

Greenspace

Research

Parameters.

Initial Context

The context of this research is established by the Hubbub student brief 'green is the new black' (Hubbub, 2020a). It limits the research target audience to people 18 and 25 years old and focuses on exploring interactions with local green spaces this group has within a city. Hubbub categorises urban green spaces into traditional green spaces (planting trees, creating parks, installing green walls etc) in essence, adding nature to a place, or as intentional green design that seeks to add the benefits that traditional green spaces have been linked with causing (Maxwell, 2017). In Hubbub's view these can manifest themselves as art, music or highly crafted natural gardens or experiences such as allotments (Hubbub, 2020b)

An area of key findings that inspires the brief focuses on how connection with nature is good for human health. People who were identified as having high nature connectedness were 70% more likely to report their lives were worthwhile (Natural England, 2020). This improvement in mental health was also found to be in tandem with the health of people's environments, with individuals reporting an 80% increase in pro-conservation behaviours if they had high nature connectedness. These behaviours, then in turn were found to create improvements in people's mental wellbeing however the magnitude of these effects was unquantified. (ibid).

The effects of nature also influenced people's physical health as areas in cities with increased green spaces found residents were more than 3 times more likely to conduct intentionally physical activities leading to an approximate 40% lower likelihood of being overweight (Ellaway, 2005). The quality of physical activity if conducted in nature was also found to be of higher benefit to people as it would provide long term emotional well-being effects that were not present from indoor based exercise activities (Pasanen, 2014).

Finding a Research Focus.

Initial literature research threw up seemingly infinite types of green space benefits. A highly focused scope is needed in order to produce valuable user research findings and insights and therefore the 5W's and 1H technique was used to explore possible focal points, see figure 1.

Through brainstorming possible paths, the link between green spaces and user's work focused productivity became interesting to the researcher. The link proved compelling as it highlighted a 'higher order', tangible user benefit that might be connected to green spaces through the proxy of mental health benefits derived from both active and passive green space activities found in the initial context research.

Further Contextual Research.

Further literature research was conducted into some of the health benefits provided by green spaces and it was found that green spaces and mental health exhibit a traditional dose-response relationship (Wood, 2017). Remarkably, hospital patients that had views of green spaces had significantly faster recovery times (Epstein, 2006). In a workday setting there is also a significant negative correlation between nature interaction and general health complaints in people, as well as in perceived stress levels (Largo-Wight, 2011). The types of effective nature interactions appear to be highly unconstrained as parks with nature focuses and recreational/ sporting focuses both demonstrate positive mental health associations (Wood, 2017).

Initial theories behind these benefits point to perspectives that natural elements are calming because of linkage to survival in the past (Largo-Wight, 2011). More specifically the biophilia hypothesis suggests that humans have a natural affinity to seek connections with nature and other forms of life (Myers, 1996). Biophilia is seen as a genetic watermark in humans as attraction to lush natural environments helped improve survival during our evolution (ibid). Traces of this can be seen in the ability for nature to stimulate production of neurotransmitters such as serotonin and oxytocin, which is linked to biophilia through the body's identification of lack of repetitive symmetry found in nature (MacKerron, 2013). Due to this simply walking in green space reduces stress, enhances mood and replenishes mental fatigue (Barton, 2009). The effects of biophilia can also be taken to them extreme as merely seeing a green rectangle for 2 seconds leads to measurable improvement on creative tasks vs white, grey, blue or red rectangles (Lichtenfeld, 2012).

There are additional genetic watermark theories between green spaces and mental wellbeing such as Attention Restoration Theory (ART) and Psycho-physiological Stress Recovery Theory (PSRT). ART suggests that nature captures human attention without requiring us to focus on it, in turn allowing us to replenish our stores of attention control (Harvard Business, 2015). This in part explains why viewing videos/pictures of green spaces can illicit many of the same benefits as being in nature (ibid). In fact, the refuge theory suggests that benefits from viewing nature are greatest when done so from places of safety, where any predators would be easily visible (Hosey, 2012). This feeds into the reasoning of why an optimal healing garden should be 70% lush landscape and 30% walkways and plazas (Epstein, 2006), instead of being completely forested.

ART however is seen as a more voluntary method of psychological recovery (Kaplan, 1989) with PSRT being an involuntary reflex of the limbic system where the body immediately responds to views of nature via reduction in blood pressure and muscle tension pulse rate (Ulrich, 1983).

Focusing the research towards productivity, a widely cited study found residents who lived in places with reduced sights of green space reported significantly higher levels of stress and procrastination (Kuo, 2001). Procrastination and stress are highly linked and create a self-fulfilling cycle (Sirois, 2014). Procrastination can be defined as intended action that voluntarily delayed despite expectations that this delay will fail to maximize one's utility (Steel, 2007). While procrastination can technically illicit both beneficial and detrimental performance effects (ibid) it is widely acknowledged as a key obstacle for productivity.

Fluid Procrastination can be split into 3 main causes, lack of energy, inability to get to work and pessimistic attitudes to do the work (Bielinis, 2020). Linking back to biophilia and ART, just watching a video of green space was found to significantly reduce people's pessimism to do work (ibid). Chronic procrastination is closely associated with having lower levels of self-compassion caused by high levels of stress (Sirois, 2014). Green space can also aid with this form of procrastination as green space can enhance people's effectiveness through reduction of mental fatigue and stress (Kuo, 2001).

An important aspect of nature in people's lives is how people interact with it and why many people do not, despite all the researched benefits. While physical characteristics such as walkability play a key role in green spaces use (Wood, 2017) they do not account for everything. Perception of social integration in a community greatly influences the perceived physical accessibility of greenspace, which in turn affects the personal usage of local greenspaces (Seaman, 2010). Data shows the larger a city is the more productive per capita it is (Ahrend, 2017), so the concepts of social cohesion and city size in the view of greenspace interaction may be at odds here.

Further existing literature research was conducted into the paradoxical effects between urban greening and gentrification as well as how working from home can affect productivity however further discussion of these are outside the concise constraints of this research.

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