



About me

- Specialist in healthy buildings
- Director at design-for-wellbeing consultancy Ekkist
- Trained and worked as an architect in the UK for approx. 10 years
- Developed an interest in mental health in my mid-twenties
- This led me to explore the connection between buildings and mental health
- Author of 'Happy by Design' and 'The Happy Design Toolkit'
- TEDx speaker
- WELL Mind Advisory
- UK Health and Housing Network: Board Member



Ekkist

- I now work as a health and wellbeing consultant for Ekkist
- We consult on the design, construction and management of healthy places
- We work across all use classes, using a range of tools from WELL and Fitwel to our own bespoke healthy building frameworks



55%

of a typical
businesses' costs
are staff related

- BCO, 2019



Disengaged employees
cost UK businesses

£340B

on average each year
- Perkbox, 2023



Staff turnover alone
costs approximately

£30,600

per UK employee
(earning £25,000+)
- Bright HR, 2023



Health-certified offices
show, on average, a

10%

jump in median
productivity scores

- 'Building and Environment'
2022



One WELL-certified
office saw a

27%

drop in staff turnover
(saving £122,000
annually)

- IWBI, 2018



The same office saw a

50%

drop in absenteeism
(saving a further
£90,000 annually)

- IWBI, 2018

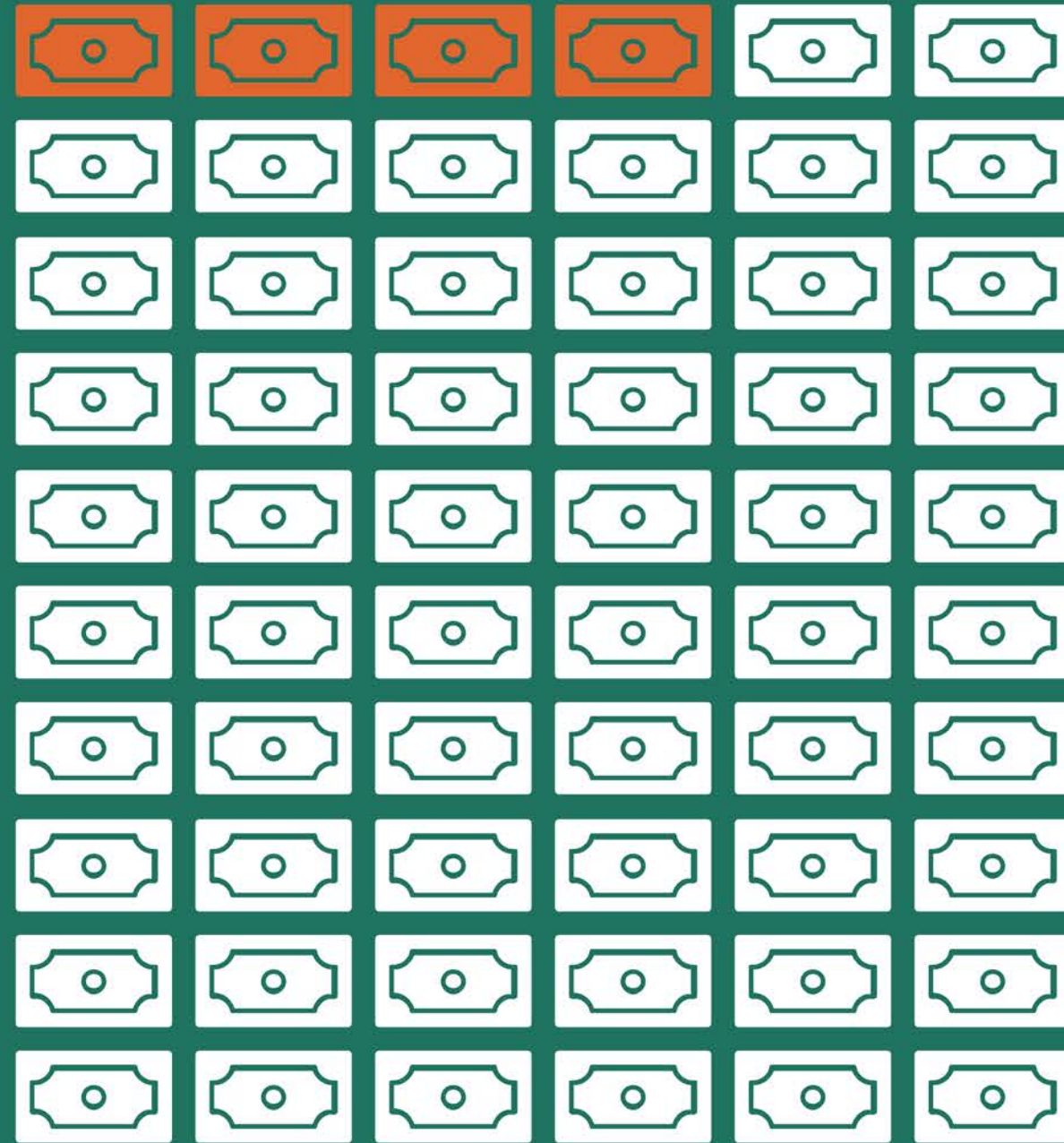


As a result, health-
certified offices command

4.4-7%

higher values than non-
certified equivalents

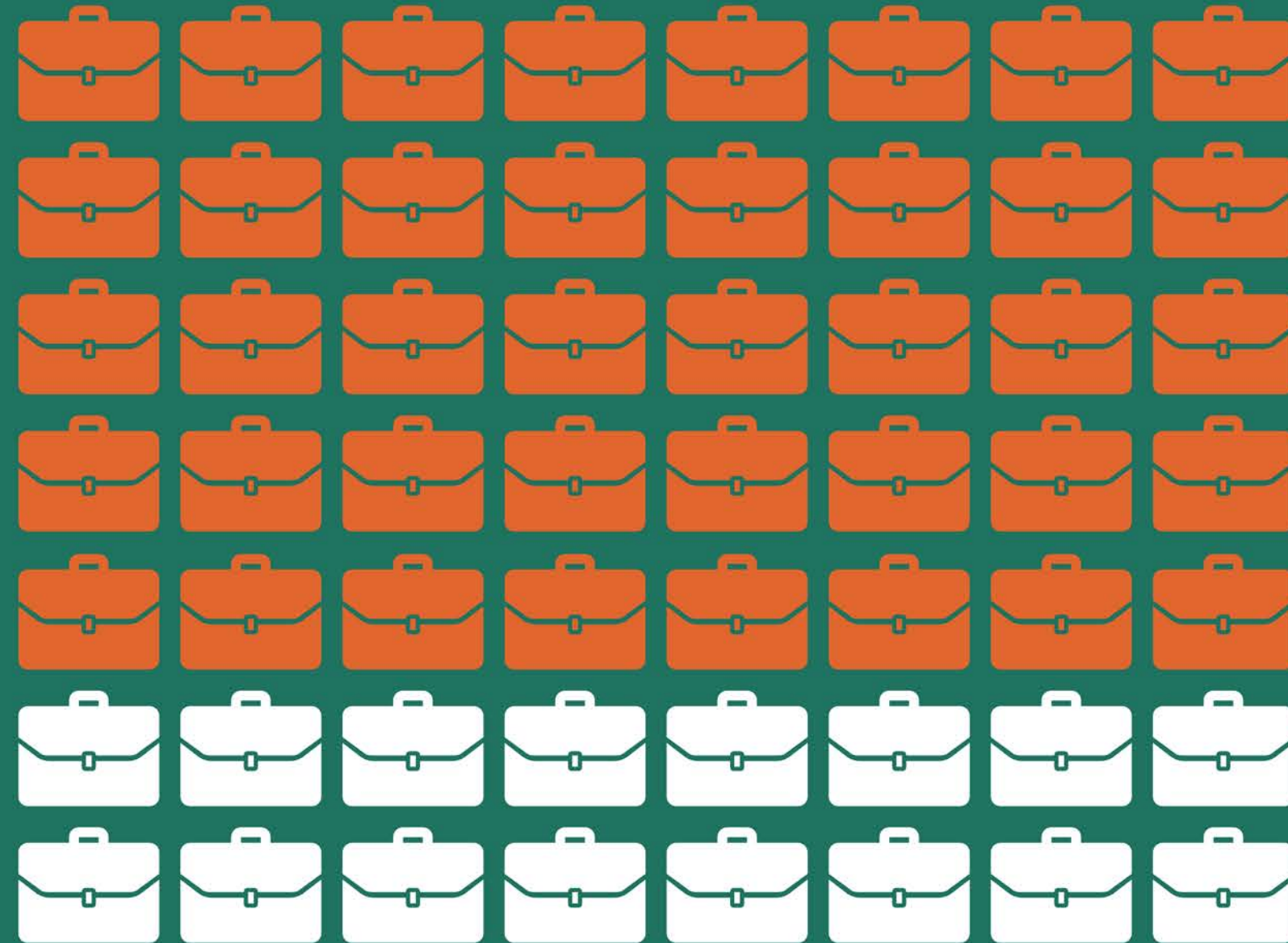
- MIT, 2020



72%

of staff currently say
they would prefer to
work from home
'sometimes or always'

- YouGov, 2023





2: How do we design workplaces to enhance wellbeing and encourage their use?

How did our ancestors live?

- A part of nature
- Obeying nature's rhythms
- Abundant, clean, fresh air
- In touch with our senses
- Very social - communities of around 100 odd people
- Very active!
- Constantly wired for danger



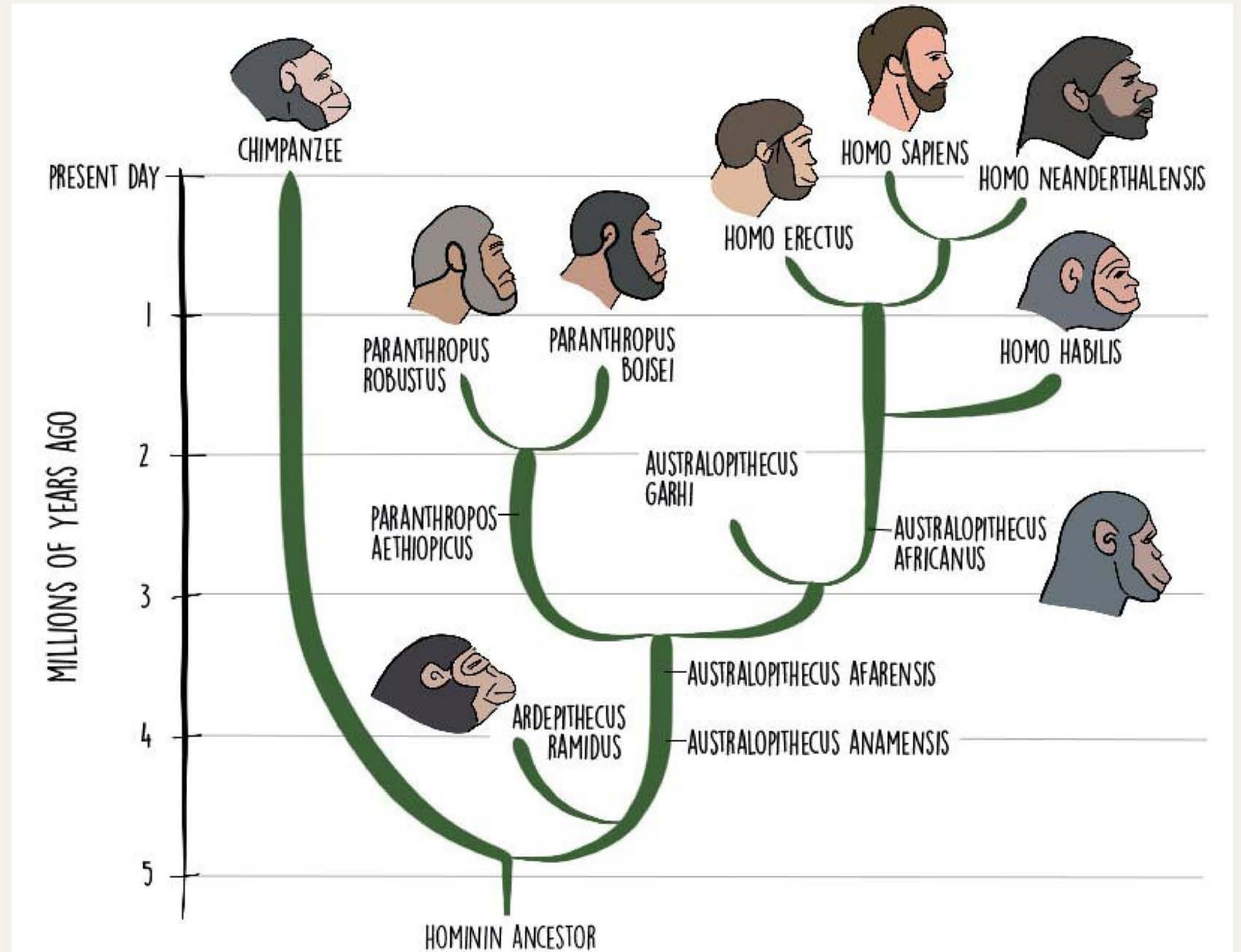
How do we live today?

- Lost our connection to nature
- Ignoring nature's rhythms
- Breathing polluted or recycled air
- Ignoring most of our senses
- Isolated
- Inactive



Why is this important?

- It takes tens of thousands of years for significant evolutionary changes in humans to be observable
- The first human ancestors appeared between five million and seven million years ago
- They evolved into anatomically modern Homo sapiens at least 130,000 years ago
- We were hunter gatherers until as recently as 12,000 years ago
- The first 'cities' only emerged around 9,000 years ago
- **In the last 15,000 years, our bodies (and brains) haven't really changed - but our lifestyles (and environments) have changed dramatically**
- We evolved to need a connection to the natural world, and to be wired for danger - and many of these systems are still there



So, what does impact our wellbeing in design terms?



AIR



WATER



NOURISHMENT



LIGHT



MOVEMENT



THERMAL
COMFORT



SOUND



MATERIALS

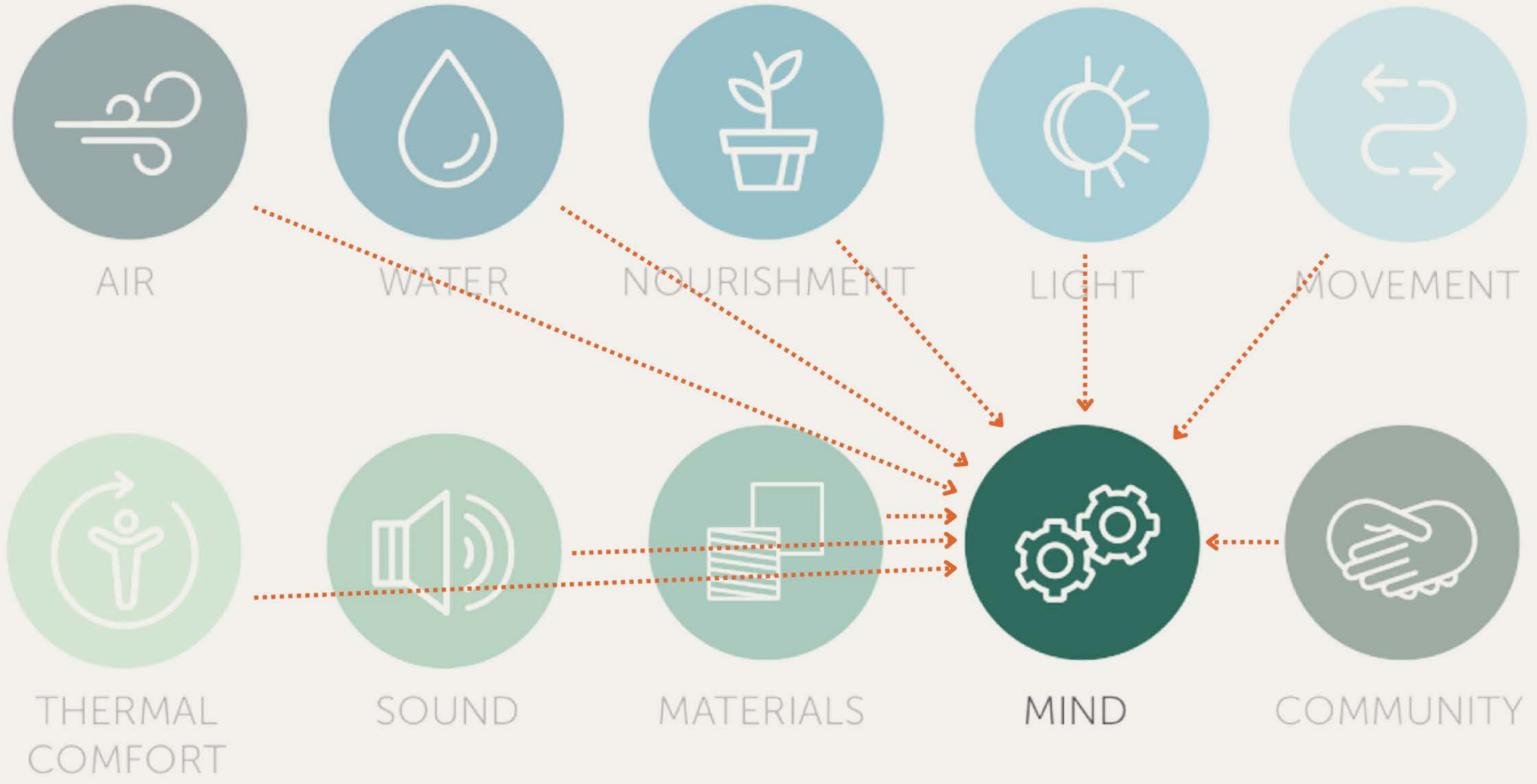


MIND



COMMUNITY

But - ALL of these items contribute to employee satisfaction



Air quality

- About protecting from pollutants - these can come from outside or inside buildings
- Key concerns concerns tend to be particulate matter, VOCs and Carbon Dioxide
- Natural ventilation may seem like an easy win, but is often unsuitable due to external conditions
- Harvard researchers measured a 15% decline in cognitive ability scores at 950ppm and 50% decline at 1,400 ppm CO₂
- Exposure to particulate matter has been linked to increased levels of respiratory problems, increased levels of heart problems, and even premature death
- Studies have shown that doubling ventilation rates can reduce sickness rates by 35% (Berkeley Lab)
- **A three-pronged strategy is recommended: increasing air flow rates and providing high-quality filtration (above and beyond UK 'norms'), combined with monitoring workplace air quality**



Water quality

- Two key issues to consider here: the quality and the quantity of water staff are drinking
- Just a 1% drop in hydration can lead to productivity drops of 12% (American College of Sports Medicine)
- Adults who stay well-hydrated tend to be healthier, develop fewer chronic conditions, and live longer compared to those who don't get sufficient fluids (National Institute of Health)
- 27% of British people say the main reason they don't drink enough water is disliking the taste of tap water (OnePoll)
- Tap water will likely contain chlorine, fluoride, limescale, and possibly many other chemicals
- **We therefore want to ensure that good-tasting drinking water is readily available**
- **The best way to achieve this is providing numerous, easily accessible, filtered water outlets**



Design for nourishment

- The quality of food we eat has an impact on our physical health, mood and productivity
- People who are able to eat more regularly throughout the day tend to be more productive as they avoid blood sugar spikes (Harvard Business Review)
- The more fruits and vegetables people consume, the happier, more engaged, and more creative they tend to be (British Journal of Health Psychology)
- Cooking for ourselves has been shown to be associated with better health outcomes than eating out (Public Health Nutrition Journal)
- **It's important therefore to ensure that employees can:**
 - **Prepare their own food**
 - **Store their own foods and snacks in the workplace**
 - **Be provided with a suitable, social eating space (away from their desk)**
- **We should also avoid selling unhealthy food and drinks on site to encourage healthy choices**



Light

- Two important considerations here: access to daylight, and quality of artificial light
- Natural light should always be the priority
- Office workers with access to daylight got, on average, 46 minutes more sleep per night than those who had no access, and reported higher quality of life scores (Journal of Clinical Sleep Medicine)
- In a sample school district, students in classrooms with the most daylighting tested 7-18% higher than those with the least (National Renewable Energy Laboratory)
- Poor quality electric lighting has been associated with eye strain, headaches, migraines and even epileptic seizures (IWBI)
- **We should therefore maximise access to natural light wherever possible, and supplement with circadian (or tunable) lighting where access is limited**
- **Artificial light should be high quality - low glare, low flicker and high CRI**



Designing active workplaces

- We know that the design of buildings (and cities) can nudge people to be more active - and that more active people are healthier and more productive
- Global estimates show that nearly a quarter (23%) of the adult population are physically inactive (IWBI)
- Increased sitting is directly linked to a thinning of the part of the brain's medial temporal lobe - associated with cognitive decline and dementia (UCLA)
- Cycling to work has been shown to increase performance and reduce sick days (Cycling England)
- **Again, a multi-strategy approach is recommended with regards to this topic:**
 - **Design buildings that encourage people to move**
 - **Provide sit-stand furniture wherever possible**
 - **Design for active commuting - thinking beyond simply storage and showers**
 - **Provide gym and exercise facilities**



Getting thermal comfort right

- Thermal comfort is a major source of dissatisfaction in many workplaces
- Difficult issue as many elements are at play - daylight, energy use, ventilation, building regs etc - and everybody has a different internal thermostat
- Research indicates that employees perform on average 15% poorer in hot conditions and on average 14% poorer in cold conditions (WELL)
- Yet 41% of people typically say they are unhappy with thermal conditions in the workplace (WELL)
- **Again, mechanical ventilation (with heat recovery and sustainable technologies) is recommended**
- **Recommend all projects undertake PMV calculations early in design**
- **As thermal comfort is so personal, we need to give people access to personal thermal comfort devices**
- **A sense of control is also shown to be important, so where it is safe, provide openable windows**



Acoustics

- Acoustic discomfort is another key source of dissatisfaction in workplaces - an 'ambient stressor'
- Caused by the trend for open plan offices (73% of all workplaces) and now exacerbated by video calls
- Studies have shown that better acoustics can improve productivity by 75%, boost motivation by 57%, and help up to 49% of employees feel happier at work (Rockfon)
- **Multiple strategies are available to support better acoustic comfort in the workplace:**
 - **Divide up spaces and consider 'acoustic zoning'**
 - **Provide private booths for calls**
 - **Focus on partition detailing and material selection to reduce reverberation - avoid exposed ceilings and other 'aesthetic' trends**
 - **Important to look at materials used in panels**
 - **Look to overseas for strategies we may not use in the UK, such as sound masking**



Materials for wellbeing

- Two elements to consider in this topic - physical health impact of materials (toxicity and VOCs), and psychological impact
- Important to have a clear understanding of the difference between 'healthy' and a 'sustainable' materials
- It has been claimed that most adults inhale or ingest around a credit card worth of microplastics each week (University of Technology Sydney)
- VOCs can be released from materials we think of as sustainable, like plywood or MDF
- Natural materials activate our parasympathetic nervous system, which acts to reduce stress and cortisol levels, resulting in happier staff (Happy Design Toolkit)
- **Recommend specifying health-certified materials wherever possible, especially for major materials**
- **Seek to incorporate natural finishes such as wood or stone where suitable - employers will likely see a return on this investment**



Designing for community

- It is now widely acknowledged that workplace culture and a sense of community has a huge impact on staff morale, productivity and retention
- However, being part of a community is also shown to be incredibly important for physical and mental health
- One area in which offices have a clear advantage over working from home

- Loneliness and poor social connections are as bad for your health as smoking 15 cigarettes a day (CALM)
- A sense of belonging can boost employee retention by 43% and reduce burnout by 38% (O.C. Tanner)

- **Ensure floorspace is left for social areas, particularly spaces for eating, relaxing, and play**
- **Create workplaces that are truly inclusive for all, considering cultural, physical and neurodiversities**
- **Consider how design can 'nudge' staff to have an increased number of social interactions**



Designing for the mind

- As we've already said, all of the previous sections contribute to supporting better employee mental health
- However, there are additional things we can do to further support mental health
- Important as 1 in 4 adults will experience a common mental health problem each year

- Some good rules of thumb are:
 - **Design in specific spaces for unwinding / downtime**
 - **Include biophilic elements, which are shown to boost mood, recall, creativity and productivity**
 - **Provide spaces with higher ceilings, which are associated with a sense of psychological freedom**
 - **Provide generous storage, as mess and clutter are associated with increased cortisol levels**
 - **Allow opportunities for staff to personalise spaces**
 - **Design to give occupants a greater sense of choice and control**
 - **Ensure buildings and their spaces are clearly legible, and easy to use and navigate**



Thank you

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www.benchannon.co.uk

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