

# HealthyWorkplaces Survey of Work Environments on Health and Well-Being

Isabelle Thibau, MPH  
Interdisciplinary Center for Healthy Workplaces, UC Berkeley  
December 5, 2016

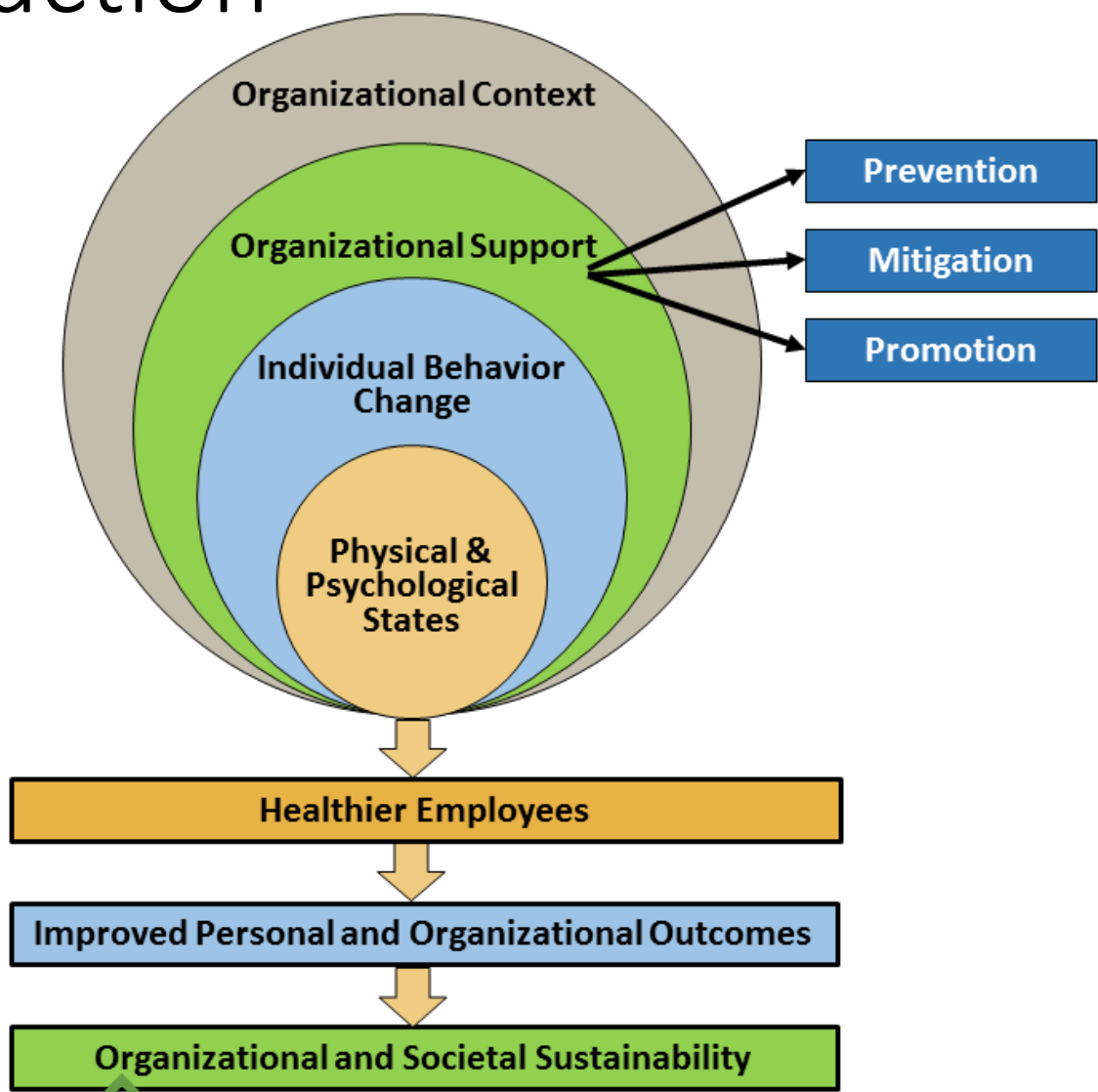


# Overview

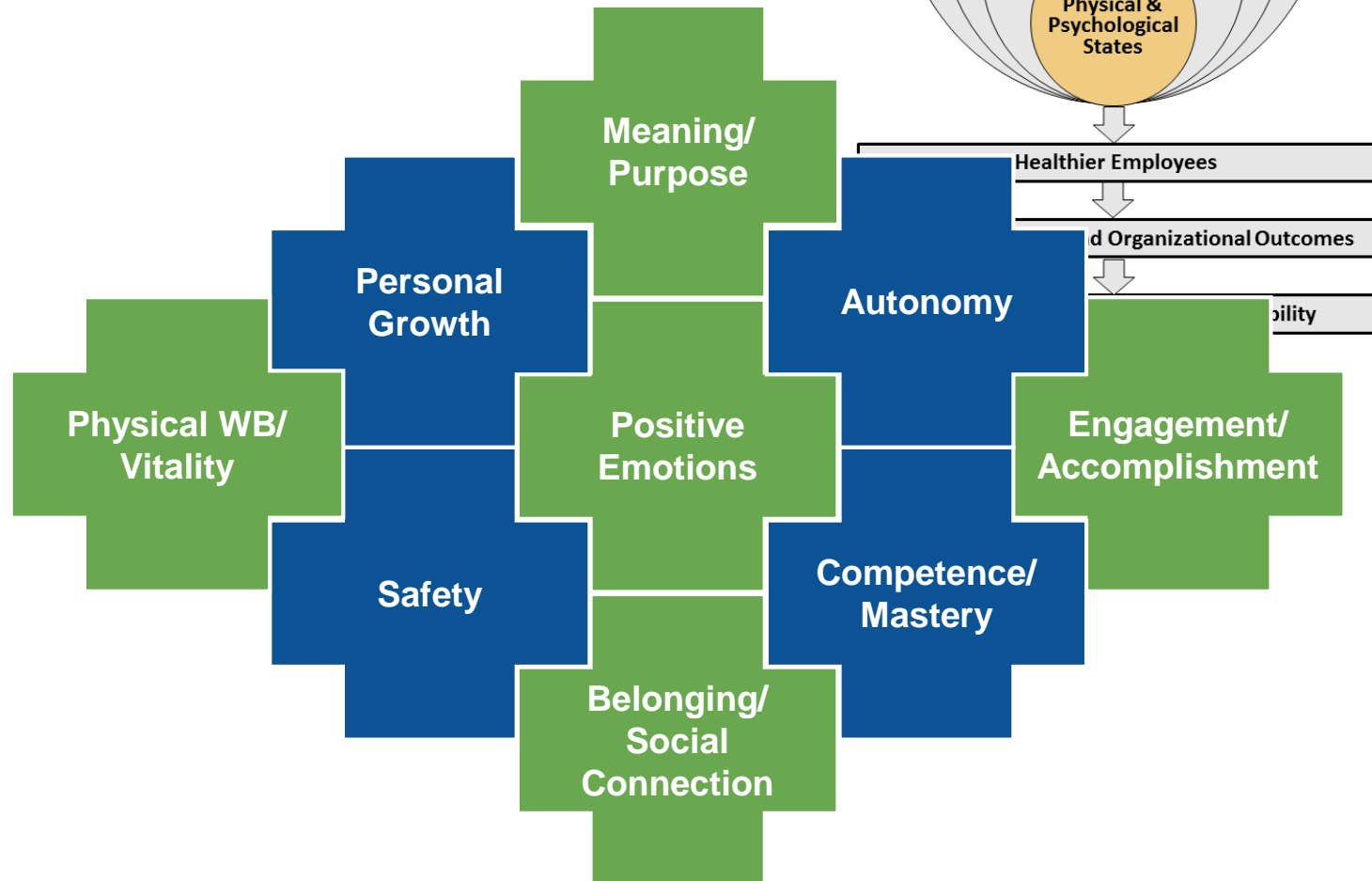
- Introduction - HealthyWorkplaces model and framework
- Study – Survey, results
- Next steps
- Implications for architecture, psychology, and public health.



# Introduction

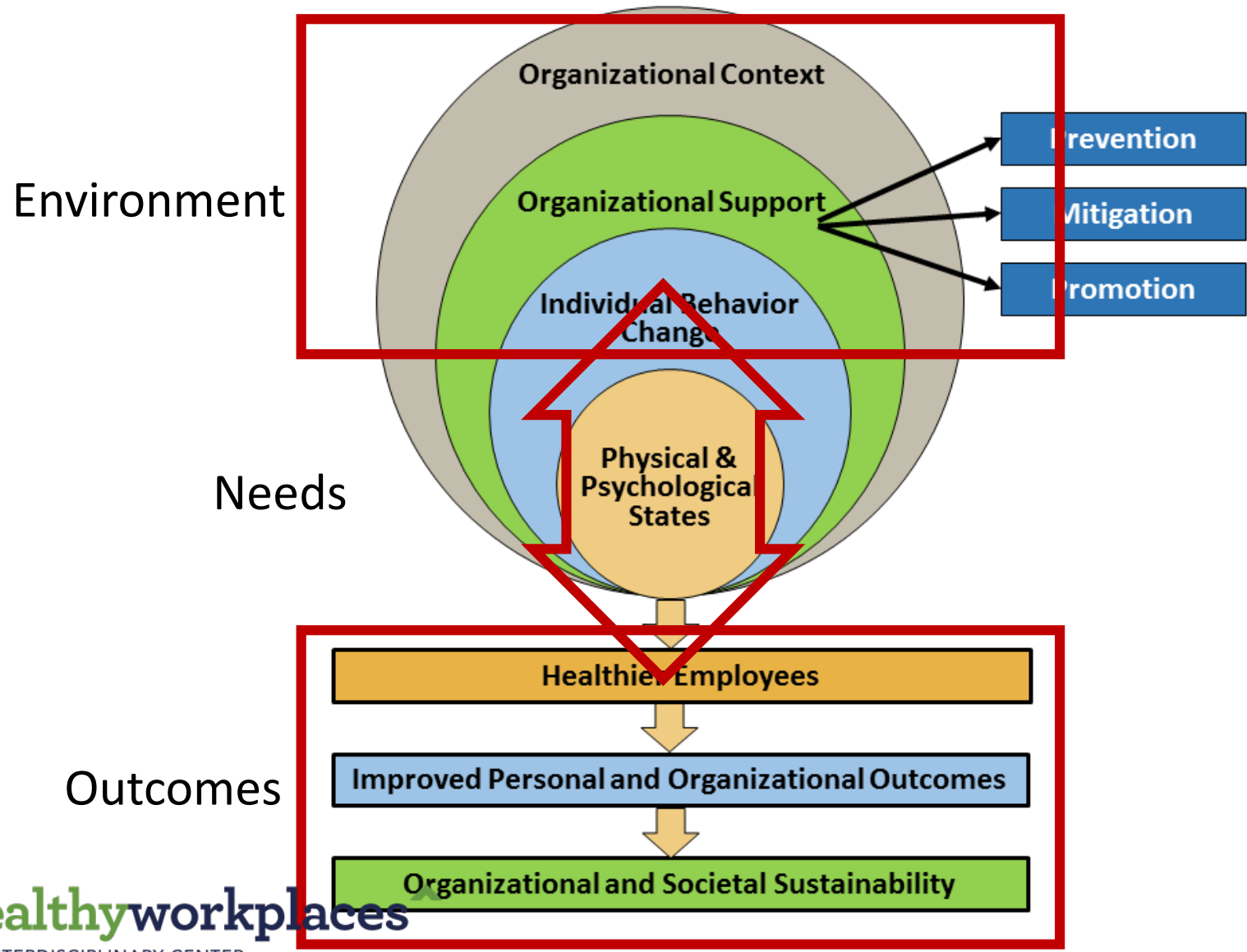


# Introduction





# Introduction





# Study Overview

**Research question:** What do graduate students need in their work environments to be successful? How do their work environments affect their health and well-being?

Purpose: Explore the relationships between study environment features, basic needs, study outcomes

Subjects: Graduate students from School of Public Health, College of Environmental Design (N=98)

Measure: Graduate Student Experience Survey

Method: Developed, administered on-line survey to all registered students (371+), one-month response period; attrition rate = 60%

Analysis: Descriptive statistics and pair-wise correlations



# Study Overview

Survey: 5 sections

## Independent variables

- **(Context)** Demographics, academic program
- **(Environment)** Rate importance of features
- **(Individual behavior)** Study habits

## Moderating variables

- **(Basic needs)** Identify basic needs that are satisfied by each feature

## Dependent variables

- **(Personal outcomes)** Rate satisfaction of study outcomes



# Study Overview

## Outcome measures:

- Satisfaction with study habits, performance in courses, learning and acquisition of knowledge.
- Productive when I study and do coursework, able to achieve my education goals, able to work efficiently and comfortably.
- Satisfaction with input on assignments, choice in where to study, control of when to study, predictable workload policies.





# Results

- What do students find important?
- What features are most likely to satisfy needs?
- What basic needs are most often satisfied?
- What are the relationships between features, need satisfaction, and outcomes?



# Results

## What do students find important?

### Workspace Features

- Windows
- Cleanliness
- Uncluttered workspaces
- Layout of study space
- Non-smoking policy

### Ambiance Factors

- Natural light
- Quiet
- Clean
- Free from odors
- Thermal comfort
- Fresh air

### Cultural factors and Resources

- Equity, fairness
- Social bonding
- Cleanliness
- Access to healthy food
- Timely and effective communications
- Safety, free from harassment
- Reliable internet/Wi-Fi



# Results

What features are most likely to satisfy needs?

## Workspace Features

- **Windows**
- **Cleanliness**
- **Uncluttered workspaces**
- **Layout of study space**
- **Non-smoking policy**

## Ambiance Factors

- **Natural light**
  - **Quiet**
  - **Clean**
  - Free from odors
  - Thermal comfort
  - Fresh air
- + Supportive Study culture
  - + Recognition of accomplishments
  - + Research training
  - + Predictable workloads
  - + Support of peers

## Cultural factors and Resources

- **Equity, fairness**
- **Social bonding**
- **Cleanliness**
- Access to healthy food
- Timely and effective communications
- Safety, free from harassment
- Reliable internet/Wi-Fi



# Results

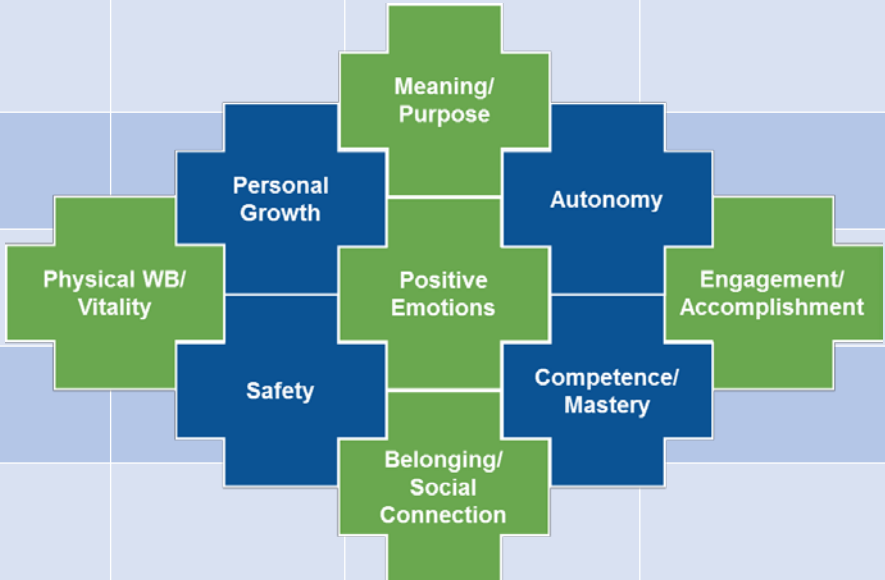
What needs are most often satisfied by environmental features?

- **Energy/vitality (881)**
- **Positive emotions (855)**
- **Physical well-being (839)**
- Autonomy (554)
- Engagement/Accomplishment (551)
- Competence/Mastery (477)
- Belonging/social connection (426)
- Meaning/Purpose (377)
- Safety (357)
- Personal growth (327)



# Results

<b>Satisfaction with study habits</b>	Autonomy	Physical Well-Being	Safety	Meaning/Purpose	
<b>Satisfaction with performance</b>	Autonomy	Physical Well-Being	Vitality	Safety	
<b>Satisfaction with learning/knowledge</b>	Autonomy	Physical Well-Being	Engagement	Social Connectedness	
<b>I am productive when I study</b>	Autonomy	Social Connectedness	Engagement	Personal Growth	
<b>I am able to achieve education goals</b>	Autonomy	Physical Well-Being	Engagement	Personal Growth	Competence/Mastery
<b>I am able to work efficiently and comfortably</b>	ALL				
<b>Satisfaction with input on assignments</b>	Vitality				
<b>Satisfaction with choice in where to study</b>	Autonomy				
<b>Satisfaction with control of when to study</b>	Vitality				
<b>Satisfaction with predictable workload policies</b>	Engagement				





# Conclusion

Designing work spaces to promote need satisfaction promotes productivity, satisfaction of learning, and ability to achieve goals.



# Next Steps: Survey Revision

- Revise survey to include health outcomes
- Expand independent variables
- Expand dependent variables
- Expand to graduate students campus-wide\*

\*College of Letters and Sciences and Law School students will not participate.



# Strengths and Limitations

- Small sample size (pilot), Large sample size for redesigned survey (campus-wide)
- Feedback from survey-takers and interviews
- Repeating themes: reliability, flexibility, privacy, cleanliness, and security





# Implications

- Learning about what graduate students need in their work environment and applying it to our projects
- This presents a different starting point for designing buildings and is directly linked to need satisfaction





# Where do we go from here?

- More data, more research
- Work with UC Berkeley on designing space
- Develop an assessment tool and inventory

# References

- Augustin, S. (2009). *Place Advantage: Applied Psychology for Interior Architecture*. John Wiley & Sons.
- Akerboom, S., & Maes, S. (2006). Beyond demand and control: The contribution of organizational risk factors in assessing the psychological well-being of health care employees. *Work & Stress, 20*(1), 21–36. <https://doi.org/10.1080/02678370600690915>
- Altomonte, S., & Schiavon, S. (2013). Occupant satisfaction in LEED and non-LEED certified buildings. *Building and Environment, 68*, 66–76.
- Arnold, K. A., Connelly, C. E., Walsh, M. M., & Martin Ginis, K. A. (2015). Leadership styles, emotion regulation, and burnout. *Journal of Occupational Health Psychology, 20*(4), 481–490. <https://doi.org/10.1037/a0039045>
- Bray, J., Kelly, E., Hammer, L., Almeida, D., Dearing, J., King, R., & Buxton, O. (2013). *An Integrative, Multilevel, and Transdisciplinary Research Approach to Challenges of Work, Family, and Health*. Research Triangle Park, NC: RTI Press. Retrieved from <http://www.rti.org/publication/integrative-multilevel-and-transdisciplinary-research-approach-challenges-work-family>
- Diener, E., & Seligman, M. E. (2004). Beyond money toward an economy of well-being. *Psychological Science in the Public Interest, 5*(1), 1–31.
- Fredrickson, B. L. (2013, July 15). Updated Thinking on Positivity Ratios. American Psychologist. Advance online publication. doi: 10.1037/a0033584
- Frontczak, M., Schiavon, S., Goins, J., Arens, E., Zhang, H., & Wargocki, P. (2012). Quantitative relationships between occupant satisfaction and satisfaction aspects of indoor environmental quality and building design: Indoor environmental quality. *Indoor Air, 22*(2), 119–131. <https://doi.org/10.1111/j.1600-0668.2011.00745.x>
- Heinzerling, D., Schiavon, S., Webster, T., & Arens, E. (2013). Indoor environmental quality assessment models: A literature review and a proposed weighting and classification scheme. *Building and Environment, 70*, 210–222. <https://doi.org/10.1016/j.buildenv.2013.08.027>
- Jacobs, A. W., & Padavic, I. (2015). Hours, Scheduling and Flexibility for Women in the US Low-Wage Labour Force: Hours, Scheduling and Flexibility In Low-Wage Labour Force. *Gender, Work & Organization, 22*(1), 67–86. <https://doi.org/10.1111/gwao.12069>
- McGonagle, A. K., Walsh, B. M., Kath, L. M., & Morrow, S. L. (2014). Civility norms, safety climate, and safety outcomes: A preliminary investigation. *Journal of Occupational Health Psychology, 19*(4), 437–452. <https://doi.org/10.1037/a0037110>
- Raya, R. P., & Panneerselvam, S. (2013). The healthy organization construct: A review and research agenda. *Indian Journal of Occupational and Environmental Medicine, 17*(3), 89–93. <http://doi.org/10.4103/0019-5278.130835>
- Schiavon, S., & Altomonte, S. (2014). Influence of factors unrelated to environmental quality on occupant satisfaction in LEED and non-LEED certified buildings. *Building and Environment, 77*, 148–159. <https://doi.org/10.1016/j.buildenv.2014.03.028>
- Smith, K. G., Mitchell, T. R., & Summer, C. E. (1985). Top level management priorities in different stages of the organizational life cycle. *Academy of Management Journal, 28*(4), 799–820.
- Tortia, E. C. (2008). Worker well-being and perceived fairness: Survey-based findings from Italy. *The Journal of Socio-Economics, 37*(5), 2080–2094. <https://doi.org/10.1016/j.socec.2007.10.005>
- Williams, J. C., & others. (2014). Double jeopardy? An empirical study with implications for the debates over implicit bias and intersectionality. *Harv. JL & Gender, 37*, 185–569.

# Thank you

- Thank you to the PI's on this project, Dr. Cristina Banks and Dr. Sheldon Zedeck, to Max Pittman on the survey redesign, and to our survey editors and collaborators.