

Promoting Six Dimensions of Workplace Wellbeing and Implementing Best Practices

Northeast Summit for a Sustainable Built Environment (NESSBE)

April, 29, 2017 @ Yale University

Young Lee, Matthew Schottenfeld
& Michael Pirson

SESSION OVERVIEW

Health and wellbeing in the workplace significantly affect employee performance and the organizational bottom line. Disengagement, presenteeism, and absenteeism triggered by unhealthy and ill-being environments in the workplace cause significant productivity loss and consequential financial loss to businesses, not to mention individual psychological, emotional, and physical distress.

Developed by a collaborative effort between industry and academia and funded by the American Society of Interior Designers, the Comparative Assessment and Performance Tool for Innovative Workplaces intends to provide a framework for workplace health and wellbeing. It encompasses "Six Dimensions of Workplace Wellbeing" that address physically being healthy, emotionally feeling good, and cognitively thinking well. These six dimensions of workplace wellbeing emphasize environmental interventions in physical fitness, physical comfort, social wellbeing, cognitive wellbeing, emotional wellbeing, and environmental wellbeing.

This session will discuss the global trends with workplace wellbeing, wellbeing as the next phase of sustainability agenda, and its impact on businesses from business management perspectives as well as practical applications of these concepts and environmental interventions in the built environment in supporting health and wellbeing.

LEARNING OBJECTIVES

- Comprehend wellbeing as the next agenda of sustainability and the benefits of workplace wellbeing
- Identify dimensions of wellbeing applicable to the workplace to optimize human potential through health, happiness, comfort, and productivity
- Develop best practice strategies for workplace wellbeing from indoor environmental quality to biophilic elements
- Discuss potential wellbeing issues in the contemporary workplace design and management practices

* AIA, GBCI & LFA CEUs Provided

SIX DIMENSIONS OF WORKPLACE WELLBEING (6DWW) & DESIGN IMPLICATIONS

Young Lee, Ph.D., LEED AP, WELL AP, CIDQ

Matthew Schottenfeld

WELLBEING AS THE NEXT SUSTAINABILITY AGENDA

- Global Concerns with Sustainability, Economic
- Growing Demands
- Environmental Well

Just.

Organization Name: Super Paint Corp.
Organization Type: LLC
Headquarters: Amherst, NJ
Satellite Facilities: Portland OR, Houston TX, Montreal CAN
Number of Employees: 3,220

Social Justice and Equity Indicators:

Diversity

- Non-Discrimination
- Gender Diversity
- Ethnic Diversity

Equity

- Full Time Employment
- Pay-Scale Equity
- Union Friendly
- Living Wage
- Gender Pay Equity
- Family Friendly

Safety

- Occupational Safety
- Hazardous Chemicals

Worker Benefit

- Worker Happiness
- Employee Health Care
- Continuing Education

Local Benefit

- Local Control
- Local Sourcing

Stewardship

- Responsible Investing
- Community Volunteering
- Positive Products
- Charitable Giving
- Animal Welfare

THE SOCIAL JUSTICE LABEL
INTERNATIONAL LIVING FUTURE INSTITUTE™

CATEGORIES AND ASPECTS IN THE GUIDELINES

Category	Economic	Environmental
Aspects ¹⁾	<ul style="list-style-type: none"> • Economic Performance • Market Presence • Indirect Economic Impacts • Procurement Practices 	<ul style="list-style-type: none"> • Materials • Energy • Water • Biodiversity • Emissions • Effluents and Waste • Products and Services • Compliance • Transport • Overall • Supplier Environmental Assessment • Environmental Grievance Mechanisms
Category	Social	Product Responsibility
Sub-Categories	<ul style="list-style-type: none"> • Labor Practices and Decent Work • Human Rights • Society 	<ul style="list-style-type: none"> • Customer Health and Safety • Product and Service Labeling • Marketing Communications • Customer Privacy • Compliance
Aspects ¹⁾	<ul style="list-style-type: none"> • Employment • Labor/Management Relations • Occupational Health and Safety • Training and Education • Diversity and Equal Opportunity • Equal Remuneration for Women and Men • Supplier Assessment for Labor Practices • Labor Practices Grievance Mechanisms 	<ul style="list-style-type: none"> • Investment • Non-discrimination • Freedom of Association and Collective Bargaining • Child Labor • Forced or Compulsory Labor • Security Practices • Indigenous Rights • Assessment • Supplier Human Rights Assessment • Human Rights Grievance Mechanisms

BUSINESS CASE OF WELLBEING : BENEFITS OF WELLBEING-ENHANCED WORKPLACES

- Contemporary Workplace, Wellbeing, and Bottom Line



\$225.8 Billion
 Cost of absenteeism (US CDC)

\$675 Billion
 Cost of Presenteeism (UK Study)

\$450-550 Billion
 Cost of disengagement (Gallup)

BUSINESS CASE OF WELLBEING : BENEFITS OF WELLBEING-ENHANCED WORKPLACES

- Positive Outcomes of Workplace Wellbeing



BUSINESS CASE OF WELLBEING : BENEFITS OF WELLBEING-ENHANCED WORKPLACES

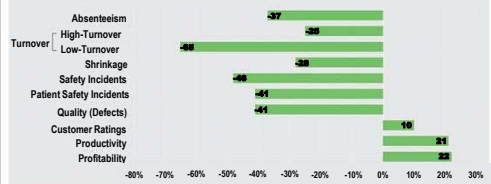
- Positive Outcomes of Workplace Wellbeing



- Stronger Engagement & Morale
- Higher Retention

ENGAGEMENT'S EFFECT ON KEY BUSINESS OUTCOMES

When Gallup analyzed the differences in performance between engaged and actively disengaged business/work units, work units scoring in the top half on employee engagement significantly outperformed those in the bottom half on nine crucial performance outcomes.

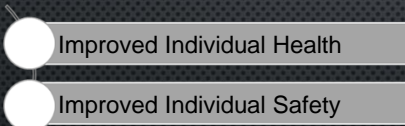


GALLUP

*** 8 times higher engagement**
UK Study
*** Engagement contribution to major business outcomes**
Gallup

BUSINESS CASE OF WELLBEING-ENHANCED WORKPLACES : BENEFITS OF WELLBEING-ENHANCED WORKPLACES

- Positive Outcomes of Workplace Wellbeing

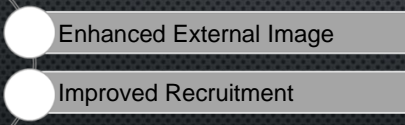


70.7% Overweight **37.9% Obese**
From the US CDC
Higher levels of leisure-time physical activity = lower risks for 13 types of cancers
From National Cancer Institute

*** 20% decrease in hospital admissions**
*** 16% fewer ER visits**
Healthways Center of Health Research & Population Health Management

BUSINESS CASE OF WELLBEING-ENHANCED WORKPLACES : BENEFITS OF WELLBEING-ENHANCED WORKPLACES

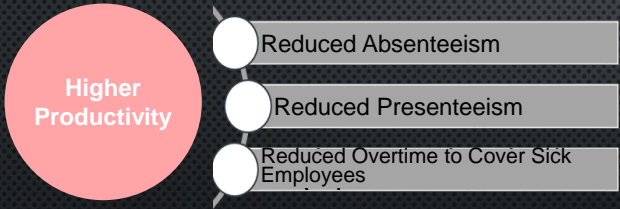
- Positive Outcomes of Workplace Wellbeing



*** 87% are disengaged**
Gallup
*** 86% are looking for new jobs**
Linked In survey
*** 79% say the main cause of stress being the balance bet' private & professional commitments at work**
*** 80% say wellbeing crucial to attracting talented people over the next 10 years**
CoreNet survey: Sustaining talent through wellbeing in the workplace

BUSINESS CASE OF WELLBEING : BENEFITS OF WELLBEING-ENHANCED WORKPLACES

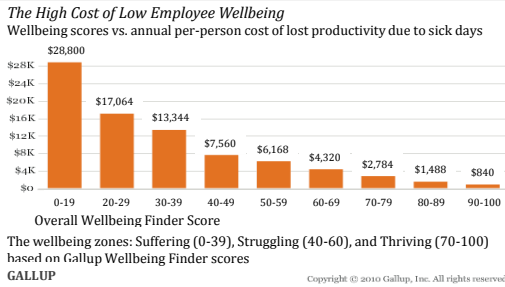
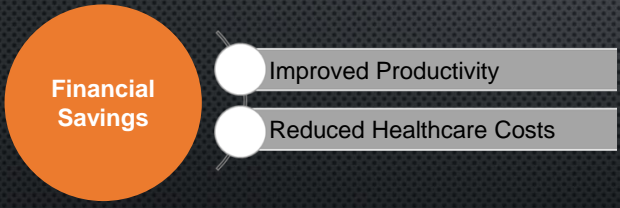
- Positive Outcomes of Workplace Wellbeing



- * Physically & mentally healthy people = 25~40% reduction in absenteeism**
UK Study
- * 5% increase in job performance**
- * 6% higher best work days/month**
- * 5% fewer unscheduled absences**
- * 24% lower presenteeism**
Healthways Center of Health Research & Population Health Management
- * Higher work performance & interactions with coworkers from treadmill workstation use**
A US study

BUSINESS CASE OF WELLBEING : BENEFITS OF WELLBEING-ENHANCED WORKPLACES

- Positive Outcomes of Workplace Wellbeing



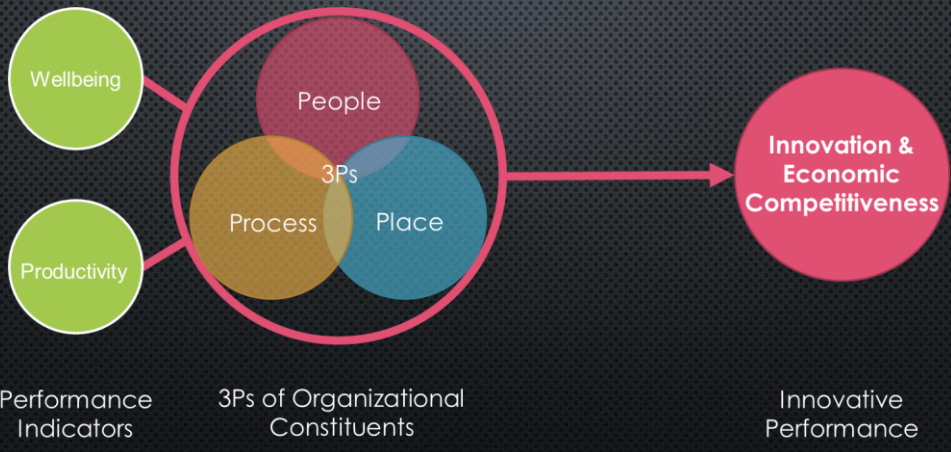
- * 8bn** Cost of productivity loss due to cardiovascular disease
- * 29bn** Cost of sickness absence
- * 15.1bn** Cost of presenteeism
- * 30bn** Total annual cost of mental health problems
- * 91 Mn** Workdays lost to mental health problems
UK Study
- * 60% lower medical costs**
- * 66% lower prescription costs**
Healthways Center of Health Research & Population Health Management

WORKPLACE WELLBEING: CAPTIW®

- Open Source Online Workspace Analytics
- Funded by the American Society of Interior Designers
- A collective effort of over 40 industry and academic partners
- Alternative workplace performance metrics encompassing productivity, health, & wellbeing beyond the conventional metrics of cost per SF
- Key performance indicators (KPIs) of the physical workspaces supporting the organizational performance in innovation and innovation strategies



WORKPLACE WELLBEING: CAPTIW®



WORKPLACE WELLBEING: CAPTIW®

- Methods
 - Major Standards and Guidelines
 - Major Instruments and Studies
 - Content and Visual Analysis

WORKPLACE WELLBEING: CAPTIW®

- Major Standards & Guidelines Reviewed

Living Building ChallengeSM BREEAM Healthcare Active Design Guideline Health Optimisation Protocol for Energy-efficient Building (HOPE)

The Workplace Wellbeing Charter Creativity Development Quick Scan (CDQS) Building Investment Decision Support (BIDSTM)

Workplace health and wellbeing toolkit Cost-effective Open-Plan Environments (COPE) project Design Quality Indicator (DQI) Well Building Standards

Ratings of Environmental Features Green Globes Building Use Studies (BUS) USA GSA FIT-WELSM LEED®

Gensler Workplace Performance Index Whole Building Design Guide (WBDG) Performance Measurement Protocols for Commercial Buildings (PMPCB)

Post Occupancy Review of Building Engineering (PROBE) National Health Service (NHS)'s Environmental Assessment Tool (NEAT) BREEAM

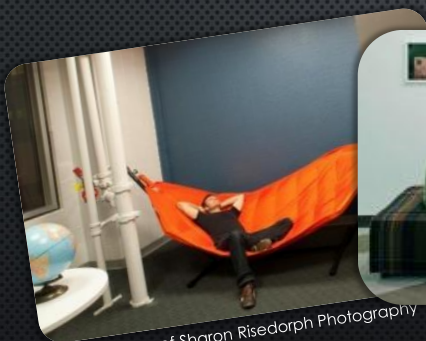
WORKPLACE WELLBEING: CAPTIW[©]

• Major Instruments & Studies Reviewed

- **Dul, J. and Ceylan, C.** (2011). Work environments for employee creativity. *Ergonomics*
- **Landry, D.** 2012. Encouraging creativity in the workplace through the physical environment: Focusing on the office workstation (Unpublished master thesis)
- **Haner, U.** (2005). Spaces for creativity and innovation in two established organization. *Creativity and Innovation Management*
- **Hemlin, S., Allwood, C.M. & Martin, B.R.** (2004). What is a creative knowledge environment? In S. Hemlin, C.M. Allwood, & B.R. Martin (Eds.), *Creative knowledge environments: The influences on creativity in research and innovation*
- **Lee, Y.S.** (2015). Creative workplace characteristics and innovative start-up companies. *Facilities*
- **Lewis, M. and Moultrie, J.** (2005). The organisational innovation laboratory. *Creativity and Innovation Management*
- **McCoy, J. M.** (2005). Linking the physical work environment to creative context. *Journal of Creative Behavior*
- **Marlens, Y.** (2011). Creative workplace: instrumental and symbolic support for creativity. *Facilities*
- **Moultrie, J., Nilsson, M., Dissel, M., Haner, U., Janssen, S. and van der Lugt, R.** (2007). Innovation spaces: Towards a framework for understanding the role of the physical environment in innovation. *Creativity and Innovation Management*
- **Peschl, M.F., & Fundneider, T.** (2012). Spaces enabling game-changing and sustaining innovations: Why space matters for knowledge creation and innovation. *Journal of Organisational Transformation & Social Change*
- **Van der Lugt, R., Janssen, S., Kuperus, S. and De Lange, E.** (2007). Future center 'the shipyard': Learning from planning, developing, using and refining a creative facility. *Creativity and Innovation Management*

WORKPLACE WELLBEING: CAPTIW[©]

• Content and Visual Analysis



WORKPLACE WELLBEING: CAPTIW[®]

- Industry and Academic Partners

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SIX DIMENSIONS OF WORKPLACE WELLBEING





SIX DIMENSIONS OF WORKPLACE WELLBEING: 1. CHOICE OF SPACES

- Autonomy, Trust, Transparency & Engagement
- Stimulating physical bodily movement
- Major knowledge work activities: socialization, externalization, combination, and internalization
- Four work modes of knowledge work: focus, socialization, collaboration, and learning
- Spaces with different levels of privacy/interaction, quiet/noise, flexibility, thermal gradients, etc.
- Spaces with various furniture settings: formal ↔ informal /casual, and different levels of ergonomics



* Note: images that are freely available online are randomly selected for the presentation.

SIX DIMENSIONS OF WORKPLACE WELLBEING: 1. CHOICE OF SPACES



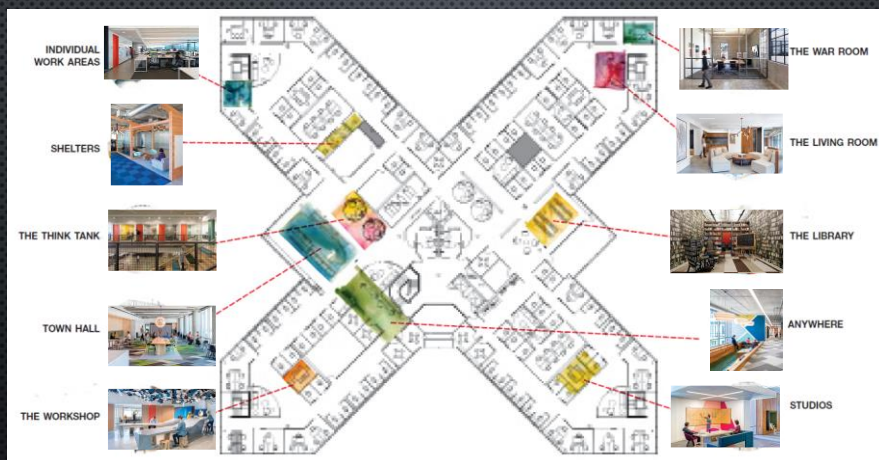
Autodesk, San Francisco, CA. Gensler



Consulting Firm, Gensler

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SIX DIMENSIONS OF WORKPLACE WELLBEING: 1. CHOICE OF SPACES



Four criteria:
Formal/Casual;
Flexible/Casual;
Interactive/Solo;
Focus/Explore

10 Workplace Typologies, Studio O+A

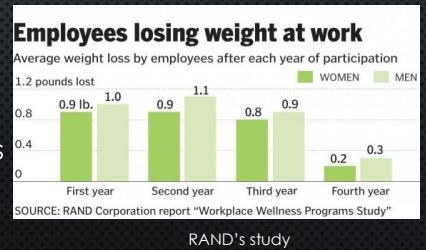
SIX DIMENSIONS OF WORKPLACE WELLBEING: 2. RECHARGE SPACES

- Frequently cognitively overload, mental fatigue, & productivity
- Employees taking break every 90 minutes reported:
 - 30 percent higher level of focus;
 - 50 percent greater capacity to think creatively;
 - 46 percent higher level of health and well-being
- Employees holding a 30 minute game of charades weekly showed:
 - Higher morale and income, and reduced overhead
- Socialization, play, laughter and a sense of involvement
- Socialization activities:
 - Increasing cohesion by 18%;
 - Decreasing stress levels by 6%;
 - Reducing employee turnover from 40% to 12%



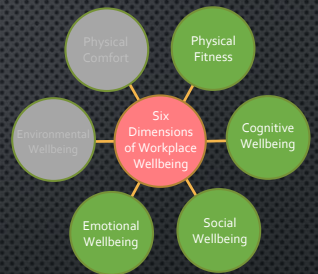
SIX DIMENSIONS OF WORKPLACE WELLBEING: 2. RECHARGE SPACES

- Micro-break activities & recovery from daily work demands:
 - Social activities and Relaxation activities => reducing work demands stress & negative state of mind at the end of day;
 - Nutrition intake & snacks => no significant moderating effect;
 - Non-work-related cognitive activities => aggravating stress & negative affect
- Workplace wellness programs & long-term health impact:
 - No consistency in health cost reductions
 - Healthy people participating in wellness programs
 - No long-term impact



SIX DIMENSIONS OF WORKPLACE WELLBEING: 2. RECHARGE SPACES

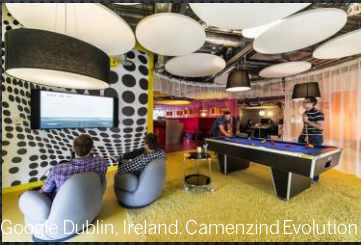
- 5 types of recharge spaces: supporting people to disengage through temporal respite to order to engage
 - Play
 - Solitude/ Contemplation
 - Socialization
 - Fitness/ Body movement
 - Outdoor Respite



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SIX DIMENSIONS OF WORKPLACE WELLBEING: 2. RECHARGE SPACES

- PLAY



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SIX DIMENSIONS OF WORKPLACE WELLBEING: 2. RECHARGE SPACES

- SOLITUDE/ CONTEMPLATION



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SIX DIMENSIONS OF WORKPLACE WELLBEING: 2. RECHARGE SPACES

- FITNESS/MOVEMENT



Google Office, Active Design Excellence Award



LinkedIn, Chicago, IA

* Note: images that are freely available online are randomly selected for the presentation.

SIX DIMENSIONS OF WORKPLACE WELLBEING: 2. RECHARGE SPACES

- FITNESS/MOVEMENT



Various Types of Active Furniture



Google Office, Active Design Excellence Award

* Note: images that are freely available online are randomly selected for the presentation.

SIX DIMENSIONS OF WORKPLACE WELLBEING: 2. RECHARGE SPACES

- SOCIAL



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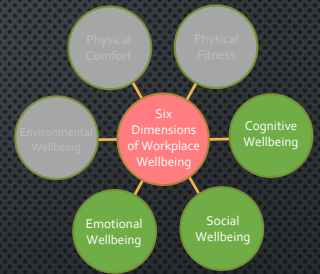
SIX DIMENSIONS OF WORKPLACE WELLBEING: 2. RECHARGE SPACES

- OUTDOOR RESPITE



SIX DIMENSIONS OF WORKPLACE WELLBEING: 3. UNIQUE/FUN ATMOSPHERE

- Playful and fun ambience and the cognition and psychology of employees
- Playful design elements and physical and visual sources of inspiration
- Art and cognitive and psychological stimulation
- Art and other visual media, and sense of creativity, freedom and nonconformity
- Different shapes and forms and cognitive and emotional responses



* Note: images that are freely available online are randomly selected for the presentation.

SIX DIMENSIONS OF WORKPLACE WELLBEING: 3. UNIQUE/FUN ATMOSPHERE

- UNCONVENTIONAL DESIGN



ASB HQ, Auckland. BVN Donovan Hill Design



Google, Zurich. Camenzind Evolution



www.peoplesource.co.uk

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SIX DIMENSIONS OF WORKPLACE WELLBEING: 3. UNIQUE/FUN ATMOSPHERE

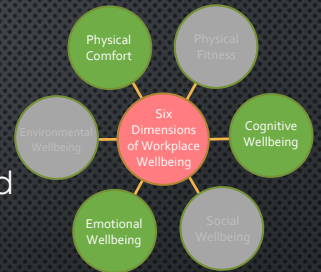
- ARTISTIC WORK



* Note: images that are freely available online are randomly selected for the presentation.

SIX DIMENSIONS OF WORKPLACE WELLBEING: 4. RELAXING ENVIRONMENT

- Biophilic design, healing, cognitive function and productivity and health
- Nature and reducing physical & social stressors, and improving restorative capacity (cortisol study)
- Walking in nature & viewing pictures of nature related to attention restoration improvement
- Vegetation and reducing noises, providing privacy, & reducing negative feelings of crowding
- Natural sounds & performance in open-plan office



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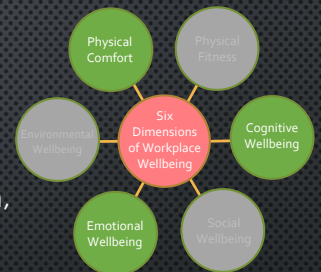
SIX DIMENSIONS OF WORKPLACE WELLBEING: 4. RELAXING ENVIRONMENT

- BIOPHILIC DESIGN



SIX DIMENSIONS OF WORKPLACE WELLBEING: 4. RELAXING ENVIRONMENT

- Circadian rhythm and sleep, mood, eating habits & productivity
- Circadian rhythm and hormones regulating sleep & metabolism (growth hormone, melatonin, cortisol, leptin, etc.) => sleep disturbance, obesity, insulin insensitivity, diabetes, hormonal imbalance, & appetite dysregulation.
- Changes in circadian clock and temporal feeding behavior change & weight gain
- Circadian rhythm and disruption of metabolism & cardio-metabolic disease development
- Circadian rhythm and learning & memory



* Note: images that are freely available online are randomly selected for the presentation.

SIX DIMENSIONS OF WORKPLACE WELLBEING: 4. RELAXING ENVIRONMENT

- CIRCADIAN LIGHT



ASID HQ, Washington, D.C. Perkins+Will



GSA's Federal Center South Building, AIA Top Ten Plus Award

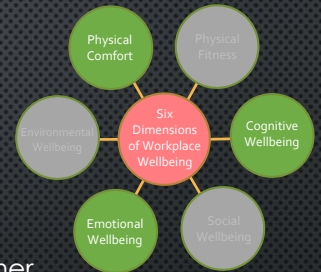
SIX DIMENSIONS OF WORKPLACE WELLBEING: 4. RELAXING ENVIRONMENT

GSA Circadian lighting study results

- A. Greater circadian stimulus in the morning:
 1. Falling asleep faster at night
 2. Improved sleep quality
 3. Decreased depression
- Benefits of circadian light slightly better in winter than in summer
- Behavioral challenges - people close shades when it is too bright and leave them closed
- Computers - a key driver of shade use and other daylight reducing behaviors

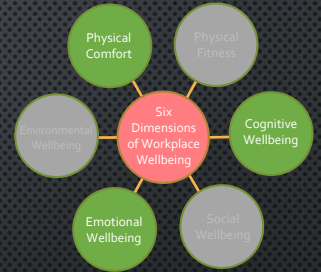
Conclusions: The daylight ecosystem:

1. Daylight design – windows, controls, & integration with electric light
2. Interior design – furniture, layout, colors, finishes, & computer ergonomics
3. Organizational system – culture, occupant behavior, nature of work, reward structure, & work technologies



SIX DIMENSIONS OF WORKPLACE WELLBEING: 4. RELAXING ENVIRONMENT

- Home-like settings reinforces:
 - Creativity, flexibility, and organizational culture
- Blurring boundaries bet' first, second, & third places: comfort of home & social components of coffee shop
- Essences of homes in successful start-ups:
 - openness, transparency, non-hierarchical spaces, & flexible organizational structure
 - Autonomy & personal control:
 - personalization => higher job commitment, involvement, motivation, job satisfaction, & performance and lower stress and absenteeism
 - Personal control over thermal comfort & lighting => higher satisfaction & job performance



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SIX DIMENSIONS OF WORKPLACE WELLBEING: 4. RELAXING ENVIRONMENT

- HOME-LIKE ENVIRONMENTS



SIX DIMENSIONS OF WORKPLACE WELLBEING: 4. RELAXING ENVIRONMENT

- 14 Patterns of biophilic design

Nature in the space

1. Visual connection with nature
2. Non-visual connection with nature
3. Non-Rhythmic sensory stimuli
4. Thermal & airflow variability
5. Presence of water
6. Dynamic & diffuse light
7. Connection with natural systems

Natural analogues

8. Biomorphic forms & patterns
 9. Material connection with nature
 10. Complexity & order
- Nature of the space
11. Prospect
 12. Refuge
 13. Mystery
 14. Risk/peril

WELL® Features	Parallel Patterns of Biophilic Design
54 Circadian Light Design	[P6] Dynamic & Diffuse Light
76 Thermal Comfort	[P4] Thermal & Airflow Variability
79 Sound Masking	[P2] Non-Visual Connection with Nature [P5] Presence of Water
82 Individual Thermal Control	[P4] Thermal & Airflow Variability
83 Radiant Thermal Comfort	[P4] Thermal & Airflow Variability
88 Biophilia I – Qualitative	[P1] Visual Connection with Nature
	[P5] Presence of Water
	[P6] Dynamic & Diffuse Light
	[P7] Connection with Natural Systems
	[P8] Biomorphic Forms & Patterns
	[P9] Material Connection with Nature
	[P11] Prospect
	[P12] Refuge
	[P13] Mystery
89 Adaptable Spaces	[P2] Non-Visual Connection with Nature
	[P12] Refuge
99 Beauty & Design II	[P1] Visual Connection with Nature
	[P6] Dynamic & Diffuse Light
	[P8] Biomorphic Forms & Patterns
	[P10] Complexity & Order
	[P11] Prospect
100 Biophilia II – Quantitative	[P13] Mystery
	[P1] Visual Connection with Nature
	[P5] Presence of Water
	[P7] Connection with Natural Systems

From TerrapinBrightGreen

THANK YOU!

- Round Discussion on Future Workplace