OCD + THE BUILT ENVIRONMENT
Where should designers draw the line between creating low-anxiety environments or ones which challenge default behaviours?

#OCD
This anxiety disorder is much more than a person's need to organise their wardrobe
Obsessive Compulsive Disorder, (OCD) is often used colloquially in society to describe a person’s need for order, cleanliness and sense of perfectionism, but what does this complex condition truly involve? With approximately 2% of Australians diagnosed with OCD, it is possible that a fellow employee at your workplace has OCD. Some individuals display overt signs of their anxieties and behaviours which you may be able to notice over time, whilst others could be dealing with symptoms in a more covert manner.

OCD symptoms usually begin presenting around early adolescence, but don’t always get identified at this stage. It’s more common in males during childhood, but more common in females during adulthood. Often people seek treatment a few years after they have been living with OCD. It tends to get progressively worse until an individual’s lifestyle can no longer sustain it without there being some sort of impairment (e.g. to their relationships, work, schooling).”
- Robert Leardi, Clinical Psychologist, Melbourne

OCD happens when an individual has time-consuming obsessions (thoughts, urges) and/or compulsions (actions) which are related to irrational fears and anxieties. Compulsions are instigated to reduce an individual’s irrational anxiety.

“A physical sensation crawls up my arm as I avoid compulsions. But if I complete it, the world resets itself for a moment like everything will be just fine. But only for a moment.”
— Mardy M. Berlinger.¹

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The Working Brain - Research Essay
OCD + THE BUILT ENVIRONMENT

**Obsessions** (thoughts/urges) + **Compulsions** (actions/behaviours) = **Reduction of Anxiety** (outcome, until next input triggers a new cycle)

**Obsessions**

**Compulsions**

**Outcome**

**New Trigger**

**New Cycle**

**Distress**
OCD OVERVIEW
There are many forms of OCD present in our community stemming from an individual’s own unique sets of life experiences; thus creating a unique set of obsessions.

Outlined below are the most common types of OCD found in the general population.

PURE OCD
Pure OCD* is unique as individuals suffer from the presence of intrusive thoughts, but do not have the need to counteract those thoughts with any compulsive behaviour. These thoughts are uncontrolled and can occur randomly via a sensory or subconscious trigger.

The nature of these thoughts can be aggressive (such as frightening impulses of self-harm or harm to others), or sexual (with unwanted or inappropriate mental images).

Licensed Marriage and Family Therapist, Kati Morton states that Pure OCD Obsessions, “…tend to go against what we believe; morally, ethically, religiously and what we believe about ourselves.”

Individuals will often ruminate; going over the same thoughts again and again, trying to understand why those thoughts came into the mind, creating stressful thought cycles.

*Please note; for the purposes of streamlining vocabulary ‘Pure OCD’ refers to ‘OCD with obsessions only’ and is not a diagnostic term.

“…it can look like still waters on the outside while a hurricane is swirling in your mind.”

— Marcie Barber Phares

CONTAMINATION OCD
Individuals with Contamination OCD have an intense fear of germs. They will avoid contact with objects or surfaces, particularly in public places, and will often carry out ritualistic behaviours of hand washing and/or repetitive cleaning of personal items and spaces.

In a workplace, zones of high discomfort often include kitchen, bathroom, shared workspace desks or conference rooms.

It is important to note that many people have a mild to moderate concern with germs, however the compulsive behaviours associated with Contamination OCD affect individuals’ daily lives. This could involve struggling to attend social events, immersing themselves in highly trafficked public spaces (like grocery stores or restaurants) or taking public transport.

Their time is limited during a day as they can be preoccupied and controlled by their cleaning behaviours.
ORDERING & ARRANGING OCD

Often recognised as perfectionists, people with Ordering & Arranging OCD will strive for exactness and precision. They will repetitively arrange objects until a certain set of conditions are met or until the end result feels ‘just right’.

These ordering behaviours may occur several times over and individuals may exhibit unique patterns in which they incorporate into their process.

This can result in a sense of discomfort when objects are not, for example, symmetrically aligned, colour-coded or spaced evenly from one another.

From an everyday perspective, this can slow an individual’s ability to get through tasks - at home and at work - since their belongings must be set in specific places and positions. People may also become easily distressed or enraged if others move their work belongings without their knowledge.

“In the mornings before work it takes me more time than most to get ready as everything has to be completed in a specific order, and if I make a mistake,

I’ll want to start it all again, to reassure myself that something bad won’t happen during the day.”

– Leah Y, Melbourne

COMPULSIVE CHECKING

Compulsive checking can occur as a result of a range of obsessions. The purpose of this checking process is to alleviate distress about feared potential outcomes surrounding themselves, their loved ones or others.

Broad themes of their obsessions surround their: personal safety, responsibility for others’ welfare or fear of making detrimental errors.

Some compulsive checking is triggered by specific situations or can be as a result of a random thought entering their mind.

Types of compulsive checking include the checking of/or checking relating to:

• locks
• stoves, appliances and switches
• harming others
• harming self
• catastrophe
• mistakes
• health concerns
OCD OVERVIEW

COMPULSIVE COUNTING

Individuals with Compulsive Counting feel that certain numbers have special significance and their actions must be undertaken a specific number of times. Alternatively, individuals may simply count their actions without considerations of a specific number.

Examples include; counting their steps on a footpath or counting certain objects in their surrounding environment, like ceiling tiles in their workspace. The counting may be mental or verbal.

Individuals may also attach negative outcomes to certain numbers, feeding the anxiety that any task performed to that quantity will result in something negative occurring to themselves or family members, (For example, being involved in a plane crash or being diagnosed with cancer).

Even though most adults with compulsive counting acknowledge that the basis of their numerical fears are illogical, their compulsions force them to adhere to these behaviours *just in case*.

Often compulsive counting is a secondary sub-type of a person’s OCD diagnosis.

“For me, it’s like someone else has control of your brain. Like you’re being forced to do an endless number of completely random, pointless tasks you don’t want to do. It’s so exhausting and emotionally draining — like your brain needs an off switch!”

— Clarissa Chay

The Working Brain - Research Essay
WHAT TO CONSIDER NOW

With these common OCD variations in mind, we have to consider what design interventions should be implemented to counteract issues affecting workers with OCD.

Since starting the content for this article in late 2019, there have been significant worldwide changes, including the pandemic of Covid-19. The wider community must now respond to similar factors affecting people with OCD such as fear of contamination and fear of change via hot-desking.

To gain deeper insight into daily challenges faced by individuals with OCD, I interviewed Melbourne-based Clinical Psychologist, Robert Leardi.

Mr Leardi has worked in a range of clinical and forensic settings, holding a Bachelor of Behavioural Sciences, a Post Graduate Diploma of Psychology, a Masters of Psychology (Clinical) and is also a member of the Australian Psychology Society.

The following section of this article, OCD Design Interventions, details the types of challenges faced by most workers within an office / workplace setting.

These factors should be thoughtfully and emphatically considered by designers and companies alike, when creating an environment that appropriately considers their employees with OCD at work.
OCD DESIGN INTERVENTIONS.
Fatigue

Prolonged periods of stress associated with the anxieties faced by individuals with OCD, can trigger biochemical changes in their bodies, feeding a cycle of fatigue.

**VITAMIN D DEFICIENCY**

Some individuals with OCD avoid spending time outside from fear of contamination or the possibility of bad incidents, and therefore do not receive enough natural sunlight leading to Vitamin D deficiency.

**ANXIETY & SLEEP ISSUES**

Higher levels of cortisol, (produced by the adrenal glands, due to prolonged and heightened stress), can trigger individuals’ ‘Fight/Flight’ mode, resulting in feeling emotionally dysregulated and potentially affecting concentration, attention, and memory.

**BLUE LIGHT & SLEEP ISSUES**

Blue light in the workplace is prevalent via sources from fluorescent and LED lighting, as well as from screens of technological devices like computer, tablets, mobile phones and televisions.

Scientists discovered that long-term exposure to certain wavelengths of blue light, at a specific intensity, can interfere with normal melatonin production. Melatonin is the natural hormone released by the pineal gland at night which induces the feeling of relaxation and sleepiness, thereby maintaining healthy sleep/wake patterns.

Design Approach

**INCREASE NATURAL LIGHT**

- Permanent workstations and flexible work points should be positioned close to windows. Where possible, breakout spaces should also have access to natural light.
- Consideration of using glass extensively as alternatives to solid partitions, to allow natural light to flow through spaces.
- Creating outdoor social zones (where locations allow), that can be covered or partially covered in colder seasons and extreme heat.

**ADJUST ARTIFICIAL LIGHT**

- Install lighting systems which have colour tuning systems that follow circadian rhythms:
  - For Mornings & Evenings, (waking & winding down times), Kelvin light temperature between: < 2700K to 3500K
  - For Daylight (most alertness required): Kelvin light temperature between 4000K - 10,000K.
- Incorporating new technology that mimics natural sunlight, particularly for dark rooms in winter seasons. Italian company, Coelux, have recreated the look of sunlight via a skylight, with proposed future improvements to include the ability to change the position of the sun in the frame and dynamic colour temperature of the sunlight.

**BLOCK BLUE LIGHT**

- Anti-glare screens for computers screen, and other blue light reduction tools

Indoor casual meeting space features a generously sized skylight in the centre of the working space maximising access to natural light.
Difficulty with time management

Workers with OCD could be juggling a range of intrusive thoughts and/or ritualistic behaviours at any one time. Mr Leardi provided insight on what this is like for patients with Ordering and Checking OCD;

“Imagine explaining to your boss that you were late submitting a task because you felt compelled to check each line, each formatting tool, each sentence, and cross check it with correspondence, instructions, colleague’s advice, spelling/grammar etc, over and over, otherwise you would suffer an unimaginable panic attack.”

He recommends time management can improve by providing a suite of physical and digital organisational materials, accessories and programs, including to-do lists, calendars and timers. The choice between paper-based or digital comes down to personal preference and company policies.

Design Approach

- Wall-mounted rolls of recycled brown paper, or other environmentally friendly alternatives, in close proximity to workstations for workers to scribble to-do lists on
- Collaboration spaces with whiteboards or smart boards to plan individual or team workflow.
Difficulty dealing with visual chaos
(lack of order, symmetry & balance)

Individuals with Ordering & Arranging OCD often seek symmetry. When there is mess and disorganisation this creates distress.

Designers should consider the potentially negative effects of modular or moveable furniture on workers with OCD if not kept neat.

Design Approach

• **Overall Balance:** Between design elements in space
• **Symmetry:** In a workspace, individuals often appreciate spaces that display an even number of workstations on either side of a main thoroughfare, or banks of workstations that are at least evenly mirrored. Consider this approach in fittings, equipment and joinery
• **Spacing:** Even spacing between objects that are alike
• **Significant sets:** A common number of special (positive) significance for individuals with Compulsive Counting OCD is four. Where possible consider the possible, consider creating elements of four, or factors of four. This may include operable wall panels, joinery doors, armchair settings in a lobby, etc.
• **Minimising chance of visual chaos and mess over the day-to-day use of a space:** Modular furniture has its benefits in a workplace, however there are some spaces where modularity is less required. These include lobbies, cafes, breakout spaces. Consider that some or all furniture elements could retain order and consistent spacing if fixed to the floor.
Distractions: seeking vs. escaping

Distractions for people with OCD can be considered negative or positive, depending on the individual. Some individuals appreciate a bustling, socially-engaging workplace and may resent periods of quiet. In contrast, others may wish to reduce distractions of external stimuli and opt for private, quiet work points where they have more control over their interactions.

Quiet and private spaces are often used for treating all forms of OCD. In these spaces, people with OCD can complete homework set by their psychologist (e.g. documenting and reframing obsessions), and they can safely initiate their anxiety management tools (e.g. slow breathing).

“The less busy I am the more it comes on, the more anxious I become. Pressure at work can help sometimes, but if I’m stopped halfway through my counting routine, it’s not good.”

— Leah Y, Melbourne

Design Approach

The following recommendations by Mr Leardi are helpful methods to distract the mind and reduce anxiety:

**DISTRACTIONS SEEKERS**
- Social break rooms could include a range of social, physical and sensory distractions, such as table tennis or television.
- Storage for workers to keep sensory tools like fidget spinners, stress balls, air purifiers, liquid motion bubblers or liquid sand landscape desk toys, nearby. This includes personal lockers or a set of lockable drawers beside their desk.
- Various work and break settings. An example would be high back booths with accompanying lunch or laptop tables, where workers can sit alone, for working or unwinding, whilst listening to music.

**DISTRACTIONS ESCAPEES**
- Designated Quiet rooms, sound-proof booths for making telephone calls, and calming meditation rooms.
Anxiety & General Stress Management

Anxiety and stress can be alleviated within the workplace in different ways.

Mr Leardi recommends his patients engage in mindfulness, meditation or breathing exercises, for even as short as 10-minute blocks across their working day.

In an interview by the British Psychological Society, special guest Dr Hamilton Fairfax from the Department of Clinical Psychology at the North Devon District Hospital, UK, comments about the way mindfulness can assist Obsessive Compulsive Disorder,

“It finds a way to help us understand the underlying thoughts in our mind and tolerate those thoughts – breaking down the intensity of the thoughts.”

Design Approach

MEDITATION ROOMS: MINDFULNESS, BREATHING EXERCISES AND SENSORY GROUNDING

- Quiet spaces could include dimmable light levels, soft finishes and fabrics, sound proofing from external noises, storage for yoga mats, comfortable 1-person seating (lounges and bean bags), space to lie down, storage for weighted blankets (used to ease anxiety and bring sense of calm) and areas of pinboard panels (to display instructions for breathing exercises).

Mr Leardi believes the simple practice of ‘sensory grounding’ - sitting still in a quiet space and connecting to the 5 senses - is a very effective method in reducing anxiety.

Soft furnishings and walls with good acoustic properties make a suitable meditation space.
ENGAGING IN EXERCISE

- Scientists have found that regular participation in aerobic exercise has been shown to decrease overall levels of tension, elevate and stabilize mood, improve sleep, and improve self-esteem. About five minutes of aerobic exercise can begin to stimulate anti-anxiety effects.  

  Designers should incorporate walking paths around the office floorplate, with rest stops, to assist in raising workers’ heart rate to a beneficial moderate level.

REDUCING CAFFEINE, INCREASING WATER

- Caffeine is a stimulant that ignites an individual’s Fight or Flight response. Consuming caffeinated coffee, tea, soft drinks and energy drinks should be avoided, or heavily reduced, for people with anxiety disorders like OCD. It can trigger jitteriness, panic attacks and disrupted sleep cycles.
- Incorporate water refill hubs of instant hot water and chilled water fittings, plus storage for decaffeinated tea/coffee in areas around large floor plates where workers may be distant from main breakout spaces.
- A common comorbidity affecting people with OCD is migraine headaches. Dehydration is a common migraine trigger, so by providing these aforementioned water refill hubs, it could help reduce the onset of dehydration-caused migraine symptoms.

01
Walking around the office floorplate and even travelling up and down internal stairs is a great lunchtime exercise if your work space allows.

02
Hydration points can be multi-use for filling up water glasses / preparing coffee and tea as well as a location for informal team catch-ups.
Anxiety & General Stress Management (CONT)

MULTIPURPOSE ROOMS (FOR LARGER CLASSES)
- In large spaces, stackable furniture and nearby furniture store rooms should be considered to clear large spaces to house weekly lunchtime group personal training sessions, mindfulness sessions with trained mindfulness coaches and even Yoga / Stretching sessions. These can be beneficial to the whole team.

INCORPORATING PLANTS
- Nature and greenery should be incorporated widely across the workplace. A 2010 study by the new University of Technology, Sydney, found significant reductions in stress among workers when plants were introduced to their workspace. Results included a 37% fall in reported tension and anxiety; a 58% drop in depression or dejection; a 44% decrease in anger and hostility; and a 38% reduction in fatigue.\(^{12}\)

PERSONALISATION TO SPACES
- Allow individuals with OCD to neatly display photos of family members, pets, children’s artwork or postcards of holiday destinations at desk, via pinboard workstation screen dividers. This reduces stress and is a happy distraction throughout their day.

01 Indoor planting featuring heavily in breakout space via concealed pot plant systems.

02 Large multipurpose rooms can be cleared for mindfulness sessions.

03 Allowing personalisation of a worker’s space can contribute to their overall happiness and anxiety distraction.
Fear of Contact
(FITTINGS, FINISHES/SURFACES & EQUIPMENT)

This factor is highly specific to workers with Contamination OCD, who will either clean a surface or object thoroughly before using it (via surface sprays, disinfectant wipes or antibacterial sanitiser gels) or strategically avoid contact entirely.

The repetitive use of these products has environmental and physical impacts. Environmental impacts include further contributing to mass landfill (disposable wipes) and the chemicals going down the drain, despite our waste water treatment systems, will further pollute our coastal environments and oceans.

Physical impacts include skin conditions, like dermatitis, xerosis or eczema\(^1\), as result of repetitive hand washing and skin exposure to cleaning products. Most cases benefit from the application of topical medications and improvements in skin care habits, (including the use of hypoallergenic, non-fragranced skin care products).

Design Approach

AUTOMATION (NO CONTACT OR LITTLE CONTACT)

- Automated main entry doors, tapware, hand dryers, soap dispensers
- Automated lights switches (via sensors) in non-essential meeting rooms and quiet rooms
- Automated antibacterial gels dispensers

MATERIALITY

- Consider using antibacterial stainless steel and copper fittings that have been appropriately tested
- Consider using water-repellent fabrics like Crypton, which are easy to clean, soil and mould-resistant and provide antimicrobial and antibacterial protection.

ENVIRONMENTAL

- If disinfectant wipes are essential, individuals/companies should select biodegradable options, such as Dettol Disinfectant Cleaning Wipes which are made from biodegradable fibres, 100% plant-based and are effective in killing most germs. Designers should include discreet dispensers and waste bins for these.

Contamination OCD Treatment Note: In accordance with an individual’s unique treatment plan, there may be a daily limit on disinfectant wipes that an individual can use.

- Replace harmful cleaners and dish washing liquids with environmentally friendly choices. An example of this is Electrolysed Water Units. They use a combination of tap water and table salt which, apart from the initial set-up costs such as plumbing, will provide a low-cost alternative that is effective against major bacteria including listeria, salmonella, e-Coli, staph as well as viruses and moulds.\(^14\)
PHYSICAL

• Create hubs for hand sanitisation around office
• With skin conditions in mind, companies should provide hypoallergenic, non-fragranced alternatives to normal soaps and hand cremes. Designers should investigate dispensers that are compatible with the fluidity of the products they are putting in them, for ease of delivery and refilling in future.

Muscle tension

Mental stress can produce physical symptoms such as muscle tension, fidgetiness, taut facial expressions, headaches or neck and back pain.

Design Approach

ADJUSTABLE, ERGONOMIC WORK SETTINGS

• Sit to stand workstations
• Ergonomic, adjustable task chairs with posture support
• Varied workstyle settings (for those who don’t mind change)
• Adjustable monitor arms to ensure viewing height and angle do not cause eye strain or neck strain
• Consider massage chairs placed in quiet or meditation rooms to be enjoyed by all staff.

01
Consider automated fittings where possible to reduce contact and potential transfer of germs.

02
Ergonomic work point equipment featuring to reduce workers’ muscles aches and pains.
Difficulty dealing with change

Whilst most individuals with OCD struggle with change, some would confront increased challenges if change was regularly enforced.

“Someone with contamination fears would struggle greatly with ‘hot-desking’ at work. They likely have an onerous procedure for disinfecting/sanitising their workplace every day, or multiple times per day. It would increase their time at work, stress levels at work (particularly before beginning of work) and overall this would reduce their cognitive capacity to complete work tasks accurately and in a timely manner.”

—Robert Leardi, Clinical Psychologist, Melbourne

For this reason, these individuals may be more effective and comfortable where they can control the organisation, personalisation, order and cleanliness of their workstation, accessories & files.

Design Approach

- Allow some permanent workstations for workers with OCD, within a hot-desking workplace, to reduce anxiety and increase efficiency
- Allow for small personalised spaces with organisation accessories like drawer dividers and on-desk stationary containers.

01
Variable hot desking points will be challenging for some workers with OCD.

02
Although agility in a workplace setting can be achieved in an aesthetically pleasing way, some workers will not be comfortable with the constant moving of setting around the workplace.

03
Drawer dividers for workers’ personal storage could ease anxiety levels.
Following the aforementioned design approaches, the question arises; whether it is ethically suitable - from a perspective of treatment - for designers to eliminate every challenge faced by workers with OCD in the workplace.

A popular treatment method used by psychologists to treat OCD is cognitive-behavioural therapy. The behavioural component of this intervention usually includes exposure response prevention techniques. These are often simply referred to as ‘exposures’.

Psychologists create Treatment Plans with these unique exposures in mind to challenge the person with OCD to face the sources of their anxiety in a controlled manner so they can gradually, incrementally overcome their obsessions and compulsions over time, and regain control over their daily lives.

By eliminating these challenges in the workplace, designers may be contributing to reinforcement of their condition.

**Reinforcement:**
every time you avoid or escape a feared situation you ease your anxiety – which may provide temporary relief, but it actually reinforces your phobic behaviour, making it stronger.\(^\text{15}\)
Using the case of Contamination OCD as an example of this; if designers purposely created a ‘reduced-contact’, ‘reduced-germ’ environment, this may provide comfort to the worker at work.

However, once workers exit those ‘safe’, tailored work zones, they will only be faced by a greater, inescapable reality of public transport, shopping centres and other highly-frequented, germ-rich zones.

Therefore, in the long run, this method could inhibit their recovery progression.

**Recommendations**

In summary, OCD is a much more complex anxiety disorder than most people are aware.

It can seriously impact an individual’s life in many ways. It requires different approaches for different individuals, depending on the type of OCD that affects them and their phase of recovery.

It is therefore important that dynamic workspaces are considered in the design phase. That way, an individual’s exposure to their fear or anxiety can be aligned with their treatment plan.

All factors considered; designers must provide a range of work style settings and spaces. These should be strengthened by well-considered furniture and equipment choices, accessible personal storage and quiet room offerings, to meet the broad needs of individuals with OCD in the workplace.
The author of this article, Natalie Viola, is a part of a group of designers researching Neurodiversity and Mental Health in the built environment. You can follow their progress at: theworkingbrain.net

Due to a lack of data on designing for the neurodivergent person, the research team will test SENSORY DESIGN INTERVENTIONS across a range of design projects. In context of Sensory Processing Disorder, the team will establish people’s sensory profiles (using an Occupational Therapist Measuring Tool) and then research the comfort factors of various built environments which have been designed with SENSORY DESIGN INTERVENTIONS. The results of this research will be available in late 2020.

References
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