BRINGING FRONTS BACK

A research agenda to investigate the health and well-being impacts of front gardens

Authors

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The social and aesthetic function of front gardens has been widely explored, and while domestic gardens are a valuable component of green infrastructure, their relative contribution remains largely un-quantified [1]. To date, front gardens have largely been overlooked in the assessment of public health, environmental, and planning outcomes. We propose the importance of investigating how green spaces in the immediate vicinity of the house influence health and wellbeing.

The context

This is in the dual context of the recognised impact of nature and green spaces on physical and mental health, and the growing trend in the UK to pave over front gardens for off-road parking and ease of maintenance. This prospective article reviews current evidence and sets out a future agenda for guiding this field of research.

Introduction to front gardens

Enclosed outdoor spaces date back to the emergence of the first civilizations, initially as a barrier for excluding animals, and later as functional gardens to contain edible plants, and also as a form of adornment. Egyptian tomb paintings of the 16th century BC depict the earliest evidence of ornamental horticulture

and landscape design, whilst wealthy landholders of times past, are noted for using elaborate and formal front gardens in their estates as a display of class, culture and status.

Specifically, a front garden is the piece of land between the street and the front of a residential home. The modern words of “garden” and “yard” are descendants of the Old English geard, which denotes a “patch of ground around a house” or “fenced enclosure” and also the Proto-Germanic gardan, meaning an enclosure, garden or yard [2].

As private land belonging to the homeowner, the range of streetscape typologies, resident demographics and cultures, means that front gardens can take on a greater significance in certain areas than in others. The front garden may vary in size, shape, aspect, and vegetation type, depending where in the world it is located, and may include a hedge or fence delimiting it from the pavement or public area.

Typically visible from the street and pavement, as well as from any windows at the front of the home – common features include lawns, climbers, shrubs, annual bedding plants, herbaceous plants, richly scented rose borders, ponds, and rockeries. The main difference between front and back gardens is the role frontages play as unique buffer zones that connect the home to the outside world, providing services both to residents and passers-by, while simultaneously separating the private from the public realms [3]. The front garden as a front-facing and exterior manifestation of the house, serves as a direct link between the front door and the pavement – a welcoming front entrance, evoking positive and memorable first impressions, improving street appeal and a sense of anticipation at what lies beyond.

Depicted as a form of aesthetic expression, most notably by the famous French painter Oscar-Claude Monet and William Morris, leader of the Arts and Crafts

Movement, front gardens and the pastime of gardening, became increasingly popular during the Elizabethan era, as well as throughout the late 19th and early 20th centuries – times of increasing prosperity. During this era, families often spent considerable social time in the front garden, entertaining children, playing with pets, socializing with friends, family and neighbors, and partaking in the incidental exercise of gardening.

Green health benefits

The health and well-being benefits of consistent exposure to restorative environments and gardening, as a physical activity are well-documented, showing positive effects on mental health, physical health, and social cohesion. Research focused on the restorative, rehabilitative, and nutritional aspects of gardening activities for different groups in a variety of settings also has positive findings. Moreover, physical and social activity in natural settings has been shown to be more advantageous in terms of restoration, mood, and self-esteem when compared to that conducted in non-natural indoor and highly urban settings [4]. This is true for adults with both good and poor mental health.

Benefits lost

In the last few decades, however, there has been a gradual decline of the front garden and its place in modern society. This can be linked to changes in social networks and entertainment preferences, particularly with the arrival of television and smart-devices meaning people spend more time indoors, in addition to the increase in the number of families with both parents working, the number of licensed vehicles on the world's roads, and the necessity of two-car driveways making way for "hard landscaping".

Over five million front gardens (front yards) in the United Kingdom (UK) now have no plants growing in them (one in three), and four and a half million front gardens (one in four) are completely paved over [5]. This is three times less plant cover in front gardens than ten years ago [5]. In part, this is due to

increasing fees and regulations for road parking, a desire for lower maintenance requirements, and a lack of time or skills to look after green space [6]. In 2013, over one million homeowners paved over a portion of their garden [7]. Reasons cited were to create a driveway for off-road parking, and to minimise garden maintenance.

As front gardens are increasingly being paved over, significant ecological benefits will be lost, including environmental ecosystem services provided by garden plants and permeable surfaces, including important sources of food, pollination resources and habitat for wildlife. Removal of plants and trees will also affect the natural temperature control on the environment by reducing shade and insulation, whilst also heightening the risk of localized flash-flooding.

“The garden is the smallest parcel of the world and then it is the totality of the world.” ~ Michael Foucault

Michel Foucault encapsulates how small spaces that are part of our everyday lives can also carry much deeper significance than might be assumed based on their size and ordinariness. To date, front gardens have largely been overlooked in the assessment of public health, environmental, and planning outcomes.

The research agenda

We propose a research agenda to evaluate how front garden landscapes influence health and well-being. There is merit in valuing front gardens not only for the ecological ecosystem services, but also for their multiple positive psycho-socio-cultural impacts.

Potential research findings will have implications for fields of horticulture, landscape architecture, urban planning, and public health. These should be articulated in ways relevant to policy-makers, decision-makers, and funding

bodies to empower them to integrate the value of front gardens in their work, particularly when dealing with front garden paving regulations, future housing developments, and streetscape greenery, amongst others.

COMMENTARY

Front gardens: Bringing green space to the doorsteps of communities experiencing disadvantage

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Introduction

Neighbourhood urban green space that is easily accessible to local residents has sometimes been catchily labelled “Doorstep greenspace” (Gidlow & Ellis, 2011). The article “Bringing Fronts Back: A Research Agenda to Investigate the Health and Well-Being Impacts of Front Gardens” convincingly suggests research is needed to examine the effects of front gardens on health – arguably the epitome of “doorstep” greenspace. The article highlights that although there is a vast body of literature on greenspace and health, the effects, and effective uses, of front gardens has been overlooked. This is in the context of massive losses of front gardens in the UK.

The authors draw attention to the importance of the research agenda to address health equity. Indeed, it is suggested doorstep greenspace is especially valuable for those whose activities are restricted outside their local area (Van Herzele & Wiedemann, 2003). Front gardens may be valuable for people in this group, and also people whose movement is restricted within their local area. This commentary will build on the authors, Chalmin-Pui et al. (2019), research agenda, and extend the authors creditable position on the use of this research for health inequality in disadvantaged communities.

This commentary suggests that research on the health effects of front gardens would fill the gap identified by Chalmin-Pui et al. (2019) and could assist another research deficit in the greenspace literature – that of disadvantaged groups or communities and greenspace in general (Kuo et al., 2019). Furthermore, if this new research base finds positive benefits from front gardens, as is the probable outcome, then a regeneration of front gardens may be a suitable approach to close the real-life gap in access to greenspace experienced by disadvantaged communities.

Cities, greenspace, and disadvantage

In 2018, 55% of the world's population lived in urban areas and this will grow to 68% by 2050; relatedly, by 2050 the worlds rural population will have declined (United Nations Department of Economic and Social Affairs (UN DESA), 2018b). In Australia, current trends show all the almost 10 million expected population growth by 2050 will live in urban areas, with the rural population starting a decline (United Nations Department of Economic and Social Affairs (UN DESA), 2018a).

Urbanisation and the loss of exposure to the natural environment is having a significant impact on people's health and increased green exposure can neutralise or reverse this impact. For example, the upturn in emotional and behavioural difficulties in young people (Konowałek & Wolanczyk, 2018; Safer, 2018) has been linked to urbanisation (Butler, Kowalkowski, Jones, & Raphael, 2012; Rudolph, Stuart, Glass, & Merikangas, 2014) and exposure to green environments may counter this trend (Faber Taylor & Kuo, 2011; Norwood et al., 2019).

Another example is that urbanisation has been linked to increased obesity and unhealthy lifestyles (LeBlanc & Chaput, 2019) and access to green space is associated with increased physical activity (Cohen et al., 2007) and improved

physical health (Lee & Maheswaran, 2011). Clearly there are several mechanisms that facilitate the benefits of greenspace. Indeed, to counteract various damaging facets of urbanisation, urban planners are increasingly using nature in urban design (Lennon & Scott, 2016). However, disadvantaged areas often have less greenspace to facilitate a push back against damaging aspects of urbanisation.

In the UK, the location of the Chalmin-Pui et al. (2019) article, the most disadvantaged areas tend to be nearer to city centres and not in rural and green locations (GLA Economics, 2016; Riva et al., 2009). However, there is a deficit in research that explores the effect of green environments on populations experiencing disadvantage (Kuo et al., 2019). Existing research suggests there may be a greater chance of local contextual barriers preventing benefits from greenspace such as through fear etc. (Gidlow & Ellis, 2011). However, it may be disadvantaged areas where benefits from exposure to greenspace may be felt the keenest. It is problematic then that there is inequality experienced in these areas, not only in terms of limited access through fear or social context, but also through a lack of the existence of greenspace (Kweon et al., 2017). Therefore, it is in these disadvantaged urban areas where gardens may be most beneficial.

In the UK, Brindley et al. (2018) report that health inequality is at its highest in areas with small domestic gardens and suggest that in new builds garden size may be a method to reduce socioeconomic health inequalities. This may not be easily implemented – new houses in UK cities are getting smaller (LABC Warranty, 2019). However, the importance of public greenspace is recognised by town planners. This new field of research may explore how front gardens – which provide immediate, safe, and more sociable access to greenspace – compare to neighbourhood parks; it can inform urban planners on how to divide space between the two.

It is clear increased research into front gardens and increased research into green space and populations experiencing disadvantage can mutually benefit from each other. The proposed research agenda of the effects of front gardens on health, is well-suited to address current issues in access to greenspace for disadvantaged areas, and the effects of greenspace on people living in disadvantaged urban areas. This will be a challenge, in cities where space is limited, but may be worthwhile.

Each aspect of health identified by Chalmin-Pui et al. (2019) – physical, social and mental – will now be addressed individually, to outline how greenspace might positively affect people experiencing disadvantage, and to identify avenues of study for researchers.

Physical

There are several ways front gardens could improve physical health. Firstly, on a larger, societal level, front gardens could be used to improve air quality in cities. If air quality mediates the effect of greenspace (Dadvand et al., 2015) and air quality is worse in cities, where we may expect a higher concentration of low socio-economic areas (GLA Economics, 2016) then front gardens could affect health equality. Chalmin-Pui et al. (2019) cite the large land area gardens cover – over 25% in an average city – and the number of front gardens which have been lost – four and a half million front gardens (one in four). By greening front gardens across a city, many plants and trees could be planted, which could contribute to cleaner air.

Next, on a medium, community level, front gardens will make local streets more walkable and aesthetically more pleasant. If a greening of front gardens could encourage physical activity, as the presence of local parks do, then this could encourage physical exercise. On an individual level, people may use their front

garden for both of these things – exercise and fresh air – but also as a way of alleviating the physical impact of stress.

Social

Greenspace in disadvantaged areas may not receive the same benefits due to social reasons. Social problems mean some green areas in inner cities are not accessible due to fear etc. If people access front gardens, especially in denser areas such as cities and disadvantaged areas in cities, this may create a greenspace where people can socialise and gain a sense of community without fear. This may be especially true for children, who may not access local parks themselves due to fear (Gidlow & Ellis, 2011) or because of parental concern (Fullagar & Harrington, 2009). Where back gardens are often used for a sense of privacy, an additional front garden can be used as more public or social greenspace. This may even have knock on effects creating a safer local environment in general. This interacts with the physical outcome by creating a safer walkable space for locals.

Mental

Mental benefits of views and access to greenspace are well documented (Browning & Rigolon, 2019; Schutte et al., 2017). Cognitive benefits from views of greenspace even extend to the lowering of ADHD symptoms (Faber Taylor & Kuo, 2011) and improved behaviour in children (Faber Taylor et al., 2002). Therefore, views from windows onto greenspace in disadvantaged areas may start to close the gap in cognitive, behavioural and other developmental issues.

However, cities and disadvantaged areas have less greenspace and homes are more likely to look onto urban buildings, traffic or not have a garden at all; this may be especially true in the location of the paper, the UK, where living areas tend to be located at the front of the house (Ozaki, 2017) rather than overlooking the back garden.

Application to Australia

Disadvantaged areas in the UK tend to be in inner cities (GLA Economics, 2016; Riva et al., 2009) but in Australia they are in rural areas (Australian Bureau of Statistics, 2018).

Therefore, differences in the effect of front gardens may differ not only between rural and urban areas, but also cross-culturally on an international scale. Social benefits in particular may differ, as the lower population density of rural areas may mean potential benefits through incidental social contact and safe play areas may not be as strong.

Contrastingly, many urban Australian houses, particular in sub-tropical areas such as Brisbane, have living areas contiguous with the outdoors situated in the privacy of a large back garden or deck; therefore, using the front garden as a social space may encourage community spirit. Certainly, findings from disadvantaged areas of inner-city London may translate to similar areas in, for example, inner-city Sydney, but rural areas of Australia, where disadvantage is more common, will require site specific research, which may result in weaker effects.

Conclusion

In summary, addressing the lack of research into front gardens may be an effective approach to also filling the research gap made by underrepresentation of disadvantaged communities. This in turn could lead to a potential solution to closing the green cover gap between disadvantaged and wealthy neighbourhoods and schools. Chalmin-Pui et al. (2019) identify a strong body of evidence for benefits in mental, physical and social health from green space. Disadvantaged areas experience less of all three of these “doorstep greenspace” benefits. The proposed research of front gardens may expose a way of combating this inequality by bringing greenspace, literally, to people’s doorsteps.

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