews with variety of volunteers, stakeholders, directors etc to underpin quantitative evidence</p>	<p>national average), dipping slightly into the national average range at y3.</p> <p>Mental wellbeing – all other measures of wellbeing improved from baseline (75% of participants increase was significant) to post project, then again to y2, dipping slightly in y3 (60% of participants had a significant sustained improvement). After the project, wellbeing measures had increased to within the national average.</p> <p>Loneliness - Levels of feeling 'not isolated/close to others' improved after the project from 'some of the time' to 'often'.</p> <p>Involvement in volunteering - Responses to the statement 'would continue more volunteering' and 'I encourage others to volunteer' increased from baseline to post-programme measures.</p> <p>Art and culture participation - At baseline, perception of heritage opportunities ranged from 'disagree a little' to 'neither agree nor disagree'. Post placement, these measures increased to 'agree a little' or 'strongly agree', maintain at y2 and y3.</p> <p>Education and skills - At baseline, volunteers' perception of their own skills ranged from 'disagree a little' to 'neither agree nor disagree'.</p>
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								These perceptions improved post-placement, maintain at y2 and y3 - response averaged around 'agree a little', with some saying 'strongly agree'.
[8] Thomson, et al (2018)	Social Prescribing (Museum)	To assess psychological wellbeing in a novel social prescription intervention for older adults called Museums on Prescription and to explore the extent of change over time in six self-rated emotions ('absorbed', 'active', 'cheerful', 'encouraged', 'enlightened' and 'inspired')	7 museums, London and Kent, UK	Adults 65-94 years who were at risk of loneliness or social isolation, and were referred by healthcare organisations. Criteria excluded those who would be unable to travel or participate due to health concerns (n = 115) 63% female, 82% White British	Museum-based programmes: engaging, creative and socially interactive sessions, comprising curator talks, behind-the-scenes tours, object handling and discussion, and art activities inspired by the exhibits. Overall, the museums provided 12 programmes of 10-weekly 2-hour sessions, conducted over two years (2015-2017). Each participant attended one programme.	Pre, during and post	Wellbeing was measured using the Museum Wellbeing Measure for Older Adults - this assesses the psychological wellbeing of an individual as an indicator of mental state, focussing on levels of self-reported change in six emotions (absorbed, active, cheerful, enlightened, encouraged, inspired). It was administered pre and post-session, at the start, middle and end of the programme. Participants also kept weekly diaries and took part in one-on-one in-depth interviews for illustrative purposes. Researchers attended all the sessions and provided the measures.	Happiness/Mental wellbeing - All six emotion words showed significant improvement from pre to post session for all three time-points, and a significant improvement from pre to post-programme. 'Cheerful' was consistently rated as the highest emotion, with 'active' consistently the lowest. 'Enlightened' and 'absorbed' contributed disproportionately significantly higher than the other emotions. Effect sizes indicated meaningful change.
[9] Todd, et al (2017)	Social Prescribing (Museum)	To understand how museum-based social prescribing programs reduced social isolation for older people, by determining the specific elements and	7 museums, London and Kent, UK	Participants were recruited from Thomson et al [8] (n = 20) 50% female	See above	Post and 3-month follow-up	Participants were given a 45 to 90-minute interview post-programme, followed by 20 to 30-minute interview at follow-up 3 months later. They also kept weekly diaries.	Happiness - Participants described changes in emotions, feeling happy, cheerful, joyful, and some said without the programme they might have felt low and unloved. Mental wellbeing - Participants found that the programme helped them build self-esteem and confidence

		processes involved, and how these interacted to create a social and physical environment that enhanced psychological well-being.						<p>Loneliness - During the programme, there was a process of building relationships and meaningful connections, which in turn increased engagement. One participant said the programme ‘made me feel less lonely’, and there was evidence it supported socialising and created opportunity for further connection afterwards. However, not all participants seemed to want to make social connections, and the authors postulate that rejecting the social experience could be a barrier which increases the likelihood of isolation.</p> <p>Health satisfaction/ Anxiety - Participants highlighted their own limitations and how they chose to engage with the programme regardless, often finding that the benefits of the programme outweighed their personal health struggles. Participants became more active as a result, and these limitations seemed reduced. Mental benefits included stimulation and memory retention, and participants highlighted the positive impact this had on their self-confidence and the alleviation of anxiety regarding their cognitive abilities.</p>
[10] Dodd & Jones (2014)	Social Prescribing (Museum)	To advocate for museums and galleries making health and wellbeing a part of their	3 museums, East Midlands, UK	Three projects: 1. Older adults (n = 93); 2. School-aged students (n =	Three projects: 1. Museum projects (including object handling); 2. Museum and art gallery - object handling; 3. Museum visit - use of historical	1. Pre and post (data were also compared to a national pilot study of	1. Data were collected using the Wellbeing Umbrella, which measures psychological wellbeing by capturing changes in both positive emotions (active,	<p>Happiness/Mental wellbeing - Participants showed higher scores on the wellbeing umbrella for positive emotions in post (Means ranged from 3.6 to 4.4) compared to pre session</p>

		<p>core activity, and how they can make a meaningful contribution to the health and wellbeing of the communities they serve.</p>		<p>5); 3. Young people aged 9-24 years (n = 113)</p>	<p>collections to address health issue of smoking, prompting discussion Each project lasted one session</p>	<p>Museum Wellbeing Measures Toolkit); 2. Pre and post 3. n/a</p>	<p>alert, enthusiastic, excited, happy, inspired) and negative emotions (anxious, distressed, irritable, nervous, scared, unhappy, upset). This was done before and after the session. 2. Data were collected using the Wellbeing Umbrella before and after the session, alongside observations and interviews. 3. Data were collected using response cards and questionnaires after the session</p>	<p>(Means ranged from 3.21 to 3.86) - all emotion changes were significant except for 'alert'. 'Happy' and 'enthusiastic' contributed most to the overall increase (28% and 27% respectively).</p> <p>Only a small number of participants completed the negative umbrella so no significant conclusions could be drawn, though it seemed that there was a decrease in the emotion 'anxious'.</p> <p>Compared to the national pilot study, these participants showed much higher levels of wellbeing (M=3.5 pre session rising to 4 post session, versus 2.5 rising to 3).</p> <p>For the second project, the WU used three positive emotions (happy, excited, inspired) and three negative emotions (irritable, nervous, scared) - results showed an increase in positive and a decrease in negative emotion means from pre to post session (Happy 3.4 - 4.3; Excited 2.0 - 3.1; Inspired 2.0 - 4.0; Irritable 2.0 - 1.5; Nervous 1.5 - 1.0; Scared 1.35 - 1.0).</p> <p>Education - For the third project, the session had an impact on understanding/ attitudes to smoking - 71% enjoyed the event, 69% agreed they learnt something new about smoking, 65% changed their attitude towards smoking,</p>
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								67% said in a years' time they would definitely not be smoking.
[11] Culture, Place and Policy Institute (2018)	City/Capital of Culture (cultural mega-event)	To provide an initial assessment of the outcomes of the Hull UK CoC 2017 programme across the following five key impact areas: arts and culture, place making, economy, society and wellbeing, and partnerships and development.	Hull, UK	Local residents (n = unspecified)	UK Capital of Culture hosted in 2016 - festivals, concerts, arts, and cultural events	1. Pre, during, and post 2. Pre, during, and post 3. n/a 4. n/a	1. Surveys measured happiness and life satisfaction over 4-time points: 2015, 2016, interim 2017 and end of 2017. 2. Surveys measured social capital and community cohesion at 3-time points: 2015, 2016, and 2017. 3. Volunteer wellbeing outcomes were measured in 2017*. 4. Children and Young People's wellbeing was measured after the 'No Limits' project* *How	<p>Happiness - 94% of Hull attendees said they had an enjoyable experience, and 81.4% said the project they took part in made them feel happier.</p> <p>Happiness scores on a scale of 1 to 10 rose from 2015 (M=7) to interim 2017 (M=7.35), however at the end of 2017 these scores dropped again (M=6.9) suggesting a short-term impact only.</p> <p>Volunteers reported a significantly higher mean score for happiness after ECoC than other Hull residents (8.2 v 6.9). 6 in 10 volunteers said they were happier with their life since becoming a volunteer.</p> <p>40% of children felt happier as a result of taking part in the project.</p> <p>Life satisfaction - Scores on a scale of 1 to 10 rose from 2015 (M=6.85) to interim 2017 (M=7.2), however at the end of 2017 these scores dropped again (M=6.9) suggesting a neutral impact. Volunteers reported a significantly higher mean score after ECoC than other Hull residents (8.2 v 6.9).</p> <p>Mental wellbeing - 71% of volunteers agreed there had</p>

been an improvement in their self-esteem, and 68% said there had been an improvement to their confidence. 27% of children participating in No Limits said their self-esteem or confidence had increased as a result.

Worthwhile - Volunteers said since becoming a volunteer, they found the little things in life to be more worthwhile.

Loneliness - Little change occurred in feelings of loneliness or social isolation (in both 2016 and 2017, 11% of respondents reported they felt one or the other), though focus groups highlighted a number of individuals who did feel a significant impact in this area.

Community - belonging to neighbourhood - Community cohesion rose slightly from 2015 to 2017, with 87.1% of Hull audiences saying UKCOC placed community at the centre, and 80.3% agreeing it gave everyone a chance to share and celebrate together. 38% of children felt more connected to their local community.

Involvement in volunteering - in both 2016 and 2017, 11% of respondents reported they felt one or the other.

Frequency of volunteering – 478 volunteer masterclasses were run across 110 different

subjects, with 12,352 attendances.

Arts and culture participation

- In 2017, 52% of residents felt confident to take part in arts or culture activities, an increase from 43% in 2016.

Around 95% of residents experienced a cultural activity, event, installation, or exhibition over the course of the year.

Education/skills

- 84% of volunteers felt they had gained skills from Hull 2017 training, and 76% from volunteer shifts, which they could use in other parts of their life. 41% of students felt they had gained or increased skills/ knowledge.

<p>[12] Liu (2016)</p>	<p>City/Capital of Culture (cultural mega-event)</p>	<p>To assess the legacy outcomes of Liverpool as a European Capital of Culture perceived by residents that benefit their quality of life.</p>	<p>Aigburth, Knotty Ash, Kirkdale and City Centre – Liverpool, UK</p>	<p>Local residents that had lived in the area for at least 8 years (n = 592) 52% female, mean age = 44</p>	<p>European Capital of Culture hosted in 2008 - festivals, concerts, arts, and cultural events</p>	<p>Comparing across four boroughs</p>	<p>Quota sampling was used by selecting 3 random numbers from every page in the telephone book for each of the four areas. Surveys were conducted once over the telephone between June and August 2015. To construct the surveys, a variety of measures were developed from the literature (21 in total) to measure economic, social, and environmental legacy related to residents QoL. Respondents rated the importance of each on a 5-point Likert scale. They were also asked demographic questions and to rate their overall support for Liverpool as a host for ECoC.</p>	<p>Civic engagement Residents felt there was an improvement in regeneration and large-scale investment, including infrastructure, cultural facilities/venues, and events/activities (M=3.94).</p> <p>Community (belonging to neighbourhood) - Image and identity legacy came out as the most important effect of ECOC (M = 4.32), suggesting increase in the external image of the city and the feeling that the city is viewed more positively, as well as the promotion of Liverpool as a cultural destination.</p> <p>Residents believed hosting ECoC contributed to community development through sense of community (M=3.79) and social network (M=3.75)</p> <p>Arts and culture participation - Cultural participation (M=4.1) and interest in culture (M=4.07) have both been increased through extensive and geographically spread local campaigns.</p> <p>Employment - There was some influence of the ECOC on job creation, but this was relatively low (M=3.49)</p> <p>Economy - Economic and tourism legacy was rated the lowest in importance (M=3.65)</p>
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<p>[13] Tjarve & Zemite (2016)</p>	<p>City/Capital of Culture (cultural mega-event)</p>	<p>To evaluate and measure the effects of the neighbourhood activities on the programme of Riga 2014. To evaluate cultural consumption and participation effect on the development of Riga's neighbourhoods during the year of the European Capital of Culture.</p>	<p>Riga, Latvia</p>	<p>Riga neighbourhood residents (n = 502) project organisers (n = 107) and Latvian inhabitants (n = 1045) Artistic teams, project managers and entrepreneurs (n = unspecified)</p>	<p>European Capital of Culture hosted in 2014 - Festivals, concerts, arts, and culture events. Particularly 'Road Map' programme, which focused on the development of Riga's neighbourhoods and participation of the local inhabitants in socio-cultural activities. The neighbourhood projects included - tours planned and guided by the local people, art workshops, photo exhibitions, celebrations, neighbourhood festivals, lectures, and discussions. The Road Map had the smallest number of projects, but the largest cultural activity: 117 events</p>	<p>Comparing across five neighbourhoods</p>	<p>Quantitative data was collected through surveys and qualitative data was collected through in-depth semi-structured interviews. All measures were taken post ECoC (2014-15).</p>	<p>Life satisfaction - Project organisers (40% of respondents) affirmed that Riga 2014 has improved the quality of life for the residents. 85% of residents were either very satisfied or rather satisfied with the quality of life in their neighbourhood.</p> <p>Art and culture participation - Residents were interested in their neighbourhood cultural facilities and leisure opportunities, with 63% saying they spend their free time there. Cultural venues alone were not determinant factors for active cultural life in the neighbourhood. Positive outcome is generated by combining such factors as cultural heritage, multilateral cooperation, cultural NGO activity and level of activity in social networks. Satisfaction with leisure time - Out of the respondents who were not satisfied with the QOL, 11 said there was not a sufficient number of cultural activities in their neighbourhood.</p> <p>Civic engagement - Despite such participation opportunities, the major issue is the lack of collaboration within and between the cultural and other sectors. The research proved that a powerful community leader is the key person for multilateral cooperation.</p>
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<p>[14] Clennon & Boehm (2014)</p>	<p>Heritage (community music project)</p>	<p>To report on the evaluation of a recent community-based music project run in Crewe and its impact on wellbeing, which explored the heritage and history of Crewe using music and music technology through workshops targeting disadvantaged communities.</p>	<p>Crewe, UK</p>	<p>Young people/ young adults (n = 78)</p>	<p>Several different workshops made up the year-long project. The research focused on two: 1. Wishing Well: Sherborne youth club - weekly creative music and drama sessions (55 participants); 2. South Cheshire CLASP: Buzzin' - weekly creative song writing sessions (23 participants)</p>	<p>Data collection and analysis conducted throughout the project</p>	<p>During the projects, the workshop leaders collected data from the sessions that included flip charts, Facebook closed group pages used for out-of-session engagement, session diaries that recorded activities/processes and photographic documentation. After the projects, data collection involved generating authentic narratives by collecting data from all stakeholder perspectives, through ethnography and participatory practice. This involved making their own film about the project (recording, editing, out-takes, rehearsals, and discussions of anything that did not make the final film) which included interviews and presentations with both staff and participants, providing an extremely rich data set.</p>	<p>Mental wellbeing - Positive wellbeing outcomes emerged through ongoing engagement with and analysis of the project – ‘gaining emotional awareness’, ‘enhancing self-esteem’, ‘finding anger management strategies’, and ‘enhancing self-esteem and confidence around sexual orientation’./</p>
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APPENDIX 4 – QUALITY ASSESSMENT OF INCLUDED STUDIES

Quantitative

Study	Critical appraisal: was the evaluation well designed?				Critical appraisal: was the study carried out appropriately?						Critical appraisal: was the analysis appropriate?		Critical appraisal: is the evidence consistent?		Level of confidence in the results	
	Fidelity	Measurement	Counterfactual	Areas of concern for evaluation design	Representative	Sample size	Attrition	Equivalence	Measures	Area of concern for study conduct	Analysis	Areas of concern for study analysis	Consistency	Areas of concern for evidence consistency	Score out of 10	Confidence level
[1] Echavarría, <i>et. al.</i> (2022)	1	1	0	No control group No information on missing data	0	0	0	0	0	Sample size not specified, no reference to attrition. Pilot test of methodology on children with intent to test on other population groups so perhaps no need to be representative. Survey was used but no detail given on structure/questions asked. No indication of validated measures being used or whether all	0	Description of percentage difference of the measures before and after workshops - appropriate but not specific or clear how this was done.	0	No discussion of other factors that may have influenced findings. Lack of robustness and clarity on results.	2	Low

										data was reported						
[2] Attanasi, et. al. (2013)	0	0	0	Control group not necessary for type of design Intention-to-treat not necessary due to one-off questionnaire No before/after comparisons Social capital measured based on trust of others - is this truly capturing the whole construct?	1	1	0	0	1		1		1		5	Moderate
[3] Liu (2014)	0	0	0	Different residents surveyed every year - sampling was conducted to be representative however cannot accurately compare baseline measures of	0	1	0	0	1	Does not state participant characteristics, no treatment v comparison group so no need for baseline equivalence	1		1		4	Moderate

				different people												
[4] Steiner, <i>et. al.</i> (2015)	0	0	0	* Retrospective analysis so treatment/control groups already existed	1	1	0	0	1	Good size of regions and host cities however actual sample size is not specified (though safe to assume appropriate given large amounts of cross-sectional, longitudinal data were available*).	1		1		5	Moderate
[5] Fišer & Kožuh (2019)	0	0	0	New samples each time though analysis accounted for this * Pre-existing conditions of group	0	1	0	1	1	Researchers acknowledge sample may be unrepresentative due to telephone methods so some of the population may be missed	1		1		5	Moderate
[6] Thomson, <i>et. al.</i> (2020)	1	1	0	No control/comparison group	1	1	1	0	0	Sample size was small for VHM (n=3) but overall pooled size was acceptable	1	NHM did not assess wellbeing measures pre-	1		7	High

												training. Levels of significance and effect size were not reported				
[7] Warby, <i>et. al.</i> (2016)	1	1	0	No comparison group but wellbeing outcomes were measured against the national average	1	1	0	0	1	Attrition not reported	0	Method of analysis, levels of significance and effect size not reported	1		6	Moderate
[8] Thomson, <i>et. al.</i> (2018)	1	1	0	No comparison group. Perhaps another measure of wellbeing could have been used to supplement.	1	1	0	0	1	Attrition not reported	1		1		7	High
[10] Dodd & Jones (2014)	1	1	0	No indication of missing data	0	0	0	0	1	Small samples in some of the studies, no reporting of attrition, no information on participant characteristics	0	Methods of analysis and levels of significance not reported	1		4	Moderate

[11] Culture, Place and Policy Institute (2018)	0	1	0		1	1	0	0	0	Sample size unspecified however surveys were city wide therefore likely covered a large number of residents Not much clarity surrounding measures used however this is just a preliminary report	0	Not specific on analysis used or significance however again report is preliminary	1		4	Moderate
[12] Liu (2016)	0	0	0	Measuring legacy so retrospective - no need for pre-post measures or comparison group	1	1	1	0	1		1		1		6	Moderate
[13] Tjarve & Zemite (2016)	0	0	0		0	1	0	0	0	Lack of clarity and detail regarding measures and methods used. No demographic data or indication of	1		1	No discussions of potential limitations of the research nor real suggestion of implications/future research	3	Low-moderate

										how sampling was achieved.									
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Qualitative

		[3] Liu (2014)	[6] Thomson <i>et. al.</i> (2020)	[7] Warbey, <i>et. al.</i> (2016)	[9] Todd, <i>et. al.</i> (2017)	[14] Clennon & Boehm (2014)
	Was there a clear statement of the aims of the research?	1	1	1	1	1
	Is a qualitative methodology appropriate?	1	1	1	1	1
	Was the research design appropriate to	0	1	1	1	1

Critical appraisal: are the results valid?	address the aims of the research?					
	Was the recruitment strategy appropriate to the aims of the research?	0	1	1	1	1
	Was the data collected in a way that addressed the research issue?	0	1	0	1	1
	Has the relationship between researcher and participants been adequately considered?	0	0	0	0	1
	Areas of concern	Use of workshops not explained or justified, very little detail regarding methods. No justification for only including BME, young people and parents in workshops; no information on sampling. Format and analysis of data not made explicit			Method of data collection is unclear	

Critical appraisal: what are the results?	Have ethical issues been taken into consideration?	0	1	0	1	1
	Was the data analysis sufficiently rigorous?	0	1	0	1	0
	Is there a clear statement of findings?	1	1	1	1	0
	Areas of concern	Findings for each neighbourhood are stated however there is no indication of what analysis was used and how, and no data presented to support the findings (such as quotes).		No indication of how data was analysed		No detailed discussion of the analysis process which it means it is unclear how themes were derived from the data. Case studies are helpful, but the overall process needs to be more transparent
Critical appraisal: will the results help?	How valuable is the research?	The researchers discuss the impact of the findings, particularly highlighting the reasons for lack of participation in deprived areas. This could impact implementation of these events in the future as they suggest local community projects could combat distance	*	Used to underpin quantitative data and SROI measurements so has clear impact on the project report as a whole	Indicates important factors these type of programmes need to consider and identifies how they are beneficial. Provides more insight into the complexities behind individuals, their experiences, and the way they interact with programmes.	Building a social network between the projects shows how arts can work to connect disadvantaged areas; the findings were stressed to be important for collective self-esteem of those areas. Results show important wellbeing outcomes which have wider

		and travel cost issues for these areas.				impact for arts projects like this and help further understand the mechanisms by which they work.
	Areas of concern					
	Level of confidence in the results	Low-moderate	High	Moderate	High	Moderate