A Role for Human Factors Engineering in Designing a Safer Workplace: A Review

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Defining HFE

• “Human factors engineering is the application of human factors information to the design of tools, machines, systems, tasks, jobs, and environments for safe, comfortable, and effective human use.”

“...make it easy to do the right thing at the right time”
Exploring the “human factors” of food safety

1. Social
2. Physical
3. Psychological
Social

• Peer pressure...a little goes a long way
• Open kitchens and employee behavior
• Big influence in the restroom
• Positive deviance
• Role models over accessibility
Physical

• Deterrents
  • Dry skin from hand sanitizer
  • Resource availability
  • Cleanliness

• Infrastructure issues
  • Automated sinks => less compliance
  • Surface touches and intention to hand wash
Physical con’t

• Convenience:
  • More effective than education and feedback
    Bischoff
  • Automated towel dispenser and soap usage
• Positive influence of layout
• Proximity over quantity
(Interior) Design in mind

• Pleasant design
• Blue phenomenon
  • Customer satisfaction
• Design and school performance
• Open kitchens revisited The story of BP
  • Birdsongs
  • No grey or brown
Design con’t

• Unpleasant design
  • Blue lights
  • Uneven Benches

• Forced compliance, disincentives
  • Psychological reactance
  • Audio annoyance
Psychological factors

• Attitudes and perceptions vs effort
  • North and south
• Perception of the environment
• HW=reactivity
  • Out competes norms
  • Capitalizing on this
More than meets the eye

• Architectural determinism
• Embodied cognition
  • The environment triggers behavior
  • Recycling, wine choice
• Dual Process Theories
  • MODE model
Looking ahead

• Tackling barriers to food safety compliance

• Role overload: “When role demands create the perception that available resources are inadequate to deal with them, resulting in distraction and stress”
Lessen the Stress

- Damaging density
  - => illusion of more space
- Nature scenes and hospitals
- Vegetation and crime
- (Un)make some noise
  - “reduced perceived work demands”
Prompting Practices

• UV for clean
• Visual cues
• HW about HW
Questions?