

MANAGING FUNCTIONAL COMFORT: how safe environmental design improves worker performance

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Functional Comfort: what does it mean?

- Years of research on human use of space at work shows how people are affected
- Brief summary of what we know about how people use workspace
- What happens when workspace is not comfortable or safe
- Applying our knowledge to the design of hospitals and health care settings

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Workspace comfort: how it works

Psychological comfort

Functional Comfort

Physical Comfort

HABITABILITY THRESHOLD

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Understanding 'comfort' at work

- **Physical comfort – codes and standards**
 - Not dangerous
 - Not unhealthy
 - Basic needs met
- **Psychological – culture, process, empowerment**
 - Ownership, territoriality
 - Privacy
 - Status & control



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Functional comfort:

- Workspace as a **tool for work**
- Provides support to users' tasks
- Improves productivity
- Lack of **functional comfort** means stress



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Workspace means:

- Desks and offices
- Meeting-rooms and conference space
- Informal space for collaborative work
- Nursing stations and Pharmacies
- Patient rooms and corridors
- Rooms for surgery and testing
- Training rooms and lectures

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Dimensions of functional comfort

- Workstation comfort
 - Spatial comfort
 - Air quality
- Thermal comfort
- Lighting Quality
 - Daylighting
- Office Noise
 - Building noise
- Safety and security

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Some result from base building design decisions ...

- Air quality
- Building noise
- Thermal comfort



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Some result from interior design decisions ...

- Workstation comfort
- Spatial comfort
- Privacy
- Lighting quality
- Office noise



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and 'Building convenience'

- Stairs and elevators
- Bathrooms and coat closets
- Parking
- Main entry, inside and outside
- Security controls



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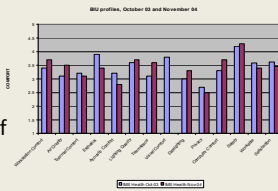
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Measuring functional comfort

- Relies on user feedback
- Standardized survey tool to collect reliable data
- Comparison with baseline scores
- Provides diagnostic profile of 'comfortable' and 'uncomfortable' conditions
- Problems can be corrected and improved



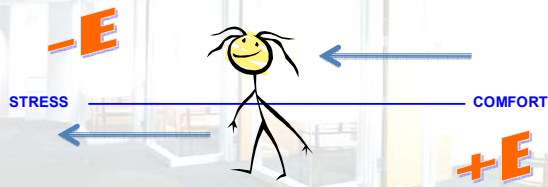
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Every workspace lies on the continuum . . .



. . . depending on building characteristics, interior lay-outs, and occupants' tasks . . .

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Workspace stress:

- Wrong lighting ⇒ Sore eyes and fatigue
- Limited access to windows for light and views ⇒ Depression, sleep problems, manque de motivation
- Unergonomic furniture ⇒ Neck and back pain
- Too much noise ⇒ Fatigue
- Distracting sounds ⇒ Inability to concentrate
- Unpredictable temperatures ⇒ Colds, coughs, respiratory problems
- Insufficient places to meet, or to be alone, to get work done ⇒ Frustration, demotivation, low energy
- Inadequate ventilation ⇒ Headaches

Effects on morale and productivity

- Morale
 - Spatial comfort
 - Privacy
 - Lighting Quality
- Productivity
 - Spatial comfort
 - Office Noise Control
 - Air Quality
- Health & Well-being
 - Air Quality
 - Thermal Comfort
 - Lighting Quality

The design of functionally comfortable workspace ...

- Physical comfort : ✓ Meets health and safety standards
- Psychological comfort : ✓ Involves users in planning and design.
- Functional comfort : ✓ Supports occupants in performing their tasks, including lighting, ventilation, temperature and spatial layout.

Designing workspace for healthcare personnel

1. Analyse/Understand task requirements
2. Gather systematic feedback from users on workspace conditions
3. Identify priorities for correction/improvement
4. Develop design guidelines for new design OR action plan for changes to existing design
5. Implement and measure impact on users' functional comfort

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Applying our knowledge

Functionally comfortable workspace:

- Ensures comfort and safety
- Makes work easier
- Facilitates communication
- Helps users feel in control of their environment
- Is more cost-effective

Functionally uncomfortable workspace:

- Increases stress at work
- Slows down task performance
- Limits social contact and collaboration
- Ends up being more costly

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Thank-you – merci!

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