VARIANT MINDS
DESIGNING FOR NEURODIVERSITY IN OFFICES

Thesis Question: How can offices be designed to better accomodate neurodiverse occupants?

As society progresses, the stigma around neurodiversity is gradually fading, yet full acceptance and accommodation remain a work in progress. While programs exist for low- and medium-functioning neurodiverse individuals, high-functioning adults with Autism Spectrum Disorder or Attention Deficit Hyperactivity Disorder often find themselves struggling to navigate environments designed for neurotypical minds. This thesis explores how workplace design can better accommodate the needs of neurodiverse employees, enhancing productivity, well-being, and inclusion.

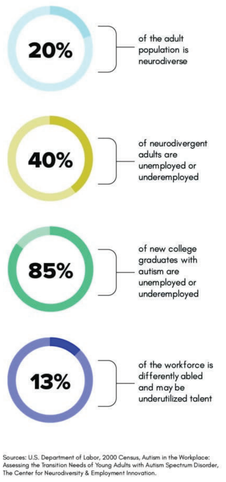
Neurodiversity refers to the natural diversity in human cognition, encompassing the wide range of how people think, learn, and process the world around them, including conditions like autism, ADHD, dyslexia, and more. Estimates suggest that 15-20% of the population may have a neurodivergent condition. The conditions this thesis will be focusing on are ADHD, which involves challenges with attention, hyperactivity, and impulsivity, as well as autism, which involves difficulties in social communication and repetitive behaviors. These conditions were chosen due to how frequently they overlap, both in diagnostic criteria and official diagnosis.

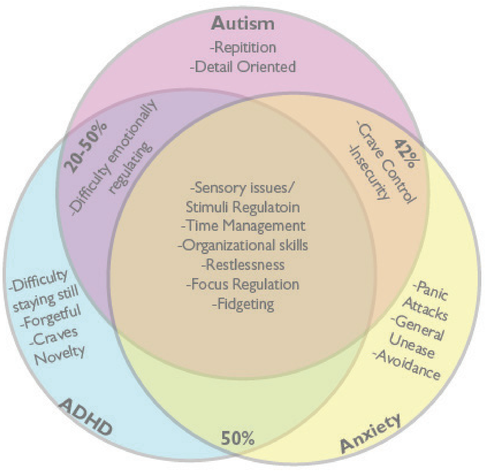
There are many benefits to embracing neurodiverse individuals, such as unique perspectives, innovative thinking, and heightened attention to detail. Research shows that neurodiverse teams can even outperform neurotypical ones. For example, Hewlett Packard Enterprise found that their neurodiverse teams were 30% more productive than neurotypical ones when given the resources to succeed. Despite their potential, neurodiverse individuals face significant barriers to employment. In the United States, the unemployment rate for individuals on the autism spectrum exceeds 90% and 30% for ADHD compared to the 4.2% national average.

This thesis proposes a framework to achieve inclusive office design with three key zones: individual workspaces with reduced distractions, collaboration areas supporting varied communication styles, and restoration spaces for stress management and sensory recovery. To find the optimal layout of these zones, precedents were chosen based on their positive performance in post-occupancy surveys and analyzed for their programmatic spatial ratios and sequence, then synthesized with existing neurodiverse design research.

Redesigning offices to support neurodiversity comes with challenges, including costs, space constraints, and cultural resistance. However, prioritizing inclusivity in workplace design is not only a matter of fairness but also a practical strategy to enhance creativity, innovation, and organizational performance for neurodiverse and neurotypical employees alike.

THE UNTAPPED NEURODIVERSIVE TALENT POOL





Sources: U.S. Department of Labor, 2000 Census, Autism in the Workplace: Assessing the Transition Needs of Young Adults with Autism Spectrum Disorder, The Center for Neurodiversity & Employment Innovation.

Challenges in Current Office Designs

Four primary challenges affect neurodiverse employees in the workplace (Tomczak, 2022):

- **Effective Communication:** Neurodiverse individuals often face difficulties in social interactions and communication.
- **Time Management and Task Organization (Executive Function):** Challenges in prioritization and staying on task can hinder productivity.
- **Stress Management and Emotional Regulation:** Emotional control and coping with workplace stress are frequent issues.
- **Sensory Sensitivity:** Overstimulation from lights, sounds, and other stimuli can be overwhelming

Traditional office designs, such as open-office plans, often exacerbate these challenges, particularly sensory sensitivities and communication barriers. By failing to account for diverse cognitive needs, workplaces limit the potential of neurodiverse employees.

A Framework for Neurodiverse-Friendly Office Design

To create inclusive workplaces, offices should feature spaces for individual work, collaboration, and restoration, each tailored to neurodiverse needs:

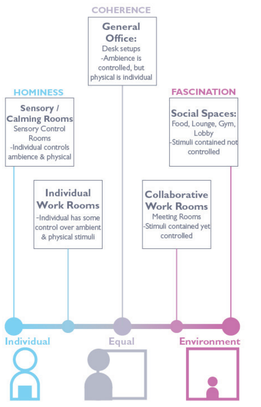
1. Individual Work Zones
A. These spaces should minimize distractions through:
- I. **Noise Reduction:** Use soundproof panels, noise-canceling headphones, or white noise machines.
- II. **Lighting Control:** Offer adjustable lighting and access to natural light to reduce sensory overload.
- III. **Minimizing Stimuli:** Reduce "hot seat" stations and place workspaces away from high-traffic areas.

2. Collaboration Spaces
A. Collaboration areas should accommodate various communication styles and group needs by:
- I. **Providing Flexible Configurations:** Modular furniture allows teams to adapt the space for different projects.
- II. **Incorporating Visual Aids:** Use interactive boards or displays to support non-verbal communication.
- III. **Offering Socialization Options:** Allow employees to choose between frequent or minimal social interactions throughout the day.

3. Restoration Zones
A. These are essential for stress management and emotional regulation:
- I. **Sensory Rooms:** Include calming features like soft lighting, weighted blankets, tactile elements, and soundscapes.
- II. **Social Zones:** Provide lounges or dining areas for casual interactions, particularly beneficial for those with ADHD.
- III. **Active Zones:** Offer opportunities for movement, such as exercise equipment or recreational activities, to reduce stress and boost focus.

HOMINESS - Individual Stimuli Control - Soothing Conditions - Separation from stressors	• B2 -Non-Visual Connection with Nature • B9 - Material Connection with Nature • B12 - Refuge • WELL 4.53 Visual Lighting Design • WELL 6.73 - Ergonomics • WELL 6.82 -Thermal Control • WELL 6.77 - Olfactory • WELL 7.89 - Adaptable Spaces
COHERENCE - Time management through lighting - Regulated Stimuli for a standard work environment - Environmental reminders (ie, water & movement)	• B1 - Visual Connection with Nature • B3 - Non-Rhythmic Sensory Stimuli • B5 - Presence of Water - WELL 2.37 Drinking Water Promotion • B6 - Dynamic & Diffuse Light • WELL 5.71 - Active Furnishing • WELL 6.73 - Ergonomics • WELL 6.79 - Sound Masking • WELL 7.89 - Adaptable Spaces

FASCINATION
- Environmental Stimulation
  ▪ Physical Activity
  ▪ Social Activity
  ▪ Visual Activity
	• B13 - Mystery
	• B15 - Awe
	• WELL 5.68 - Physical Activity Zones
	• WELL 7.89 - Adaptable Spaces



ASID Headquarters

ARCHITECT: Perkins + Will
LOCATION: Washington D.C., USA
SIZE: 8500 SF
FLOORS: 1
CERTIFICATIONS:
- LEED Platinum
- WELL v1 Platinum

GENERAL INFORMATION:

The American Society of Interior Designers (ASID) headquarters in Washington, D.C., is the first office globally to achieve both Platinum Level Certification for the WELL Building Standard™ (WELL™) and Leadership in Energy and Environmental Design (LEED) under the LEED ID+C rating system (ASID, 2017). Designed by Perkins+Will, the 8,500 square-foot space prioritizes health, wellness, and sustainability. It incorporates biophilic design, sound masking, circadian lighting, and strict water quality standards to enhance employee well-being and productivity. Additionally, the office features sit/stand desks, a wellness room, and provisions of fresh produce to support health. The WELL Building Standard and LEED certifications reflect a design that meets rigorous standards for air, water, nourishment, light, fitness, comfort, and mental well-being. Through research funded by the ASID Foundation, the office also serves as a living laboratory for the design community, showing improvements in indoor environmental quality and employee satisfaction. Studies, including research from Cornell University, demonstrated increased job satisfaction and organizational productivity, with employees reporting higher satisfaction with the office environment. The office's design not only demonstrates the impact of thoughtful workplace design on health but also serves as a model for future spaces aiming for sustainability and enhanced employee well-being.

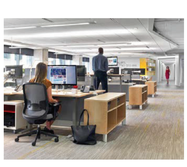
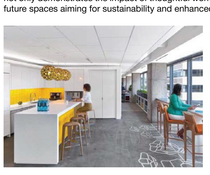
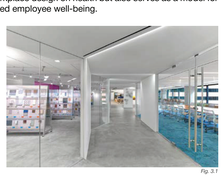




Fig. 3.1

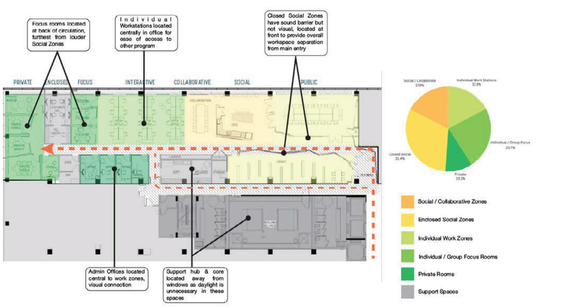


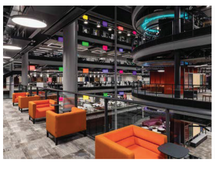
Fig. 3.2

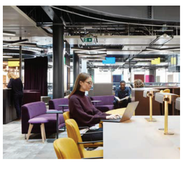
BBC Cyrmu Wales Headquarters

ARCHITECT: Foster + Partners
LOCATION: Cardiff, UK
SIZE: 15,732 M² (169,339 SF)
FLOORS: 7
CERTIFICATIONS:
- BREEAM Outstanding

GENERAL INFORMATION

The BBC Wales Broadcast Centre creates dynamic, collaborative environments while addressing the needs of neurodivergent individuals. This was achieved through continuous consultation with key stakeholders and guidance from the BBC's neurodiversity initiative, BBC Cape, which provided cognitive accessibility tools. Additionally, their 360VR experience informed the design process by offering insights into how individuals with conditions such as autism, dyslexia, and dyspraxia experience spatial and temporal aspects of the built environment. Critical design considerations included the strategic use of landmarks, colours, and textures to assist with wayfinding, as well as the selection of appropriate colour contrasts in finishes and flooring. Training staff to accommodate all building users was also prioritized. The consultation process underscored the importance of providing advance information to visitors and staff, enabling them to prepare for their experience. Modifications to lighting, such as the use of non-flickering LEDs and reduced light levels, were implemented to enhance comfort. The design incorporated quiet spaces to complement open-plan areas, offering a retreat from noise. These elements were subtly integrated into the building, promoting inclusivity without overtly highlighting the neurodiverse-friendly features. The overall design approach emphasizes the importance of creating environments that foster wellbeing and productivity by acknowledging the diverse needs of all individuals in the workplace.



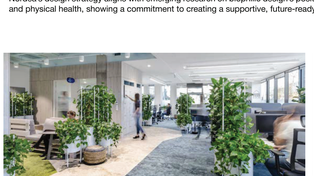


Nordea Bank Gyndia Headquarters:

ARCHITECT: Workplace
LOCATION: Warsaw, Poland
SIZE: 4300 M² (46300 SF)
FLOORS: 4

GENERAL INFORMATION

Nordea's Baltic Sea Office in Warsaw exemplifies a health-centric, biophilic design, emphasizing employee well-being and hybrid work functionality. Central features such as Poland's first indoor office waterfall deliver a calming ambiance, while CoeLux skylights simulate natural light, improving mood and reducing strain in areas without windows. The minimalist Scandinavian-inspired aesthetics are designed to foster focus, with subdued hues in workspaces and vibrant accents in collaborative zones. Flexible, modular elements like mobile walls facilitate dynamic reconfiguration, supporting post-pandemic safety by reducing unnecessary movement The office layout, with accessible amenities and strategically spaced corridors, encourages interaction while prioritizing individual comfort. This adaptability meets global trends toward multifunctional and health-focused spaces, demonstrating that investing in nature-integrated and flexible work environments can boost productivity, psychological well-being, and brand appeal in a competitive employment market. Nordea's design strategy aligns with emerging research on biophilic design's positive effects on mental clarity and physical health, showing a commitment to creating a supportive, future-ready office environment.


UNIQUE DESIGN APPROACH: HIGHLY FLEXIBLE FLOOR PLAN

Workplace takes a unique approach with their Nordea Bank office, having a highly flexible floorplan on both their ground floor and office floors. Most notably, their ground floor, primarily dedicated to public program, is highly efficient through it's ability to be easily adapted to suit many different needs an office may need. This flexibility allows the easy incorporation of program spaces such as event halls that would likely go largely unused most of the year without having to waste the space by leaving it unused for all the time inbetween events. This is possible through a series of rails that allows partition walls to be slid around as needed.

The offices are set up to be agile offices, which are explained previously in chapter 2. Essentially, rather than the entire floor plan being set up for the office as a whole, it is instead split up to be used for small teams of 5–7 people, almost like tiny offices within a larger office. Though in this particular instance, I wonder if there is too much separation which may hinder office culture despite teams rotating members for each project as each group of zones is walled off from eachother. On the contrary, this may allow better focus for each team, as they would be easily able to have team discussions without disturbing other teams.

Although there is no official floor plan available for the office levels (2 & 3), it can be assumed from image references that the offices are set up something like this, with each room being modular cubbies set up like the below diagrams for small teams to have focused collaboration with minimal outside distractions.


Level 1 Floor Plan (Ground Floor)