Preserving Public Health: A Literature Review

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Abstract

We recognize our past—history and heritage—as crucial to who we are (Grenville, 2007; Lowenthal, 2008; Nietzsche, 1874/1980). Significant regulatory and popular effort is expended in protecting places, buildings, and behaviors that link us to this past. International governance organizations recognize free association with history as a fundamental human right (e.g., Blake, 2011). Tangible representations of the past (e.g., objects, buildings, landscapes) are preserved as reminders of this past. Given the broad agreement that connections to the past are important parts of human existence, what are the connections between individuals' security in knowledge of their own history and measures of public health?

The literature connecting preservation and public health is neither direct nor voluminous. A search for literature revealed a gap in knowledge about ways that preservation and public health relate. While some literature demonstrates possible connections between the two fields, no identified articles argue for the connection. Two examples from the preservation literature (Appler, 2015; Kearney & Bradley, 2015) explain situations where preservation issues have affected public health concerns, but do not acknowledge public health as part of their discussion. This exploratory essay briefly outlines core principles of public health and a review of literature from the public health and preservation and heritage fields that aligns with these principles. The essay concludes targeted research into the relationship preservation-public health is needed.
Keywords: Preservation, public health, history, heritage, well-being

Almost fifteen years ago, Dannenberg et al. (2003) challenged researchers to explore the diverse and interconnected ways that design of the built environment affected human health.

> The design choices we make in our homes, schools, workplaces, communities, and transportation systems can be major effects on health, which is defined by the World Health Organization as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." A healthy community protects and improves the quality of life for its citizens, promotes healthy behaviors and minimizes hazards for its residents, and preserves the natural environment" (Dannenberg et al., 2003, 1500).

Some research towards this goal has been completed, but the work is largely disciplinary (Dannenberg et al., 2003). Interdisciplinary opportunities to improve public health should not be ignored. This paper reviews literature for evidence of ways the historic preservation and heritage (hereafter preservation) and public health may relate. While preservation has been recognized as one of many approaches that may interrelate with public health (Budd, Lovich, Pierce, & Chamberlain, 2008), there is no direct literature evidence that this relationship has been explored specifically. Indirect evidence suggests tangible and intangible aspects of preservation may influence public health.

Preservation, heritage, and design

Historic preservation involves the repair, re-creation, stabilization, or protection of physical (tangible) historic artifacts at scales from objects to buildings to landscapes. Justifications for preservation of buildings, history, and heritage are often based in pragmatic concerns of economics and business (Koziol, 2008). While preservation often occurs privately, United States federal regulation outlines mandatory and recommended preservation practices that define the preservation profession in this country. Any project receiving federal monies must be reviewed to ensure historic resources are protected (e.g., Section 106 or 4(f)). Individuals and groups may also nominate historic resources for listing in the National Register of Historic Places. Neither of these actions provides guaranteed protection for the resources. In most cases, the resources are documented or recognized, but physical preservation choices are left to owners and local authorities. Preservation, then, serves to record, gather, and disseminate knowledge about the past.

Heritage covers a wider and more nebulous understanding of humanity. Heritage involves the relationship between tangible entities and intangible characteristics of human living that may result from common practice, tradition, cultural belief, or other understandings. Heritage ranges from storytelling (e.g., sharing the past with children) to cultural performances and daily activities (e.g., dance, cooking, dress, and traditions). While intangible heritage is recognized by international organizations, the concept remains less known in the United States and is not part of most preservation policies.

Design is linked to preservation and heritage. While there are obvious and long-standing connections between traditional design disciplines (e.g., architecture) and the protection of buildings and other design products, the strongest connection exists through design thinking practices. Allison and Allison (2008), Orthel (2014), and Orthel and Anderson (in press) discuss preservation and heritage as design problems. Design, preservation, and heritage problems are often social and inherently complex in ways that fit Rittel and Webber's (1973) wicked problem theory (see also, Coyne, 2005). These problems are ill-defined, cannot be solved without changing the character of the problem, and no longer focused on simple meanings or physical objects. Similarly, Buchanan's (1992, 1999) four orders of design (signs, things, actions, and thoughts) organize to the problems that design, preservation, and heritage address. Preservation has evolved from problems based on the first and second order of design to the more complex third and fourth orders. Design's relationship with preservation and heritage is now about how to support people in their understanding and choices as about the past and their identities (Orthel & Anderson, in press). As a result, preservation must be addressed through the frame of design-based problem solving.

Evidence-based design is crucial to building a better world. Ulrich's (1984) pioneering study on pain medication and views remains the touchpoint for ways designers can influence the human experience in ways they had not considered. Work continues to demonstrate multiple design actions and characteristics of the built environment that may influence health (Loukaituo-Sideris & Fink, 2009; Sallis & Glanz, 2009; Sallis et al., 2009; Malenbaum, Keefe, Williams, Ulrich, & Somers, 2008; Forsyth, Oakes, Schmitz, & Hearst, 2007; Frank, Engelke, & Schmid, 2003). Research and exploration improve the evidence designers use to solve problems.

Public health

In a traditional model, public health focuses on systems influencing broad societal health concerns (i.e., hosts, environments, agents, vectors). Public health research directly linked to the built environment investigates issues such as physical activity levels, injury prevention, air quality, public policies, and cross-cutting issues (e.g., politics, economics, crime, environmental justice and social equity, disability access, mental health) (Dannenberg, 2003). Connections between the built environment and public health have not always been recognized (Nash, 2006; Sloane, 2006).

Frumkin (2005) notes how mid-nineteenth century concerns about environmental health expanded into the current framework of public health. Specifically, he identifies two shifts incorporating the built environment into the public health paradigm. First, public health is concerned about environmental justice (e.g., housing or environmental hazards and effects on all people). Second, technology has changed how we analyze patterns of health and how we design buildings to support people. As a result, for example, we recognize indoor air quality is affected by building placement and envelope design. We see how transportation systems limit some peoples' access to employment, health services, and society. Significantly, however, the public health literature often cannot match causation between the built environment and improved public health characteristics. For example, Ramirez et al. (2006) noted:

> Evidence from transportation and urban planning studies suggests that persons living in neighborhoods with greater population densities, land-use mix, street connectivity, and walking and biking infrastructure (e.g., sidewalks and bike paths) tend to walk and cycle more frequently. …Although mounting evidence points to the potent impact of policies, physical environments, and social environments on physical activity, relatively little research exists on the precise nature, importance, and measurement of these variables (516).

Instead, the correlation of conditions provides evidence for advocating for altered policies and behaviors (e.g., Ramirez, et al., 2006; Saarloos, Kim, & Timmermans, 2009; Macintyre, Ellaway, & Cummins, 2002).

Connections

The important precedent question for exploring the connection between public health and preservation requires a hint that a relationship could exist. Preliminary thinking about the connection is based on two lines of possible inquiry: the influence of physical environment on health and behavior and the psychological influence of heritage and environment on health and behavior. Both lines are grounded in literature.

The influence of physical environment on health and behavior is established by common assertion and academic literature. The legal basis for most preservation regulation in the United States relies on an assertion that historic buildings and neighborhoods are desirable for the public good. Further, desirable attributes of built environment issues often identified by public health advocates can be aligned to characteristics of traditional neighborhoods and buildings.

The philosophical premise of preservation is based on the idea that historic environments are important for humanity's well-being. Much preservation literature simply asserts the importance of people knowing their past. Recent developments have translated heritage into a basic human right (Bennoune, 2016; Blake, 2011; Hodder, 2010). More directly, Grenville (2007) argues the psychological well-being of individuals requires an awareness of how the individual fits into a past. As a result, she states that preservation and heritage engender "a sense of confidence and ontological security which allows an individual to escape the debilitating consequences of existential fears" about life in an unfamiliar, "transient and untrustworthy" modern world (Grenville, 2007, 449, 251). An individual's understanding of their relationship in the historical world is identified as historical consciousness (e.g., Lowenthal, 2008; Nietzsche, 1874/1980). History is no longer a deductive exercise; history is an abductive consideration of cause, effect, importance, and relevance through the viewpoint of individuals. History must be "understood as a mental structure or competence that underlies our dealing with collectively important aspects of past, present, and future" articulated through individuals' narratives (Kölbl & Konrad, 2015, 20). These values are often articulated in our physical environments (e.g., Williams and Patterson, 2008; CABE, 2005).

If a valid and viable connection exists between public health and preservation, then rigorous and intellectually solid research will be needed to support design-based problem solving and practices. Review of existing literature connecting the two ideas provides a starting point.

Literature search

Exploration of the literature linking public health issues and historic preservation began with database searches. The searches produced in surprisingly few results: Academic Search Premier (n=1), Avery Index of Architectural Periodicals (n=1), Scopus (n=5), ProQuest (n=174), Web of Science (n=1), and WorldCat (n=33) (total=214). Duplicate results and non-scholarly entries (i.e., media reports) were removed from the sample. See Table 1 for quantitative reporting of the search results. These articles were reviewed for content linking public health and preservation.

Table 1: Quantitative results of database searches

Theme of Catalogued Entries	*Number of Entries*
Co-incidental use of search terms (e.g., identified in bibliography titles or used in unrelated ways in the article)	74 entries
Police powers and government interests (e.g., constitutional interpretations of police powers or public welfare clauses)	25 entries
Planning and health (e.g., obesity in relationship to school locations or urban form)	24 entries
Social justice issues (e.g., ethics)	5 entries
Duplicate, non-academic, or otherwise removed	87 entries
	214 entries identified through database searches

Additional articles previously known to the author were included in the review. These previously known articles had prompted the original question about the link between public health and preservation or provided context to that question. Other articles provided a working definition of public health.

Police powers and government interests

The largest set of articles (n=25) connecting public health and preservation emerges from legal and planning discourse about property rights. The seminal U.S. Supreme Court case of Berman v. Parker (1954) affirmed the use of eminent domain to take private property for a public purpose. In the case, non-blighted, privately-owned land was declared blighted to enable an Urban Renewal project that demolished buildings across multiple properties. The Court decision established that the police powers of the Constitution support such actions and outlined broad ways that governments may act to enhance the health, safety, and welfare of its citizens.

This literature does not directly support public health and preservation, but explains the shared technical means that can support both concerns (e.g., land use and planning and zoning regulations). For example, Caros (2016) provides an overview of police power case law that linked the Berman v. Parker case with earlier decisions (e.g., Euclid v. Ambler, 1926) and later decisions (e.g., Penn Central v. New York, 1978). Another line of scholarship in this area focuses on ethical issues deriving from this and other laws that preference public good over individual rights (Ostrow, 2008; Salkin & Lavine, 2008).

The legal line of scholarship is most important for recognizing broadly defined well-being as legitimate governmental policy. A long line of case law and regulatory language asserts public goals beyond protecting basic human safety or constitutional rights. The Berman v Parker case, for example, directly states that governments can consider creating beauty a legitimate government aim. The Court accepted that public good comes from intangible characteristics. Contemporary preservation policy and actions are heavily linked with design standards and zoning regulations enabled by these legal principles. Beyond case law, this literature also explores public and governmental attitudes towards protecting features of the built and natural world. Tyrrell (2012), for example, documents the national park ethos creating "national and state parks throughout the country that would combine the appreciation of beauty with the provision of recreational spaces that would alleviate the social and environmental conditions of American cities" (19). The legal sub-set of the literature provides regulatory and conceptual cover for how policies and behaviors are part of American society.

Planning and health

The second literature set (n=24) addresses characteristics of environments that support public health goals. None of this scholarship directly links preservation and public health, but suggest a potential link in associations that are made.

Much of the research in these articles relies on the principles of smart growth planning (e.g., Mobaraki, 2016; Handy, Sallis, Weber, Maibach, & Hollander, 2008; English, M.R., 1999). Smart growth policies emerged in the mid-1990s in response to concerns about urban sprawl (e.g., density, pedestrian and vehicular access, access to public amenities). Smart growth principles encourage new development mirroring the traditional forms of historic neighborhoods

(including density and mixed uses), planning for the connection between places, and recognition of the human experience in the built environment. Smart growth has been critiqued as exclusionary and elitist.

Part of this literature addresses the location of school buildings, urban development patterns, and childhood obesity rates. The literature notes competing goals for creating adequate physical play space and school locations in suburban areas unsupportive of pedestrian access (Schlossberg et al., 2006; McDonald, 2008 & 2010; Heelan et al., 2008). Lopez (2004) more generally links suburban sprawl with increased obesity rates. This literature does not specifically endorse historic or traditional urban forms as the solution, but does describe characteristics which are shared by older and traditional areas.

Maguire, Foote, and Vespe (1997) outline a history of aesthetic regulation in the twentieth-century United States and link aesthetics with corresponding human behavior and health. Their argument lacks scientific data, but highlights the common perception that the aesthetics of an environment shape human behavior (positively or negatively).

In total, this literature does not directly connect preservation and public health, but aspects of both fields are present in the discussions.

Social justice

The third literature set (n=5) discusses social justice issues that overlap between public health and preservation. Two of the articles (Peña, 2008; Allen, 2007) draw attention to implications that followed the destruction of neighborhoods and social structures in post-Katrina New Orleans. Baumann, Hurley, Altizer, and Love (2011) explain the inclusion of social justice and public health issues in the interpretation of the Scott Joplin House State Historic Site. Recent reinterpretation of the site has incorporated contemporary "violence, racism, prostitution, disease, and sanitation" issues as part of the history of the site and Joplin's life (38). These articles show public health and history as interconnected issues.

Two of these articles present public health and preservation in less direct associations. Brown (2005) argues the protection of intangible cultural property must safeguard the rights and access of minority groups to their past. He shapes the issue as concern for individual (or group) autonomy, but contrasts the value of heritage with other issues that merit attention, such as public health and education. He does not seem to see a connection between these issues. Fatorić and Seekamp (2017) note that public health issues could be interrelated with preservation and climate change, but offer no specifics. While these five articles suggest possible connections between public health and preservation through social justice issues, none of them yet show scholarly exploration of the issue.

Other literature

Literature identified outside the database searches suggests a more direct, if still disciplinary, potential relationship between preservation and public health. This literature emphasizes aspects of traditional neighborhoods or buildings that may support public health. For example, Williams and Patterson (2008) highlight the role sense of place and belonging play in supporting leisure, health, and well-being. Several articles link access to green spaces to the promotion of mental

health, reduced stress levels, increased social capital, and increased physical activity (Burls, 2007; Mass, van Dillen, Verheij, & Growenwegen, 2008). Another subset of the literature explores the redevelopment of brownfields through smart growth policies. They argue brownfield redevelopment repairs the urban form and improves public health by removing hazards and reconnecting people (Greenberg, Lowrie, Mayer, Miller, & Solitaire, 2001; Wedding & Crawford-Brown, 2007). Other articles provide general analysis of public health concerns (e.g., obesity) and neighborhood characteristics (Day, Boarnet, Alfonzo, & Forsyth, 2006; Harrington & Elliott, 2008). While none of this literature begins from a preservation-specific vantage point, the articles highlight concerns about human well-being that may align with long-standing building patterns in towns and cities.

Two notable articles are presented by preservation-based authors. Kearney and Bradley (2015) explain that alterations to heritage knowledge affect a community's foodways, physical activities, and social interactions. Unfortunately, the authors do not connect these observations with public health. Appler (2015) highlights potential benefits associated with locating housing in urban historic districts as opposed to non-historic areas (e.g., location to public services, improved quality of life). His analysis of the physical distances directly ties characteristics of historic areas (e.g., density, walkability, established public entities) to the public health concerns associated with connections to transit, schools, and parks. While both articles connect preservation and public health ideas, neither discuss a link between the two fields.

Another side to this relationship emerges in literature discussing competing outcomes between public health and preservation. Grüning, Strünck, and Gilmore (2008) argue, in part, that contemporary German reactions against past, fascist approaches to public health research has hindered the development of effective twenty-first-century policies curbing tobacco use. The potential negative influence of preservation and public health on each other's goals must be part of any future interdisciplinary research.

Conclusions

Review of current literature potentially relating public health and preservation highlights the opportunity for the two fields to be more closely connected and the need for concerted exploration to define how the fields relate to each other. The literature identified through database searches demonstrated a weak connection, but literature identified through broader reading shows a strong potential for ways that preservation and public health can support each other's goals.

This gap in the literature may be the result of disciplinary focus on the core aspects of each field. Both public health and preservation professionals focus on advancing their respective purposes first. This gap does not need to continue. Interdisciplinary research and applications would benefit the two fields. The challenges of interdisciplinary work and design-based problem solving will push both fields.

Discussion

The literature search identified three themes of potential scholarship that were expected: police powers (and legal issues), planning and health, and social justice issues. The lack of academic work directly connecting preservation and public health was unexpected. While some literature

demonstrates a potential connection between the two fields, this connection appears to have gone unnoticed. There is a clear opportunity for targeted, interdisciplinary, and methodologically sound research exploring how preservation and public health can support symbiotic objectives.

It also is notable that almost none the identified literature emerged from a preservation-based vantage point. Allied disciplines (e.g., planning, public health, anthropology, environmental history) are exploring and expanding this knowledge, but the preservation and heritage-based scholars are currently focused on other topics. This outcome is unsurprising, but still disappointing. While preservation scholars are active and productive within their parameters, there is too little effort to connect to a broader and interdisciplinary world. Recent shifts to include values-based policies and critical heritage (and increasing awareness of racially, ethnically, and socially diverse vantage points) are changing preservation's actions and interests, but the field maintains a central concern for tangible things (e.g., buildings or objects). The field rarely conceptualizes its work with other ideas—and when it does the primary purpose is to advance more preservation rather than to integrate preservation in a larger social context (e.g., the Main Street Program and economic development or the Preservation Green Lab and sustainability). Research exploring the interrelationships identified in this essay would be a good starting point to connect the preservation literature to contemporary society.

To develop literature linking public health and preservation, scholars must be prepared to use design-based problem solving. The problems in public health are complex social and ecological issues. Preservation and heritage are similarly dealing with unique, individual-bound understanding of meaning and the past. While scientific study of these conditions will provide some answers (e.g., Ulrich, 1986), other aspects of the problems will only come from understanding people in the context of their own lives (e.g., Stevens & Hildebrandt, 2009). Regardless of the approach, the connection between how people understand their past and their health holds promise for future work.

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