



Heritage and pathways to wellbeing: From personal to social benefits, between experience identity and capability shaping

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ABSTRACT

The impact of historic places and assets on community wellbeing has been the focus on many studies for more than two decades now, with latest policy and academic research focusing more on mental and physical health benefits from engagement with heritage for individuals and certain groups as well. This paper presents a first, comprehensive realist review of wellbeing benefits and pathways through which those emerge. Benefits related to exposure to or engagement with historic places are discussed, attempting a classification of academic papers and empirical published studies, according to various types of place experiences (range from experiencing to living in a historic environment). The complexity of defining what heritage is, lies in the heart of unpicking any wellbeing benefits stemming from experiencing or engaging with it. The evidence are structured under eight key 'pathways to wellbeing', summarising effects through identity, experience, capabilities changes (direct effects) or wider improvements on wellbeing through quality of one's living environment (indirect effects). The multiplicity of wellbeing aspects (from eudemonic to hedonic, personal or social) observed and the indirect health-related outcomes mapped further perplexes the evidence reporting, as different interventions may trigger and generate different health and wellbeing outcomes. The papers aims to assist further researchers to understand better the ways in which heritage activities can stimulate mental or physical health outcomes directly or indirectly, improve reporting across different types of places and help study the mechanisms of how these benefits occur at the individual and community level in further depth.

Introduction

This paper presents a first, realist review of wellbeing benefits related to exposure to or engagement with historic places, attempting a classification of academic papers and empirical published studies, that cover multiple programmes and ways of engaging with various types of historic places (range from experiencing to living in a historic environment).

A framework for assessing heritage-led wellbeing benefits at various levels (personal, inter-personal as well as benefits indirectly derived, due to a conducive context), that runs across identity, experience and capability is proposed and applied to the analysis and further classification of the findings together with identification of type of heritage context studied. The review also aimed at acting similarly to a scoping review, in terms of understanding better methods used in the studies reviewed and outcome measures for reporting wellbeing outcomes. It identified that current models for measuring wellbeing benefits that typically focus on quantifying aspects of subjective wellbeing (relying mainly on hedonic aspects, life satisfaction or happiness feelings) may

not be adequate to capture the breadth of mechanisms associated with the effects of historic environments. The types of benefits located by the review ranged from broader psychological and eudaimonic aspects of quality of life to social wellbeing aspects.

Methodology

A realist review of literature reviews, peer reviewed papers and policy reports was conducted according to RAMESES (Realist and Meta-narrative Evidence Synthesis: Evolving Standards) and used to populate a framework of theoretical pathways (Wong et al., 2013), of why or how exposure to historic environment or engagement with heritage (places or objects) worked to improve wellbeing of adults.

The realist review process (Pawson et al., 2005) is a qualitative systematic review method whose goal is to identify and explain how, whether and why an intervention works and in what context (Pawson, 2006); that is, to identify and explain the relationships between context, mechanism and outcome. For the scope of this study, the realist review method has several advantages, as it can be effective for dealing with

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complexity and heterogeneity, for example, in study design, study setting and context (Pawson et al., 2005), being suitable to examine outcomes of non-consistently repeated interventions in varied historic contexts, without having the constraints or quantitative studies focus of a systematic review. It also allowed for a more flexible search and analysis strategy in three stages (as described in Fig. 1), which included policy reports and their referenced studies to be considered next to peer-reviewed papers. In stage 3, a review of selected systematic reviews (eg. Bagnall et al., 2018; Paddon et al., 2014) on wider socio-spatial determinants of health and wellbeing and effects of urban and natural environments, supported the theoretical grounding of factors that contribute to wellbeing and higher life quality and those based on the intervention processes related to heritage programmes.

Four main theoretical explanations of mechanisms or pathways of how heritage-related programmes or interventions may work were described using causal loop (Kim and Anderson, 1998) and simple linear diagrams (Fig. 4–6), connecting contexts with outcomes and mediating or moderating factors identified to describe the mechanisms of how outcomes are ‘occurring’. The value of the causal loops here, lies in their potential to improve dynamic sensibility in the process of qualitative data analysis (Yearworth and White, 2013).

Evidence collection

Evidence came from a range of sources as per Fig. 1. For a review to be included, the authors must have attempted to synthesise data quantitatively or qualitatively from at least two primary studies. Reviews with results pooled statistically in a meta-analysis and those with qualitative analyses were eligible for inclusion. Reviews must have addressed the impact on health of a spatial or cultural heritage-based intervention including historic assets or places regeneration, excluded were reviews that addressed interventions defined as spiritual or sensory or intangible heritage alone. Our list of eligible interventions was compiled by reviewing a number of recent reviews on this topic (Taylor et al., 2015; Pennington et al., 2019; Carmona, 2019; Carone et al., 2017). Data was used if it was relevant to the scope of the review, that is, it contributed usefully to an aspect of theory development, and, if the methods used to generate the data were sufficiently rigorous, that is they appeared reliable (Wong et al., 2013, p. 34).

Evidence synthesis and framework analysis

We collated information on type of intervention, study context (including heritage context and country of intervention) and wellbeing aspects/outcomes reported theoretical mechanism and potential causal pathway, as well as population (target group, where relevant). A second level of analysis, focusing on Stage 3 studies, used to understand the mechanisms better, included more detailed description of study design (methodology) including whether the study was experimental and other types of intervention and sample size (where applicable).

We specifically searched for the mechanisms proposed by the studies’ authors to explain the outcomes of programmes targeted to wellbeing or the effect of interventions on urban/natural context on it and human behaviours and noted these findings to build the narrative. At all stages of the process, the literature was interrogated both for patterns and conflicting conclusions. We mapped recurrent patterns of contexts and outcomes with their proposed causal mechanisms and constructed them as explanatory ‘context-mechanism-outcome’ configurations which we present in section 4 and 5 of the paper.

Search strategy and type of evidence included

Stage 1: The first stage of the review included a comprehensive database search and thorough screening of articles which referred to exposure to historic environment or heritage and a (measure of) wellbeing outcome in ProQuest, PubMed and Web of Science (WOS) (Fig. 2). We opted for including studies that may not report outcomes using validated mental wellbeing tools, in order to capture broader benefits through aspects of hedonic, eudaimonic wellbeing and psychological wellbeing: the terms wellbeing, wellbeing and mental health, happiness, happy, life satisfaction as well as health were used as keywords.

Common keywords relating to heritage were derived from the literature and Pennington et al.’s (2018) systematic review suggesting a set of terms for heritage or historic environment (heritage, historic, archaeological, archaeological, followed by combined searches for: traditional+ neighbourhood, historic +neighbourhood, historic+ place+ attachment). No keywords were used for capturing negative effects on wellbeing (like risk of, stress/stressors, trauma etc., typically common in psychological research publications). The potential negative

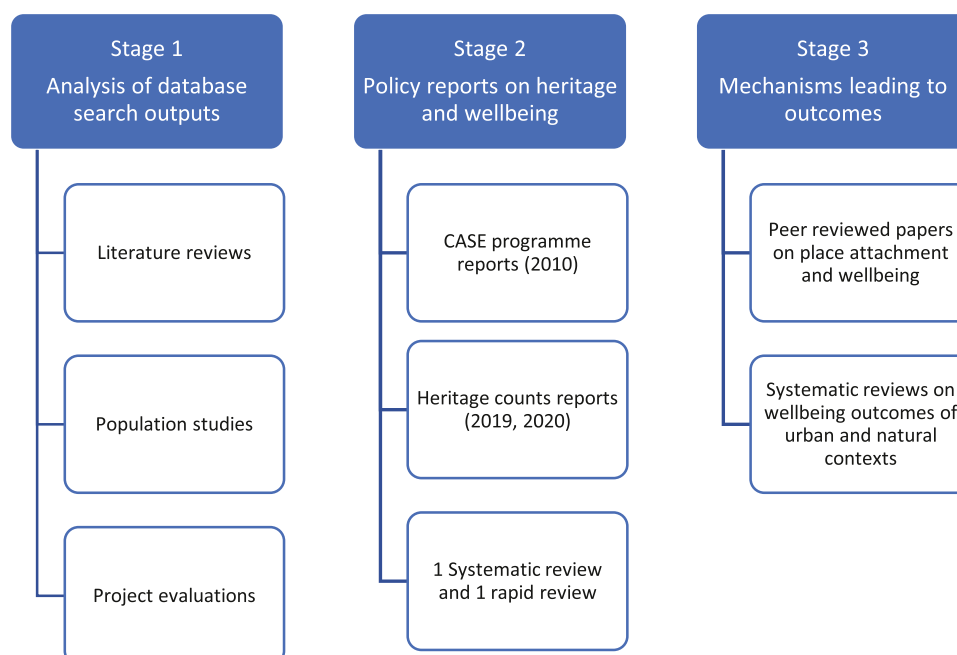


Fig. 1. Overview of evidence collection stages.

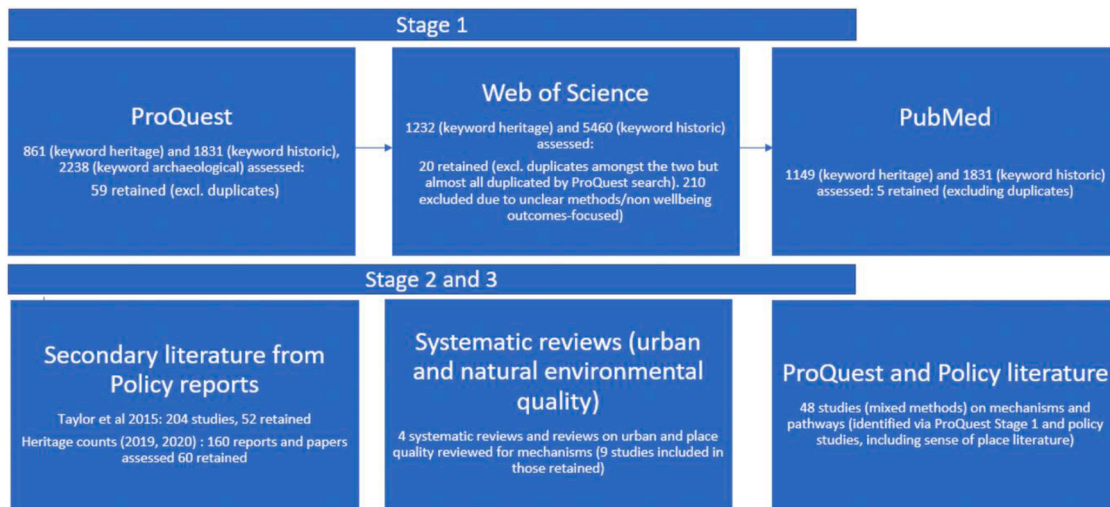


Fig. 2. Flow diagram of studies included in the review at every stage, per search engine and type of keywords used.

impacts of interventions like urban regeneration projects, leading to gentrification or displacement or even disconnection with local (community) identities were not included in the scope- these can be considered through systematic inclusion of relevant keywords in the future search strategies.

We restricted searches to studies in English, relating to humans, published after 1990. Searches were run from 05/05/2020 to 27/02/2021. This stage 1 of the review identified three main categories of relevant articles, based on inclusion and exclusion criteria considered as in Table 1:

- Certainly relevant to the scope of the review
- Partially relevant, screened again at Stage 3 for extracting broader explanatory mechanisms leading to outcomes (e.g., articles referring to wellbeing or health determinants through urban place interventions but not necessarily focused on a heritage context or intervention)
- Not relevant to the scope of the review (e.g., wider socio-economic benefits from interventions that are not described as health or wellbeing outcomes)

The abstracts collected were then reviewed for relevance and further screened.

Stage 2 included a review of **Policy reports and grey literature** (Fig. 2). DCMS studies realised as part of the CASE programme (2010) in the UK formed the basis of the policy literature review [Taylor et al.

Table 1
Inclusion and exclusion criteria (Stage 1).

Inclusion criteria	Exclusion criteria
1. Programmes targeting adults (over 16 years old).	1. Programmes exploring interventions in childhood (however 'young people' studies were included).
2. Programmes targeting urban regeneration of historic districts or town centres (indirect health and wellbeing benefits).	2. Programmes designed to change urban design or context (neighbourhood level features) but not focused on historic environment context.
3. Complex physical, cognitive, and mental health improvement programmes using a range of techniques across contexts either in historic sites or using historic objects. designed to be delivered to the general population.	3. Studies referring to cultural heritage as intangible elements or spiritual/sensory interventions (e.g., festivals, festivities and folklore, traditions).
4. Studies looking into effects of cultural heritage engagement (in its various forms), mainly visiting and volunteering at historic places.	4. Studies only referring to cultural ecosystem services and health-wellbeing (focus on landscapes qualities of natural environments).
5. Studies looking into exposure to historic natural environments and the health effects of those.	5. Studies referring to acculturation and its potential wellbeing outcomes
	6. Studies referring to impacts of (cultural) tourism.

(2015), which included 204 studies on culture and heritage, as well as relevant policy reports on measuring and quantifying wellbeing benefits from visiting heritage like Fujiwara et al. (2014a, 2014b)]. Historic England's annual audit reports (2019, 2020) were also reviewed and studies within those on wellbeing outcomes or mechanisms analysed. These included studies like Bradley et al. (2009) and a literature review by Graham et al. (2009), on outcomes like sense of place and social capital, with their relevant literature review on Stage 3, to allow for better understanding of mechanisms of place attachment and its links to wellbeing. Further policy literature reviews analysed include a report on social and wellbeing value of parks (Eadson et al., 2020 for HLF including 385 papers published within the last ten years on the benefits of natural spaces, some of which refer to the places with historic character) and two reports on values and benefits of heritage (on heritage programmes including volunteering evaluation studies by the NLHF in England (Roseberg et al., 2011, and literature reviews like Maeer et al., 2016) which identified key areas for shaping the theoretical framework of wellbeing impacts, ranging from individual learning to self-esteem to quality of life. It was evident from all those sources, that only the studies on sense of place clearly focused on the effects stemming from the historic environment as opposed to the body of works focusing on effects of engagement (visiting, participating in projects etc.) which presented a more 'niche' image, with the outcomes and metrics for those varying according to the type of activities studied.

Finally stage 3 included a review of studies that can support the theoretical explanation of the mechanisms observed in the previous two stages. Specifically, a few systematic reviews or synthesis studies of reviews were analysed – those were identified through Stage 1, as secondary outputs (excluded at stage 1 as not heritage relevant) that look into role of place quality and attributes of place for health and wellbeing outcomes (Carmona 2019; Jennings et al., 2016; Clark et al., 2007; Rogers et al., 2008).

A description of key findings and synthesis of the outcome types and mechanisms across studies which met the review inclusion criteria is presented through the evidence review table (Table 4) and concretised in the description of distinct pathways, in section 4, accompanied by diagrams.

High methodological heterogeneity in the studies included made clear that comparative analysis of scale of benefits and comparative effectiveness of different contexts difficult, therefore out of scope of this review. However, the types of outcomes described were mainly the key focus, next to the types of contexts or (context+ mechanisms) those they were associated with – this was well covered thanks to the approach chosen and are summarised in the diagrams on 'pathways observed'.

There was no review of the screening process by an independent party, as commonly applied through a study protocol in systematic reviews like Prisma. We acknowledge that this may pose a limitation regarding for example the choice of focus on certain methods or quality of studies and differentiates the review from typical systematic reviews looking to understand effectiveness of health interventions, that focus on quantifiable outcomes and typically only collect evidence from more robustly designed studies, as in our work we did not exclude based on approach undertaken (e.g., did not look for random control trials or experimental studies only as those were scares). Evidence of relevance to the UK context was however sought and empirical systematic reviews, literature reviews, meta-analyses and robust primary evidence were prioritised. In that sense the review has characteristics similar to scoping reviews, i.e. to identify the extent of literature and studies available and provide recommendations for further research on mechanisms leading to outcomes identified here.

Structural components of wellbeing -individual and social components, hedonic, eudaimonic and psychological aspects

Before entering the study of how historic environment may contribute to better human health and wellbeing it was deemed necessary to identify relevant aspects and definitions of wellbeing in the literature.

There are several ways to conceptualise and measure wellbeing (Lent, 2004; Keyes, 2006), with most older frameworks focusing on individual aspects while more recent ones incorporate social and community aspects (Rollero and de Piccolli, 2010b). A holistic model for wellbeing that encompasses personal and social aspects that affect individual happiness is the one developed by the think-tank New Economics Foundation (NEF) and reflected in the [European Social Survey \(2013\)](#) (Fig. 3). The model combines elements of eudaimonic and hedonic wellbeing: the first is linked with meaning, and self-realization in life (Ryan and Deci, 2001) as well as positive functioning (Keyes, 2002), while the latter focuses mainly on pleasure attainment and pain avoidance (Kahneman et al., 1999; Keyes et al., 2002) and one's evaluations of their life.

This allows us to map a multitude of benefits under the bigger umbrellas of 'personal and social wellbeing' outcomes, as equal pillars of 'individual functioning'. Personal wellbeing therefore includes emotional aspects, resilience and self-esteem aspects as well as having a satisfying life. It clearly includes many aspects of positive functioning too, ranging from competence to engagement and having meaning/purpose in life. The social aspect covers both interpersonal relationships but also trust and social belonging.

The NEF model (Fig. 3) includes some of these under the term

'Positive functioning' which has been used in numerous other research to describe the structure of wellbeing (Keyes 2002 refers to psychosocial functioning; Ryan and Deci 2001; Sen 1996).

Next to those definitions and individual-level aspects of wellbeing lie the less explored (at least until the late 1990's in academic research) **social wellbeing** aspects: this refers to belonging to community, social support and trust and completes the psychological needs of individuals in terms of communal identity and positive functioning.

In the NEF model and the relevant European social survey suggested indicators for social wellbeing were aligned with those of social capital, tending to use objective measures of social connectedness. These have been linked to happiness and satisfaction, health and productivity (Putnam, 2000; Helliwell and Putnam, 2005). However, including additional subjective measures of social capital, including both bonding ('thick' ties to individuals you know well) and bridging capital ('thin' ties to people and organizations with whom one comes into contact) is proposed as more holistic, as per Halpern (2010)'s considerations of individual and communal prosperity aspects within the concept.

Compared to the ONS approach for measuring wellbeing (ONS 2018) which has four core evaluative metrics- under four aspects of personal wellbeing: life satisfaction, life worthwhile, and happiness and anxiety- the NEF model is a more complicated one, capturing the differences between evaluative aspects of one's life (satisfaction, worthwhile) and affective aspects of wellbeing (emotions), individual flourishing and functioning (related to eudaimonic components of wellbeing as per Keyes, 2006 and Diener, 2000) as well as consideration of social and psychological aspects, that may, in turn, facilitate personal flourishing and maintenance or balancing mental health.

Adjusting and developing suitable metrics for understanding experience of places- in the long run -as opposed to 'static' outcomes of interventions is important to support a thorough understanding of historic environment-based interventions. To better understand the links between historic environment and wellbeing, we therefore, need to look at variant outcomes but also understand the causes of increase/decrease of individual SWB and wider components of wellbeing. The consideration of psychological wellbeing and self-actualisation wellbeing aspects can help us understand how the urban/natural context one experiences that may affect individual quality of life and support identity related processes or those of personal development.

A framework for integrating the individual with communal and people vs place-based benefits for heritage

Looking into the wide range of benefits associated with heritage one needs first to identify what the term heritage refers to, across the multiplicity of studies using it in order to provide clarity and a classification

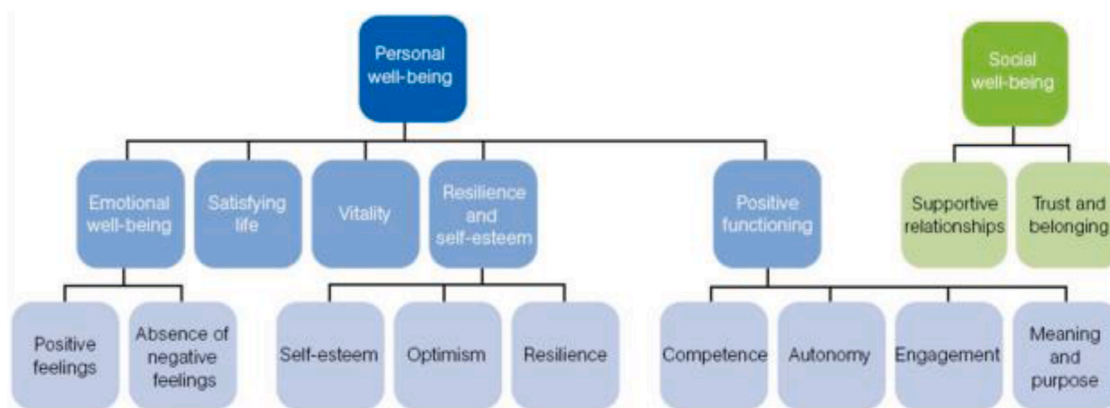


Fig. 3. Indicator structure within the example national account framework for measurement of wellbeing proposed by NEF. The lower-level boxes indicate components and sub-components which are aggregated to produce higher level indicators, finally leading to two headline indicators: personal and social wellbeing. [Source: [New Economics Foundation \(NEF\), 2009](#)].

framework for the review. From the review of evidence, it became apparent that a clear division exists between pure mental or physical health benefits from experiencing being in historic place, the visual or a sensory experiences one may subjectively value and cognitive associations linked with it (place, its history etc.) and the more objective, wellbeing elements that may relate to the physical or enabling qualities of a place (e.g., healthy behaviours associated with living in a heritage place or specifically resulting from improvements on urban infrastructure through heritage-led regeneration actions). It also became evident that the definitions of heritage employed in the above studies ranges from special place one visits, valuable or historic objects one handles, to the everyday places where one lives or the type of activities one engages with (e.g., to protect, document and manage historic assets or places), are associated with different ‘functions’ of heritage (see also Reilly et al., 2018) and a subsequent range of pathways to produce wellbeing effects for different groups of users. The observed definitions of ‘heritage’ are summarised in Table 2 below.

Heritage-led regeneration and its outcomes for neighbourhoods and community life is generating new interest in understanding wellbeing outcomes stemming from the re-shaping of one’s environment and context rather than simply observing the direct emotional connections with their place. Heritage-led programmes can be seen as an extension of wider urban regeneration and a well-explored body of literature supports how improving the quality of urban environment (Carmona, 2019) can affect not only health aspects, but also emotional wellbeing, enhance broader quality of life, through affecting key socio-economic predictors/drivers of life satisfaction and prosperity like employment, human skills, confidence and therefore counteracting health inequalities linked to deprivation (access to opportunities for personal development or shaping of capabilities).

Research shows links between the quality of the neighbourhood and well-being, although the extent of this relationship is unclear (Sampson, 2003). The importance of the ability to meet one’s needs and offering the basis for quality of life is clear when one looks at barriers for certain age groups: in the case of elderly residents, where local support to meet basic needs is restricted, may face increased stress of living in a place where it is difficult to meet basic needs, which takes its toll in feelings of depression, anxiety and well-being (e.g., Clark et al., 2007). Neighbourhood characteristics, including lack of cultural offer, accessibility, safety, and community networks can increase individual vulnerability to stress by reducing the effectiveness of other resources (quality of social support, access to human services, increased economic pressure, personal safety, psychological efficacy, etc.). Therefore, quality attributes of historic neighbourhoods bear attributes that support higher livability and shape the conditions for higher quality of life for urban residents.

Finally, engagement in heritage activities or volunteering are expected to have direct individual and social level wellbeing outcomes, shaping behaviours and indirectly the potential for personal development. The added value of heritage compared to other forms of volunteering can be traced to connection with place but also relevant skills shaping. The psychological added benefits may be higher for people who attribute specific value to the activity versus others, reinforcing this way

Table 2
Definitions of heritage in the literature review.

Heritage as special place (e.g., visiting a visitor attraction or historic place), Heritage as amenity (e.g., visit and enjoy an open air, green or blue public space)	Experience and identity
Heritage as object (e.g., collections, artefacts)	Experience and identity
Heritage as place (e.g., living in historic town)	Experience, identity, and capabilities
Heritage as recreational or leisure activity (e.g., volunteering in conservation, community archaeology, engage in planning etc.)	Identity and capabilities

their personal identity but this again has been less explored in the literature. Both place-led interventions and people-centred programmes have the potential to increase a person’s capabilities and improve their life chances or improve individual’s ability for positive functioning. The less ‘tangible’ aspects of benefits fall under what can be termed as ‘identity’ shaping (personal or social): heritage reinforcing sense of belonging to a group, cohesion and group identity or place-related personal identity (improving sense of place and perception of oneself within the world) (Bernardo and Palma Oliveira, 2016; Droseltis and Vignoles, 2010; Twigger-Ross & Uzzell, 1996).

To help summarise the wellbeing benefits of heritage from the reviewed studies, we sought to develop a holistic framework for assessing heritage-driven wellbeing benefits at various levels: personal, inter-personal as well as benefits indirectly derived through a conducive context of living (e.g., one that enhances drivers of wellbeing). The framework covers three core areas that describe specific mechanisms resulting to wellbeing outcomes: identity, experience and related capabilities outcomes, as emerged by reviewing the evidence across all reviewed studies here, the systematic and other reviews on ‘urban’ place quality (stage 3). This framework is summarised in Table 2.

The three levels/domains of expression (individual, interpersonal and communal) in our framework can be easily linked with Behaviour Change models relevant to policy-making to enhance applicability of recommendations and design of interventions. For example, models that target specific aspects like the Behaviour change Wheel’s COM-B system (Cane et al., 2012), have key components like capability, opportunity (social or physical support) and motivation (linked identity and beliefs) making those compatible with the framework presented here. The framework is also relevant to wider set of place related policy areas and the wellbeing aspects considered here align with the World Health Organization assessment tool of quality of life (WHOQOL brief scale, WHOQOL Group 1994) in terms of four different evaluations concerning distinct but interrelated aspects of life: **physical health; psychological status; social relationships; environment** (Tartaglia, 2013).

Review findings

The wealth and diversity of methodological approaches in studies linking heritage with health and wellbeing outcomes was very high. However, the focus of this review, following the realist approach is to enable further narrative synthesis on key types of wellbeing outcomes and mechanisms leading to those, based on the studies identified by the review.

A framework is proposed hereby that allowed for categorisation of studies within a tabular format, assessing their content across core ‘information fields’. The framework covers the indexing process followed to analyse the content of the studies and aimed at providing key policy-relevant information about context and type of intervention, as well as a categorisation of wellbeing outcomes referred throughout the studies, including the following details:

- type of intervention (e.g., health focused heritage intervention/urban or historic public space improvement) or simply routine interaction/experience of specific historic buildings or places (classifies as experiencing, living close or visiting for example)
- wellbeing aspects/outcomes reported (mapping benefits across the hedonic, eudaimonic, subjective wellbeing, psychological/positive functioning, or social wellbeing components as per theoretical structural divisions/framework described above)
- type of heritage linked with benefits in studies reviewed (e.g., open-air/natural vs built heritage vs collection or archival resources that provided different experiences for connection and engagement)

Most of the studies reviewed did not report benefits per category of beneficiaries (e.g., ethnic, age groups, socio-economic groups etc.) but some exceptions did focus on specific age groups, like studies that look

into healthy ageing for elderly people in place, walkability of historic streets or evaluations of reminiscence and other health-interventions using historic objects in hospitals. The latter typically feature also effects for groups which face health vulnerabilities, or existing mental health conditions.

Table 4 below does not provide all the resources reviewed and analysed but the most indicative examples per pathway are identified here. Those are further described in section 4 of the paper.

Pathways

The framework for assessing heritage-led wellbeing benefits at various levels (personal, inter-personal as well as benefits indirectly derived, due to a conducive context), that runs across the three types of mechanisms (identity, experience, and related capabilities) was applied to classify and describe the mechanisms in the studies reviewed. Under each of the categories, sub-categories of pathways that may lead to similar outputs (e.g., reinforce identity) through slightly different routes are identified and described with the relevant letters: for example, I1, I2 etc. for identity, E1, E2 for experience. This section describes in a narrative way the findings under each of the main mechanisms (identity related benefits, experience, and capability), differentiating between studies that describe various wellbeing related outcomes, from hedonic to eudaimonic and psychological aspects. The following section, on the interplay between paths, describes the complexity on indirect benefits and mediating factors that may play a role, specifically focusing on how place attachment mechanism(s) function. Diagrams linking causes and reported effects, were used to illustrate the core links between direct and indirect wellbeing and health outcomes observed in literature.

Identity: The aspects of identity refer to wellbeing benefits via psychological confirmation and positive evaluation of one’s personal or communal identity components (Fig. 4). There is also an aspect of identity that links to place, rootedness and belonging and is relevant to heritage (Twigger-Ross et al., 2003). This has been rather indirectly linked to subjective wellbeing through the wide concept of place attachment and symbolic meanings of place for individuals. This is the most underexplored one, as the identity-expressive layer focuses on how individuals become attracted to and attached to place rather than on the instrumental benefits from doing so. Identity in such studies, is considered as a benefit on its own, as it forms part of psychological wellbeing and ability of a person to operate and function positively in their environment.

11. Reinforcing and exploring personal identity in relation to (historic) space and time has healing effects

The evidence in this review covers how psychological aspects of

wellbeing (like self-acceptance, self-realisation, and environmental mastery) are supported through experiencing historic places (e.g., historic ancient landscapes and archaeology) and generating links between individuals and the history of a landscape across time, providing anchoring in time and place (Drysdale 2018; Darvill et al. 2019). As most of this evidence is coming from group activities, the effects of interaction with the place itself at the individual level cannot be easily ‘isolated’ or assessed, a common phenomenon in socio-spatial research. Moreover, it is notable that such programmes are typically small in scale and target vulnerable adults (e.g., individuals with mental health issues) tending to report outcomes in relation to happiness an anxiety levels or using mental wellbeing scales like the Warwick-Edinburgh Mental Wellbeing scale.

12. Configuration of place based (spatial) identity and social identity through strong feelings of belonging to a historic place

The review found some evidence related to the mechanisms of reinforcement of personal identity and confidence in oneself (self-esteem) via feelings of belonging in (historic) place and ‘being part of it’. Such links indicate that psychological wellbeing benefits may occur through strong people-place links and place attachment literature reviewed supports that those links are expected to be stronger for special places that people value (Gatersleben et al., 2020). Similar effects, linked to strong community and personal identity development are observed in studies focusing on migrants or refugees (e.g., Harris et al., 2014; Beckie and Bogdan, 2010) establishing themselves in a community, while also having space to maintain their cultural identity (Agustina and Beilin, 2012). In this case, the outcomes seem less linked to emotional links with special attributes or historicity of place itself, but more attributed to the act of caring for a communal resource and having a point of reference that is supporting psychological wellbeing through ‘anchoring in life’ and in a new place of residence.

Belonging to a community linked with a specific place, is a separate type of people-place connection that may contribute to psychological stability through social integration mechanisms. This pathway is integrated later on, where we refer to functions of historic places that shape social connections, fostering a sense of belonging to a group (Hammit et al., 2009) or facilitating chance encounters, social mixing, interpersonal relationships with different social groups (Cattell et al., 2008; Neal et al., 2015; Hammit et al., 2009; Scannel and Gifford, 2010b) with the potential to reduce negative effects of social fragmentation.

13. The cognitive and psychological wellbeing benefits through identifying with personal and communal memories of place for older adults

A different set of resources, that still relate to the therapeutical effects of heritage, as a connection to the past provide evidence on direct health outcomes through reminiscence related approaches (Giebel et al.,

Table 3

A proposed theoretical framework for assessing heritage-driven wellbeing benefits at various levels (personal, inter-personal/social as well as benefits derived due to a conducive context). The framework identifies mechanism that operate across identity, experience and related capabilities’ shaping.

	1. Identities	2. Experiences	3. Capabilities
I. Individual	Personal identity Past memory transformative to current identity Spirituality	Inspiration Sense of place/attachment to place	Skills – learning/historic knowledge Personal development
II. Inter-personal and communal	Feeling of belonging in neighbourhood Part of community identity/social identity Sense of pride	Aesthetic appreciation Feeling happier/feeling less anxious Ability to meet new people/participate in social activities-reduce loneliness Ability to meet different people/to socially integrate	Health – memory and curiosity stimulation Health – increased self-esteem Ability to fulfil needs where I live Reduced loneliness Increased integration and community cohesion
III. Contextual (conductive context)		Place satisfaction	Active voice, citizenship and engagement in local decision making Health and wellbeing drivers: ability to flourish and thrive: liveable neighbourhoods support better mental and physical health (walkability, cleanliness, safety, reduced crime)
Continuum	Intrinsic benefits	Quality of life/improved living conditions >>>>>>>>>>>>>>>>>>	Instrumental benefits

Table 4

Summary of evidence review: six core pathways to wellbeing observed across key studies reviewed, types of heritage linked with those benefits and /or specific intervention in historic places, core mechanism leading to benefits.

Indirect quality of life and health outcomes	Wellbeing outcomes	Areas	Pathway to wellbeing outcomes	What and where: Types of heritage asset, activity and intervention	Existing evidence in literature and empirical studies
Physical health, reduced risk for mental ill health, treatment of mental ill health conditions, Healthy behaviours.	Hedonic (increase positive and reduce negative affect)	Experience	Pathway 1: Green and blue historic places as well as harmonious urban environments are increasing mental health (reduce feeling of anxiety and increase pleasant feelings of happiness) and support long term mental and physical health (Eadson et al., 2019 ; Knez et al., 2018 ; Zhang et al., 2015).	Visiting green or blue historic sites or taking part in (social) activities within those. Community-level interventions linked to management of open-air heritage sites with a natural element.	
Improved mental health through exposure to nature and reduced long term mental and physical risks. Healthy behaviours-increase life longevity.	Hedonic – increased positive Affective component (temporal) Eudaimonic, higher aspect of Subjective wellbeing (LS)	Experience	Visiting historic blue spaces often associated with increased LS rates and reduced anxiety.	Visiting green or blue spaces (e.g., enabling access to historic parks and industrial heritage assets that include water like canals).	Spending time by ‘blue space’, including historic canals and rivers in our cities, was associated with higher levels of happiness and greater life satisfaction. (Simetrica, 2018)
Prevention of ill Mental health, (resilience) and of social isolation	Social and psychological wellbeing. Therapeutic effects.	Experience		Visiting green spaces	Facilitated visits to green spaces improved the self-esteem, mental wellbeing and social lives of people with disabilities (Jakubec et al., 2016) (Douglas et al., 2017)
Physical health: via reduced risk of ill mental health, prevention of social isolation/loneliness.	Reduced negative affective element and increase in Subjective wellbeing- life satisfaction) (LS) through easier access to (and assumed use of) parks and green spaces.	Experience		Living close (Proximity to green spaces, like (not limited to) historic parks and gardens.	Proximity to green spaces is associated with reduced anxiety and mood disorder (Nutsford et al., 2013).
Mental health improvement/ill health treatment outcomes -therapeutic effect	Optimism increase: reduced negative affect. Hedonic wellbeing and psychological wellbeing.	Experience Identity		Taking part in health focused mental health /cultural interventions in Historic landscapes, archaeological sites and monuments (Everill et al., 2020)	43.5% of participant said they never or rarely felt optimistic; this reduced to 30.4% by the end of the programme (Drysdale, 2018) Healing/therapeutic effects observed. (Darvill et al., 2019 ; Heaslip et al., 2020)
	Psychological wellbeing: increase in positive affect. Therapeutic ¹ effect: healing trauma Social integration (Social wellbeing)	Experience Identity Capabilities	Hands on conservation activities improve negative symptoms of ill mental health -evidence for veterans and PTSD sufferers) (Finnegan 2016). Engagement in community archaeology provides social support opportunities, facilitates integration, next to skills shaping and confidence and resilience/enhance capabilities.	Taking part in archaeological excavations including hands on conservation for groups facing certain ill-mental health conditions. Hands- on involvement in community archaeological excavation projects by adult and student volunteers (Sayer, 2015)	Physical and psychological well-being (Bennett 2018 ; Sayer, 2015; Wessex Archaeology, 2019) Involvement in community archaeological excavation projects led to significant increases in participants’ levels of happiness, satisfaction, interest, social connectivity, and their perception of being a ‘strong’ person (Nevell and Redhead, 2015)
Reduced health inequalities (across ethnicity/ background)	Social wellbeing. Psychological wellbeing: identification process.	Identity and capabilities	Historic green spaces or sites create important opportunities for social integration, circle of social support for newcomers in communities/coping.	Programs facilitating (community level) engagement with historic urban green spaces in the form of visiting, safeguarding or for example taking care of community gardens.	Urban green spaces support immigrants in the process of identifying with their new home (Jay and Schraml, 2009) while preserving connections with the past via place attachment (Rishbeth and Powell, 2013).
Physical health: healthy behaviours and reduced risk of depression. Healthy behaviours: reduced antisocial behaviour.	Hedonic: positive affective component (feeling about place), Subjective wellbeing (LS), higher self-perceived general health. Social wellbeing (less	Experience and conducive context	Pathway 2: Historic (urban) environments through their qualities increase levels of place satisfaction (related to safety, walkability), wider liveability and SWB. Higher aesthetic appreciation of built	Type: urban townscape or historic town centre revitalisation programmes/ living in or experiencing urban historic neighbourhoods and settings.	

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Table 4 (continued)

Indirect quality of life and health outcomes	Wellbeing outcomes	Areas	Pathway to wellbeing outcomes	What and where: Types of heritage asset, activity and intervention	Existing evidence in literature and empirical studies
	antisocial, more cohesion)		environment is linked to reduced antisocial behaviour (Carmona, 2019)		
Healthy behaviours: Reduced health inequalities (across ages)	Reduced risks for ill-physical health through healthier behaviours	Contextual	Historic town centres layout is enhancing walkability and healthy habits	Historic town centres – public domain, walking, using them for daily activities	Rosso et al. (2011) observed higher older mobility in historic town centres
Improved quality of life: Reduced health inequalities (loneliness and risk of depression). Psychological stability. Healthy (social) behaviours.	Social wellbeing (pro-social behaviours), mental and psychological wellbeing (reduced risk of depression)/resilience). Positive feelings: safety.	Contextual Experience, Identity (communal)	Historic town centres act as anchors of community life and foster social exchanges (e.g., marketplaces, enhancing pro-social behaviour and increasing social networks Attributes of places and amenities affect presence of depression.	Historic town centres-public parts, amenity dense centres and marketplaces within those	Izenberg et al. (2018) connected street type with levels of sociability Gillespie et al. (2017) looked at more objective attributes of places and human health, like the association between categories of neighbourhood amenity and presence of depression.
Improved quality of life and satisfaction in place of residence		Contextual (social) Experience Identity (communal)	Historic town centre revitalisation reducing anti-social behaviour and increasing feeling of safety	Historic town and neighbourhood level revitalisation /regeneration	Physical maintenance and well- maintained spaces higher effects in social wellbeing and psychological stability. (Venerandi et al., 2016a) Florida et al. (2011, 2016)
		Contextual Experience	Beauty and aesthetics increase community satisfaction with place of residence. A perceived aesthetically pleasing environment may help to encourage people to be out and about interacting socially (Sugiyama et al., 2009; Kent et al., 2017)	(Living in) historic areas (experiencing aesthetic qualities)	
Physical health via reduced contextual risks, healthy and pro-social behaviours.	Social wellbeing Mental health (less stress) Psychological wellbeing, positive feelings (safety)	Contextual Experience. Individual and social Identity-communal	Vitality and liveability (multiple aspects including perceived aesthetic quality, satisfaction with condition of place of residence and social-individual needs of daily life)	Living and operating in historic urban neighbourhoods (experiencing functional qualities)	Venerandi et al. (2016a) found that urban neighbourhoods characteristics (are well-connected and easily accessible, characterized by green areas and predominance of historic properties, a dense grid-shaped street network) are associated with high levels of well-being, walking, sociability, less pollution and stress, feelings of safety and better eating habits
Cognitive health and reduced risks for comorbidity and ill-physical health.	Vitality, positive functioning, emotional (affective and cognitive) Physical health	Identity Experience	Pathway 3: Heritage engagement delays cognitive decline, protective against cognitive health	Interventions and programmes that facilitate physical experience of historic places or imagery of those, revoking of earlier memories/experience familiar objects (e.g., as part of health targeted intervention)	
Therapeutic effects. Physical health improvement through cognitive health, mental health, and improved neurobiological rehabilitation. Increased quality of life.	Hedonic wellbeing (Emotional connections-positive affective) Cognitive health: associations which support memory sustenance. Positive functioning (eudaimonic aspects).	Sensory experience linked to cognitive stimulation (memory and feelings).	Physical health/treatment-response related outcomes like improved rehabilitation results in patients using historic objects. Emotional and cognitive/memory stimulation using historic objects.	Use of historic artefacts and object-based engagement in patients care (health intervention) (Chatterjee and Noble, 2013). Contact with /exploration of historic objects in health interventions.	Wellbeing in mental health service users and positive neurological rehabilitation through use of historic objects in therapy (Ander et al., 2013a). Wellbeing benefits, qualitatively assessed improvement in patients under health intervention (Ander et al., 2013b) Psychosocial evidence indicates that engagement with historic objects and the intrinsic, physical, and material properties of objects can trigger memories, projections, sensory,

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Table 4 (continued)

Indirect quality of life and health outcomes	Wellbeing outcomes	Areas	Pathway to wellbeing outcomes	What and where: Types of heritage asset, activity and intervention	Existing evidence in literature and empirical studies
Improved cognitive health and quality of life for dementia patients. Increased social wellbeing for elderly.	Cognitive health: associations which support memory sustenance. Positive functioning (eudaimonic aspects). Psychological wellbeing: (identity) Improved. Social wellbeing: (integration in group activities).	Identity and social experience. Cognitive stimulation.	Cognitive and memory stimulation through reviewing historic resources and reminiscence sessions. Reduced social exclusion and loneliness through engaging in group activities.	Recollecting history of places, with visual aids, collections, or maps (Amongst elderly participants) Engagement in activities of daily living (dementia patients at different stages) In reminiscence sessions objects and photographs are used as mediators, for the discussion of past activities, events, and experiences.	emotional, and cognitive associations (Baumeister 1991; Frogett et al., 2011; Chatterjee and Noble 2013; Chatterjee 2016). Personal memories and recollections through engagement with history of place created the stronger link to aspects of identity (Johnston and Marwood, 2017). Increase in quality of life across different stages of dementia (Giebel et al., 2015) Reminiscence therapy has also been shown to increase mood, well-being and behaviour in those with dementia.
Indirect benefits to life satisfaction via employability, reduced risk of joblessness (through utilisation of skills).	Resilience and self-esteem (eudaimonic aspects) Positive functioning (e.g., autonomy)	Capability	Heritage (volunteering/ active) engagement increases Transferable (social, management etc.) and specialised skills development. Knowledge and capabilities	Type: engagement in the form of volunteering or engagement in archaeological excavations as part of team, hands – on excavation/documentation work and communication of findings	(CAER Heritage Hidden Hillfort 2017): More than 80% of local residents felt the experience had helped them develop or improve transferable skills including team working, verbal communication, working persistently, and working to set standards and interpreting evidence.
Direct association with higher life satisfaction and subjective wellbeing (Ateca-Amestoy et al., 2021)		Capability Social wellbeing	Indirect wellbeing and resilience benefits via self-esteem and confidence building. Increased sociability and perceived (social) integration in group.	Type: Various volunteering activities via various roles in protection, maintenance of heritage assets, development of interpretation, guidance of visitors etc	Heritage volunteers and reported higher wellbeing compared to the general population. Time spent doing so is strong predictor of wellbeing benefits (Rosemberg et al., 2011, for HLF)
Improved quality of life and quality of community life/social life in place of residence	Social wellbeing –cohesion and inclusion Resilience and social ‘coping with life’	(social) Identity –emotional experience (close relationships and support)- Capability (to cope with life)	Pathway 4 Heritage places acting as social infrastructure/ are enabling greater social integration and strengthening social networks and support	Type: Visit and use of historic spaces in towns for community purposes, meeting and social gatherings by community groups/oral history and mapping collaborative research projects/indirect effects of visiting heritage as a primarily social, free time activity	
Studies supporting levels of social support are predicting higher wellbeing and reduced risk of premature death (Holt-Lunstad et al., 2010) or improved resilience to stress (Ozbay et al., 2007)	Social wellbeing, community cohesion and active citizenship	Identity capability and experience (social)	Offer opportunities to access new social networks in one’s place of residence and therefore social support (bonding and bridging social capital development). Increased active citizenship and engagement in local decisions may improve trust to government/institutions.	Type: Parish churches or wide types of rural heritage assets used by groups as community hubs or heritage centres. Type: Historic town or city centres, squares or public use buildings that act as meeting hubs or host events.	Strengthen links between locals and incomers in rural communities (Gallou, 2020) Increase access to social networks and engagement in local planning and place-making projects (Gallou and Fouseki 2018; Power and Smyth 2016) Social capital development, bridging and linking (Murzyn Kupisz & Dziejek, 2013), Social capital and sense of place, fostering (Graham et al., 2009)
Stronger Community belonging is more strongly associated with mental versus general health (all ages) and better self-perceived health (this esep.in middle-age) (Michalski et al., 2020) Reduction in levels of social isolation not directly linked with	Social wellbeing, community cohesion, sense of (social) belonging, Inclusion	Identity, capability, and experience (social)	Cultural programmes around history of place enable higher levels of socialising between different ethnicities and age groups. This supports easier social integration (e.g., for ethnic minorities, incomers, refugees etc.) and can also strengthen intergenerational links	Type: taking part in oral history projects/community archival projects using heritage mapping tools or documenting or interpreting spatial or archival resources. Other community-level engagement activity.	Enabling understanding of diversity and inclusion in multi-ethnic communities (Cattell et al., 2008) or intergenerational links and strengthened identity (age, ethnicity)

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Indirect quality of life and health outcomes	Wellbeing outcomes	Areas	Pathway to wellbeing outcomes	What and where: Types of heritage asset, activity and intervention	Existing evidence in literature and empirical studies
combatting loneliness, though theoretically supported.			(exchanges between age groups).		
Direct	Subjective wellbeing (Life satisfaction).	Experience	Cultural heritage engagement (visiting) associated with higher self-perceived health	Type; visiting historic sites (broad definition), attending art and cultural events.	(Wheatley and Bickerton, 2019; Fujiwara et al., 2014a, 2014b) Health satisfaction associated with visits to arts events and historical sites (significant)
Pathways linking self-esteem and psychological wellbeing to happiness (Dogan et al., 2013)	Resilience and self-esteem (eudaimonic aspects) Life satisfaction.	Identity Experience	Cultural heritage engagement (visiting) associated with Increased self-esteem and life satisfaction		Frequent Cultural engagement (visits) significantly associated with increased life satisfaction (Lakey et al., 2017a)
Direct association with Subjective wellbeing, Life satisfaction, self-esteem and better mental health (anxiety/depression).	Subjective wellbeing, Life satisfaction, Mental health-psychological wellbeing (self-esteem).	Capability and identity.	Self-esteem and confidence	Type: volunteering or free time cultural activities like playing an instrument, being at a meeting or training in an organisation or club, making film, being audience at sports events, cinema	Adolescents, 13–19 years old Cultural activity participation clubs or organisations, associated with higher self-perceived health, life-satisfaction, self-esteem and mental health. (Hansen et al., 2015)
Improved social life	Social wellbeing	Capability and behaviour	Pathway 5: volunteering engagement activity (voluntary associations) associated with higher levels of civic participation and active citizenship	Heritage volunteering offers typical social activity benefits both psychologically but also affects social behaviour	
Responsible behaviours. Socially engaged citizens, reduce socio-economic inequalities in democratic participation. Indirect links between time-use, socially active life and loneliness or depression can be established.	Social wellbeing Social capital relevant outcomes (trust and linking capital-links between individuals and institutions)	Capability and behaviour	Attending and engaging more with cultural, group activities indicate wider interest in civic life and decision making (behaviour shaping effects)	Type: any form of volunteering (not restricted to heritage but wider, cultural/sports)	Attending cultural or sports events was the largest 'predictor' of civic engagement and balanced differences observed amongst high and lower social classes. (Bennett and Parameswaran, 2013)
Direct association with life considered more worthwhile. ² Worthwhile ratings at baseline also predicted social outcomes 4 y later. Indirect with mental and multiple health outcomes.	Life worthwhile. Mental health (reduction of depressive symptoms), Physical health (less chronic pain) associated with having more worthwhile activities in your life.	Experience and identity (Social)	Cultural engagement in community groups that someone considers meaningful, via its social element, associated with better perception of one's life in older ages	Type: club or community group level of engagement (including culture or heritage, as part of wider civic membership groups/clubs)	Stephoe and Fancourt (2019) community groups and associations engagement supports leading a meaningful life at older ages (adults aged 50 plus)
Indirect links with loneliness and psychological health as above.	Social wellbeing, social support and social capital (bonding)	Experience and identity (Social)	Heritage volunteering enable people to meet like-minded individuals and make friends, increase levels of social support.	Type: Voluntary engagement activity (membership and undertaking activity within heritage groups and associations).	Over 90% of volunteers surveyed reported benefits from socialising with others, while 35% sustained friendships outside of the project (Rosemberg et al., 2011)
Improved subjective wellbeing combined with psychological identity and social integration effects suggest wider quality of life outcomes.	Emotional (hedonic-aspect) Identity and psychological security (belonging-eudaimonic aspect)	Identity Experience	Pathway 6 Increased Sense of place: belonging, attachment associated with wellbeing via (a) identity strengthening and social integration (belonging to group. (Ashworth and Graham, 2018) (b) increased subjective wellbeing (satisfaction with life)	Types: multiple levels from city (or historic town centre), neighbourhood, home. Visitor attractions or landmarks/ urban site, natural heritage like parks and coastal natural reserves.	Heritage associated with higher sense of place and attachment to place. Place attachment associated with quality of life (Harris et al., 1995), life satisfaction (Billig, et al., 2006) and various other dimensions of social well-being (e.g., Rollero and De Piccoli, 2010a).
		Experience	Needs fulfilment and social bonds shaping affects attachment. Aesthetics and condition/perceived safety of those places predicts attachment.	City versus neighbourhood attachment through perception and experience	Attachment to cities had a larger effect on social welfare than attachment to neighbourhoods. But when cities were perceived as unattractive, dangerous, and not fully controlled, the links established with neighbourhoods were shown

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Table 4 (continued)

Indirect quality of life and health outcomes	Wellbeing outcomes	Areas	Pathway to wellbeing outcomes	What and where: Types of heritage asset, activity and intervention	Existing evidence in literature and empirical studies
		Identity and experience	A distinctive urban environment can contribute to the co-existence of symbols and materialization of collective memories of its residents (Lewicka, 2008).	City and urban place attachment. City and metropolis are places mainly characterized by bonds of attachment and identity compared to smaller cities/urban cores.	to be stronger (Lewicka, 2010) ³ Place attachment can be stronger thanks to distinctiveness effect and shaped (collective) memories of place (Lewicka (2005, 2008, 2011) (Ferencki and Marshall, 2013)
		Identity and experience	Emotional connections with community/social life of historic place support psychological connections with place and identification with it.	Perception and experience of Historic town centre or historic neighbourhood	In Traditional neighbourhoods, “the social components and activities” increase sense of place, while in modern neighbourhoods, “the physical and visual components” (Ghoomi et al., 2015)
	Meaning supports stronger personal identity-it can be linked to worthwhile life (eudaimonic aspect) –emotional connection with places (hedonic, positive affect)	Identity	Meaningful perceptions of place and emotional connections with it, help position individual identity within the wider world.	Perception and experience of a specific locality in comparison to wider world or as part of it. Comparison of identity and attachment formation across smaller to larger living environments (settlement to city) (Casakin et al., 2015)	Attachment/perception of distinct places, considered meaningful to oneself supports a coherent perception of world (e.g., Casakin and Kreitler, 2008; Droseltis and Vignoles, 2010 in Manzo and Devine-Wright, 2013)
		Experience and identity	A combination of personal needs and motives (e.g., self-esteem, continuity, distinctiveness, belonging, meaning, security, control, aesthetic pleasure) and social/symbolic links to places (e.g., genealogy, economics, loss, narrative, spiritual significance, special events)-explain the benefits from creating psychological bonds with place. Satisfaction of needs and motives partially accounted for effects of social/ symbolic links with place.	Exposure to meaningful (to one’s identity) cultural symbols and imagery.	Droseltis and Vignoles (2010) suggest emotional connection to a place developed through narrative links. Outcomes for individual ‘s wellbeing are linked to motives like security and control, which are part of essential human needs (Maslow, 1970)
	Psychological wellbeing (security -eudaimonic aspect)	Experience and identity	Psychological wellbeing (sense of security), buffering effect to perceived threats when exposed to images of those ‘symbols’. Those experiences generate stronger positively affected experiences and long-term manifestations of a bond to place, which is associated with higher developmental ‘performance’.	Familiarity and links with places within urban city cores. Familiarity with (intangible) cultural identity symbols. Childhood place experience and understanding/ familiarisation.	Places and symbols attachment create sense of psychological security (Keefer et al., 2014; Yap et al., 2017)
	Positive affect (hedonic aspects)-Higher capabilities. Autonomy and positive functioning	Capability	Those experiences generate stronger positively affected experiences and long-term manifestations of a bond to place, which is associated with higher developmental ‘performance’.		Increased ability for developmental tasks in children throughout the lifespan (e.g., Hay, 1998; Morgan, 2010) ⁴ linked with higher place attachment in childhood.
	Resilience and Positive Functioning (as in NEF model)- psychological wellbeing (needs coverage, safety feeling) Positive affect -emotional aspect.	Identity Experience	The emotional bonds that people establish with place play an important role in the way it is perceived and interpreted (Félonneau, 2004; Scannell & Gifford, 2010). The affective bond, makes people feel comfortable and safe and tend to remain in that place for a long time. Additionally, the perception and cognitive representation of a place can also affect the bonds established between an	Emotional, cognitive, and social links developed with place.	Place attachment linked with increased levels of self-esteem, meaning, and belonging (Scannell and Gifford, 2017; Rollero and De Piccoli, 2010). Improving the place attachment leads to the promotion of social well-being and social cognitive function (Wu et al., 2019)

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Table 4 (continued)

Indirect quality of life and health outcomes	Wellbeing outcomes	Areas	Pathway to wellbeing outcomes	What and where: Types of heritage asset, activity and intervention	Existing evidence in literature and empirical studies
			individual and that place (Brown et al., 2003 ; Rollero and De Piccoli, 2010b)		
	(Personal) Identity reinforcement. Psychological wellbeing (safety, rootedness) and emotional attachment-stability, anchoring (resilience)	Identity Experience		Links developed with place of residence (home or town level) across time (not necessarily historic town but long-term place one is living in).	Residential Attachment: research shows identity reinforcement through links with one's place of (long-term) residence. Researchers developed relevant scales for measuring that (Bonnaiuto et al., 2002, 2006)
	Personal identity realisation (negative for economic development but not direct wellbeing effects reported)	Identity Capability		Attitudes around natural resources and protected areas are shaped by one's identity and level of dependence in resource use. Negative attitudes towards protected places due to resource limitations in use need to be considered.	The concept of local identity affects environmental Attitudes towards Land use Changes.
	Social belonging (social identity) Psychological wellbeing (identification-identity) and emotional attachment-stability (Safety-rootedness)	Identity Experience	Belonging to place and meaning of place were also found to be involved in the construction of people identities (Vignoles et al., 2006), and showed to be good predictors of place identity (Droseltis and Vignoles, 2010).	Links developed with city as place of reference and predicted by belonging to relevant social group or community.	City-level attachment city identification involves the incorporation of the city as a social group into one's social identity (Bernardo and Palma Oliveira, 2016 ; Droseltis and Vignoles, 2010 ; Twigger-Ross & Uzzell, 1996). City identification also involves place attachment, which refers to feelings of being bonded to a place, its character and its people (Rollero and De Piccoli, 2010a ; Zenker & Petersen, 2014). Historic parts of cities may be considered as special parts of those, and differences between historic vs less historic cities haven't been studied yet. (Scannel and Gifford 2017a , in Gatersleben et al., 2020)
	Place authenticity and emotional attachment, hedonic element (higher happiness, satisfaction from visiting)	Experience	Memory-support was the most commonly mentioned benefit. Thirteen categories of experienced psychological benefits were revealed. Attachment to shape authenticity (perception of) and authentic perception of significant of places linked to predicted visitor behaviour/positive experience	Links developed with heritage places and monuments (as tourism destinations) and iconic image of heritage	Place attachment is an antecedent of authenticity Heritage value and iconicity are moderators of authenticity. Historic visitor attractions contribute to the perceived authenticity of tourism destinations and attachment is therefore driving visiting behaviours (Jiang et al., 2016 ; Ram 2016 ; Wu et al., 2019)
Positive and responsible behaviours/ high quality of place (protection of place qualities) ⁵	Place attachment leads to pro-heritage behaviours (as part of pro-environment behaviours)	Identity, experience, and capability	Making caring for a place part of one's identity and value system is leading to environmentally protective behaviours	Links developed with significant natural visitor attraction places (e.g., natural resources, parks or tourist attractions)	Higher levels of Place attachment (identity element) leading to environmentally responsible behaviour (Vaske and Kobrin, 2001 ; Ramkissoon et al., 2012, 2013)

¹ Therapeutic effects are also associated with parks and gardens ([Hartig et al., 2011](#)), woods and forests, coastlines ([Bell et al., 2015a](#)), good views ([Ulrich et al. 1991](#)), or simply being outside ([Bell et al., 2015b](#); [Cleary et al., 2017](#); [Doughty 2013](#); [Edensor 2000](#); [Kaplan 1995](#)).

² Relationships are likely to be bidirectional, but the fact that worthwhile ratings predict future levels of such a wide range of outcomes independently of baseline values suggests that living a meaningful life may contribute to future health and optimal ageing. Higher life worthwhile scores associated with better Mental health and physical health (depressive symptoms, chronic diseases, chronic pain).

³ [Casakin and Neikrug \(2012\)](#) also looked at links between place identity place quality, and place attachment as perceived by elders living in neighbourhoods with different levels of maintenance, to find that services quality and PD were found to be additional predictors of place identity next to PA. PA and PD were found to be higher in well-maintained neighbourhoods, but no significant differences were found in place identity with regard to the declined neighbourhoods.

⁴ Place attachment emerges from a childhood place experience. A pattern of positively affected experiences of place in childhood are generalised into an unconscious internal working model of place which manifests subjectively as a long-term positively affected bond to place known as place attachment.

⁵ *Patterned relationships with place help to predict specific types of behaviour.* Sense of place has been shown to be a powerful predictor of attitudes toward potential changes and behavioural intentions, both reactive and proactive (Bonaiuto et al., 2002; Devine-Wright 2009) in Masterson et al. (2017).

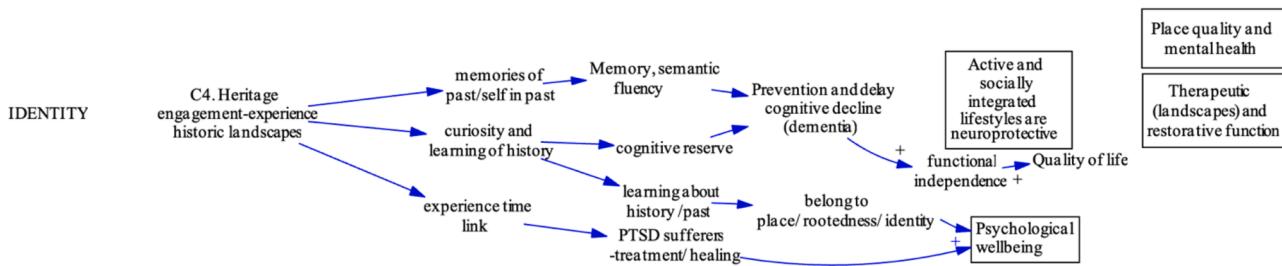


Fig. 4. Pathways to wellbeing through reinforced personal identity or spatial/place identity evoked from experiencing historic environments meaningful to individuals. Studies that evaluate health -focused interventions in such settings report cognitive reserve benefits and mental health improvements in individuals. There is no clear causal explanation in studies reviewed whether the sense of belonging and place attachment mechanism may be responsible for those benefits.

2015). This pathway is not solely working through reinforcing one’s sense of identity (or way one thinks about oneself generally) but is evidenced as triggered usually through experiencing certain images or objects connected to places. Psychosocial evidence indicates that the intrinsic, physical and material properties of objects can trigger memories, projections, sensory, emotional, and cognitive associations (Bau-meister 1991; Frogett et al., 2011; Chatterjee and Noble 2013; Chatterjee 2016). Additionally, there is evidence from a body of UK based studies in clinical and museum settings, that supports that use of historic artefacts can improve wellbeing for mental health service users and those undergoing neurological rehabilitation (Ander et al., 2013 a, b).

Experience: Urban-led regeneration affects those properties of places (which are felt during using them, for example walkability, amplified and functional public space and town centres) while historic design features affect aesthetic appreciation and therefor experience of place. Green and blue historic spaces may also have effects similar to experiencing other natural settings. The wider research looking into

experiences of visiting special places like historic visitor attractions mostly focuses on life satisfaction effects and subjective wellbeing (Fig. 5). It also looks into aspects of experience, while being less descriptive on what makes the difference and focusing more on the outcome and effect level on happiness and association with umbrella indicators like life satisfaction.

E1. Experiencing outdoor/natural historic places associated with improved mental health and increased happiness, and indirect health benefits

While direct evidence on differences between historic versus non-historic open-air places were not located, the natural elements and the nature of certain types of heritage sites (e.g., stately homes-grounds, parks and historic gardens, ancient landscapes, historic waterways, etc.) assimilate the natural features and properties of natural settings. Studies on the latter, like those focusing on effects of exposure to green and blue historic places through visits have been found to impact mental health by reducing feeling of anxiety and increasing pleasant feelings of happiness (affective, hedonic components of wellbeing), while the combined effects of health benefits from physical activities undertaken

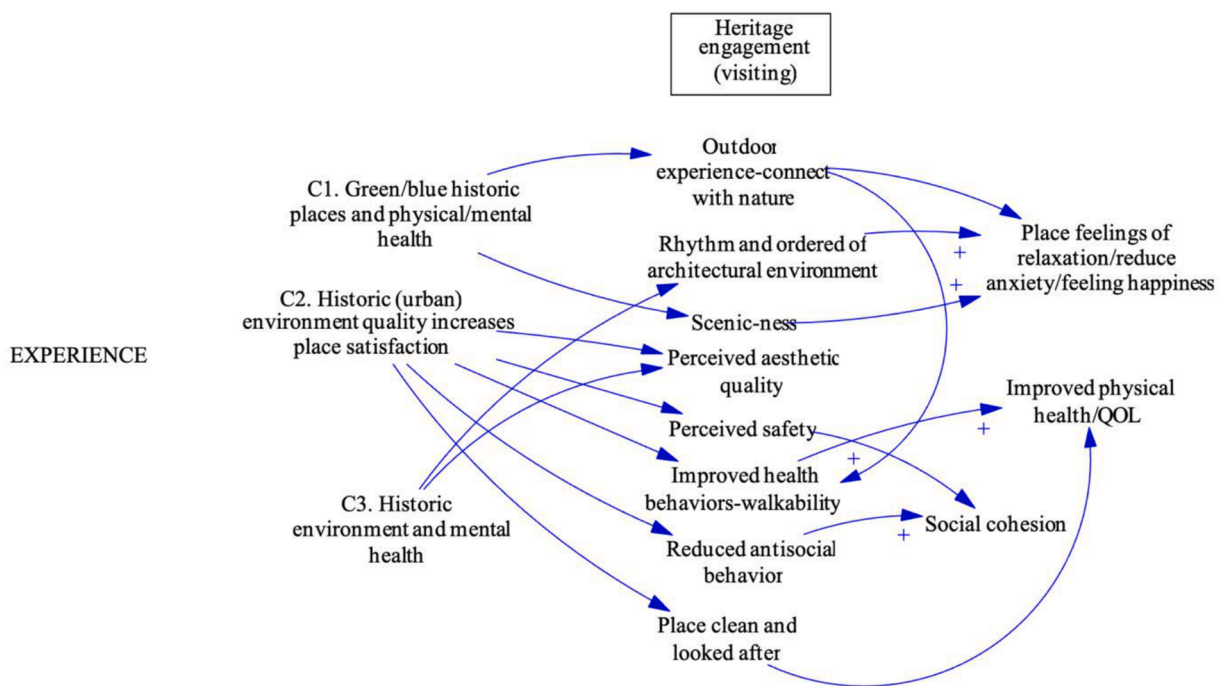


Fig. 5. Pathways to wellbeing through experiencing heritage, a) in the form of open-air historic places, parks and gardens or archaeological landscapes b) urban historic towns and city centres linked with benefits that range from positive affect, higher perceived (psychological) safety indirectly leading to higher sociability and individual health benefits.

(Mitchell, 2013) in those spaces support long-term mental health balance and physical health/healthy behaviours for adults. It is important to consider that link to healthy behaviours in the long-term assessment of policies: a study by Zhang et al. (2014) confirmed that mental health and well-being aspects (e.g., positive emotions) mediated the association between green space exposure and prosocial behaviour.

Despite the evidence that health is linked with proximity to such places, there are studies that show that simply living in proximity to green spaces in general is not necessarily associated with mental well-being (Houlden et al., 2017); a Dutch study found that quality of green spaces had a stronger bearing on health outcomes than quantity (De Vries et al., 2013), suggesting that policy should look not only in quantity and access to reduce health inequalities but in perceived quality and attributes of place.

E2. Historic urban environment quality increases place satisfaction and subjective wellbeing while also supports higher quality of life

The qualities of urban historic places, like historic town centres, historic high streets or vernacular housing complexes can be viewed only within a body of studies looking into the quality of urban design for promoting feelings of safety, pleasurable feeling due to their aesthetic quality, healthy behaviours (e.g., walkability) or reduced antisocial behaviour. Yet, to a large extent, the symbolic or meaning-related qualities of historic places remain elusive in the discussion on well-being benefits occurring from their experiences.

Healthy behaviours: Existing evidence supports that the layouts of historic town centres enhance walkability and healthy habits, which are particularly important for supporting healthy lives for older people in urban centres (Rosso et al., 2011).

Reduced anti-social behaviours/promoting socialising: The condition of public space also has been found to be important for supporting social cohesion and reducing anti-social behaviour. Historic town centre revitalisation has been found to help reduce anti-social behaviour and increase feelings of safety amongst residents (Venerandi et al., 2016).

Reducing anxiety, increasing positive feelings and the link with behaviours: and Kent et al. (2017) looked into ways in which the built environment affect subjective wellbeing, specifically focusing on the different effects of objectively measured and subjective aspects, to find that subjective perceptions of character of an area, like perceptions of neighbourhood safety were strongly associated with negative emotional wellbeing (feeling anxious). Another interesting finding was “**life satisfaction and affective well-being is more influenced by subjective (perceived) environment attributes, while mental health is more related to objective attributes.**”

E3. Heritage experiences linked with improved cognitive and physical health

The multiplicity of studies located through this review simply looked at association between life satisfaction or happiness and visiting heritage sites, whereas less evidence exists on what may mediate this relationship.

Physical experiences in historic places or sensory and learning experiences with archival collections can support people living with dementia. Places have the power to evoke memories and experiences (National Trust, 2017). Emotional (affective) and cognitive associations with places support memory sustenance (therefore supporting positive functioning, especially in older ages). The lack of social connections is a key risk factor for developing cognitive deficits such as dementia (Tampudolon et al., 2017), which suggests that there may be a parallel pathway connecting social heritage engagement activities with protection from cognitive decline.

Amongst elderly participants, personal memories and recollections through engagement with history of place created the stronger link to aspects of participants' identity (section I3, see also Johnston and Marwood, 2017).

Fancourt and Steptoe (2018) and Stern (2012) supported that memory and semantic fluency are positively associated with increased

exposure to culture, and cognitive decline is negatively associated with more frequent cultural engagement. (Their model considered visiting museums/galleries/exhibitions while taking into account more factor affecting an individual's cognitive reserve which is strongly linked with dementia incidence). Latest research by Fancourt et al. (2018 and 2020) further supports the potential of cultural engagement (museum visits) for preventing dementia in older adults: museum attendance is inversely associated with dementia incidence over a 10-year period. Fancourt and Tymoszuk (2019) also support lower associated risk of developing depression (in a future '10 following years' timeframe) in adults over 50 years old that engage in cultural activities like visiting museums, theatres or cinemas.

Capability: The most obvious area through which heritage supports individual capability shaping more directly is through volunteering or informal engagement and skills or confidence shaping (Fig. 6).

Capabilities building through heritage: social wellbeing and interpersonal and communal wellbeing outcomes

The impact of heritage volunteering is most keenly felt by younger volunteers who benefit from skill development or shaping of educational aspirations, whilst volunteers who are unemployed have been observed as more likely to enrol in an educational course after volunteering (Rosemberg et al. for NLHF, 2011; Historic England 2019). Volunteering at older ages and its benefits, which seems to be predominantly the case for the heritage sector in the UK (DCMS, 2017), has been mainly assessed through smaller studies. If those are linked with studies like Fancourt and Steptoe (2019 a,b) which look into benefits of taking part in community/group activities, the connection with health benefits becomes clearer: through providing a purpose in life, combatting loneliness and subsequently reducing health risks (like reduced risk of stroke). Wider studies and meta-analysis on links between volunteering for adults over 55 and reduced risk of death also add to the positive health effects of such a social activity (Okun et al., 2013), with motivations like social links or doing purposeful work, also playing a role in strengthening the relationship with the health outcomes (Konrath et al., 2012).

C1. Heritage engagement activity like engaging in voluntary associations increases rates of high civic participation and develops active citizens

Attending cultural or sports events are the largest predictors of civic engagement. Those who engage in DCMS sector activities are 65% more likely to volunteer than others (Bennett and Parameshwaran, 2013).

A survey of more than 5000 adults in England found almost 38% of the public have taken action to protect a local historic building or local place from damaging change, or from becoming derelict or disused, with action including signing a petition, joining a membership group, fundraising/donating for local heritage and attending a public meeting about local heritage (Historic England, 2015).

Interplay of paths: historic places increase our 'sense of place', sense of belonging, attachment shaping social and personal identities

Historic places in public use are enabling more social relationships, levels of social support and strengthening social networks

Cultural engagement, including engagement in community groups and associations (which may include e.g., historic environment groups) has been found to support leading a meaningful life at older ages: recent population level studies looking into the relationship between social engagement, prosperity, health, biology, and time use Steptoe and Fancourt (2019) support that frequent engagement was linked with lower reported loneliness, supporting better mental health and health outcomes for those individuals.

Looking into wider pro-social behaviours and levels of civic engagement as outcomes, living in a historic environment has been linked with greater community engagement in local decisions. People living in Conservation Areas in England were found twice as likely to engage in development or planning decisions in their local area

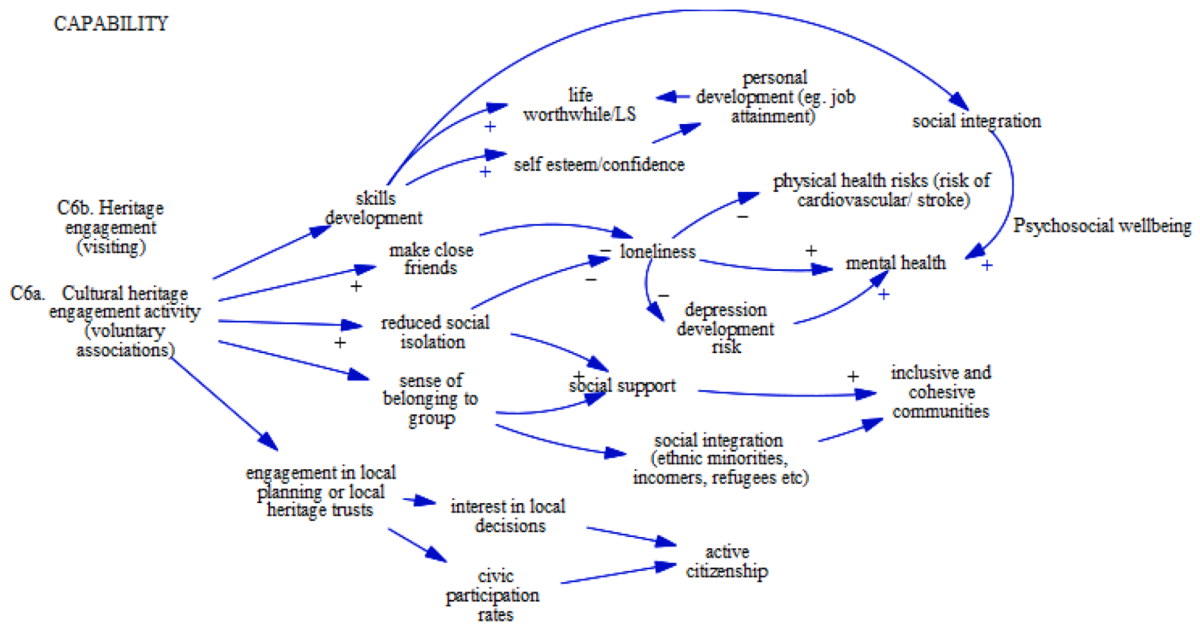


Fig. 6. Pathways linking engagement with cultural heritage through volunteering or civic participation to psycho-social wellbeing. Different outcomes are observed in the studies reviewed from decrease in loneliness to increased social support and indirect reduced mental health risks.

compared with the general population (24% and 13% respectively). This is based on survey evidence of over 2400 adults residing in England, including 597 adults who were identified as living within a Conservation Area (YouGov for Historic England, 2017).

Research supports that street profiles that enable interactions at street level enhance sociability: they are enhancing pro-social behaviour and are associated with an increase in social networks (Izenberg et al., 2018; Izenberg and Thompson Fullilove, 2016). Both adults and young people who have recently visited a historic property were found more likely to have higher levels of social capital compared to those who

hadn't in a UK study (Bradley et al., 2009).

Heritage is associated with increased attachment and satisfaction with place which are linked with higher to wellbeing

Multiple researchers and scholars have advocated for the key role of heritage for increasing attachment with places and developing a sense of place (Graham et al., 2009; Ashworth et al. 2007; Waterton et al., 2006; Graham et al. 2005; Smith, 2006; Hawke, 2010; Goussous and Al-Hammadi, 2018, Lewicka, 2008). Less effort has been devoted into

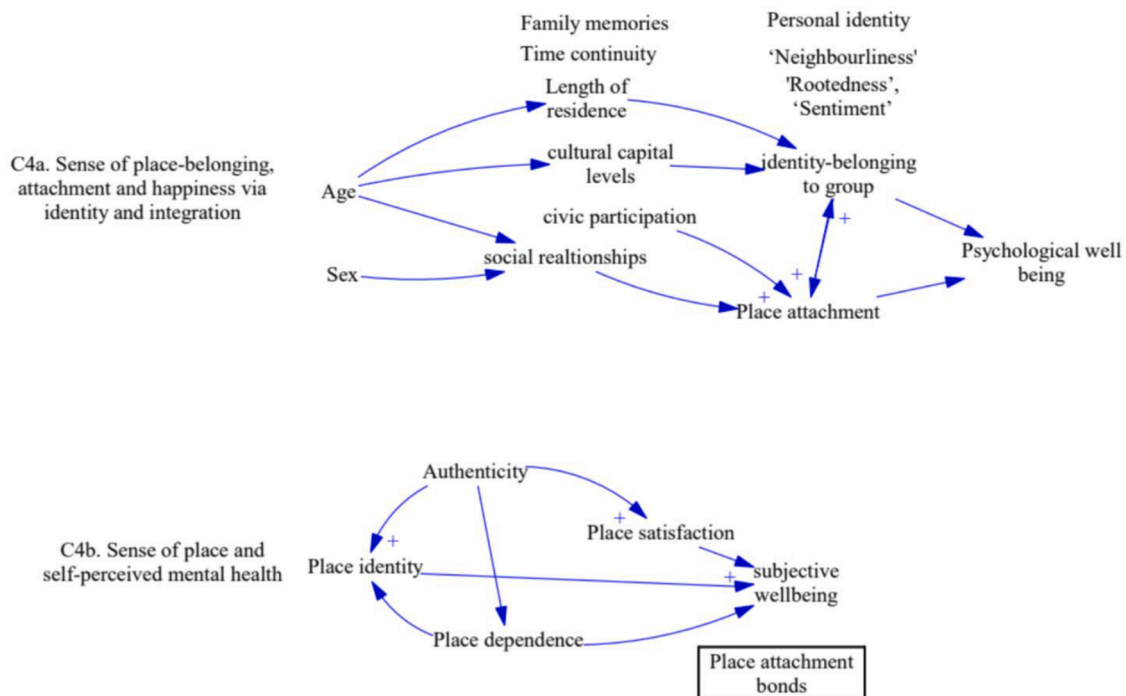


Fig. 7. Pathways to wellbeing through higher sense of place, place attachment linked to experience of historic 'settings'. Age and sex are identified as predictors of social relationships in place and civic participation, which in turn affect levels of place attachment. Studies associate higher place identification with subjective wellbeing.

unravelling the links between heritage and wider satisfaction with a place of residence, which is particularly important in the context of cities and historic town centres but also in that of rural areas, for sustaining rural population demographics and balance negative depopulation effects. On top of that, research on place attachment within psychology and relevant fields focused on different 'types of places': place attachment is evident in a variety of settings, from 'recreational places' to natural protected areas, including rivers used for white-water rafting (Bricker & Kerstetter, 2005), hiking trails (Kyle et al., 2004; Moore and Graefe, 1994), National Parks (Williams and Vaske, 2003), and wilderness areas (Williams et al., 1992), to cars, houses, cities and countries (Lalli, 1992; Shamai, 1991; Anton 2014).

A stronger sense of place has been associated with higher quality of life (Harris et al., 1995), but also with life satisfaction (Billig et al., 2006), and various other dimensions of social well-being (e.g., Rollero and DePiccoli, 2010a). The evidenced links especially connect higher sense of attachment to place or its community with individual wellbeing aspects like positive functioning, self-esteem but also community level/social wellbeing aspects of belonging, group identity (Rollero and De Piccoli, 2010a; Scannel and Gifford 2017a, 2017b amongst others) (Fig. 7).

Place social bonding (social experience): When studying the role of historic places for socio-economic wellbeing it is important to understand how different types of bonding work: place attachment and social bonding are two such types. A place can be valued by an individual because it facilitates interpersonal relationships (Hammit, 2000; Scannel and Gifford, 2010a, 2010b) and fosters "group belonging" (Hammit et al., 2009). For the case of heritage, the additional element of perceived authenticity of a place and its symbolic meaning have been considered important for shaping strong (emotional) connections between individuals and places (Ram et al., 2016; Wu et al., 2019) and place attachment has been considered a key mediator of emotional response.

Objective and subjective qualities of historic places are linked with healthy behaviours and place satisfaction 'outcomes': Historic Beauty and aesthetics of neighbourhood buildings and public spaces have been found to increase levels of community satisfaction (Florida et al., 2011).

The layout of historic town centres is shown to enhance walkability and healthy habits, which is particularly important for supporting healthy lives for older people in urban centres (Rosso et al., 2011).

Previous studies showed that the positive features of the built environment contribute to the perception and experience of place (Hummel, 1992; Manzo and Perkins, 2006). In this regard, Casakin and Neikrug (2012) found that residents experienced greater place attachment in well-maintained compared to less-maintained neighbourhoods, and that place attachment was strongly correlated with physical and service quality. From a similar perspective, the present findings suggest the need for investing in the quality of the neighbourhood (e.g., general maintenance and care, green areas, entertainment areas, services, accessibility, aesthetics, architecture, etc.) to contribute to an enhanced positive place attachment process.

Overall, different aspects of 'environment' are found to affect attachment and identity, not always in the same way: Casakin suggests attention should be paid to other features of the physical context in which attachment is analysed. The relation between these measures and important aspects of environmental planning such as aesthetics (Lewicka, 2011), quality (Bonaiuto et al., 1999), services (Casakin and Neikrug, 2012), maintenance (Brown et al., 2003), and sustainability (Ceccato and Lukyte, 2011) would merit further research.

Finally, recent research by Ramkissoon et al. (2013) provides some significant evidence on the links between high place satisfaction and place attachment (emotional connection with a place), associating it positively with pro-environmental behaviour development. This study forms part of a wider body of evidence that aligns with earlier place theories (Relph, 2007; Tuan, 1977), suggesting that experience with a place leads to attachment, which leads to stronger intentions to protect

the place. Additionally, Bailey et al. (2012) found a significant positive relationship between neighbourhood attachment and civic activity.

Research gaps and directions to support heritage contribution to wider social and wellbeing benefits

1) The role of heritage for shaping and building social capital (which is around building trust, more 'cohesive' communities and sense of belonging) is underexplored in the literature. This may be linked with presence of historic assets in public use or historic parks/gardens for example. Multitude of works exist on operationalising social capital and its policy relevance lies in the ability of supporting not only personal but interpersonal wellbeing through inclusive environments where 'different' people find common interests or feel comfortable and safe (*bridging* aspects).

The way heritage forms part of community (intangible) culture, and a common set of values also suggests it has a core role in building stronger identities and cohesive communities, with the benefits from those at community level being again redistributed and enjoyed by each individual within that community.

- 1) Indirectly the role of heritage as social infrastructure and of 'participation' as a leisure/social activity need to be explored for different ethnic and socio-demographic groups. Visiting and 'engaging' in a voluntary or free time context has a role for shaping better mental health for young people (especially those who consistently visit across time or live close to open-air historic assets that fulfil wider emotional and psychological needs). Policy-driven projects need more evidence on types of activities from traditional skills to construction may prove beneficial in inspiring, cognitively stimulating or engaging in memory games groups of individuals which may have higher needs or be at risk of dealing with ill mental health.
- 2) The core role of heritage in urban regeneration programmes and role of conservation as a practice which is improving what places 'look and feel like' is not evidenced systematically. Existing urban environment quality studies document direct benefits of place-based attachment, satisfaction with place and factors identified range from subjective to objective qualities of places (e.g., robustness and quality of built structures, practicality of 'function' of some historic home interiors, next to, aesthetically pleasing, rhythm experienced in streets with uniform set of facades). Both are shown to be conducive to better (physical) health for residents or associated with reduced risks of ill-health. Therefore, the effects of unintended interaction (e.g., due to living in a place that may be part of someone's daily reality) need to be explored further and considered in longitudinal studies.

The effect of satisfaction and subjectively perceived place qualities of historic places on outcomes like mental health or physical health offer themselves to further research. The rich legacy of environmental psychology research, combined with semi-natural experiments in urban quality of life studies offer a base for that.

- 1) The mechanism of how place attachment works and its effects in relation to visitor's motivation and protective behaviours is an important output of this evidence review. While lots of research simply maps the frequency of visits to monuments and sites, much less is known on the perceived qualities that may drive such behaviours or even engagement in volunteering for this specific sector. Understanding perceived place qualities in tandem with motivations (to visit or not visit) has implications not only for individual wellbeing benefits but also for heritage tourism and amplification of social benefits from accessing heritage visitor attractions. The variety

of societal groups needs to drive studies on perceptions, so that all voices can be heard and barriers to engagement can be captured.

- 2) An interesting aspect that the literature on place attachment revealed is the link between feelings of attachment and proactive protective behaviours: if heritage wants to explore how to promote supportive and responsible ownership the links to behaviour change need to be further explored to inform policy.
- 3) Another relatively underexplored area is the role of aesthetic appreciation, wider experience of physical properties of historic town centres and their indirect effects for individual level wellbeing and health in the long run. Studies support the associations between perceived safety and better psychological health for example, but few examples exist where historic town centres are being examined about their ability to convey such emotions or cognitive states. Indirect links to longer-term health benefits from experiencing pleasant built or natural environments are theoretically supported in place attachment theory and literature. The role of familiarity is also another key area: it is indirectly explored through considering longevity of being in a place in some studies on attachment. As in most research, the empirical research has rarely focused on historic urban centres alone so testing wider 'urban vitality or quality of life studies' methodologies in historic town centres will allow us to cover this gap.

The role of educational and learning benefits and their indirect effect on individual wellbeing/improvement of quality of life is an underexplored area, with challenges on measurement specifically on capturing effects across time (i.e., due to short term heritage interventions or multiplicity of participant backgrounds). Cognitive health benefits linked to memory sustenance and children development benefits associated with historic environments exposure are core areas for further work on this topic and tools from neuroscience and pedagogical evaluations may prove useful for the heritage sector too.

Conclusions and policy relevance

Wellbeing is not limited to the satisfaction of individual needs but includes interpersonal relationships, family life, and social function, while it also includes the person-environment relationship and dimension (Hooymann and Kiyak, 2008; Rollero and De Piccoli, 2010). The role of heritage for wellbeing can be demonstrated in different ways depending on the type of projects and activities studied and the way heritage is employed, as a physical context, built environment, historical set of objects or unique visitor attraction which may combine natural and built features (Historic England 2019,2020). The review identified that existing approaches for measuring wellbeing benefits from visiting heritage - which are mainly focusing on quantifying 'subjective wellbeing', through measuring changes in life satisfaction or happiness feelings - tend to monopolise the policy literature. The same approaches however may ignore wellbeing mechanisms prevalent for heritage experiences. Specifically, the mechanisms identified through the evidence review, suggest that changes in strengthening identity, psychological stability, self-esteem, stronger place attachment, sociability, safety perceptions and eventually improved quality of residential urban environments are important, having indirect links to improving public health and are not captured through the narrow prevailing framework described above.

Place attachment and social wellbeing are two core areas with a lot of evidence but few attempts to link those to health or individual wellbeing. Place attachment and social wellbeing are also shown to be two key inhibitors of morbidity and enablers of health dimensions (Larson, 1996; Rollero and De Piccoli, 2010). Thus, attention to these two concepts will have a significant effect in improving older adults' health status (Afshar et al., 2017). Despite that, the variability in methods and approaches and the scarcity of randomised or controlled experimental studies makes the need for higher quality evidence urgent, to enable for

generalisation of effects observed through smaller studies, at the population level.

Place attachment can be seen as an important area of study for heritage and wellbeing outcomes, as there are studies offering theoretical support on the function of emotional and cognitive links with distinctive places, towards behaviours that support social wellbeing, additional to the important contribution of psychological studies on the formation of place identity bonds. Place attachment is also fundamental to the government's aim of affecting social capital and the way place strategies can support greater civic participation and empowerment of communities. Social capital has featured prominently in regeneration, urban policy and other policy sectors in recent years (see Kearns, 2003) and is assumed to have a recursive relationship with residential stability and place attachment: each reinforcing the other.

Heritage is a local resource, therefore the potential to use it to support social outcomes provides an increased level of equity across places: in England for example local heritage forms an important part of local neighbourhoods, with 99.3% of people in England living less than a mile from a listed heritage asset (Historic England, 2015).

Regarding planning successful interventions to improve human wellbeing through heritage, the overall assessment of the literature in this review suggests that prioritisation of physical infrastructure alone may omit significant emotional connections with place; therefore, a combination of physical improvements (e.g., repairs) with programmes supporting strengthening of social relationships in a place may lead to optimum results (Onward, 2020 p.71). This review showed that evidence on the subjective perceptions of qualities of place should not be dismissed in favour of 'objective' place improvements, as the first connect to wellbeing through more pathways than objective attributes of places, which alone do not shape place 'quality' (Carmona, 2019).

Heritage policies need to enable longer term considerations of meanings and mechanisms around connections with place, in order to avoid excluding identity-related and eudaimonic wellbeing outcomes.

Existing place-shaping strategies used by local governments are currently being updated in light of healthy places considerations and heritage can be a decisive force in those. The evidence in this report can support designers and planners to consider the expected outcomes of people and place-based heritage programmes and enable integration of the two where possible to support greater health outcomes.

By acting within such a framework, heritage programmes and funded programmes in collaboration with local government can work towards 'place-shaping' that includes 'building and shaping local identity'. Localisation of planning processes provides more opportunities, empowering communities to engage and actively shape their historic areas, through for example local plan preparation, introduction of neighbourhood planning (MHCLG, 2020).

This paper while providing a set of observed benefits from engagement with heritage at all levels, located missing links between examining physical interventions on an urban environment and planning or decision-making approaches that may increase inclusion and support participation affecting social wellbeing. Moreover, the review excluded tourism-impact related studies which form an important area of understanding balanced outcomes, an area further work can specifically focus on. Further evidence reviews considering such mechanisms of wider social outcomes can help us understand the role of heritage resources for connecting institutions and citizens and shaping social capital, developing more engaged citizens.

Declaration of Competing Interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

In accordance with the journal's policy and my ethical obligation as a researcher, I am reporting that myself, Eirini Gallou have a relationship with Historic England that includes: employment.

References

- Afshar, P.F., Foroughan, M., Vedadhir, A., Tabatabaei, M.G., 2017. The effects of place attachment on social well-being in older adults. *Educ. Gerontol.* 43 (1), 45–51.
- Agustina, I., Beilin, R., 2012. Community gardens: space for interactions and adaptations. *Procedia-Soc. Behav. Sci.* 36, 439–448.
- Ander, E.E., Thomson, L.J., Blair, K., Noble, G., Menon, U., Lanceley, A., Chatterjee, H.J., 2013a. Using museum objects to improve wellbeing in mental health service users and neurological rehabilitation clients. *Br. J. Occupational Therapy* 76, 208–216. Available at: <https://discovery.ucl.ac.uk/id/eprint/1396177/1/s2.pdf>.
- Ander, E., Thomson, L., Noble, A., Lanceley, U., Menon, G., Chatterjee, H.J., 2013b. Heritage, health and wellbeing: assessing the impact of a heritage focused intervention on health and wellbeing. *Int. J. Heritage Stud.* 19, 229–242.
- Anton, C.E., Lawrence, C., 2014. Home is where the heart is: the effect of place of residence on place attachment and community participation. *J. Environ. Psychol.* 40, 451–461.
- Ashworth, G.J., Graham, B., 2018. Senses of place, senses of time and heritage. *A Museum Studies Approach to Heritage*. Routledge, pp. 374–380.
- Ateca-Amestoy, V., Villarroya, A., Wiesand, A.J., 2021. Heritage engagement and subjective well-being in the European Union. *Sustainability* 13 (17), 9623.
- Bagnall, A., South, J., Di Martino, S., Southby, K., Pilkington, G., Mitchell, B., ... & Corcoran, R. (2018). A systematic review of interventions to boost social relations through improvements in community infrastructure (places and spaces). <http://eprints.leedsbeckett.ac.uk/4998/1/Places-spaces-people-wellbeing-full-report->
- Bailey, N., Kearns, A., Livingston, M., 2012. Place attachment in deprived neighbourhoods: the impacts of population turnover and social mix. *Hous. Stud.* 27 (2), 208–231.
- Baumeister, R.F., 1991. *Meanings of Life*. Guilford press.
- Beckie, M., Bogdan, E., 2010. Planting roots: urban agriculture for senior immigrants. *J. Agric. Food Syst. Community Dev.* 1 (2), 77–89.
- Bell, S.L., Phoenix, C., Lovell, R., et al., 2015a. Seeking everyday wellbeing: the coast as a therapeutic landscape. *Soc. Sci. Med.* 142, 56–67.
- Bell, S.L., Phoenix, C., Lovell, R., Wheeler, B.W., 2015b. Using GPS and geo-narratives: a methodological approach for understanding and situating everyday green space encounters. *Area* 47, 88–96.
- Bennett, M., & Parameshwaran, M. (2013). What factors predict volunteering among youths in the UK. Briefing Paper 102, TSRC.
- Bennett, R.M. (2018). Deviating from the standard: the relationship between archaeology and public education.
- Bernardo, F., Palma-Oliveira, J.M., 2016. Urban neighbourhoods and intergroup relations: the importance of place identity. *J. Environ. Psychol.* 45, 239–251.
- Billig, M., Kohn, R., Levav, I., 2006. Anticipatory stress in the population facing forced removal from the Gaza Strip. *J. Nerv. Ment. Dis.* 194 (3), 195–200.
- Boniati, M., Aiello, A., Perugini, M., Bonnes, M., Ercolani, A.P., 1999. Multidimensional perception of residential environment quality and neighbourhood attachment in the urban environment. *J. Environ. Psychol.* 19 (4), 331–352.
- Boniati, M., Carrus, G., Martorella, H., Bonnes, M., 2002. Local identity processes and environmental attitudes in land use changes: the case of natural protected areas. *J. Econ. Psychol.* 23 (5), 631–653.
- Bradley, D., Bradley, J., Coombes, M. and Newman, A. (CURDS) 2009. Sense of place and social capital and the historic built environment: report of research for english heritage. [https://historicengland.org.uk/content/heritage-counts/pub/hc09_englan_d_acc-pdf/\[Accessed July 2019\].](https://historicengland.org.uk/content/heritage-counts/pub/hc09_englan_d_acc-pdf/[Accessed July 2019].)
- Brown, B., Perkins, D.D., Brown, G., 2003. Place attachment in a revitalizing neighborhood: individual and block levels of analysis. *J. Environ. Psychol.* 23 (3), 259–271.
- CAER Heritage Hidden Hillfort, 2017. *Unearthing Utopia*. Available at: <https://caerheritageproject.com/2017/09/29/unearthing-utopia/> [Accessed July 2019].
- Cane, J., O'Connor, D., Michie, S., 2012. Validation of the theoretical domains framework for use in behaviour change and implementation research. *Implement. Sci.* 7 (1), 1–17. Available at: <https://link.springer.com/content/pdf/10.1186/1748-5908-7-37.pdf>.
- Carmona, M., 2019. Place value: place quality and its impact on health, social, economic and environmental outcomes. *J. Urban Des.* 24 (1), 1–48.
- Carone, P., De Toro, P., Franciosa, A., 2017. Evaluation of urban processes on health in Historic Urban Landscape approach: experimentation in the Metropolitan Area of Naples (Italy). *Qual. Innov. Prosperity* 21 (1), 202–222. <https://www.qip-journal.eu/index.php/QIP/article/view/793>.
- Casakin, H., Neikrug, S., 2012. Place identity in the neighbourhood as perceived by the Elder residents: relations with attachment, dependence and place quality. *Role Place Identity Percept., Understanding, Des. Built Environ.* 107–119.
- Casakin, H., Hernández, B., Ruiz, C., 2015. Place attachment and place identity in Israeli cities: the influence of city size. *Cities* 42, 224–230.
- Cattell, V., Dines, N., Gesler, W., Curtis, S., 2008. Mingling, observing, and lingering: everyday public spaces and their implications for well-being and social relations. *Health Place* 14 (3), 544–561.
- Ceccato, V., Lukyte, N., 2011. Safety and sustainability in a city in transition: the case of Vilnius, Lithuania. *Cities* 28 (1), 83–94.
- Chatterjee, H.J., Noble, G., 2013. *Museums, Health and Wellbeing*. Ashgate Publishing Ltd. Farnham, UK, Burlington USA.
- Chatterjee, H.J., Hannan, L., Thomson, L., 2016. An introduction to object-based learning and multisensory engagement. *Engaging the Senses: Object-based Learning in Higher Education*. Routledge, pp. 15–32.
- Clark, C., Myron, R., Stansfeld, S., Candy, B., 2007. A systematic review of the evidence on the effect of the built and physical environment on mental health. *J. Public Ment. Health.*
- Cleary, A., Fielding, K.S., Bell, S.L., Murray, Z., Roiko, A., 2017. Exploring potential mechanisms involved in the relationship between eudaimonic wellbeing and nature connection. *Landsc. Urban Plan.* 158, 119.
- Darvill, T., Barrass, K., Drysdale, L., Heaslip, V., Staelens, Y. (Eds.), 2019. *Historic Landscapes and Mental Well-Being*. Archaeopress Publishing Limited. Available at: <https://www.archaeopress.com/ArchaeopressShop/DMS/CF173E5FFB1C4ED6AF4A9999A607A6E4/9781789692686-sample.pdf>.
- De Vries, S., Van Dillen, S.M., Groenewegen, P.P., Spreeuwenberg, P., 2013. Streetscape greenery and health: stress, social cohesion and physical activity as mediators. *Soc. Sci. Med.* 94, 26–33.
- Devine-Wright, P., 2009. Rethinking NIMBYism: the role of place attachment and place identity in explaining place-protective action. *J. Community Appl. Soc. Psychol.* 19 (6), 426–441.
- Diener, E., 2000. Subjective well-being: the science of happiness and a proposal for a national index. *Am. Psychol.* 55 (1), 34.
- Dogan, T., Totan, T., Sapmaz, F., 2013. The role of self-esteem, psychological well-being, emotional self-efficacy, and affect balance on happiness: a path model. *Eur. Sci. J.* 9 (20).
- Douglas, O., Lennon, M., Scott, M., 2017. Green space benefits for health and well-being: a life-course approach for urban planning, design and management. *Cities* 66, 53–62. researchrepository.ucd.ie/bitstream/10197/8515/1/Green_space_benefits_for_health_and_well-being_A_life-course_approach.pdf.
- Doughty, K., 2013. Walking together: the embodied and mobile production of a therapeutic landscape. *Health Place* 24, 140–146.
- Droseltis, O., Vignoles, V.L., 2010. Towards an integrative model of place identification: dimensionality and predictors of intrapersonal-level place preferences. *J. Environ. Psychol.* 30 (1), 23–34.
- Drysdale, L. (2018). *Human Henge evaluation report for National Lottery Heritage Fund*. Available at: <https://humanhenge.org/2019/01/30/human-henge-evaluation-report/>.
- Eadson, W., Harris, C., Gore, A., & Dobson, J. (2019). Space to thrive: a rapid evidence review of the benefits of parks and green spaces for people and communities. <http://shura.shu.ac.uk/25904/1/space-to-thrive-2019-evidence-review.pdf>.
- Edensor, T., 2000. Walking in the British countryside: reflexivity, embodied practices and ways to escape. *Body Soc.* 6 (3–4), 81–106.
- European Social Survey, 2013. Round 6 Module on Personal and Social Wellbeing – Final Module in Template. Centre for Comparative Social Surveys, City University London, London. https://www.europeansocialsurvey.org/docs/round6/questionnaire/ESS6_final_personal_and_social_well_being_module_template.pdf.
- Everill, P., Bennett, R., Burnell, K., 2020. Dig in: an evaluation of the role of archaeological fieldwork for the improved wellbeing of military veterans. *Antiquity* 94 (373), 212–227.
- Fancourt, D., Steptoe, A., 2018. Community group membership and multidimensional subjective well-being in older age. *J. Epidemiol. Community Health* 72 (5), 376–382.
- Fancourt, D., Tymoszuk, U., 2019. Cultural engagement and incident depression in older adults: evidence from the English Longitudinal Study of Ageing. *Br. J. Psychiatry* 214 (4), 225–229.
- Fancourt, D., Steptoe, A., Cadar, D., 2020. Community engagement and dementia risk: time-to-event analyses from a national cohort study. *J. Epidemiol. Community Health* 74 (1), 71–77.
- Félonneau, M.L., 2004. Love and loathing of the city: urbanophilia and urbanophobia, topological identity and perceived incivilities. *J. Environ. Psychol.* 24 (1), 43–52.
- Ferenzi, N., Marshall, T.C., 2013. Exploring attachment to the “homeland” and its association with heritage culture identification. *PLoS One* 8 (1), e53872.
- Florida, R., Mellander, C., Stolarick, K., 2011. Beautiful places: the role of perceived aesthetic beauty in community satisfaction. *Reg. Stud.* 45 (1), 33–48.
- Florida, R., Mellander, C., Stolarick, K., 2016. Human capital in cities and suburbs. *Ann. Reg. Sci.* 57 (1), 91–123.
- Froggett, L., Farrier, A., Poursanidou, K., Hacking, S., & Sagan, O. (2011). Who cares? Museums, health and wellbeing research project.
- Fujiwara, D., Cornwall, T., Dolan, P., 2014a. *Heritage and Wellbeing*. Historic England.
- Fujiwara, D., Kudrna, L., Dolan, P., 2014b. *Quantifying and Valuing the Wellbeing Impacts of Culture and Sport*. Department for Culture Media and Sport Research Paper.
- Gallou, E., Fouseki, K., 2018. Heritage within landscapes as a catalyst for socio-economic development: locating social impacts for rural communities outside of museum walls. In: *Proceedings of safeguarding the values of European Cultural Heritage*. ICOMOS, pp. 107–125. https://discovery.ucl.ac.uk/id/eprint/10087641/1/GALLO_U-FOUSEKI.pdf.
- Gallou, E. (2020). *Exploring impacts of participation in heritage management: reciprocal links between communities and heritage institutions in the case of Orkney islands* (Doctoral dissertation, UCL (University College London)). <https://discovery.ucl.ac.uk/id/eprint/10089042/>.
- Gattersleben, B., Wyles, K.J., Myers, A., Opitz, B., 2020. Why are places so special? Uncovering how our brain reacts to meaningful places. *Landsc. Urban Plan.* 197, 103758.
- Ghoomi, H.A., Yazdanfar, S.A., Hosseini, S.B., Maleki, S.N., 2015. Comparing the components of sense of place in the traditional and modern residential neighborhoods. *Procedia-Soc. Behav. Sci.* 201, 275–285.
- Giebel, C.M., Sutcliffe, C., Challis, D., 2015. Activities of daily living and quality of life across different stages of dementia: a UK study. *Aging Ment. Health* 19 (1), 63–71.
- Gillespie, S., LeVasseur, M., Michael, Y., 2017. Neighbourhood amenities and depressive symptoms in urban-dwelling older adults. *J. Urban Des. Ment. Health* 2, 4.
- Goussou, J.S., Al-Hammadi, N.A., 2018. Place attachment assessment of a heritage place: a case study of the Roman amphitheater in downtown Amman, Jordan. *Front. Architect. Res.* 7 (1), 1–10.

- Graham, B., Ashworth, G.J., Tunbridge, J.E., 2005. The uses and abuses of heritage. *Heritage, Museums Galleries: Introductory Reader* 26–37.
- Graham, H., Mason, R., Newman, A., 2009. Literature Review: Historic Environment, Sense of Place, and Social Capital, International Centre for Cultural and Heritage Studies. University of Newcastle, Newcastle.
- Halpern, D., 2010. The hidden wealth of nations. *Polity*.
- Hammit, W.E., 2000. The relation between being away and privacy in urban forest recreation environments. *Environ. Behav.* 32 (4), 521–540.
- Hammit, W.E., Kyle, G.T., Oh, C.O., 2009. Comparison of place bonding models in recreation resource management. *J. Leis. Res.* 41 (1), 57–72.
- Hansen, E., Sund, E., Knudtsen, M.S., Krokstad, S., Holmen, T.L., 2015. Cultural activity participation and associations with self-perceived health, life-satisfaction and mental health: the Young HUNT Study, Norway. *BMC Public Health* 15 (1), 1–8.
- Harris, P.B., Werner, C.M., Brown, B.B., Ingebritsen, D., 1995. Relocation and privacy regulation: a cross-cultural analysis. *J. Environ. Psychol.* 15 (4), 311–320. <https://www.sciencedirect.com/science/article/abs/pii/S0272494485700278>.
- Harris, N., Minniss, F.R., Somerset, S., 2014. Refugees connecting with a new country through community food gardening. *Int. J. Environ. Res. Public Health* 11 (9), 9202–9216.
- Hartig, T., van den Berg, A.E., Hagerhall, C.M., Tomalak, M., Bauer, N., Hansmann, R., ..., Waaseth, G., 2011. Health benefits of nature experience: psychological, social and cultural processes. *Forests, Trees and Human Health*. Springer, Dordrecht, pp. 127–168.
- Hawke, S.K., 2010. Sense of place in changing communities: the plurality of heritage values. In: *ICOMOS Scientific Symposium Dublin Castle 30 October 2010 Dublin, Ireland* (p. 37).
- Heaslip, V., Vahdaninia, M., Hind, M., Darvill, T., Staelens, Y., O'Donoghue, D., ..., Sutcliffe, T., 2020. Locating oneself in the past to influence the present: impacts of Neolithic landscapes on mental health well-being. *Health Place* 62, 102273.
- Helliwell, J.F., Putnam, R.D., Huppert, F.A., Baylis, N., Keever, B., 2005. The Social Context of Well-being. *The Science of Well-being*, 2005. Oxford University Press, New York, USA, pp. 434–459.
- Historic England (2015). New evidence shows surge in enthusiasm for heritage. <https://historicengland.org.uk/whats-new/news/enthusiasm-for-heritage-surges>.
- Historic England (2020). Heritage counts, heritage and society 2020. <https://historicengland.org.uk/content/heritage-counts/pub/2020/heritage-and-society-2020/>.
- Historic England (2019). Heritage counts, Heritage and Society 2019. <https://historicengland.org.uk/content/heritage-counts/pub/2019/heritage-and-society-2019/>.
- Holt-Lunstad, J., Smith, T.B., Layton, J.B., 2010. Social relationships and mortality risk: a meta-analytic review. *PLoS Med.* 7 (7), e1000316.
- Hooyman, N.R., Kiyak, H.A., 2008. *Social Gerontology: a Multidisciplinary Perspective*. Pearson Education.
- Houlsen, V., Weich, S., Jarvis, S., 2017. A cross-sectional analysis of green space prevalence and mental wellbeing in England. *BMC Public Health* 17 (1), 1–9.
- Hummon, D.M., 1992. Community attachment. *Place Attachment*. Springer, Boston, MA, pp. 253–278.
- Izenberg, J.M., Fullilove, M.T., 2016. Hospitality invites sociability, which builds cohesion: a model for the role of main streets in population mental health. *J. Urban Health* 93 (2), 292–311.
- Izenberg, J.M., Mujahid, M.S., Yen, I.H., 2018. Health in changing neighborhoods: a study of the relationship between gentrification and self-rated health in the state of California. *Health Place* 52, 188.
- Jakubec, S.L., Carruthers Den Hoed, D., Ray, H., Krishnamurthy, A., 2016. Mental well-being and quality-of-life benefits of inclusion in nature for adults with disabilities and their caregivers. *Landsc. Res.* 41 (6), 616–627.
- Jay, M., Schraml, U., 2009. Understanding the role of urban forests for migrants—uses, perception and integrative potential. *Urban Forestry Urban Greening* 8 (4), 283–294.
- Jennings, V., Larson, L., Yun, J., 2016. Advancing sustainability through urban green space: cultural ecosystem services, equity, and social determinants of health. *Int. J. Environ. Res. Public Health* 13 (2), 196.
- Jiang, Y., Ramkissoon, H., Mavondo, F., 2016. Destination marketing and visitor experiences: the development of a conceptual framework. *J. Hosp. Market. Manage.* 25 (6), 653–675.
- Johnston, R., Marwood, K., 2017. Action heritage: research, communities, social justice. *Int. J. Heritage Stud.* <https://doi.org/10.1080/13527258.2017.1339111>. Available at: <http://eprints.whiterose.ac.uk/117419/7/Action%20heritage%20research%20communities%20social%20justice.pdf>.
- Kahneman, D., Diener, E., Schwarz, N. (Eds.), 1999. *Well-being: Foundations of Hedonic Psychology*. Russell Sage Foundation.
- Kaplan, S., 1995. The restorative benefits of nature: toward an integrative framework. *J. Environ. Psychol.* 15 (3), 169–182.
- Kearns, A., 2003. Social capital, regeneration and urban policy. *Urban renaissance* 1, 37–60.
- Keefe, L.A., Landau, M.J., Sullivan, D., 2014. Non-human support: broadening the scope of attachment theory. *Soc. Pers. Psychol. Compass* 8 (9), 524–535.
- Kent, J., Ma, L., Malley, C., 2017. The Objective and Perceived Built Environment: what Matters for Happiness? *Cities Health* 1 (1), 59–71. <https://doi.org/10.1080/23748834.2017.1371456>.
- Keyes, C.L., 2002. The mental health continuum: from languishing to flourishing in life. *J. Health Soc. Behav.* 207–222.
- Keyes, C.L., 2006. Subjective well-being in mental health and human development research worldwide: an introduction. *Soc. Indic. Res.* 77 (1), 1–10.
- Keyes, C.L., Shmotkin, D., Ryff, C.D., 2002. Optimizing well-being: the empirical encounter of two traditions. *J. Pers. Soc. Psychol.* 82 (6), 1007.
- Kim, D.H., Anderson, V., 1998. *Systems Archetype Basics*. Pegasus Communications Inc, Waltham, Mass.
- Knez, I., Ode Sang, Å., Gunnarsson, B., Hedblom, M., 2018. Wellbeing in urban greenery: the role of naturalness and place identity. *Front. Psychol.* 9, 491.
- Kyle, G., Graefe, A., Manning, R., Bacon, J., 2004. Effects of place attachment on users' perceptions of social and environmental conditions in a natural setting. *J. Environ. Psychol.* 24 (2), 213–225. <https://doi.org/10.1016/j.jenvp.2003.12.006>.
- Lakey, J., Smith, N., Oskala, A., McManus, S., 2017a. Culture, Sport and wellbeing: Findings from the Understanding Society Adult Survey. NatCen Social Research, London. Available at: https://www.artscouncil.org.uk/sites/default/files/download-file/Culture%20sport%20and%20wellbeing_adults.pdf [Accessed July 2019].
- Lalli, M., 1992. Urban-related identity: theory, measurement, and empirical findings. *J. Environ. Psychol.* 12 (4), 285–303.
- Larson, J.S., 1996. The World Health Organization's definition of health: social versus spiritual health. *Soc. Indic. Res.* 38 (2), 181–192. <https://doi.org/10.1007/BF00300458>.
- Lent, R.W., 2004. Toward a unifying theoretical and practical perspective on well-being and psychosocial adjustment. *J. Counsell. Psychol.* 51 (4), 482.
- Lewicka, M., 2005. Ways to make people active: the role of place attachment, cultural capital, and neighborhood ties. *J. Environ. Psychol.* 25 (4), 381–395.
- Lewicka, M., 2008. Place attachment, place identity, and place memory: restoring the forgotten city past. *J. Environ. Psychol.* 28 (3), 209–231.
- Lewicka, M., 2011. Place attachment: how far have we come in the last 40 years? *J. Environ. Psychol.* 31 (3), 207–230.
- Maer, G., Robinson, A., & Hobson, M. (2016). Values and benefits of heritage: a research review. *Heritage lottery fund*. Available online at: <https://www.hlf.org.uk/values-and-benefits-heritage>.
- Manzo, L.C., Perkins, D.D., 2006. Finding common ground: the importance of place attachment to community participation and planning. *J. Plan. Lit.* 20 (4), 335–350.
- Masterson, V.A., Stedman, R.C., Enqvist, J., Tengö, M., Giusti, M., Wahl, D., Svedin, U., 2017. The contribution of sense of place to social-ecological systems research: a review and research agenda. *Ecol. Soc.* 22 (1).
- MHCLG (2020). Planning for the future. White paper. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/958420/MHCLG-Planning-Consultation.pdf.
- Mitchell, R., 2013. Is physical activity in natural environments better for mental health than physical activity in other environments? *Soc. Sci. Med.* 91, 130–134.
- Moore, R.L., Graefe, A.R., 1994. Attachments to recreation settings: the case of rail-trail users. *Leis. Sci.* 16 (1), 17–31.
- National trust (2017). Places that make us. Research report. Available at: <https://placenetnetwork.org/wordpress/wp-content/uploads/20663/places-that-make-us-research-report.pdf>.
- Neal, S., Bennett, K., Jones, H., Cochrane, A., Mohan, G., 2015. Multiculture and public parks: researching super-diversity and attachment in public green space. *Popul. Space Place* 21 (5), 463–475.
- Neveill, M., Redhead, N. (Eds.), 2015. *Archaeology for All: Community Archaeology in the Early 21st Century: Participation, Practice and Impact*. Centre for Applied Archaeology, University of Salford.
- New Economics Foundation (NEF) 2009. National accounts of wellbeing: what is wellbeing? Available at: <http://www.nationalaccountsofwellbeing.org/learn/what-is-well-being>.
- Nutsford, D., Pearson, A.L., Kingham, S., 2013. An ecological study investigating the association between access to urban green space and mental health. *Public Health* 127 (11), 1005–1011.
- ONS (2018). Measures of national wellbeing dashboard. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/measuresofnationalwellbeingdashboard/2018-04-25>.
- Onward (2020). Our social fabric. Available from: <https://www.ukonward.com/socialfabric/>.
- Ozbay, F., Johnson, D.C., Dimoulas, E., Morgan III, C.A., Charney, D., Southwick, S., 2007. Social support and resilience to stress: from neurobiology to clinical practice. *Psychiatry (Edmont)* 4 (5), 35.
- Paddon, H.L., Thomson, L.J., Menon, U., Lanceley, A.E., Chatterjee, H.J., 2014. Mixed methods evaluation of well-being benefits derived from a heritage-in-health intervention with hospital patients. *Arts Health* 6 (1), 24–58. <https://www.tandfonline.com/doi/pdf/10.1080/17533015.2013.800987>.
- Pawson, R., 2006. Evidence-based policy: A realist Perspective. Sage, London.
- Pawson, R., Greenhalgh, T., Harvey, G., Walshe, K., 2005. Realist review – a new method of systematic review designed for complex policy interventions. *J. Health Serv. Res. Policy* 10 (suppl 1), 21–34.
- Pennington, A., & Corcoran, R. (2019). The impact of historic places and assets on community wellbeing—a scoping review. Technical report. <https://livrepository.liverpool.ac.uk/3034624/1/Heritage-scoping-review-March-2019.pdf>.
- Power, A., Smyth, K., 2016. Heritage, health and place: the legacies of local community-based heritage conservation on social wellbeing. *Health Place* 39, 160–167.
- Putnam, R.D., 2000. Bowling alone: America's declining social capital. *Culture and Politics*. Palgrave Macmillan, New York, pp. 223–234.
- Ram, Y., Björk, P., Weidenfeld, A., 2016. Authenticity and place attachment of major visitor attractions. *Tour. Manage.* 52, 110–122. <https://www.sciencedirect.com/science/article/pii/S026151771500134X> [Accessed February 2020].
- Ramkissoon, H., Weiler, B., Smith, L.D.G., 2012. Place attachment and pro-environmental behaviour in national parks: the development of a conceptual framework. *J. Sustain. Tour.* 20 (2), 257–276.
- Ramkissoon, H., Smith, L.D.G., Weiler, B., 2013. Testing the dimensionality of place attachment and its relationships with place satisfaction and pro-environmental behaviours: a structural equation modelling approach. *Tour. Manage.* 36, 552–566.
- Reilly, S., Nolan, C., Monckton, L., 2018. Wellbeing and the historic environment. *Historic Engl. Rep.*

- Relph, E., 2007. On the identity of places. In: Tiesdell, S., Carmona, M. (Eds.), *Urban Design Reader*. Routledge. <https://doi.org/10.4324/9780080468129>.
- Rishbeth, C., Powell, M., 2013. Place attachment and memory: landscapes of belonging as experienced post-migration. *Landscape Res.* 38 (2), 160–178.
- Rogers, A., Huxley, P., Evans, S., Gately, C., 2008. More than jobs and houses: mental health, quality of life and the perceptions of locality in an area undergoing urban regeneration. *Soc. Psychiatry Psychiatr. Epidemiol.* 43 (5), 364–372.
- Rollero, C., De Piccoli, N., 2010a. Does place attachment affect social well-being? *Eur. Rev. Appl. Psychol.* 60 (4), 233–238. <https://www.sciencedirect.com/science/article/abs/pii/S1162908810000204>.
- Rollero, C., De Piccoli, N., 2010b. Place attachment, identification and environment perception: an empirical study. *J. Environ. Psychol.* 30 (2), 198–205. <https://www.sciencedirect.com/science/article/abs/pii/S0272494409001066>.
- Rosso, A.L., Auchincloss, A.H., Michael, Y.L., 2011. The urban built environment and mobility in older adults: a comprehensive review. *J. Aging Res.* 2011. <https://www.hindawi.com/journals/jar/2011/816106/>.
- Ryan, R.M., Deci, E.L., 2001. Intrinsic and extrinsic motivations: classic definitions and new directions. *Contemp. Educ. Psychol.* 25 (1), 54–67.
- Sampson, R.J., 2003. *Neighborhood-level Context and health: Lessons from Sociology*. Oxford University Press, Nueva York, pp. 132–146.
- Scannell, L., Gifford, R., 2010a. Defining place attachment: a tripartite organizing framework. *J. Environ. Psychol.* 30 (1), 1–10.
- Scannell, L., Gifford, R., 2010b. The relations between natural and civic place attachment and pro-environmental behavior. *J. Environ. Psychol.* 30 (3), 289–297.
- Scannell, L., Gifford, R., 2017. Place attachment enhances psychological need satisfaction. *Environ. Behav.* 49 (4), 359–389.
- Scannell, L., Gifford, R., 2017b. The experienced psychological benefits of place attachment. *J. Environ. Psychol.* 51, 256–269.
- Sen, A., 1996. Economic reforms, employment and poverty: trends and options. *Econ. Polit. Wkly.* 2459–2477.
- Shamai, S., 1991. Sense of place: an empirical measurement. *Geoforum* 22 (3), 347–358.
- Simetrica 2018. *Assessing the wellbeing impacts of waterways usage in England and Wales*. Available at: <https://canalrivertrust.org.uk/refresh/media/thumbna il/38060-simetrica-report.pdf>.
- Smith, L., 2006. *Uses of Heritage*. Routledge.
- Stephoe, A., Fancourt, D., 2019. Leading a meaningful life at older ages and its relationship with social engagement, prosperity, health, biology, and time use. *Proc. Natl. Acad. Sci.* 116 (4), 1207–1212.
- Stern, Y., 2012. Cognitive reserve in ageing and Alzheimer's disease. *Lancet Neurol.* 11 (11), 1006–1012.
- Sugiyama, T., Leslie, E., Giles-Corti, B., Owen, N., 2009. Physical activity for recreation or exercise on neighbourhood streets: associations with perceived environmental attributes. *Health Place* 15 (4), 1058–1063.
- Tampubolon, G., Nazroo, J., Pendleton, N., 2017. Trajectories of general cognition and dementia in English older population: an exploration. *Eur. Geriatr. Med.* 8 (5–6), 454–459.
- Tartaglia, S., 2013. Different predictors of quality of life in urban environment. *Soc. Indic. Res.* 113 (3), 1045–1053.
- Taylor, P., Davies, L., Wells, P., Gilbertson, J., & Tayleur, W. (2015). A review of the social impacts of culture and sport.
- Tuan, Y.F., 1977. *Space and Place: the Perspective of Experience*. U of Minnesota Press.
- Twigger-Ross, C., Bonaiuto, M., & Breakwell, G. (2003). *Identity theories and environmental psychology*. na.
- Vaske, J.J., Kobrin, K.C., 2001. Place attachment and environmentally responsible behavior. *J. Environ. Educ.* 32 (4), 16–21.
- Venerandi, A., Quattrone, G., Capra, L., 2016. City form and well-being: what makes London neighbourhoods good places to live?. In: *Proceedings of the 24th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems*, pp. 1–4. Available at: <http://eprints.mdx.ac.uk/24522/1/sigspatial16.pdf>.
- Ulrich, R.S., 1991. Effects of interior design on wellness: theory and recent scientific research. *J. Health Care Inter. Des.* 3 (1), 97–109.
- Waterton, E., Smith, L., Campbell, G., 2006. The utility of discourse analysis to heritage studies: the Burra Charter and social inclusion. *Int. J. Heritage Stud.* 12 (4), 339–355.
- Wheatley, D., Bickerton, C., 2019. Measuring changes in subjective well-being from engagement in the arts, culture and sport. *J. Cult. Econ.* 43 (3), 421–442.
- WHOQOL Group, 1994. Development of the WHOQOL: rationale and current status. *Int. J. Ment. Health* 23, 24–56.
- Williams, D.R., Vaske, J.J., 2003. The measurement of place attachment: validity and generalizability of a psychometric approach. *Forest Sci.* 49 (6), 830–840.
- Williams, D.R., Patterson, M.E., Roggenbuck, J.W., Watson, A.E., 1992. Beyond the commodity metaphor: examining emotional and symbolic attachment to place. *Leis. Sci.* 14 (1), 29–46.
- Wong, G., Greenhalgh, T., Westhorp, G., Buckingham, J., Pawson, R., 2013. RAMESES publication standards: realist syntheses. *BMC Med.* 11 (1), 1–14.
- Wu, D., Shen, C., Wang, E., Hou, Y., Yang, J., 2019. Impact of the perceived authenticity of heritage sites on subjective well-being: a study of the mediating role of place attachment and satisfaction. *Sustainability* 11 (21), 6148.
- Yap, W.J., Christopoulos, G.I., Hong, Y.Y., 2017. Physiological responses associated with cultural attachment. *Behav. Brain Res.* 325, 214–222.
- Yearworth, M., White, L., 2013. The uses of qualitative data in multimethodology: developing causal loop diagrams during the coding process. *Eur. J. Oper. Res.* 231 (1), 151–161.
- You Gov (2017) for Historic England. Available at: https://historicengland.org.uk/content/docs/research/ca50_yougov_summary_findings_final-pdf/.
- Zhang, Y., Van Dijk, T., Tang, J., Berg, A.E., 2015. Green space attachment and health: a comparative study in two urban neighborhoods. *Int. J. Environ. Res. Public Health* 12 (11), 14342–14363.