Research Paper

Who doesn't visit natural environments for recreation and why: A population representative analysis of spatial, individual and temporal factors among adults in England

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ABSTRACT

Contact with natural environments may be beneficial for various health and social outcomes but is often lower among groups who could benefit the most. Using data from > 60,000 adults in England, we explored the spatial (e.g. amount of local greenspace), individual (e.g. socio-economic status) and temporal (e.g. seasonality) predictors of infrequent contact and the reasons given for it. Replicating earlier, smaller studies, infrequent users were more likely to be; female, older, in poor health, of lower socioeconomic status, of ethnic minority status, live in relatively deprived areas with less neighbourhood greenspace and be further from the coast. Extending previous findings, we also identified regional, seasonal and annual effects. Although response on issues of time availability were important, being 'not interested' and 'no particular reason' were also common. Identifying the predictors of these justifications (e.g. area deprivation was predictive of 'not interested', but individual socio-economic status was predictive of 'no particular reason') sheds light on which demographic groups to engage in specific interventions designed to inspire greater interest in, and contact with, the natural world to offer more inclusive opportunities for positive experiences in nature.

1. Introduction

A growing body of evidence suggests that greater exposure to natural environments including urban parks, woodlands, nature reserves, national parks and the coast (often referred to as green and blue spaces) is associated with a range of positive health, wellbeing and social outcomes (Allen & Balfour, 2014; Cox et al., 2017; Frumkin, 2002; Hartig, Evans, Jamner, Davis, & Gärling, 2003; Hartig, Mitchell, de Vries, & Frumkin, 2014; World Health Organization., 2017). Although much of this evidence has been collected in highly developed urbanised countries, evidence is also beginning to emerge of similar patterns in the 'Global South' (Mukherjee et al., 2017). Despite these potential benefits however, there is also evidence that large sections of the population spend little or no time in these environments and are thus potentially forgoing, or remaining excluded from, these benefits (Dallimer et al., 2014; Kabisch, Qureshi, & Haase, 2015; Lee, Scott, & Floyd, 2001; Lin, Fuller, Bush, Gaston, & Shanahan, 2014; Natural England, 2015a; Roe, Aspinall, & Ward Thompson, 2016). For instance, social groups found to rarely or never visit green/blue spaces for recreation include those living in deprived areas (Burt, Stewart, Preston,

& Costley, 2013; CABE Space., 2010), and are often the very groups (e.g. lower income individuals) that may benefit the most from greater contact with the natural environment (Mitchell & Popham 2008; Parliamentary Office of Science and Technology, 2016; Wheeler, White, Stahl-Timmins, & Depledge, 2012).

However, Hitchings (2013) has cogently argued that relatively little research of any scale has been conducted into trying to better understand why individuals in these groups, or individuals more widely, do not use these spaces for recreation. For instance, he argues that although there is a growing body of important qualitative evidence on this topic (see below), quantitative work is more problematic because, "many field studies of how people relate to urban green spaces observe those found within them … [which] in terms of research pragmatics … is easier than … calling in at their homes… [with] the feasibly very different wishes and requirements of those who currently stay away remain[ing] hidden from view" (p.99). The current research attempted to partially address this gap by analysing the responses of a large number of respondents who reported when interviewed at home that they rarely if ever visited natural environments.

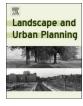Specifically, we used six years of data from the Monitor of

Engagement with the Natural Environment (MENE) survey in England. We believe the MENE includes one of the most comprehensive, population level data on the reasons for using or not using, the natural environment for recreational activities of any similar survey in the world. This comprehensiveness allowed us to conduct richer statistical analyses than have been possible to date. For instance, we were able to use multivariate statistical techniques to simultaneously explore a range of spatial, individual and temporal factors which may help to characterise those of do and those who do not visit natural environments for recreational purposes regularly and to better understand the reasons given by infrequent visitors for not visiting more often.

We recognise that unlike the excellent body of rich, in-depth qualitative work in this area, our data are unable to explore the complex interplay of factors affecting visit frequency and how they relate to specific personal experiences or conditions. Nevertheless, by providing a population level picture we see our findings as complementary to this work by identifying patterns across population groups that are hard to detect in small scale qualitative studies. We begin by briefly reviewing some of the key reasons for infrequent visits to natural environments. In an empirical paper such as this, our aim was to introduce readers to some of the most important debates rather than conduct an exhaustive review of the literature. Further, although various terms are used in the field to describe the reasons people offer for not visiting nature, such as 'barriers' or 'constraints', these terms imply a latent desire to be in these spaces which is thwarted. As demonstrated previously however (e.g. Hitchings, 2010), this is not always the case and some individuals have no desire to be in these spaces in the first place, and thus limited access to them is neither a barrier nor a constraint. Consequently, we adopt the more neutral term 'reasons' throughout. Nevertheless to the extent that our results can detail on reasons why interested individuals do not visit more frequently, results from a sample of this size may help policy makers, practitioners and the research community identify, with more certainty, specific issues facing particular groups and therefore be able to instigate targeted interventions to support specific sectors of society achieve the access they desire (e.g. Ambrose-Oji, 2009; Koppen, Sang, & Tveit, 2014; Morris et al., 2011; O'Brien & Tabbush, 2005; Seaman, Jones, & Ellaway, 2010).

1.1. Key reasons for not visiting nature explored in earlier studies

Poor proximity from an individual's home or work is often cited as a key reason for not incorporating routine visits to the natural environment in people's day-to-day lives (Akpinar, 2016; Schipperijn et al., 2010). Physical features such as road networks, challenging topography and limited path networks may also limit the ability of willing visitors to access these places (Barbosa et al. 2007; Dai 2011). Even where there are well-connected path networks around and within local nature settings, the condition of these paths may limit use for certain groups, such as older adults with limited mobility or fear of falling (Sugiyama, Thompson, & Alves, 2009). There is also good evidence that proximity to natural spaces is related to income such that poorer areas are often more distal, with access a particular challenge for parents with small children, older adults and people living with impairment or disability (Alves et al., 2008; Ambrose-Oji, 2009; Aspinall et al., 2010; Burt et al., 2013; McCormack, Rock, Toohey, & Hignell, 2010). In other words, issues of physical access are often greatest for those who can least afford to circumvent them (e.g. travel costs) but who may gain particular benefits.

Physical access may also intersect with safety concerns, with fear of crime and physical and/or verbal abuse, often cited as potential reasons for why people avoid public greenspaces. These fears may arise from personal experiences, exposure to second-hand stories, anecdotes or media influences (Morris et al., 2011; Skår, 2010). However, the issues are not clear cut Ward Thompson, Aspinall, Bell, and Findlay (2005), for example, highlight woodlands as a space in which teenagers feel they can 'reassert their independence' in contrast to wider public space

which is generally perceived as 'for adults'. For other users, however, such as mothers with young children, young females or older adults, teenage behaviour in these places can be intimidating, reducing the frequency of visits (S. Bell, Thompson, & Travlou, 2003; Lloyd, Burden, & Kiewa, 2008). In other words, one group's demonstration of independence is another group's source of safety concern. Incivilities within settings that are poorly maintained, and high in litter, dog fouling, dirty or unkempt areas, graffiti and vandalism can be interpreted as a sign of neglect, thereby undermining perceived safety (McCormack et al., 2010; Tzoulas & James, 2010). There is evidence these fear can be mitigated by a positive perception of social integration in an area (Seaman et al., 2010).

These issues highlight that efforts to promote shared values around access and use of the natural environment need to account for socio-cultural diversity in how people perceive, value and incorporate natural settings into their everyday lives and lifestyles (Cutts, Darby, Boone, & Brewis, 2009; Kaczynski, Wilhelm Stanis, Hastmann, & Besenyi, 2011; Özgüner, 2011). Visiting certain settings might not even occur to people if nature-based recreation is not part of their cultural background or where individuals have been subject to discrimination through their different norms of use in the past (Byrne, 2012; Hong & Anderson, 2006). Morris et al. (2011), for instance, suggest that these 'restricted horizons', i.e. limited awareness or knowledge of opportunities for accessing local nature, are particularly important among low income groups, some of whom may lack experience of, or have limited confidence in, negotiating large or complex natural sites (S. L. Bell, Phoenix, Lovell, & Wheeler, 2014). Lin et al. (2014) support this, they found that a person's orientation towards nature has more of an effect on visit frequency than the geographical location to a park.

Nonetheless, Morris and O'Brien (2011) argue that 'facilitated access' initiatives can enhance the use of community woodlands amongst less confident or excluded users. These initiatives emerged as an effective approach for enabling use amongst BAME (Black Asian and Minority Ethnic) groups (especially women in these groups), older adults (particularly those coping with recent bereavement) and those with no previous experience of visiting woodlands. One aim is to provide support for those who express fears of getting lost due to a lack of confidence or wayfinding knowledge within larger nature settings (Ambrose-Oji, 2009). Such visits may also promote opportunities to develop more 'intuitive expertise' of such environments, described by Skår (2010) as 'the accumulation and incorporation within the thinking and skills of individuals' (p.115), though this process can take time (Finney & Rishbeth, 2006).

Socio-cultural factors affecting nature visit frequency can also be experienced as a result of lifestyle norms and social expectations. For instance, in an analysis of the 2013–2014 MENE data, 'a lack of time' was one of the most frequently mentioned reasons, yet the average viewer in the UK watched over three hours of television per day in 2015 (Natural England, 2015a; Ofcom., 2017). This suggests a need to understand how and why people prioritise nature interaction within their daily lives, given multiple and competing time pressures and interests. Hitchings (2010) touched on this in the context of working practices in London where employees were, for instance, reluctant to leave the building during the day (e.g. to eat lunch in the park), for fear of compromising productivity or focus (some did not even contemplate it as an option). Similarly, S. L. Bell, Wheeler, and Phoenix (2017) note the challenges of spending extended periods of time in nature in a culture that prioritises speed and productivity over 'slowness' or relaxation.

1.2. The current research

The current research built on this literature in four key ways:

a) First, many previous studies into reasons for not engaging more with natural environments, (Gidlow, Randall, Gillman, Smith, & Jones,