

# ORDER AND EMOTION

UNIT 301

BA INTERIOR & SPATIAL DESIGN

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## Abstract

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Architectural and interior spaces are traditionally associated with aesthetics, yet their impact extends far beyond the visual. This study explores how spatial arrangement - including order, predictability, and sensory qualities - plays a role in shaping emotional regulation and influencing how people experience their feelings in everyday life. Drawing on neuroaesthetic and psychological research, the study reflects on how the brain responds to clarity, equilibrium, and consistency within a space. These responses are linked to biological and emotional processes that shape mood, focus, and a sense of control. Understanding these shared reactions helps explain why certain environments feel calming or supportive, while others may provoke discomfort or fear.

The study is based on two contrasting settings: a public sensory pod located in a city-centre shopping centre, and an AP school in Southend-on-Sea that supports young people who have experienced difficulties within mainstream education. While both spaces are intended to support emotional regulation, they do so in very different ways, using distinct design approaches and forms of human interaction. By comparing these environments, the study examines how spatial design and relational factors shape people's experiences. The findings highlight the importance of consistency, tactile elements, opportunities for interaction, and clearly defined purposes in spaces that support regulation. These insights inform a design-led investigation into how environments can respond more effectively to human needs, particularly within public and healthcare contexts. The study ultimately points towards spatial strategies that support moments of transition, pause, and preparation in everyday life.



I N T R O D U C T I O N

# WHY DO I MOVE THINGS AROUND?

## Introduction

Why do I move things around?

This is the question at the heart of the research. It was prompted by my personal experience and evolved into a broader question of how space influences my mood and mind.

In my adult life, wherever I have lived, I have instinctively and routinely rearranged the furniture, including plants and lighting, without ever asking myself why. Afterwards, I always feel a sense of contentment and satisfaction, but more than that, there's a feeling of rightness in my body. Since starting my degree, it is something I've become more curious about. I began to suspect that this act was not only about aesthetics, but related to some psychological or physiological reasoning.

So what is really happening when I clear a desk, sort out a cupboard, open a window, or wake up in a tidy room? On the surface, it may seem like housekeeping, but the impact is felt immediately, and internally. When a space is ordered, it opens up mental space too. The environment is easier to process since there are fewer distractions as the visual clutter is reduced. This means there is less cognitive strain on the brain allowing more room to work, absorb and rest. Sensations of relaxation or clarity may mean that the nervous system is less strained.

Studies of domestic environments indicate that order around us is strongly associated with the feeling of being at ease, and when we have changes in the home, the mood and concentration begin to change easily.

The waiting room in a healthcare facility is an ideal scenario on how the environment can drive regulation in either direction. Fryburg (2021) contends that patients and employees are usually already stressed, and the waiting room can either aggravate or alleviate the problem. Even the slightest noise, such as a TV playing in the background, can cause distraction - as Fryburg notes, bad news can easily cause anxiety and fear. He further writes the reason that is important: stress impacts executive function, that is the mental

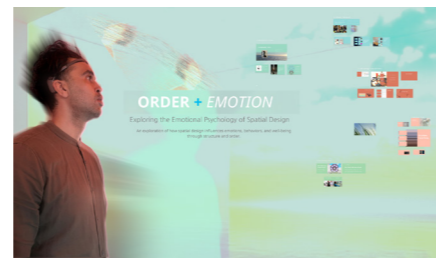


Fig.1 Author own Image



Fig 2. Messy Space

operations required in order to pay attention, remember information in the mind and make decisions.

This raises a key question about whether these environments are actively involved in emotional and physical regulation, or whether people are left to cope with these needs independently? Although this question is connected with spatial design, it is extended to neuroscience, psychology, education, and healthcare. It also examines the amount of information that people internalise and the way it is arranged - and enquires whether an individual feels supported, exposed or overwhelmed within a space.

Spaces we live in everyday influence the way we feel, whether we are conscious of it or not. We frequently assess buildings to ensure they are fireproof, convenient, and meet standardised regulations. This is how they are approved and maintained, but how often do we consider the impact of these spaces on our emotions or coping capacity? Are these spaces comfortable to people when they arrive? Do they give time to adjust? Do they ease any concerns, or do they silently increase any concerns?

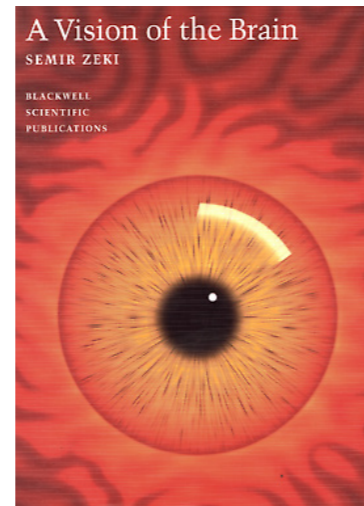
Consequently, emotional regulation is commonly viewed as an individual issue, despite the fact that the conditions of the environment can significantly contribute to the perception of a particular situation as manageable or not. This is the reason why it is important to think about the environments not only in terms of their safety and functionality, but also in terms of how well they can support our emotional and mental health.

## Framing the research

This project investigates emotional regulation in terms of neuroaesthetics and spacial design. It builds upon the research of Professor Semir Zeki and Carl Jung, as well as on personal observation, to explore the ways of processing order, coherence, and structure and experiencing it in daily settings. The following chapter explores neuroaesthetics and how the brain processes visual and spatial information, before broadening to consider how these ideas relate to usability and design.

**NEUROAESTHETICS,  
ORDER,  
AND EMOTIONAL  
REGULATION**





**Fig. 3**  
Stock image: looking up through a green tree canopy (used to reference nature imagery and sensory restoration).

**Fig. 4**  
Cover of A Vision of the Brain by Semir Zeki.

### Neuroaesthetics, Order and Emotional Control.

Mental health and wellbeing are influenced by many factors, but the environments people experience every day play an important role. The World Health Organisation places a high emphasis on the fact that safeguarding mental health involves the necessity to change the environment both at home, school, work place, and community. In the UK scenario, NHS England cites that 1 out of 4 adults would report at least one diagnosable mental health issue per annum, which reflects the extent of emotional distress in the fields of daily existence. NHS Digital reported in 2023 that among children aged between 8 and 16, 20.3% had a probable mental disorder, suggesting that the regulation pressures are early and on large scales.

Together with this, a study by the Mental Health Foundation (YouGov, n = 4,619, 2018) revealed that three-quarters of adults in the UK had experienced stress in the last year and reported that they felt overwhelmed or incapable of coping.

### Space is not just encountered. It is processed.

#### Order and the Brain

One of the main factors that impact this study are the writings of Semir Zeki whose research on the visual cortex revolutionised the knowledge on the way perception is built. Zeki showed that visual qualities such as colour, form and motion are not processed in one part of the brain, they do not happen immediately but progress over time (Zeki, 1999).

Zeki's work was introduced to me by a friend who shared a blog post in which she referenced him while writing about the feeling of love she experiences when viewing certain artworks. Nelson wrote:

"Not long ago, there was a study at the University of London conducted by Semir Zeki, Professor of Neurobiology, who scanned the brains of volunteers while they viewed 28 works of art. He explained, 'We wanted to see what happens in the brain when you look at beautiful paintings.'

The experiment concluded that when you look at art - whether it is a

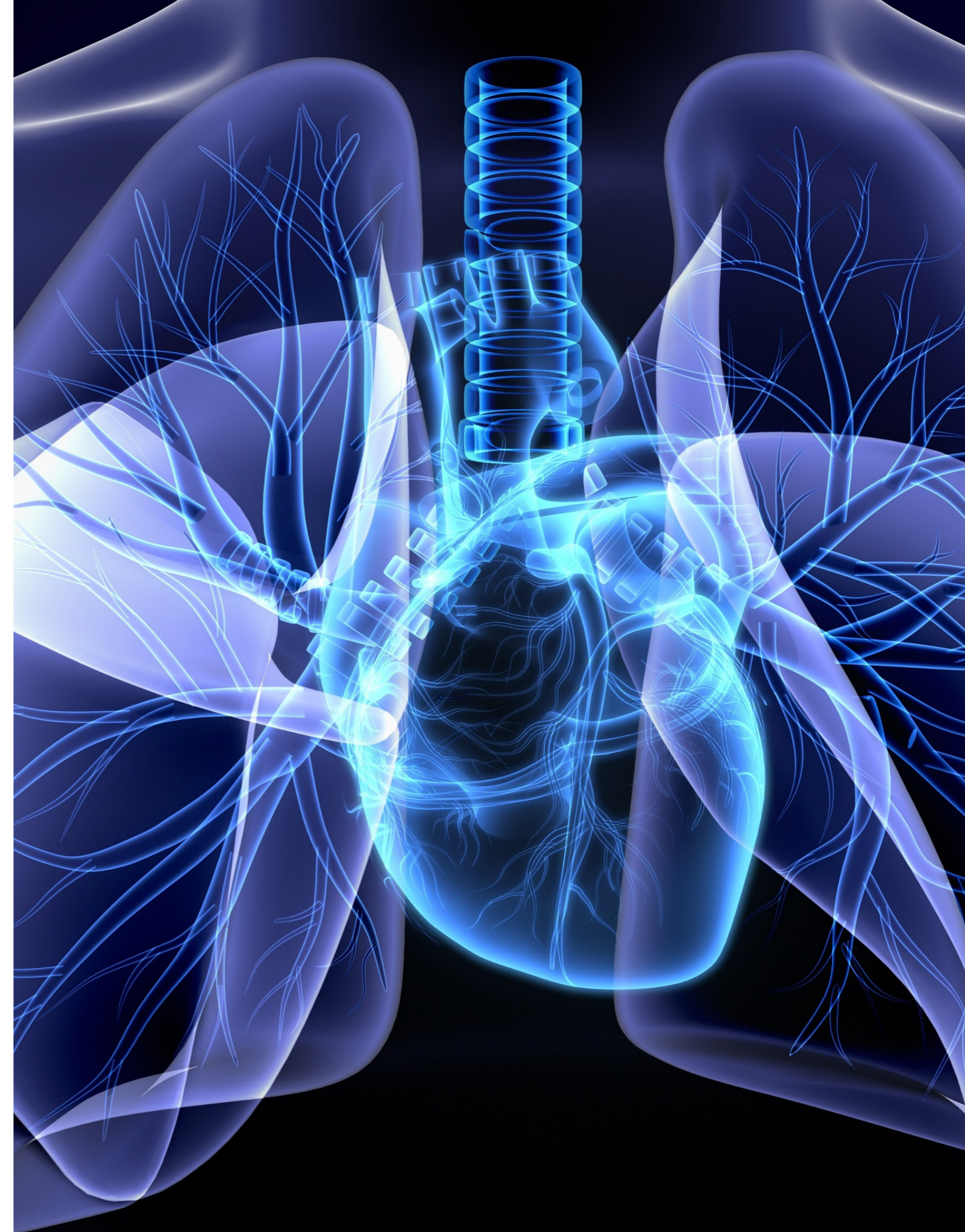




Fig 6. Sermir Zeki

landscape, a still life, an abstract, or a portrait - there is strong activity in the part of the brain related to pleasure. When viewing the artworks they found most profound, blood flow increased in a specific area of the brain by as much as 10%, which is the equivalent of gazing at someone you love." Jenny Nelson (Jennynelson.com, 2025) According to Zeki, the brain is pro-active to find order and clarity, and that the visual brain is designed to find constancy in the world (Zeki, 1999).

#### Sensory Load and Regulation

Modern life places increasing demands on our perception. Cities are becoming more crowded, technologically saturated and continually attempt to take our attention. Coupled with the physical systems, the digital systems are running 24 hours a day - screens, alerts, pin codes, interfaces, and robotic systems working in tandem with the day-to-day operations.

According to Ofcom, the average UK adult now spends 4.5 hours on average online each day, an increase of 10 minutes on the last year, and that the majority of this time is spent on smartphones, using an average of 41 apps (Ofcom, 2025). According to the Institution of Engineering and Technology, one out of every five individuals is using the same password across various websites and devices (IET, 2024).

This can be explained with the help of theories. Cognitive Load Theory refers to the level of working memory which is being utilised at a given moment in time and how environments which require continuous filtering and prioritising can increase the level of working memory (Sweller, 1988). Attention Restoration Theory implies that attention is a limited resource which does deplete when continually in demand, and that it recovers more in an environment where directed attention is not highly demanded (Kaplan and Kaplan, 1989). When these theories are read jointly they assist in framing the reasons why contemporary environments, both material and digital can complicate regulation, since these environments constantly use the same limited cognitive and attentional capacities.

### Psychological Views on Order and Inner Balance

An analogous point of view is offered by psychology, especially the contributions of the Swiss psychiatrist and psychologist Carl Gustav Jung (1875-1961), the founder of analytic psychology. Although neuroscience describes the process of space being perceived by the brain, Jung was interested in the reason human beings can remain psychologically balanced as they move about their inner and outer life.

According to Jung, psyche is a balancing system and says: There is no balance, no self-regulating system without opposition. The psyche is such a self-regulating system. This upholds the notion that regulation is not a given state, but a process of stabilisation through pressure.

### Personal Diversity and Variation

Space is perceived from multiple viewpoints. In an architectural context consideration is given to space between the structures, along with the walls, ceilings, floors, shadow, light, and texture. Sound, scent, temperature, and air motion, also create experience, which in some cases can be as strong as the visual one. These states of sense are able to aid orientation, or strain.

This is the reason why two individuals could have differing experiences, even within the same space. Numerous factors, including the state of stress, neurodiversity, trauma, physical health, fatigue, and disability, sensory thresholds all play a part. What works out in favour of regulation with one human being may subdue another. There are those who are deeply sighted, there are those who respond to sound or touch: there are those who are glare intolerant, reverberation intolerant, or scent sensitive; and wheelchair users perceive space differently and at a different level. The needs also vary throughout the day.

### Spatial Design Implications

Collectively, these concepts are impacting the way spatial environments are evaluated in present times. A great amount of design analysis is considered based on quantifiable elements including dimensions, circulation, ergonomics, access and safety. Such publications like *The Metric Handbook* offer invaluable suggestions on such areas.

However, even though the tools are accurate in measuring the physical requirements, they do not provide much information regarding how environments are experienced over time. The perceptual load, predictability, sensory pacing and capability of making small adjustments are hard to quantify but they may have a vital impact on how individuals settle, focus, and deal with daily demands.

These are the foundations to be followed through the subsequent chapters, which analyse how real environments interplay with routine and behaviour, as well as support, and the experience of spaces over time.

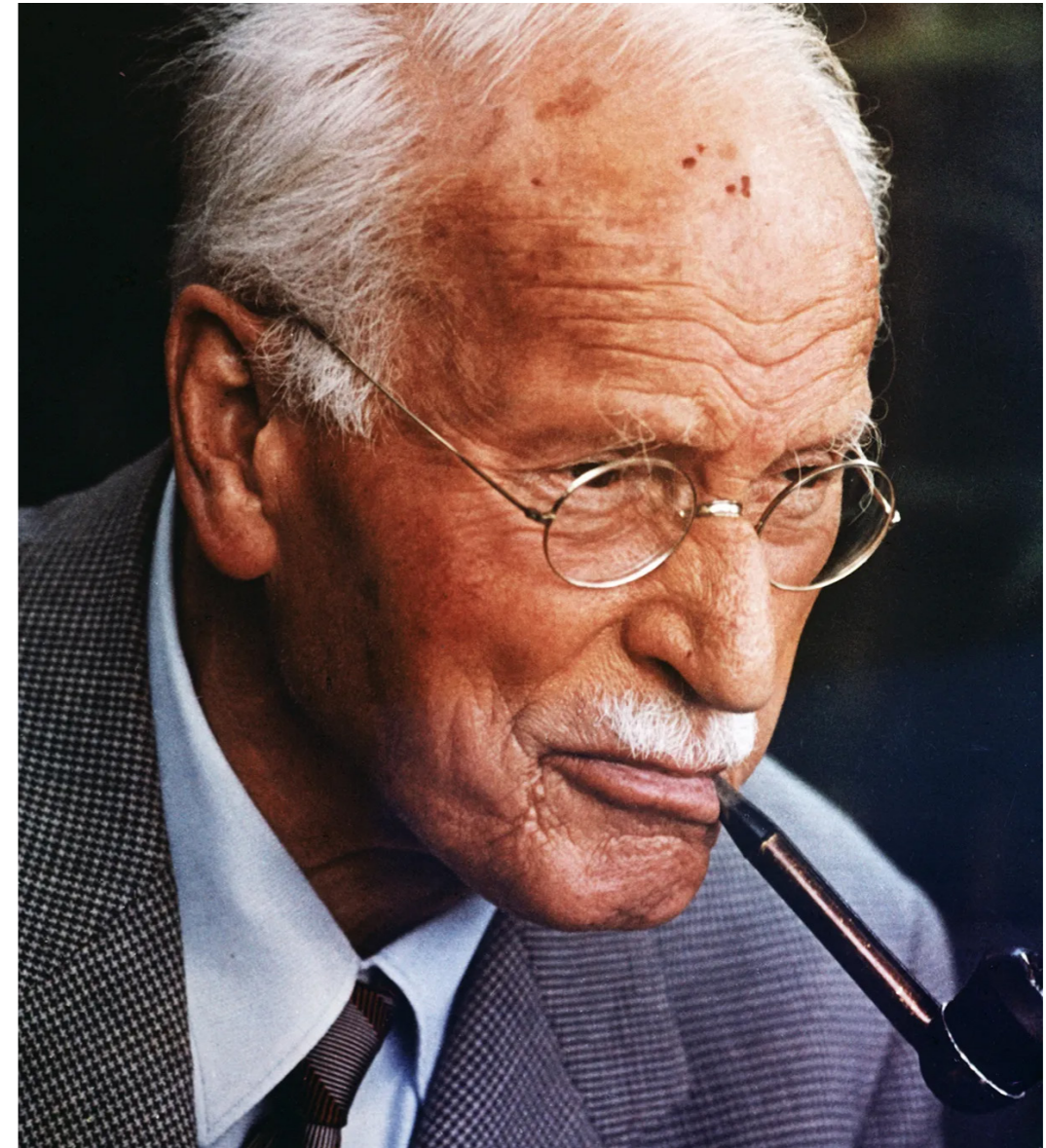


Fig. 7 Carl Jung

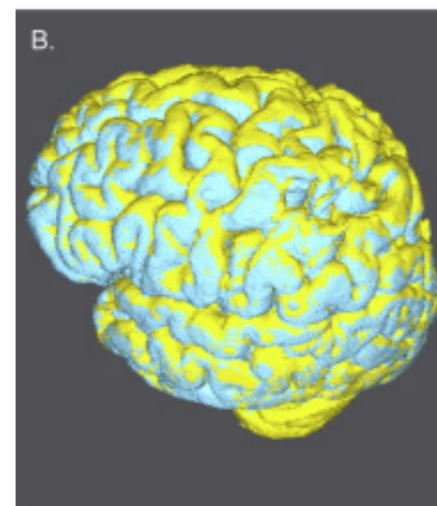


Fig. 8 Brain Activity



CASESTUDY

1

# **PUBLIC SENSORY POD 'CUBBIE'**



Fig. 9 Cubbie Inside Look

## Primary Case Study I: The Cubbie

Why are sensory and regulatory spaces finding their way into everyday life?

Health inequalities are unfair differences in health between different groups of people. They happen because people don't all have the same chances or conditions in life — like the quality of housing, education, work, income, and support they have as they grow up and get older. These life conditions shape how we think, feel, and behave, and they can lead to worse physical and mental health. (NHS England, n.d.)

There are some subtle yet informative changes happening in the UK in terms of the public spaces. Shopping centres, libraries and schools are adding more environments where the need to take a break, re-energise and re-adjust emotionally is taken seriously as a way of life. This is not taking place in a vacuum. In addition to the amount of individual technologies monitoring sleep, breathing or helping us to be more mindful, there is an increasing social awareness about our internal states and how they change over the day. People are becoming increasingly sensitive to the way they feel, the way they manage, and the impact of the surrounding environment on their functionality. The wider cultural movement is reflected in what is now emerging in these public spaces.

David McIntyre is the founder and designer of the Cubbie sensory pod. His work is informed by personal experience of advocating neurodivergent children in mainstream education. Having been inspired by the struggles of his personal situation, when his family members were diagnosed with autism, McIntyre invented the Cubbie as a reaction to the fact that there



Fig. 10 Cubbie Southend



Fig. 11 User Interface

were no such accessible, inclusive environments that could be used to help people with autism experience control over the senses in real-life situations. The design was a result of the need to make a closed and predictable environment that could aid people to cope with the sensory overload to manage attention and be prepared to re-connect with the environment. Although originally designed as an educational tool, specifically in educational institutions accommodating neurodiverse learners, the concept of the Cubbie has over time been translated into making it applicable in more generalised contexts, such as workplaces and the general community, as part of a larger trend of integrating sensory wellbeing into regular public frameworks (McIntyre, n.d.). there were no such accessible, inclusive environments that could be used to help people with autism experience control over the senses in real-life situations. The design was a result of the need to make a closed and predictable environment that could aid people to cope with the sensory overload to manage attention and be prepared to re-connect with the environment. Although originally designed as an educational tool, specifically in educational institutions accommodating neurodiverse learners, the concept of Cubbie has over time been translated into making it applicable in more generalised contexts, such as workplaces and the general community, as part of a larger trend of integrating sensory wellbeing into regular public frameworks (McIntyre, n.d.).

The Cubbie, Southend-on-Sea - Public Sensory Pod in Practice.

In October of 2025, Southend-on-Sea City Council launched the first sensory pod on a high street (Southend-on-Sea City Council, 2025). It is situated on the upper floor in The Victoria Shopping Centre. The installation of the Cubbie is already in use in some local schools and is a significant step into extending sensory regulation in the specialist setting to the everyday public environment.

The council supports the initiative as a component of a broader wellbeing, inclusion, and quality of life agenda. When Cllr Laurie Burton, Cabinet Member of Children, Learning and SEND announced the installation, he stated the pod is a small space but has a big impact and that the idea behind the pod is to ensure sensory support access to all people in Southend. Burton suggests that children sometimes need a quick break from noise and busyness, and adults can feel overwhelmed by everyday responsibilities. The Cubbie responds to this by offering a small place to pause and reset. It also shows the city council's commitment to supporting residents' wellbeing and improving quality of life.

(Southend-on-Sea City Council, 2025). Notably, the Cubbie is being offered as a general, non-targeted and non-clinical resource. It is accessible to any age and ability and is formulated to accommodate the instances of rest and adaptation in the ebb and flow of everyday life, especially to those

who find shopping spaces to be stressful or overwhelming.

The Cubbie is introduced as a non-clinical and universal tool. It is available to anyone of any age or ability and is supposed to accommodate brief periods of rest and adaptation in the stream of daily activity. According to Council guidance, the pod is said to assist users to feel less stressed and anxious and more in charge and prepared to re-engage with the surrounding environment (Southend-on-Sea City Council, 2025). Before entering the pod, users are required to choose short programmes between five and fifteen minutes, change the light, sound, and visual contents.

Although the introduction of the Cubbie supports the increased value of the wellbeing of people, certain limitations are also apparent with the introduction of a regulating space into a crowded commercial setting. The design of the pod and the experience that it provides are affected by factors like visibility, safety, durability, accessibility, and standardisation. This case study considers the impacts of these conditions on regulation in practice and the effect of the reality of public deployment on intentions concerning wellbeing.



Fig 12. David McIntyre



Fig. 13 Outside Southend Cubbie

### The experience of the space.

### The Cubbie experience

In order to understand how the sensory pod worked in its setting, I visited the shopping centre to experience it first hand. Considering the information I had read about using the sensory pod, along with the information that the council provides, I held few expectations. I wasn't aiming to achieve a specific result, but I was intrigued as to whether this pod could provide a short-term feeling of relaxation before joining the general social space.

The pod is located on the upper floor of the shopping centre, an open area near the public toilets. Although this area of the centre is not as busy as the main retail space, it is still a thoroughfare. Customers regularly passed by and the pod was seen in several directions. On arriving at the pod, there was an immediate sense of presence. Entering and exiting the space felt like a very public experience, especially when taking pictures and recording my research. This made me feel self-conscious, it was as if the use of the pod itself was being showcased. This consciousness influenced me in my first interaction and remained with me during my time in the space. Access to the pod was as expected. The app was available via a mobile phone and a code was generated and inputted on a panel outside the pod to enter. The programme could only begin after this step. During this visit I chose two timed programmes and experienced them consecutively, a ten minute ocean-themed meditation, followed by a programme named Whale in the Sea. They both had a similar format geared towards being compact and contained in segments of use - what soon became apparent is that the pod is structured around the outer panel control. The volume and programme selection must be chosen and adjusted before entering. Once inside, there is no option to change the experience without leaving and returning to the shopping centre environment. This formed a stop-start rhythm that interrupted continuity and re-introduced the sounds and visual distractions surrounding retail space many times.

A physical boundary is created in the pod but not a total separation. The enclosure is small and has a semi-transparent door that doesn't block light, movement nor background activity. The shopping centre ambiance still permeates the space and as there is no locking system on the door, it means that one is required to remain vigilant, even when inside. Studies of the sensory environments indicate that partial acoustic and visual disconnection could inhibit the full activation of the parasympathetic nervous system and deprive a person of an opportunity to experience a restorative condition (NHS England, 2014).

The programmes are largely based on visual and audio instructions. The imagery is soft and shown on a primary screen, with a calm computerised voice providing simple hints. The form could be identified as meditation-

based, which stimulates the slowing of breathing, visual attention, and short-term mental relaxation. Nonetheless, it is still a screen-based experience. The seating is fixed, the surfaces are hard and there is minimal room to be able to physically adjust. Regulation is promoted at the cognitive but not an embodied level of interaction. Although there is sensory input, there is not much a body can do but sit and watch the screen.



Fig. 14 Cubbie Image

**PRIMARY CASE  
STUDY II: THE  
YMCA COMMUNITY  
ALTERNATIVE  
PROVISION SCHOOL**



# The YCMA AP School

## Primary Case Study II: Supportive and regulation-Oriented AP Environment.

This case study centres on The YMCA Community School located in Southend-on-Sea, which is a specialist Alternative Provision (AP) school which takes care of young people between the ages of 14 and 16. The school welcomes students who have encountered previous challenges in mainstream education, frequently associated with sensory processing, emotional control, neurodiversity, trauma, or interrupted schooling histories. Within this context, it is realised that learning requires emotional preparedness and physical balance.

As the site manager, I have access to all areas of the building and have visibility of the daily operations. Although my role doesn't involve working with the students or teaching, I am positioned in the physical setting, which enables me to see how the spaces are handled and utilised in practice. This has offered an understanding of the functioning of the building in a regulation-oriented educational environment in which the spatial conditions contribute to the regulation of emotions and behaviours. With these observations, the case study will use written responses to interview questions of Sabah Wallace, Deputy Headteacher and SENCO of The YMCA Community School. Wellbeing, inclusion and regulatory strategies are all part of her role. Her answers give an understanding of how space, routine, and daily organisation are strategically employed in order to facilitate the emotional needs and abilities of the students to participate in learning. Complete correspondence with regard to interviews is attached in the appendices.

### The way the environment was investigated.

This case study is a combination of spatial observation and practitioner insight to observe the support of regulation by the daily use of the school setting. Classroom, breakout area, access route and calm space observations were made with attention paid to the way students moved through the building, the way they used support and how the staff adjusted the building to changing emotional needs. Simultaneously, communication with the Deputy Headteacher addressed the ways of understanding and practically supporting regulation. It was discussed how space, routine, and the relationships are utilised in the course of the day in order to help control. This also involved layout, sense condition, transition, familiarity, and staff presence and how these aspects interplay in the daily practice. By examining both sides, one can compare the school desires and the way the regulation can be supported with the help of the everyday utilisation of space.

### Space, magnitude and routine control.

The YMCA Community School is a modestly sized building. The classrooms, breakout areas, corridors, and support areas sit close together, and therefore require a keen control of movements and distances. Familiarity is key



Fig. 15 Southend YMCA School



Fig. 16 Inside the building

to the experience of this limited space according to Wallace. She states that routines in school are a point of familiarity that is functioning to regulate the students, and daily check in by tutors at the beginning of the day, are lowered to routines that reduce restlessness and agitation (Wallace, 2026). Although more space is desirable, the staff operates within the available space deliberately and through the application of consistency and routine to help maintain emotional balance.

This small size also gives it flexibility. In cases where some sections prove to be crowded or emotional, employees redistribute the flow by opening classrooms or reallocating students to avoid concentration in one area. Control is not enforced but is moderated.

### Encouraging environments and physical control.

The most prominent aspect of the school is that regulation is not restricted to only one space or one room. Classrooms and shared spaces are provided with smaller breakout areas where the students can step out for moments without majorly disrupting learning. This brings regulation close to ordinary action and doesn't make the support seem something distinct or special. In addition to these, there are more specialised rooms like the chill room that offer greater assistance on need basis. These spaces have adaptable places to sit, adaptable lights and routines like sensory circuits, Lego building, drawing, and grounding activities. The integration of the specified areas in the school and classrooms, in its turn, as Wallace explains, offers a structure to the students who require a space to control (Wallace, 2026).

Notably, such spaces are also employed to work on longer-term skills. Independent students: According to Wallace, a room where students can regulate themselves whenever they want is a necessity in terms of self-regulation strategy development (Wallace, 2026). Regulation is seen here as something which is practised and learnt over time and not only given in the moments of distress.

The material selection supports this strategy, while the soft lighting minimises visual noise, and varied seating promotes various postures and movement requirements. NHS recommendations regarding healthcare environments acknowledge that the emotional regulation process could be facilitated by adjustable lighting and movable seating conditions that enable people to adjust their sense environment based on their needs (NHS England, 2014). The regulation is performed by the bodily experience as supportive as by the instruction.



Fig. 17 Communal areas

Fig. 18 Chill out Room

#### Wayfinding, recognition and orientation.

The wayfinding of the school is not a functional task but a part of regulation. Doors in the classroom are visually wrapped and clearly marked, so that a student can identify spaces quickly and without the need for assistance. Specialised rooms, like the chill-out space, are also identified in a manner that minimises uncertainty and mental effort. These cues enable the students to find their way with minimal instances of having to seek support. Guidance and independence have a balance as explained by Wallace. First, the students depend on the staff to be informed of the time and place of getting support. With time, their knowledge of the building will enable them to move with greater confidence in the building. She believes that they will eventually discover the tricks and what suits them (Wallace, 2026). This slow transition promotes independence but ensures safety so that students can gain confidence in the surrounding as well as their own reactions.

#### Movement, stimulation and the presence of people.

The YMCA Community School actively offers opportunities of movement and stimulation around the school as regulation depends not only on calmness or stillness. There are games, arcade machines, table tennis, football tables, and computer-based activities available to the students. These are not thought of as distractions, but as valid energy releasing methods, restoring equilibrium, and opportunities that result in students re-entering the learning process.

Human interaction is the primary and most significant factor in the school. It functions under strong pastoral support, trauma-informed practice, and the staff educated in the awareness of SEND and the methods of restorative approaches. Space is not the only way to support regulation, as, according to Wallace, space is supported by relations and communication, and even a continuity across the day.





**WHAT SUPPORTS  
REGULATION  
ACROSS  
DIFFERENT  
ENVIRONMENTS**

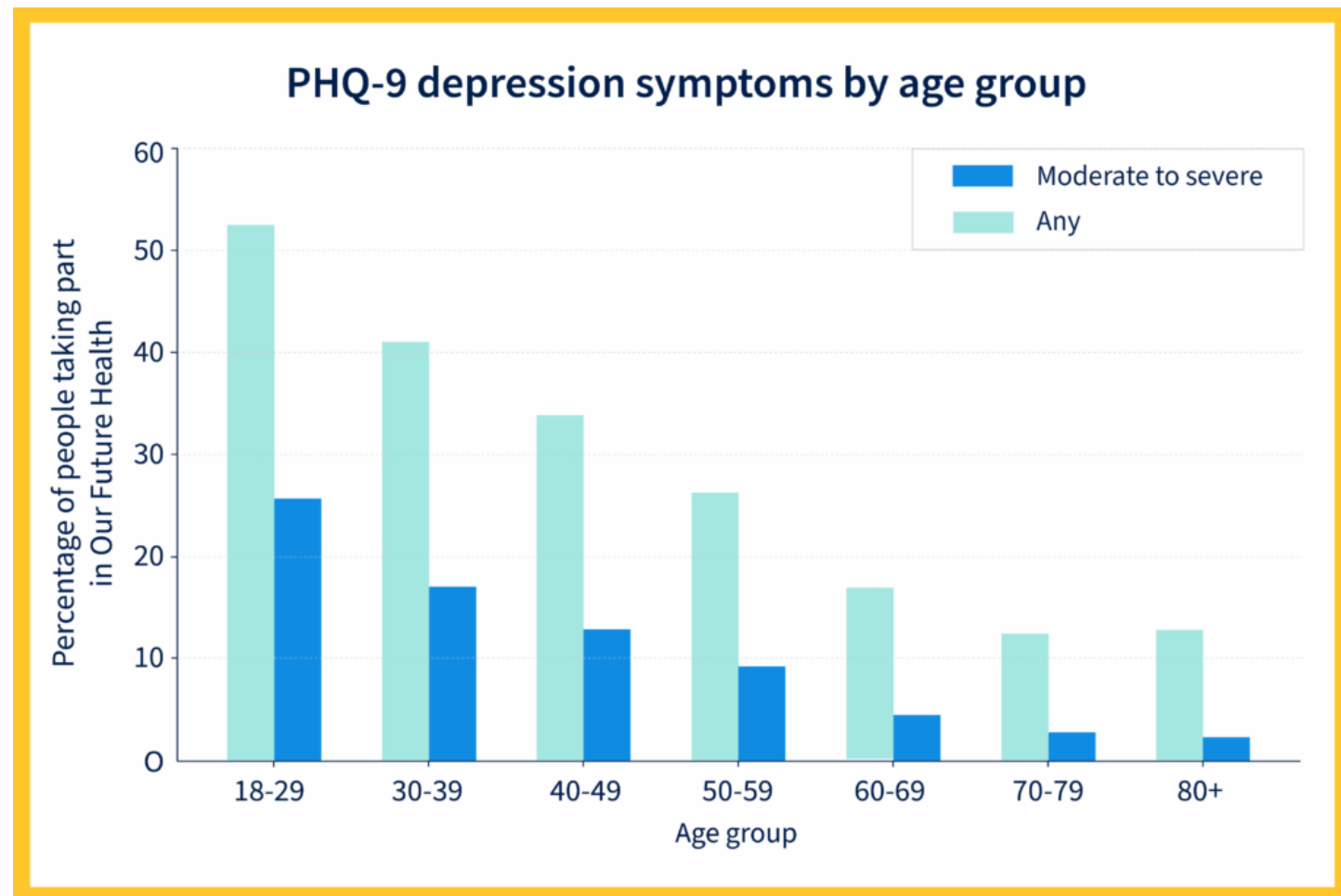


Fig 19 NHS Data

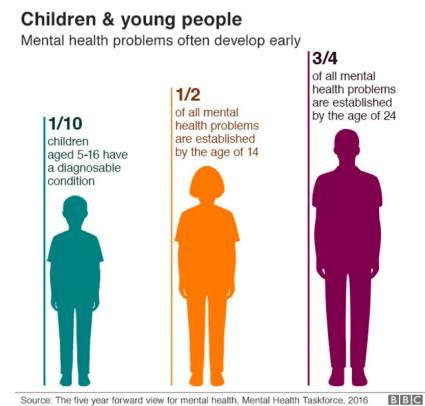


Fig. 20 BBC Data

## What Supports Regulation Across Different Environments

Emotional regulation is a well-known concept of everyday wellbeing across the UK. According to NHS Digital (2022), one out of six adults have the symptoms of anxiety or depression in any given week and that about 20% of children aged between 8 and 16 are diagnosed with a probable mental health condition. These statistics indicate that a large number of the population move through everyday spaces under the burden of increased emotional, sensory, or mental loads.

Seen through this lens, the two case studies that were analysed in this research seem to be reacting to the same underlying condition. Both tend to aid emotional control in situations that are stressful and difficult in nature. Despite the differences in contexts, the motive is similar. Both acknowledge the fact that individuals need spatial support to stay active, present and cope.

Instead of choosing regulation as a professional issue, both settings place this as a day-to-day experience. Their differences are consequently not an issue of competence, but of the format, experience, and long-term maintenance of regulation.

In one, control is offered as an experience that is centred and self-contained. Users make short exits out of a busy space, experience directed sensory output and return to the original location. The experience is well marked by time, interface and spatial threshold. The regulation can be in the form of a pause, brief suspension of sensory demand in a highly stimulating environment.

With the other, the supportive conditions are built into the foundations of the learning environment and experienced over and over in daily movement, known pathways and predictable plans. One is not introduced to regulation as an independent occasion, but rather it is practiced over time through daily application. This repeated exposure allows individuals the necessary time to connect specific spatial environments with shifts in their physical and emotional states..

A major difference is the extent to which individuals have to control themselves. When the spaces are well delineated and regular, then less has to be figured out. This alleviates the stress in the mind and the body is able to relax and get into a well-known rhythm.

The case studies do not present final solutions, but rather operational models. They are instructive, revealing how different settings handle emotional demands despite inherent limitations. Specifically, they demonstrate the vital role of spatial design - employing structure, repetition, and deliberate care - in fostering control. This foundational understanding, derived from the observations, will then guide the subsequent phase of the study, which involves developing a concrete proposal.

**DESIGN INQUIRY:  
BIO-INTEGRATED  
REGULATION IN  
PUBLIC SPACE**

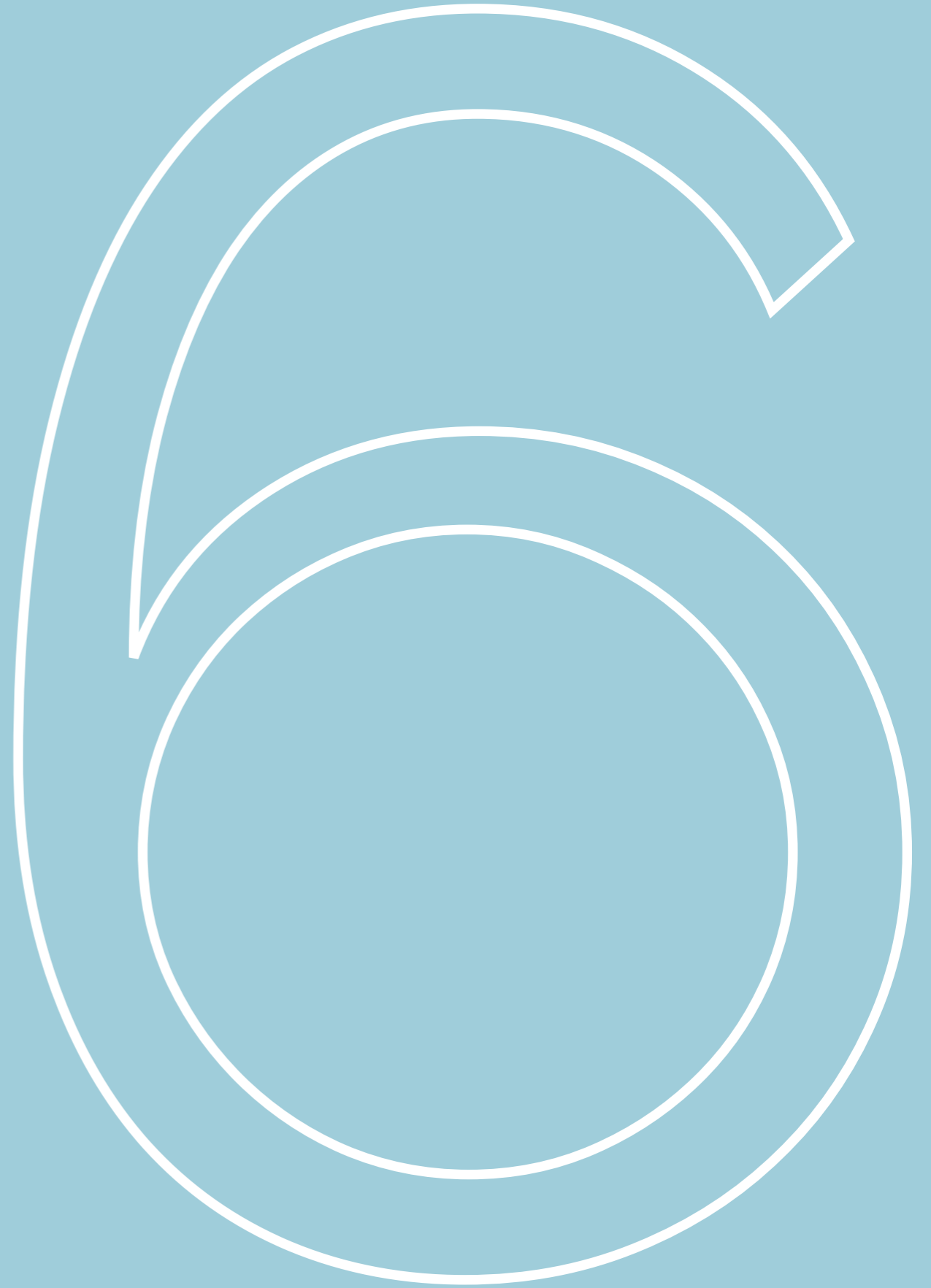


Fig. 21 Touchdesigner

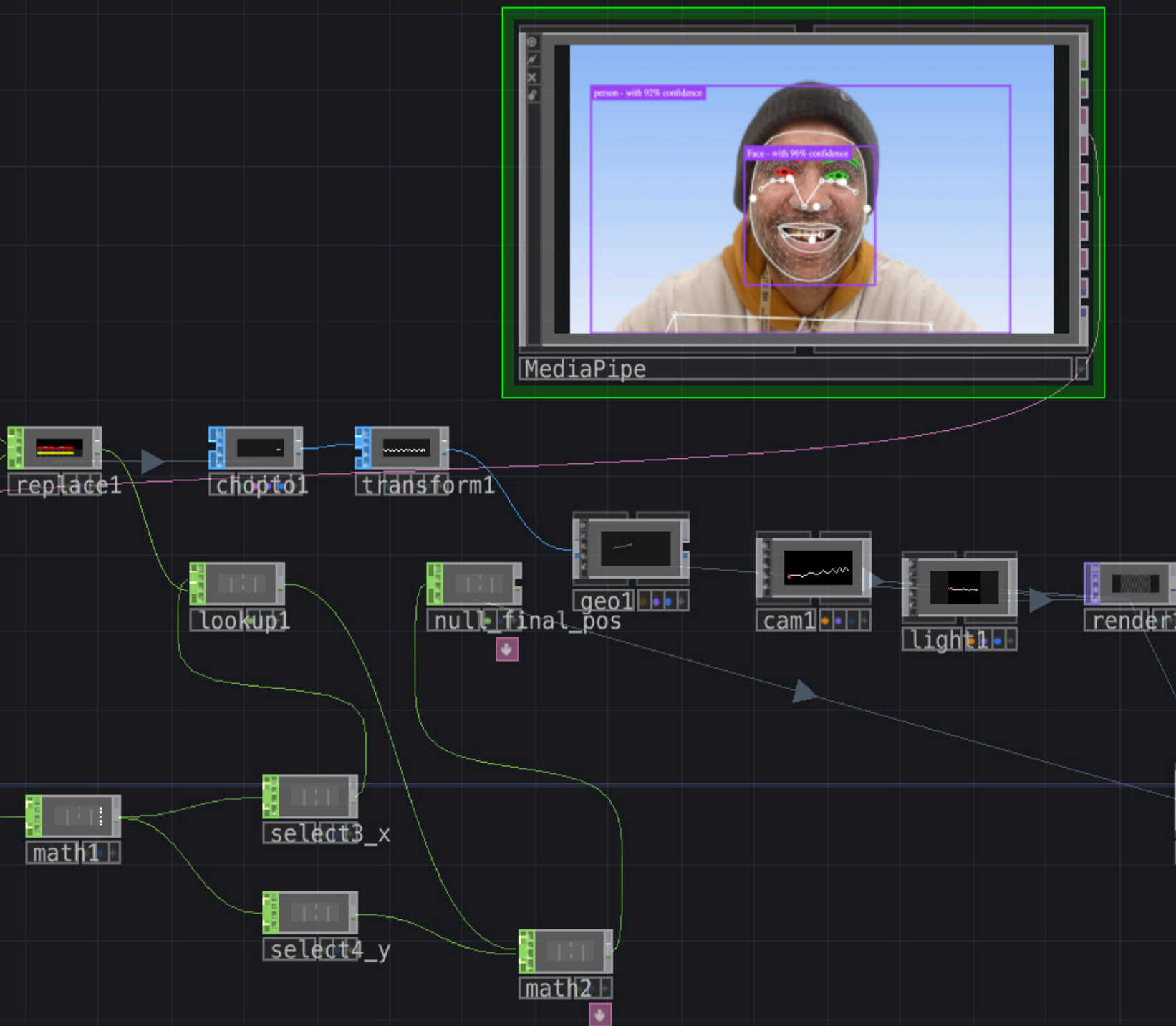


Fig 22 Bio Calm idea

### Design Inquiry: Bio-Integrated Regulation in Public Space

This project transforms research into realistic design approaches to the public and shared spaces, which would bridge the gap that exists between the existing practices and environments that assist human beings in coping with their emotions. Emotional preparedness and well being can be helped by bio integrated and responsive design as individuals navigate daily life. This work is based on neuroaesthetic studies, psychology, and case studies to develop flexible user oriented approaches to respond to body signals.

This chapter translates the research findings into actionable design. Observations in both community areas and the Alternative Provision (AP) school revealed a significant amount of "waiting time." This waiting time is common in various settings, such as healthcare and education, where individuals are passively anticipating appointments, results, or procedural changes. It is during such instances that the body would react prior to the event taking place. The breathing becomes tight, concentration reduces and stress mounts. These reactions are also ordinary ones that are not considered in most spaces.

Bio calm looks into possibilities of lighting, seating, haptics, wearables, interactive installations, regulation pods and ways the environment responds to internal conditions. There are already products that work with the body. Muse converts the activity in the brain, the rate at which the brain breathes and the heart rate to real-time feedback; research indicates that perceived stress and anxiety reduce, and resilience and well-being improve after frequent use (Ghosh et al., 2023). Moonbird leads the breathing rhythm based on the expansion and contraction of the body, it aids the slowing of the breathing and better regulation of the autonomic system (Vermeulen et al., 2022). Sensate employs vibration and sound to stimulate the nervous system activity, and the initial results show that stress indicators decrease (ClinicalTrials.gov, 2022).

These similar tools offer the ability to perceive - visually or tactilely - what is happening within the body. This feedback mechanism facilitates learning through direct experience, contrasting with instruction-based methods, and could be implemented in existing, frequented spaces. TouchDesigner, a visual programming environment, operates as a real-time system ideal for experimenting with immersive and interactive experiences. It allows me to create visual systems that respond directly to various inputs, providing immediate spatial feedback that reveals internal bodily processes.

TouchDesigner has been my primary platform with biometric inputs such as heart rate, pulse, movement and breath. It receives, interprets, and converts these signals into real-time reactions. Motion cameras enable the user to change their posture and balance, whereas breathing exercises allow the user to breathe slowly and more focused. Changes in the heart rate can be observed when people view visual stimuli and manipulate breath within the space. I have also implemented physical electronics along with the digital work, in the form of Arduino components and sensors manufactured by SparkFun. These are compatible with TouchDesigner, meaning pulse sensors and haptic feedback systems can transmit and receive information within the interactive space. This arrangement forms a closed system in which the body, actions, and the environment have an influence on one another.

Due to repeated use of the system, people observe the impacts of their actions on their interior feelings. Minimum changes in breath, body movement, and attention have observable outcomes. Literature on biofeedback demonstrates that live feedback assists individuals to gain a better level of self-control, with such advantages remaining even when the sessions are over (Ghosh et al., 2023).

Exploratory work continues. I am exploring the possibilities of these types of interactive systems being turned into miniature, modular space interventions such as wall mounted installations in a health care setting, a business organisation or pod like spaces. It is concerned with how technology, interaction, and body learning work in real life. The main focus of this work is continuity. The systems are supposed to be repeated, and therefore the individuals are able to develop their awareness and apply what they have learned outside the interaction. The techniques that are adopted in the environment such as breathing, concentration of attention, and alignment of the body can be recalled and applied in life despite even in the absence of the system.

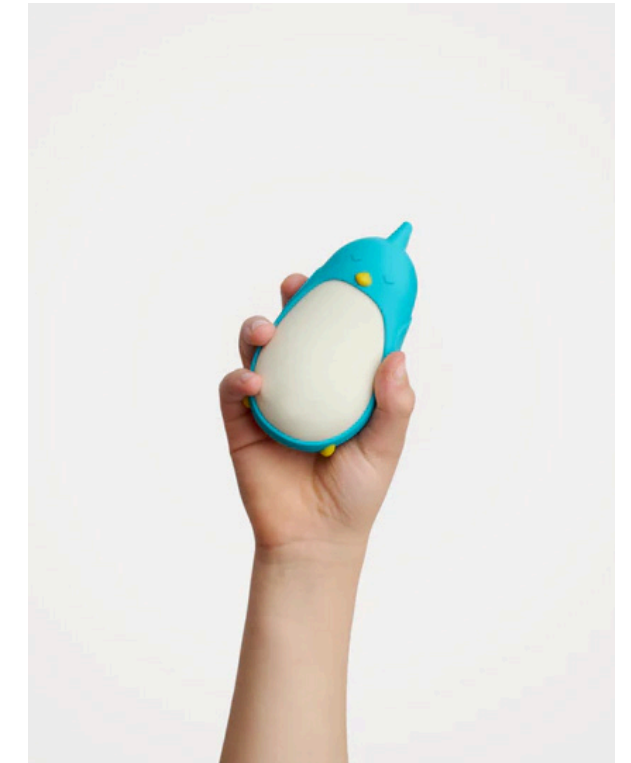
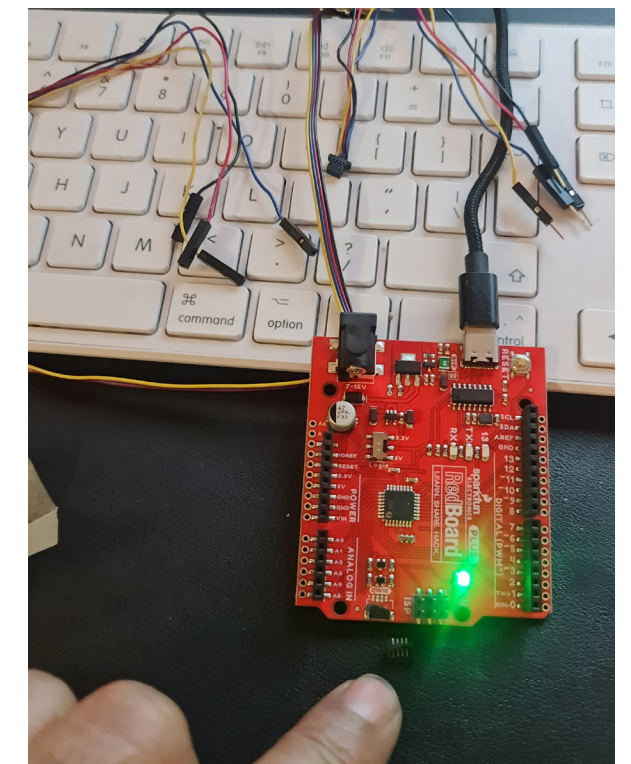
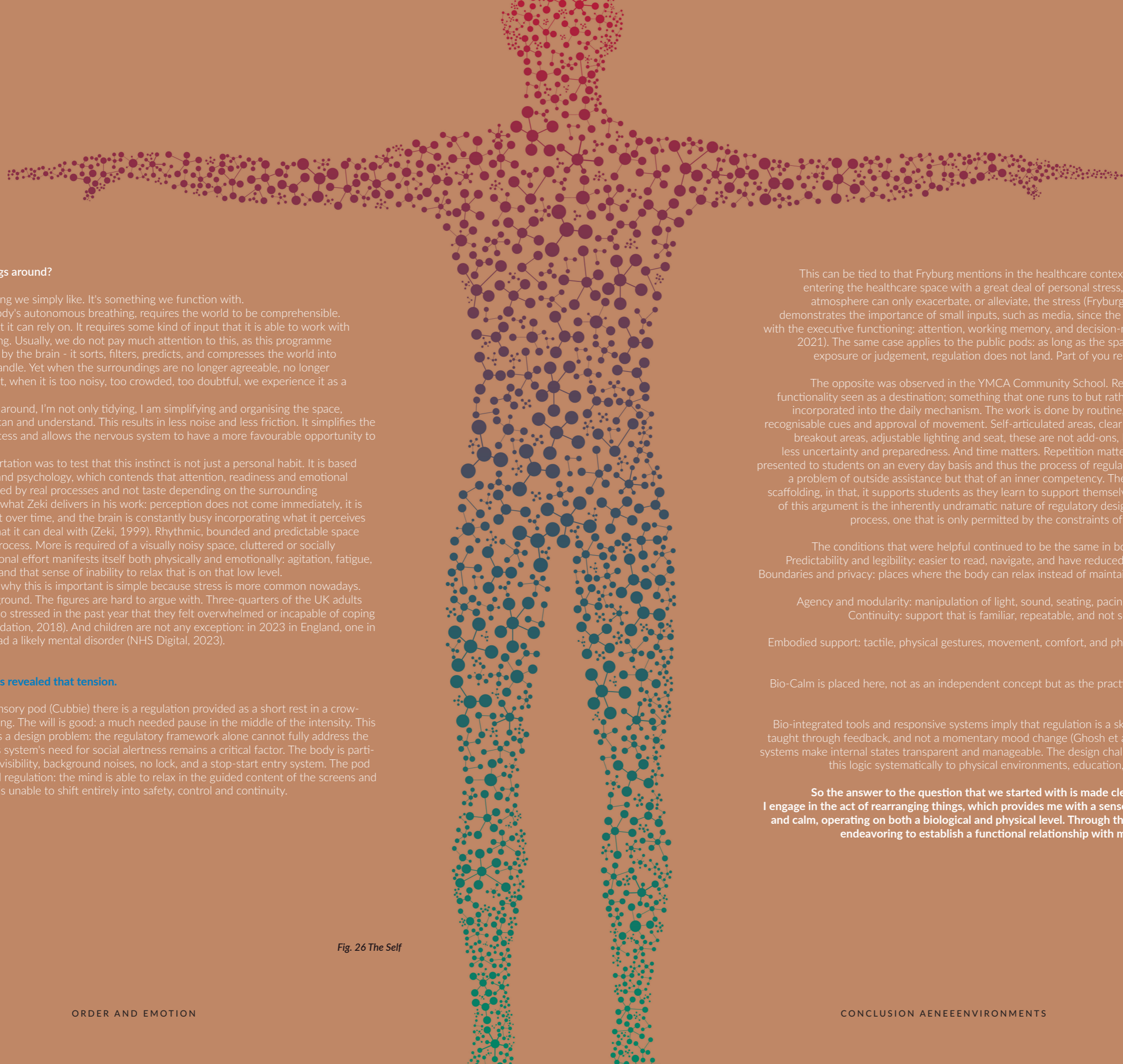


Fig. 23 Muse Hedset  
Fig. 24 MoonBird Wearable  
Fig. 25 Sparkefun Bio Reader





# CONCLUSION



## Conclusion

### Why do I move things around?

Order is not something we simply like. It's something we function with. The brain, like the body's autonomous breathing, requires the world to be comprehensible. It needs patterns that it can rely on. It requires some kind of input that it is able to work with without overwhelming. Usually, we do not pay much attention to this, as this programme is conducted silently by the brain - it sorts, filters, predicts, and compresses the world into something we can handle. Yet when the surroundings are no longer agreeable, no longer conducive to thought, when it is too noisy, too crowded, too doubtful, we experience it as a strain.

When I move things around, I'm not only tidying, I am simplifying and organising the space, making it easier to scan and understand. This results in less noise and less friction. It simplifies the decision making process and allows the nervous system to have a more favourable opportunity to calm down.

The aim of this dissertation was to test that this instinct is not just a personal habit. It is based on neuroaesthetics and psychology, which contends that attention, readiness and emotional regulation are modified by real processes and not taste depending on the surrounding environment. This is what Zeki delivers in his work: perception does not come immediately, it is a process that is built over time, and the brain is constantly busy incorporating what it perceives into fixed patterns that it can deal with (Zeki, 1999). Rhythmic, bounded and predictable space takes less effort to process. More is required of a visually noisy space, cluttered or socially exposing. This additional effort manifests itself both physically and emotionally: agitation, fatigue, poor concentration, and that sense of inability to relax that is on that low level.

And the explanation why this is important is simple because stress is more common nowadays. It's normal. It's background. The figures are hard to argue with. Three-quarters of the UK adults said that they were so stressed in the past year that they felt overwhelmed or incapable of coping (Mental Health Foundation, 2018). And children are not any exception: in 2023 in England, one in five 8-16-year-old had a likely mental disorder (NHS Digital, 2023).

### The two case studies revealed that tension.

Within the public sensory pod (Cubbie) there is a regulation provided as a short rest in a crowded commercial setting. The will is good: a much needed pause in the middle of the intensity. This experience highlights a design problem: the regulatory framework alone cannot fully address the issue, as the nervous system's need for social alertness remains a critical factor. The body is partially on guard due to visibility, background noises, no lock, and a stop-start entry system. The pod only produces partial regulation: the mind is able to relax in the guided content of the screens and voice, and the body is unable to shift entirely into safety, control and continuity.

This can be tied to that Fryburg mentions in the healthcare context: patients begin entering the healthcare space with a great deal of personal stress, and the waiting atmosphere can only exacerbate, or alleviate, the stress (Fryburg, 2021). He also demonstrates the importance of small inputs, such as media, since the stress interferes with the executive functioning: attention, working memory, and decision-making (Fryburg, 2021). The same case applies to the public pods: as long as the space still indicates exposure or judgement, regulation does not land. Part of you remains on watch.

The opposite was observed in the YMCA Community School. Regulation is not a functionality seen as a destination; something that one runs to but rather as something incorporated into the daily mechanism. The work is done by routine, familiar people, recognisable cues and approval of movement. Self-articulated areas, clear marking, shared breakout areas, adjustable lighting and seat, these are not add-ons, but the terms of less uncertainty and preparedness. And time matters. Repetition matters. The cues are presented to students on an every day basis and thus the process of regulation is no longer a problem of outside assistance but that of an inner competency. The environment is scaffolding, in that, it supports students as they learn to support themselves. At the heart of this argument is the inherently undramatic nature of regulatory design. It is a reliable process, one that is only permitted by the constraints of time and space.

The conditions that were helpful continued to be the same in both case studies: Predictability and legibility: easier to read, navigate, and have reduced sensory clutter. Boundaries and privacy: places where the body can relax instead of maintaining the muscle tone.

Agency and modularity: manipulation of light, sound, seating, pacing, and selection. Continuity: support that is familiar, repeatable, and not socially exposing.

Embodied support: tactile, physical gestures, movement, comfort, and physical cues - not just screens.

Bio-Calm is placed here, not as an independent concept but as the practical extension of the dissertation.

Bio-integrated tools and responsive systems imply that regulation is a skill, which can be taught through feedback, and not a momentary mood change (Ghosh et al., 2023). These systems make internal states transparent and manageable. The design challenge is to apply this logic systematically to physical environments, education, and healthcare.

**So the answer to the question that we started with is made clearer in the end: I engage in the act of rearranging things, which provides me with a sense of inner peace and calm, operating on both a biological and physical level. Through this practice, I am endeavoring to establish a functional relationship with my environment.**

Fig. 26 The Self

## Appendices

Interviewee:

Sabah Wallace (Deputy Headteacher and SENCO, YMCA Community School, Southend-on-Sea).

Interviewer: Michael Joseph

Format: The responses (written) in emails.

Date received: January 2026

Context / Introduction Sent to Participant.

Questions and Responses

### Space, scale, and regulation

Issue: What do you think the layout and size of spaces in a relatively small building such as YMCA School do to the capacity of students to feel settled and prepared to learn? Are there times when a little space makes you agitated or restless or is knowledge of the surroundings helpful to control energy?

Response (Wallace): Students are accustomed to school schedules, and this is sustaining regulations. The students also meet with their tutors at the beginning of the day to touch base and cheque in and hence the likelihood of restlessness and agitation is diminished. Additional space would be nice but we maximise on the available space.

### Facilitative environments and their usage.

Question: YMCA School has areas, the chill-out or sensory room, which is aimed at regulation. To what extent do you find these spaces to be effective in practise? How and in what situations do students use them and their day to day interactions with them?

Response (Wallace): We utilise smaller areas near the school to offer a special breakout area to the students. The inclusion of the designated areas in the school and in the classroom enables the students to have a space in which they can control when necessary. The more precise specially designed, i.e., the chill room, can be used by the students during regulation time with a more structured appearance, e.g. a sensory circuit, or an activity that allows them to regulate themselves, e.g. Lego building or drawing. The chill room offers adaptive seating and other light settings, which are able to alleviate visual stressors. The opportunity to regulate independently when necessary by having a room where students are free to regulate is important to gaining self-regulations.

### Navigation and orientation to the building.

Question: To what extent are the students aware about where to go in case they require space, support or a change of environment? Are there signage, routines, or visual aids that assist students in orienting or does this rely on member of staff guidance?

Response (Wallace): It is a combination. At the beginning, when the student comes to us, he/she would most likely have to be instructed when he/she can seek the assistance, however, over time they will figure out the strategies and the one that suits them. Regrettably, in school, classroom interruptions may lead to learning loss, so despite our advocacy of considered movement breaks, class-wide absences, we also advocate brain breaks in classes.

### One physical change

Question: What physical feature of the building do you think ought to be more helpful to focus, emotional balance, or learning? This can be in terms of materials, lighting, acoustics, furniture or the way spaces relate to each other.

Response (Wallace): This has been successful because of the integration of soft lighting that has enabled the reduction of sensory input with lighting. We are also trying to design more nook like areas where we could supply more meaningful sensory circuits around the school.

### Helping both the mind and the body.

Question: Do you find the present environment helpful to students, both physically and mentally to settle, i.e. by movement or sense balance or by feeling grounded? Or are there any times when students require more help to control until they can actually start to learn?

Response (Wallace): The present situation where we are taking the students with our present facilities and tools does suffice but you can always go back to the drawing board and keep on improving. The fact that more space is required by students to control will always be a factor to build on.

### The problem areas in the building.

Question: Are there specific spaces, corridors, thresholds, entrances, or transition points, where you experience tension or dysregulation is likely to emerge? And why do you think those are problem areas?

Response (Wallace): Since the school is laid out this way, most students flock the main breakout area during breaks and lunches; we open up classes so that they can also be able to access the area during such times in order to prevent dysregulation. In case of inappropriate concentration of too many students in a single location, it can lead to dysregulation.

### Focusing on non-physical environment-based learning.

Issue: To go along with the physical space, the relational approach and one-to-one approach employed at the YMCA School, also interests me. In what ways do staff members assist students to control themselves and re-enter into learning in a manner that is not necessarily spatial or material? Do you have any methods that you consider particularly effective but that would not be immediately apparent to a designer?

Response (Wallace): We are a trauma-informed school, and it is incorporated in all our working practises. The staff also understands a lot about SEND and restorative conversations which in combination aids the students to self-regulate in order to re-engage with learning.

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