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# Organizational Mechanisms of Change in Implementation Science

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# Outline

- The organizational context: Organizational climate & culture
- Implementation climate
- Intervening with climate: An example
- Additional (possibly) relevant organizational constructs



# Setting the stage...

- The fields of industrial/organizational (I/O) psychology and management (human resources and organizational behavior)
- The breadth of I/O-OB-HR

# I/O Topics

- Job analysis
- Recruitment
- Careers
- Individual assessment
- Hiring systems
- Performance evaluation
- Citizenship behavior
- Counterproductive behavior
- Turnover
- Training
- Mentoring
- Coaching
- Proactive behavior
- Motivation

- Job attitudes
- Organizational justice
- Interpersonal relationships
- Communication
- Person-environment fit
- Socialization
- Diversity & inclusion
- Leadership
- Creativity
- Performance
- Rewards & compensation
- Climate & culture
- Job design
- Groups and teams

- Workplace safety
- Nonstandard workers
- Stress & well-being
- Organizational politics
- Conflict
- Negotiation
- Workplace aggression & violence
- Sexual harassment
- Succession planning
- Organizational change
- Mergers & acquisitions
- Cross-cultural issues
- Corporate social responsibility

# More setting the stage...

- Macro vs. micro
- Quantitative and qualitative
- Observational vs. intervention research

A golden globe sits on a tiled floor. The floor features a large, circular seal of the University of Central Florida. The seal contains the text 'FLORIDA' and 'UNIVERSITY' around the perimeter, and '1963' at the bottom. The globe is positioned directly over the seal. The entire scene is bathed in a warm, golden light.

# The Organizational Context



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# Climate vs. Culture

## Organizational climate:

- “The shared meaning organizational members attach to the events, policies, practices, and procedures they experience and the behaviors they see being rewarded, supported, and expected” (Ehrhart et al., 2014, p. 69)

## Organizational culture:

- “A pattern of shared basic assumptions learned by [an organization] as it solved its problems of external adaptation and internal integration, which has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems” (Schein, 2010, p. 18)

# Similarities in Climate and Culture Thinking

- Holistic/macro perspectives on human organizations
- The meaning of the setting is shared, naturally, and there is usually consistency/strength
- Importance of the role of leaders
- There are important consequences for organizational performance



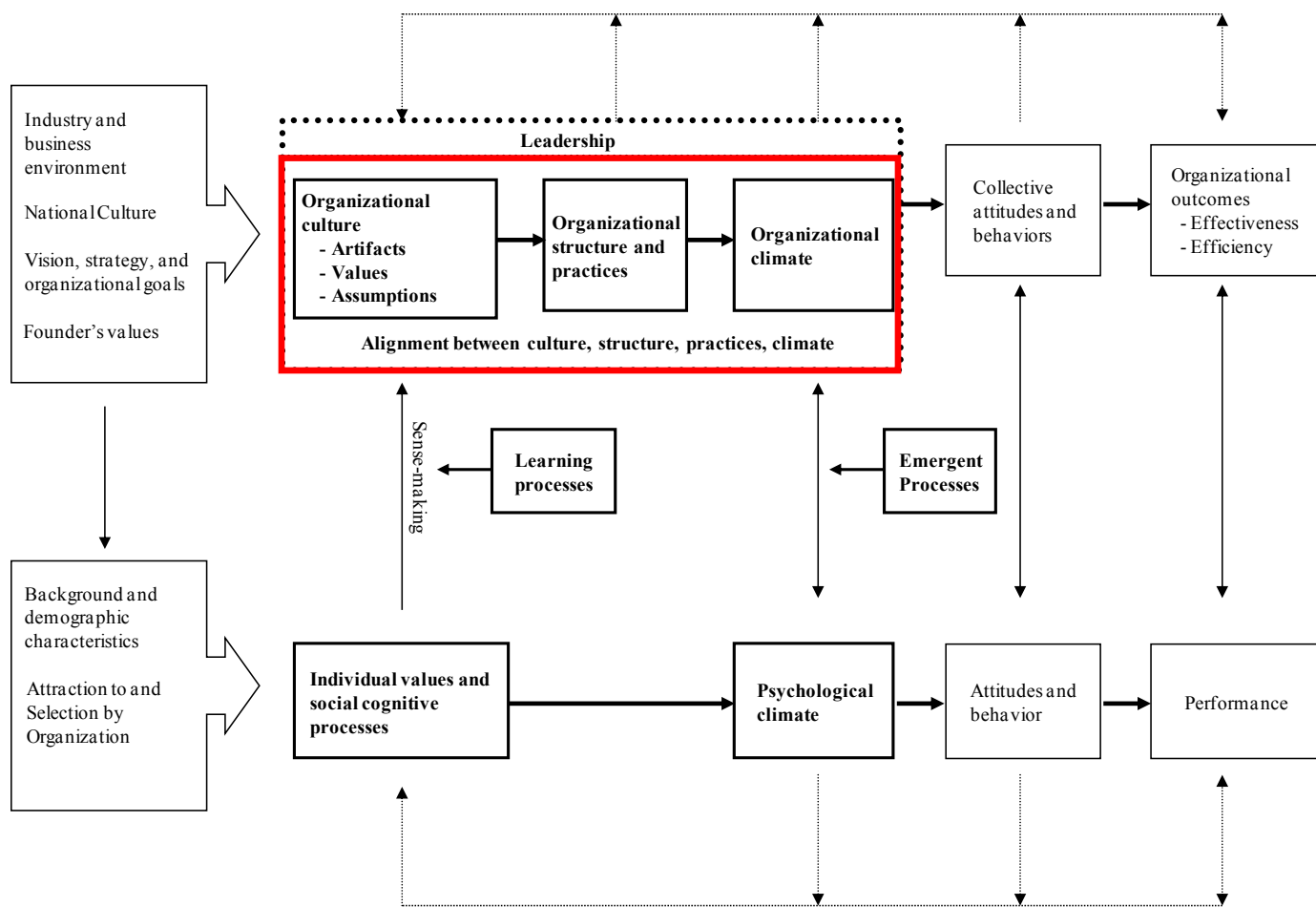
# Differences in Climate and Culture Thinking

- **Organizational Climate**

- Psychological/quantitative
- Process and strategic foci
- Conscious awareness
- Leadership is important but the founder and history are ignored
- Socialization and life cycles not considered
- Sub-climates not much studied
- *Relatively* amenable to change

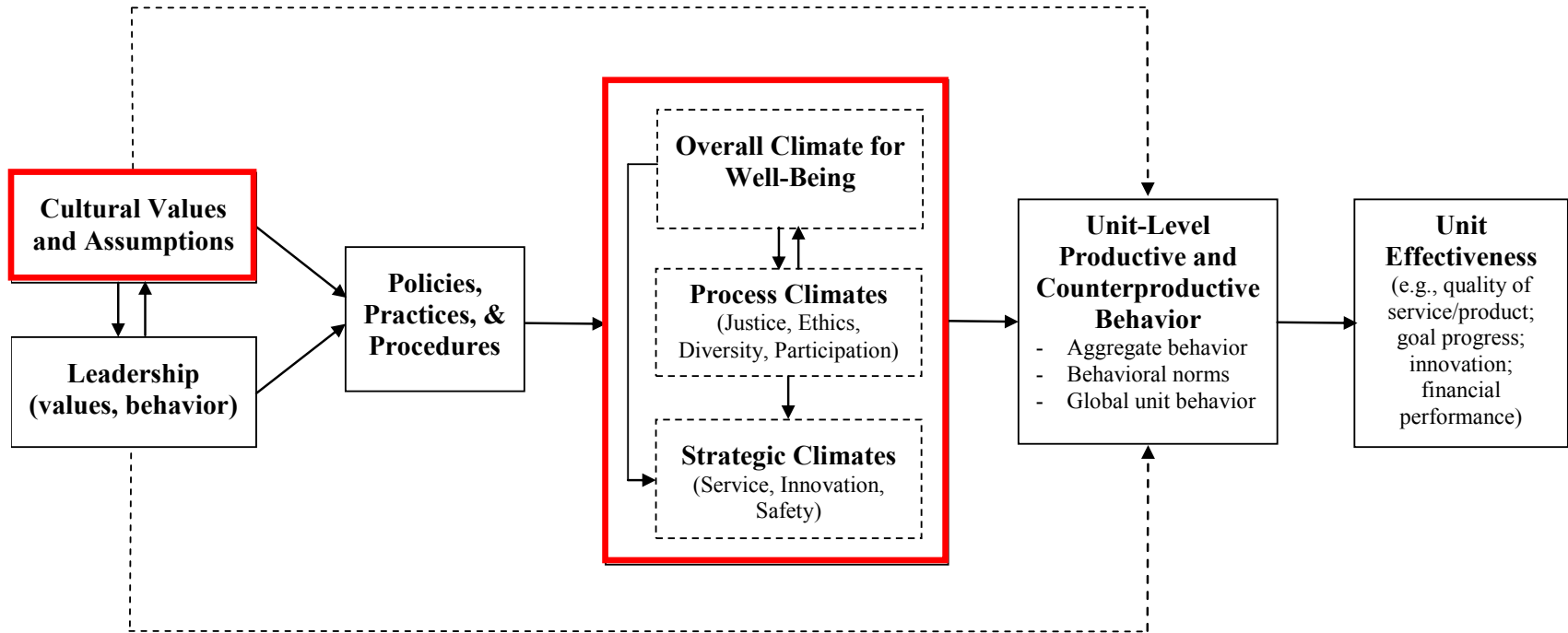
- **Organizational Culture**

- Anthropological/qualitative
- Unfocused/generic
- Deep-level basic assumptions
- The founder is key to the organization's culture and it evolves with success
- Life cycles and transmission of the culture are central issues
- Subcultures always exist
- Very difficult to change

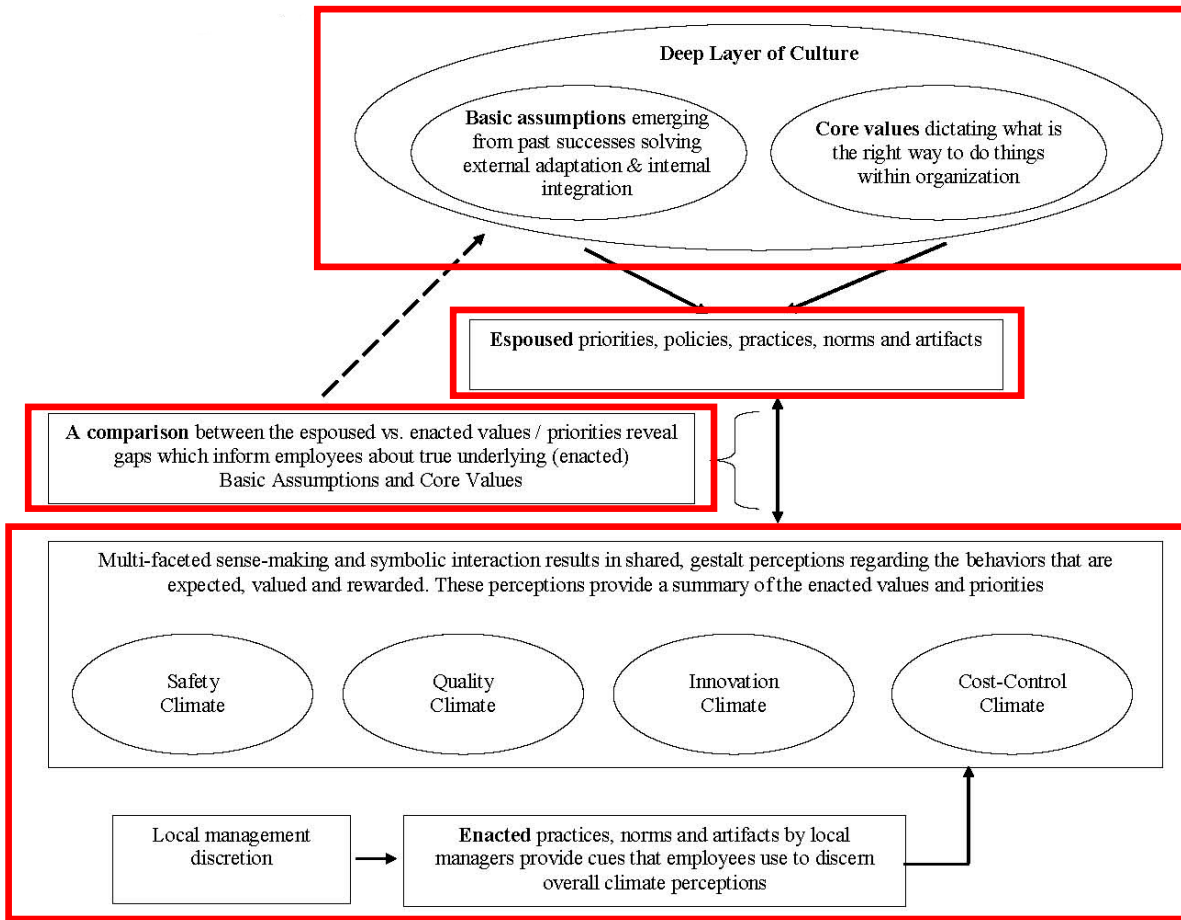


Source: Ostroff, C., Kinicki, A. J., & Muhammad, R. S. (2012). Organizational culture and climate. In N. W. Schmitt & S. Highhouse (Eds.), *Handbook of psychology, Vol. 12: Industrial and organizational psychology, 2nd Ed.* (pp. 643-676). Hoboken, NJ: Wiley.

Figure 1: Proposed Model of Relationships between Organizational Culture, Climate, and Unit-Level Productive and Counterproductive Behavior in Organizations



Source: Ehrhart, M. G., & Raver, J. L. (2014). The effects of organizational climate and culture on productive and counterproductive behavior. In B. Schneider & K. Barbera (Eds.), *The Oxford handbook of organizational climate and culture* (pp. 153-176). New York: Oxford University Press.



Source: Zohar, D., & Hofmann, D. H. (2012). Organizational culture and climate. In S. W. J. Kozlowski (Ed.), *The Oxford handbook of industrial and organizational psychology* (pp. 643-666). Oxford, UK: Oxford University Press.

# Molar climates versus focused climates

## Molar climate

- General work environment
  - “Is this a good place to work?”
- Sample dimensions
  - Conflict and ambiguity
  - Job challenge and variety
  - Leader facilitation and support
  - Work group cooperation, friendliness, and warmth
  - Structure/standards

## Focused climate

- Specific to particular processes or strategic goals
  - “What are this organization’s priorities?”
- Sample climates
  - Service climate
  - Safety climate
  - Ethical climate
- Critical concepts: Bundles and alignment

Focused climates tend to have stronger relationships with organizational effectiveness

# Why I like climate...

- Focus on bundles rather than individual practices
  - There are no silver bullets
  - Systems thinking (Katz & Kahn, 1966)
- Links the macro to the micro
  - Links strategy to policies/practices/procedures/systems to employees and their behavior
- Focus on long-term solutions
- Provides a path to changing culture

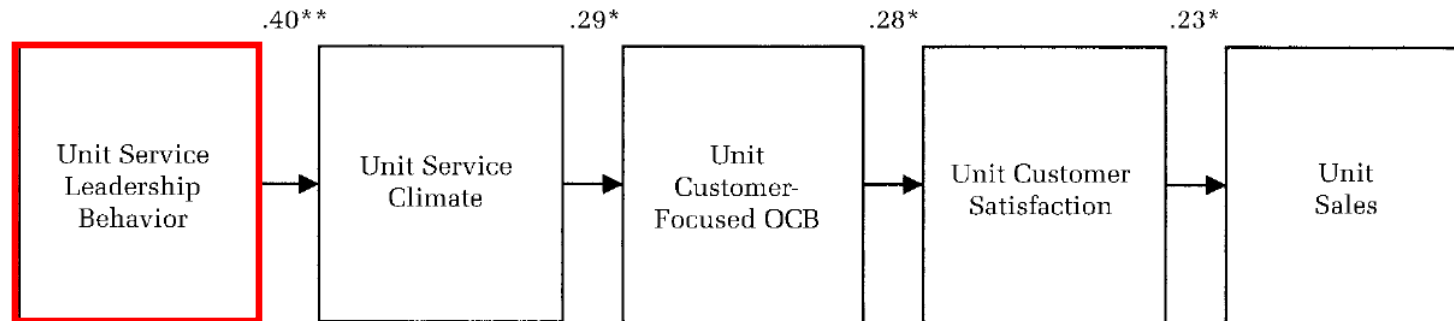




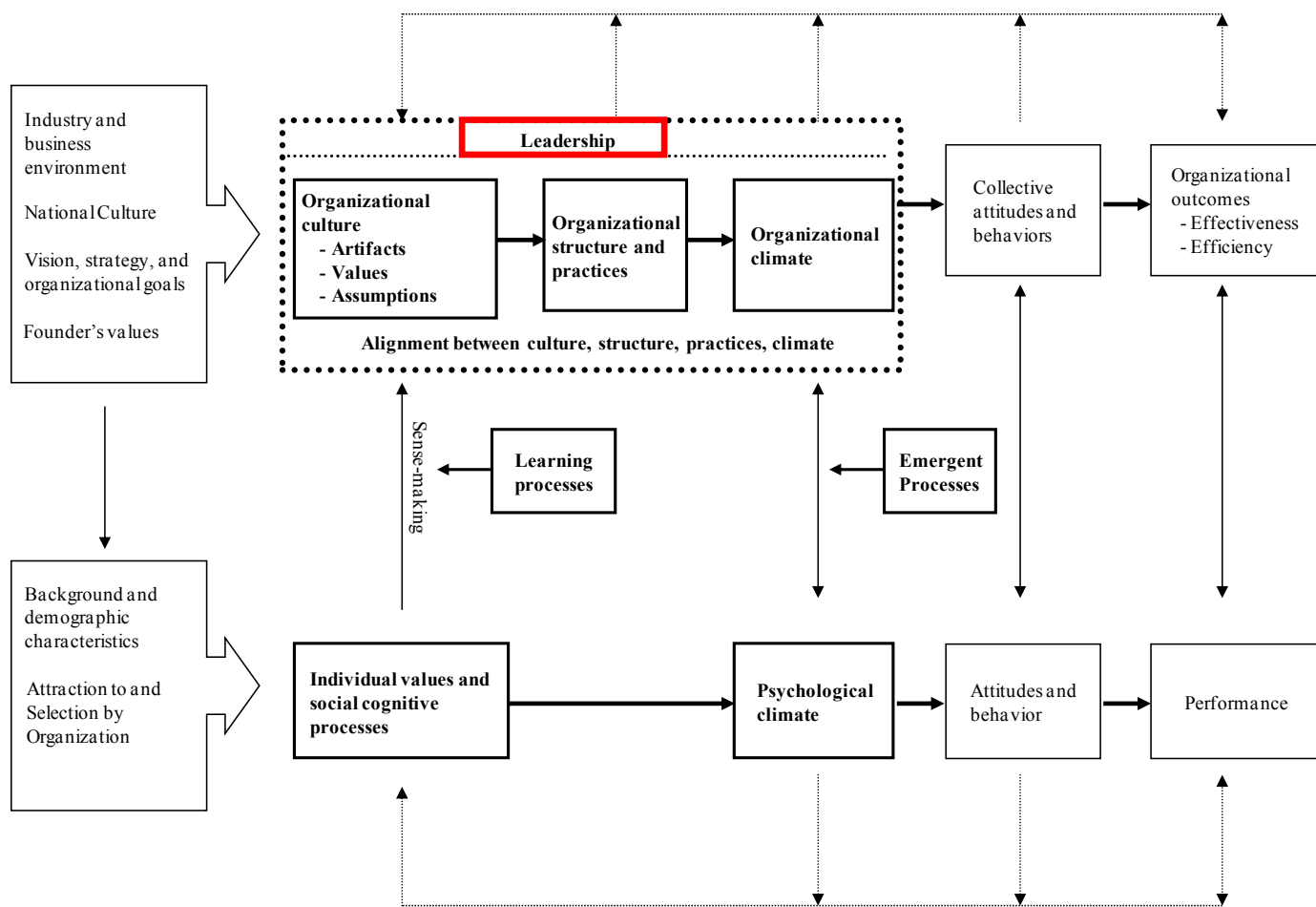
# Leadership & Organizational Climate

# The Role of Leaders

- Leaders are critical for establishing the climate in their units
- Focused leadership → Focused climate

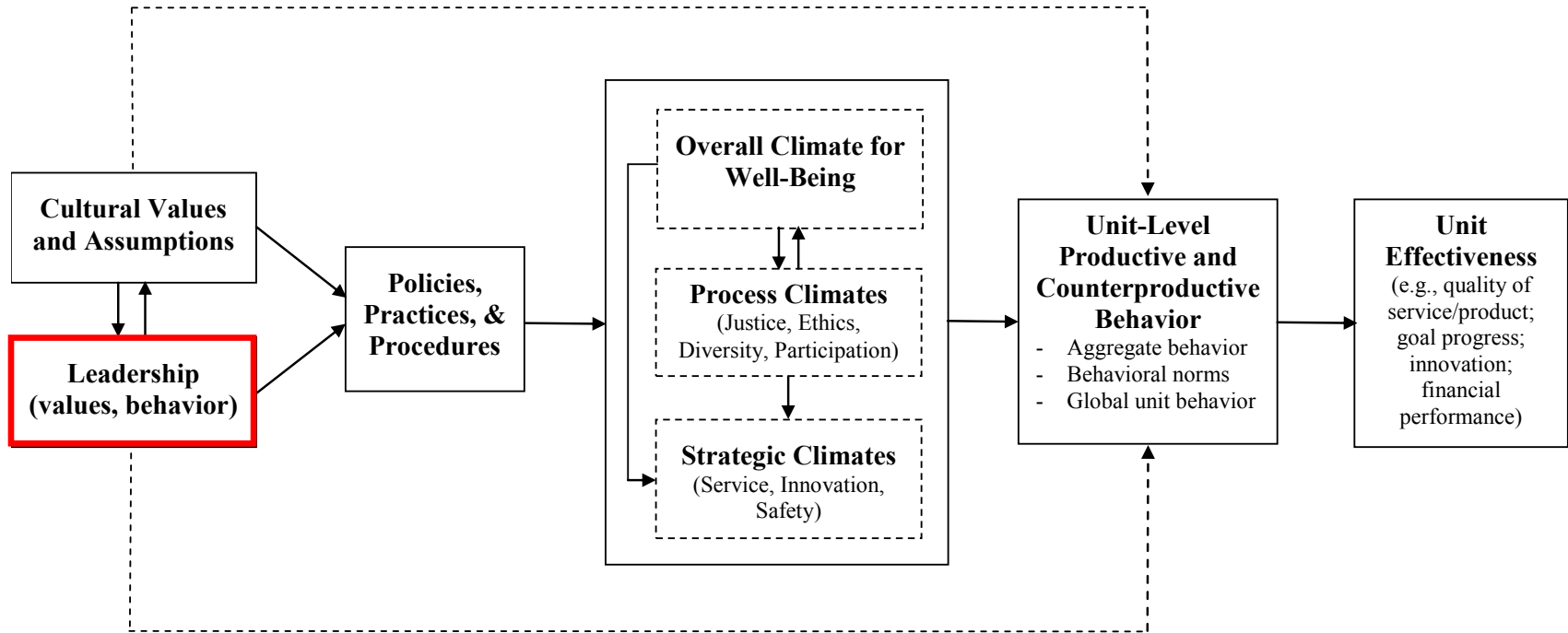


Source: Schneider, B., Ehrhart, M. G., Mayer, D. M., Saltz, J. L., & Niles-Jolly, K. (2005). Understanding organization-customer links in service settings. *Academy of Management Journal*, 48, 1017-1032.



Source: Ostroff, C., Kinicki, A. J., & Muhammad, R. S. (2012). Organizational culture and climate. In N. W. Schmitt & S. Highhouse (Eds.), *Handbook of psychology, Vol. 12: Industrial and organizational psychology, 2nd Ed.* (pp. 643-676). Hoboken, NJ: Wiley.

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# ~~Climate~~ Culture Embedding Mechanisms

## Primary Embedding Mechanisms

- What leaders pay attention to, measure, and control
- How leaders react to critical incidents/crises
- How leaders allocate resources, rewards, and status
- Role modeling, teaching, and coaching
- How leaders recruit, select, and promote

## Secondary Embedding Mechanisms

- Organizational design and structure
- Organizational systems and procedures
- Rites and rituals of the organization
- Design of physical space, facades, and buildings
- Stories about important events and people
- Formal statements of organizational philosophy, creeds, and charters



A golden globe sits on a brick floor. The globe is highly reflective, showing the surrounding environment. Below the globe is a large, circular, golden seal of the University of Central Florida. The seal features a central emblem and the text 'UNIVERSITY OF CENTRAL FLORIDA' around the perimeter. The entire scene is bathed in a warm, golden light.

# Outcomes of Organizational Climate



# Meta-Analyses of Climate's Outcomes

- Service climate

- Hong, Y., Liao, H., Hu, J., & Jiang, K. (2013). Missing link in the service profit chain: a meta-analytic review of the antecedents, consequences, and moderators of service climate. *Journal of Applied Psychology, 98*(2), 237-267.

- Safety climate

- Christian, M. S., Bradley, J. C., Wallace, J. C., & Burke, M. J. (2009). Workplace safety: A meta-analysis of the roles of person and situation factors. *Journal of Applied Psychology, 94*, 1103-1127.

- Innovation climate

- Hülsheger, U. R., Anderson, N., & Salgado, J. F. (2009). Team-level predictors of innovation at work: a comprehensive meta-analysis spanning three decades of research. *Journal of Applied Psychology, 94*(5), 1128-1145.

- Justice climate

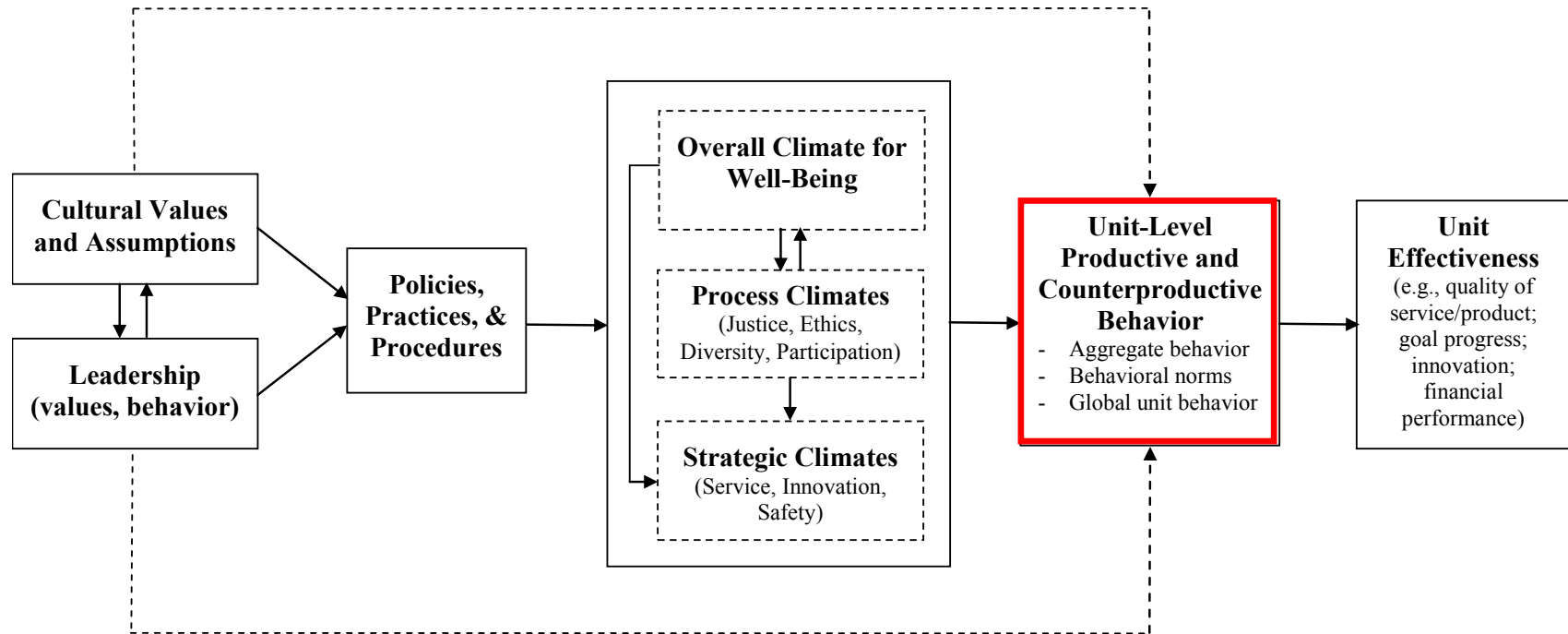
- Whitman, D. S., Caleo, S., Carpenter, N. C., Horner, M. T., & Berneth, J. B. (2012). Fairness at the collective level: A meta-analytic examination of the consequences and boundary conditions of organizational justice climate. *Journal of Applied Psychology, 97*(4), 776-791.

- Diversity climate

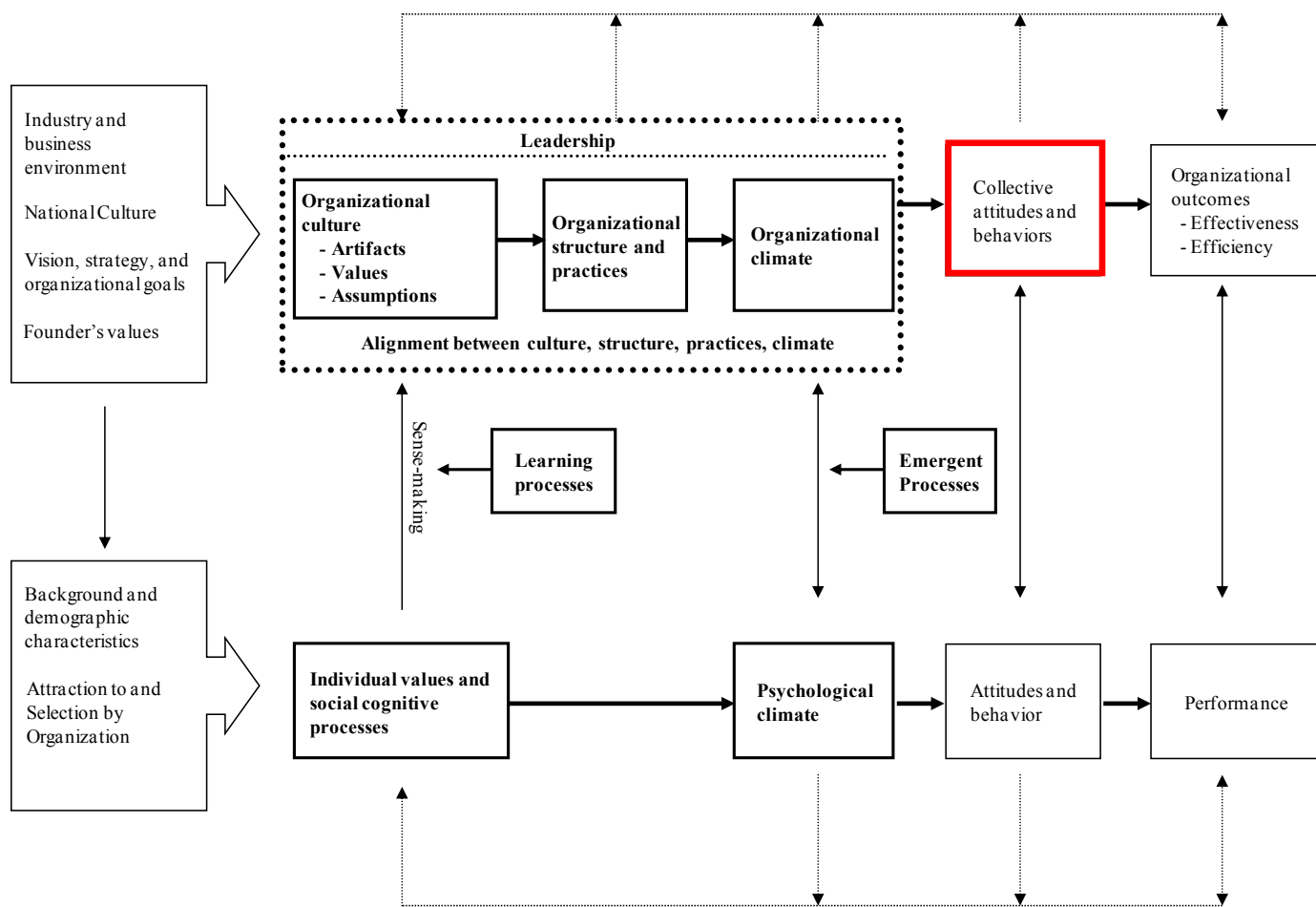
- Mor Barak, M. E., Lizano, E. L., Kim, A., Duan, L., Rhee, M. K., Hsiao, H. Y., & Brimhall, K. C. (2016). The promise of diversity management for climate of inclusion: A state-of-the-art review and meta-analysis. *Human Service Organizations: Management, Leadership & Governance, 40*(4), 305-333.



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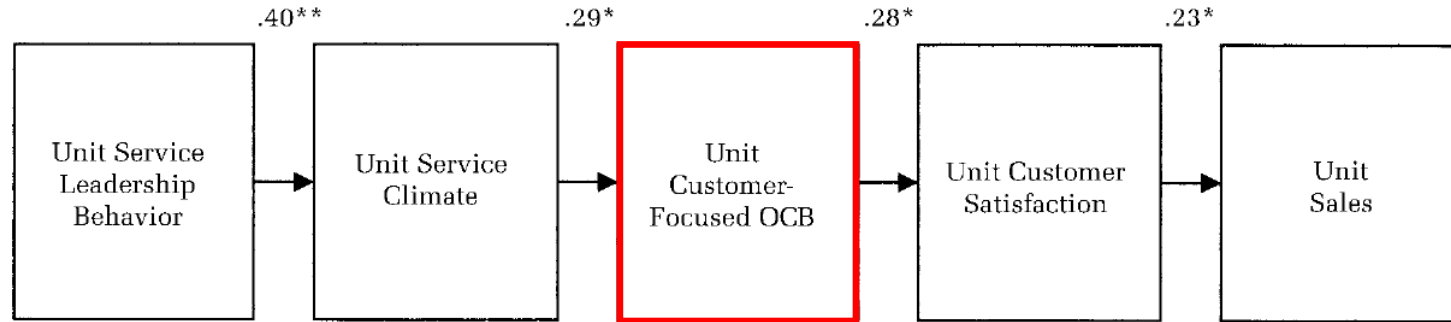


Source: Ehrhart, M. G., & Raver, J. L. (2014). The effects of organizational climate and culture on productive and counterproductive behavior. In B. Schneider & K. Barbera (Eds.), *The Oxford handbook of organizational climate and culture* (pp. 153-176). New York: Oxford University Press.



Source: Ostroff, C., Kinicki, A. J., & Muhammad, R. S. (2012). Organizational culture and climate. In N. W. Schmitt & S. Highhouse (Eds.), *Handbook of psychology, Vol. 12: Industrial and organizational psychology, 2nd Ed.* (pp. 643-676). Hoboken, NJ: Wiley.

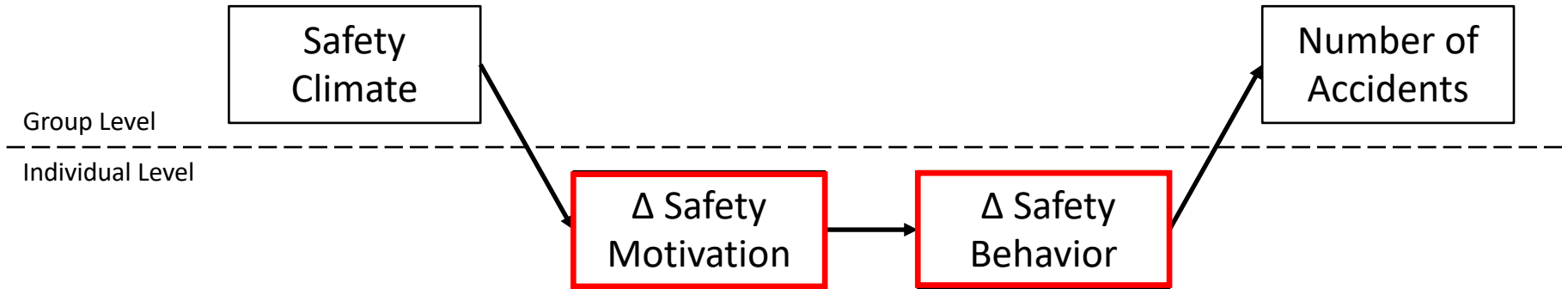
# Mediators of Service Climate's Effects



Source: Schneider, B., Ehrhart, M. G., Mayer, D. M., Saltz, J. L., & Niles-Jolly, K. (2005). Understanding organization-customer links in service settings. *Academy of Management Journal*, 48, 1017-1032.



# Mediators of Safety Climate's Effects

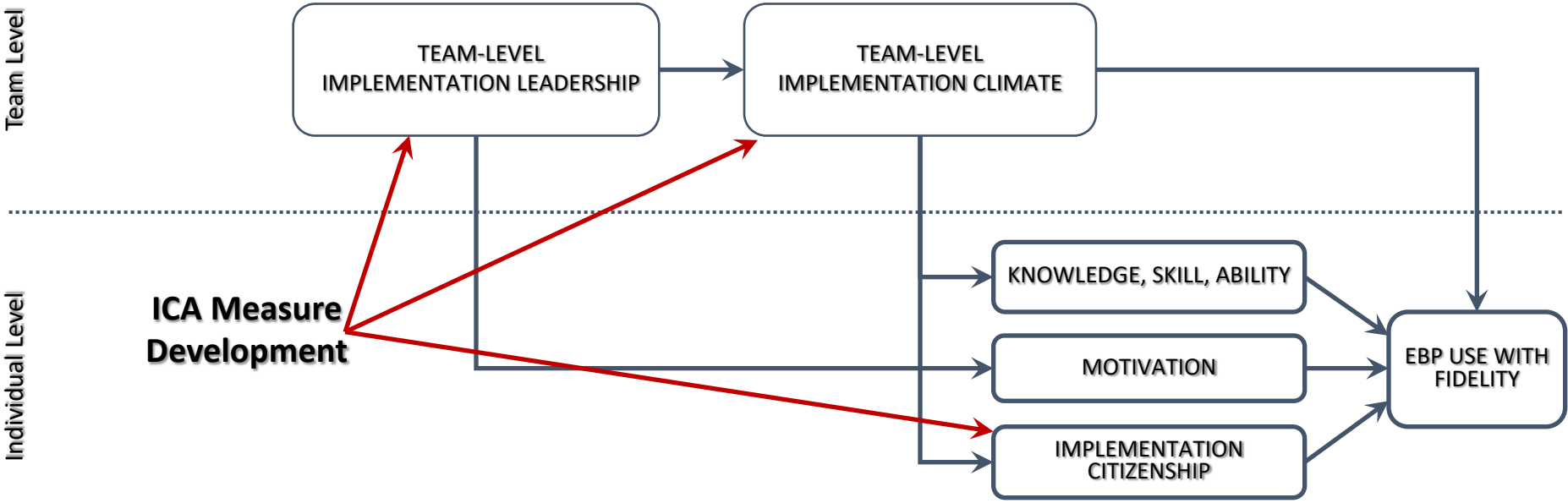


Source: Neal, A., & Griffin, M. A. (2006). A study of the lagged relationships among safety climate, safety motivation, safety behavior, and accidents at the individual and group levels. *Journal of Applied Psychology*, 91(4), 946-953.

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# Implementation Climate





Sources: Aarons, G. A., Ehrhart, M. G., & Farahnak, L. R. (2014). The implementation leadership scale (ILS): Development of a brief measure of unit level implementation leadership. *Implementation Science, 9*, 45.

Ehrhart, M. G., Aarons, G. A., & Farahnak, L. R. (2014). Assessing the organizational context for EBP implementation: The development and validity testing of the Implementation Climate Scale (ICS). *Implementation Science, 9*, 157.

Ehrhart, M. G., Aarons, G. A., & Farahnak, L. R. (2015). Going above and beyond for implementation: The development and validity testing of the Implementation Citizenship Behavior Scale (ICBS). *Implementation Science, 10*, 65.

# Implementation Climate

Employees' shared perceptions of the policies, practices, and procedures and the kinds of behaviors that are expected, supported, and rewarded towards the goal of effective implementation of evidence-based practice (EBP)

---

Focus on EBP

---

Educational Support for EBP

---

Recognition for EBP

---

Rewards for EBP

---

Selection for EBP

---

Selection for Openness

---

Use of Data for EBP

---

Existing supports for EBP

---

Integration of EBP

# Implementation Leadership

Leader behaviors that support effective implementation of evidence-based practice (EBP)

## **Knowledgeable**

Practices and continue to develop expertise in EBP

## **Proactive**

Develops a plan to facilitate implementation of EBP

## **Supportive**

Recognizes and appreciates staff efforts toward successful implementation of EBP

## **Perseverant**

After crises are under control, ensures that the focus returns to EBP implementation efforts

## **Available**

Communicates an open door policy to all staff

## **Communication**

Talks about, and encourages communication about, EBP

## **Vision/Mission**

Links implementation of EBP to the broader mission of the organization and/or clinic



# Implementation Citizenship Behavior

The discretionary behavior that employees perform to support evidence-based practice (EBP) implementation

**Helping Others**

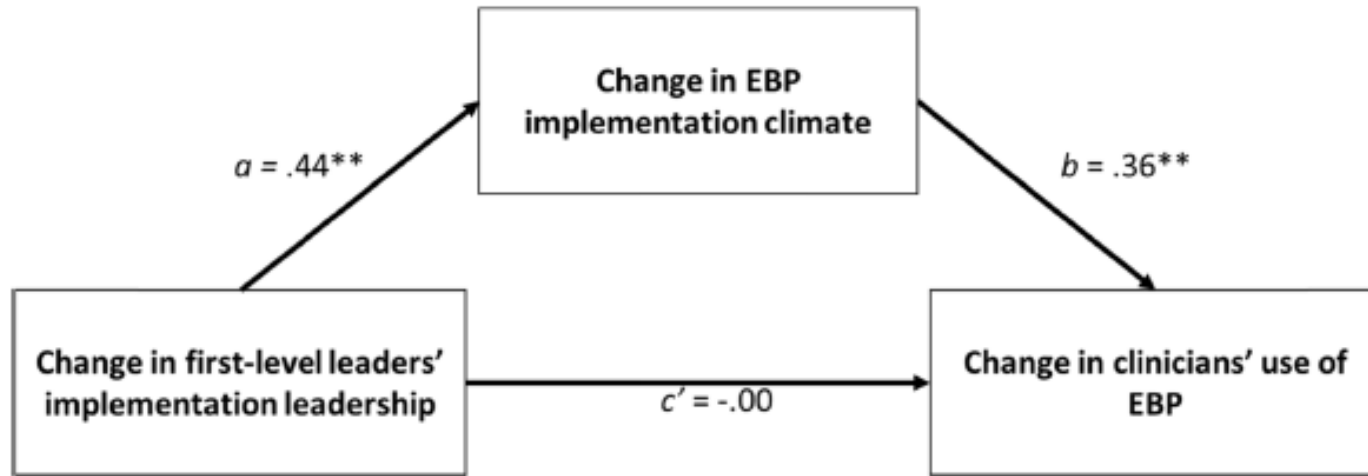
**Keeping Informed**

**Taking Initiative**

**Advocacy/Boosterism**


# Outcomes of implementation leadership/climate

- Changes in leadership lead to changes in climate, which lead to changes in outcomes



Source: Williams, N. J., Wolk, C. B., Becker-Haimes, E. M., & Beidas, R. S. (2020). Testing a theory of strategic implementation leadership, implementation climate, and clinicians' use of evidence-based practice: a 5-year panel analysis. *Implementation Science*, 15, 10.





# Leadership and Organizational Change for Implementation (LOCI)

Organization Level

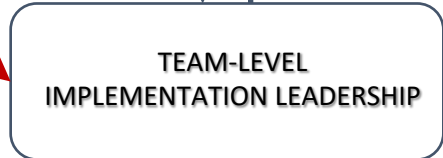
Team Level

Individual Level

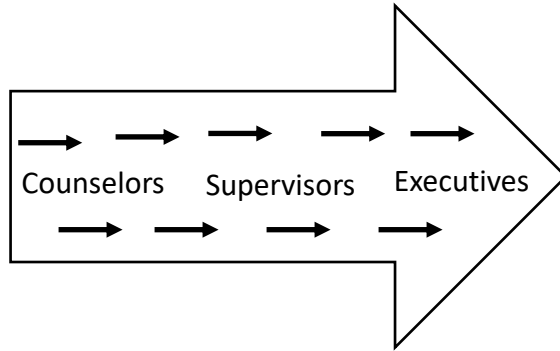
**LOCI**

*Org  
intervention*

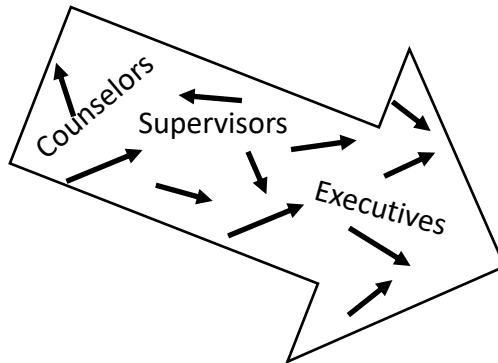
*Leader  
intervention*



# Alignment and Implementation Success



versus





**LOCI Core Principles**



**Evidence**

**Alignment**

**Communication**

**Feedback**

**Sustained Change**

**Adaptive & Flexible**



# LOCI Training

- Substance abuse treatment agencies
- Twelve-month training
- RCT with LOCI condition and control condition
- Funded by NIDA



# LOCI Training

July 2017	August 2017	Sept. 2017	October 2017	Nov. 2017	Dec. 2017	Jan. 2018	
<b>Individual Coaching Calls and Monthly Group Calls</b>							
	MI Training	OSM Monthly Check-In Calls			Follow Up Training 1		
Study Overview Team Meeting	Audio Recording Training	OSM*			OSM*	Mid-Cohort team meeting	
Assessment	LOCI Training			Assessment			
Feb. 2018	March 2018	April 2018	May 2018	June 2018	July/Aug 2018	Nov. 2018	
<b>Individual Coaching Calls and Monthly Group Calls</b>						OSM*	
OSM Monthly Check-In Calls		Follow Up Training 2	OSM Monthly Check-In Calls			OSM*	OSM* Study Wrap-up
			OSM*		Graduation		
	Assessment				OSM*		
				Assessment	Assessment	Assessment	

\*OSM = Organizational Strategy Meeting



# LOCI Lessons Learned

- Organizational change is hard
- Multiple levels of analysis
- What leaders need to address changes across the stages of implementation
  - Preparation – Implementation – Sustainment
  - Unfreezing – Change – Refreezing

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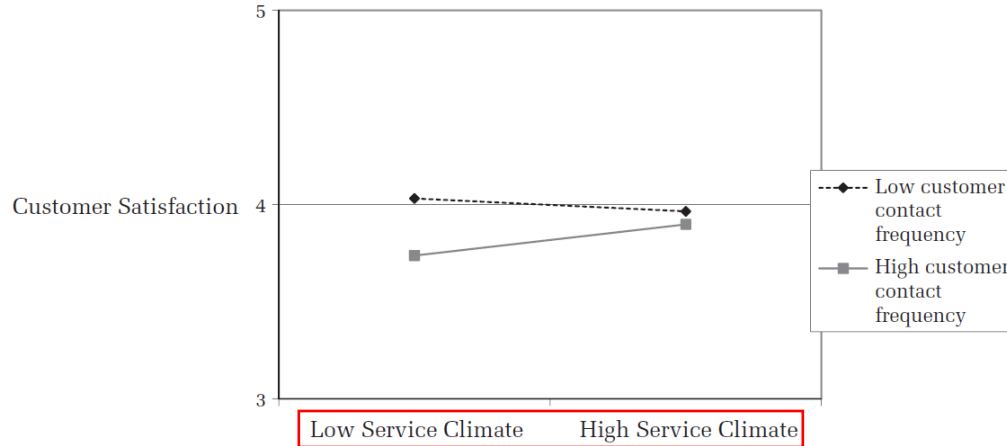
# Moderators of Climate's Effects



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# Example: Customer Contact as a Moderator

FIGURE 1  
Effects of Interaction between Service Climate and Customer Contact Frequency on Customer Satisfaction



Source: Mayer, D. M., Ehrhart, M. G., & Schneider, B. (2009). Service attribute boundary conditions of the service climate–customer satisfaction link. *Academy of Management Journal*, 52, 1034-1050.

# Example: Patient Complexity as a Moderator

Source: Hofmann, D. A., & Mark, B. (2006). An investigation of the relationship between safety climate and medication errors as well as other nurse and patient outcomes. *Personnel Psychology*, 59(4), 847-869.

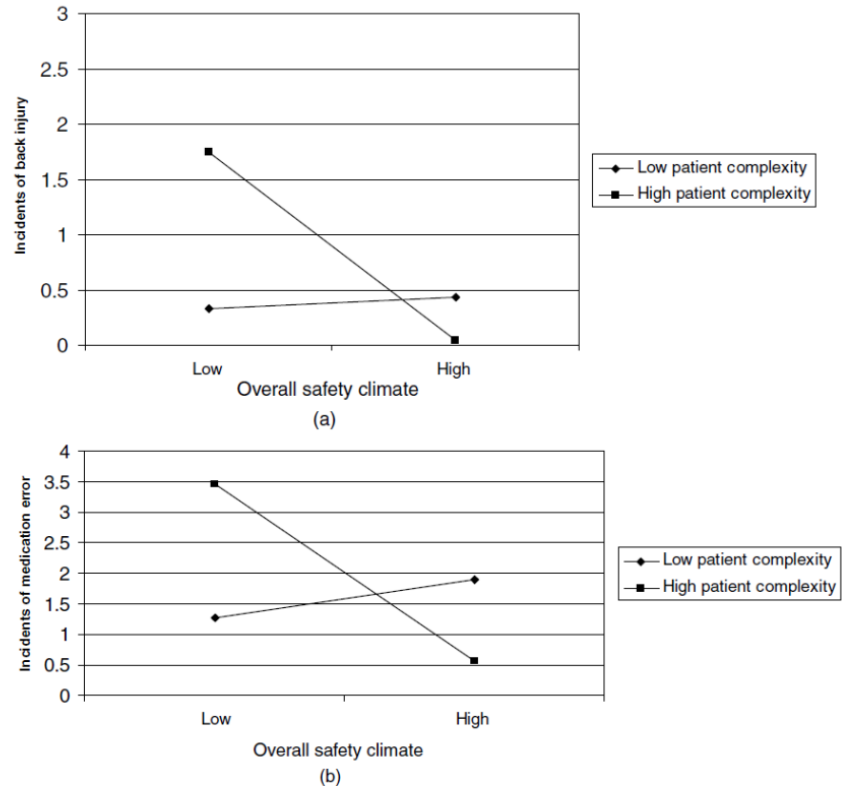


Figure 1a and 1b: Complexity of Patient Conditions Moderation of the Relationship Between Overall Safety Climate and Nurse Back Injuries and Medication Errors.



# Climate Strength Examples

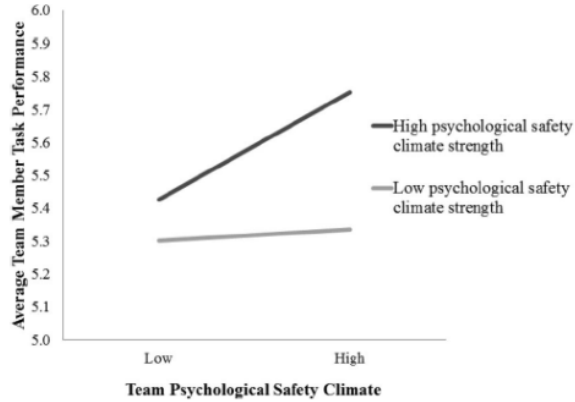
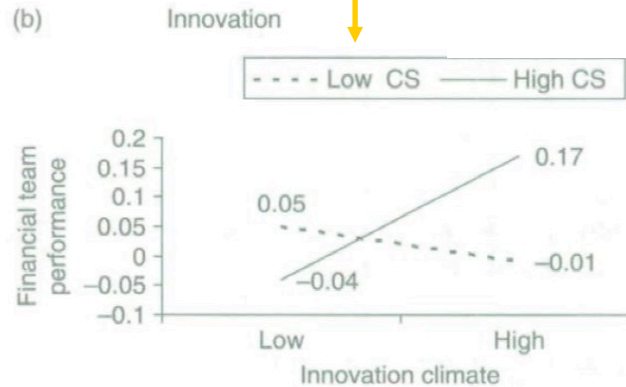


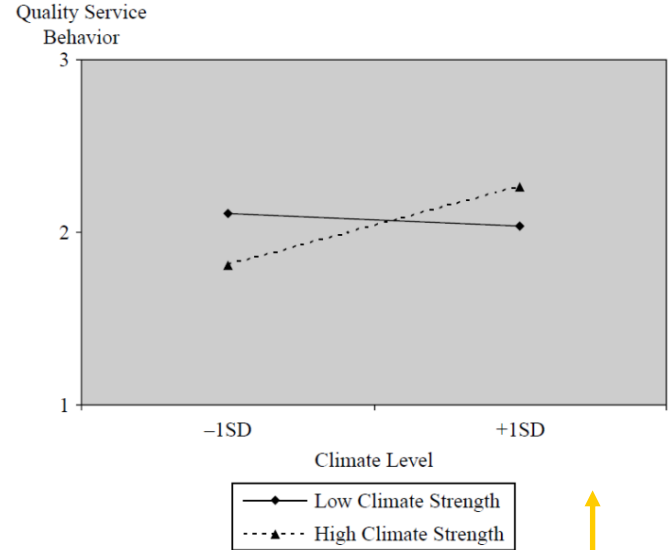
Figure 5. Team psychological safety climate strength moderates relationship between team psychological safety climate and average team member task performance.

Koopmann, Lanaj, Wang, Zhou, & Shi (2016)

González-Romá, Fortes-Ferreira, & Peiró, 2009)



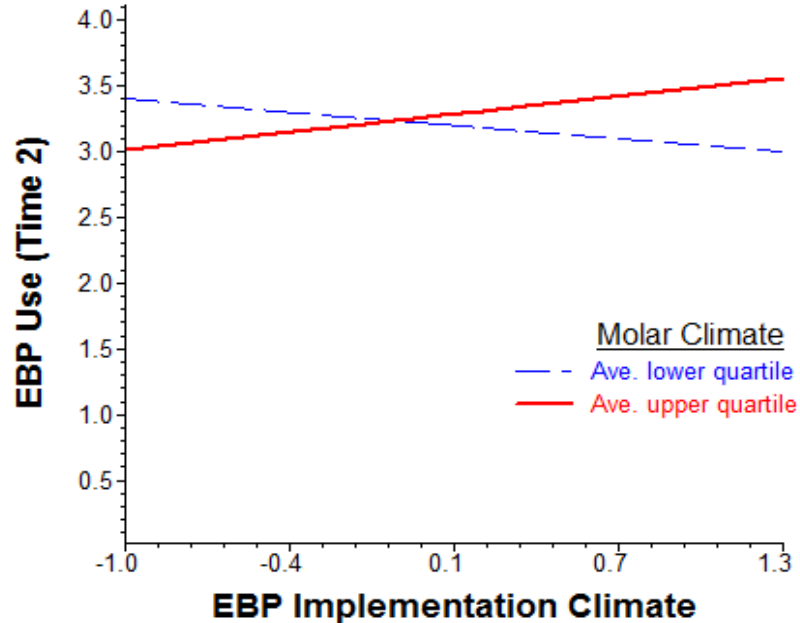
Service Behavior by Service Climate Level and Strength



Drach-Zahavy & Somech (2013)



# Interaction of Implementation and Molar Climate



Source: Williams, N. J., Ehrhart, M., G., Aarons, G. A., Marcus, S. C., & Beidas, R. S. (2018). Linking molar organizational climate and strategic implementation climate to clinicians' use of evidence-based psychotherapy techniques: Cross-sectional and lagged analyses from a two-year observational study. *Implementation Science* 13, 85.



# Measurement & Design

# Measuring Climate

- **Aligning theory and measurement**
- **Psychological vs. organizational climate**
- **Referent shift for item-writing**
  - Psychological climate: I am recognized when I do a good job [behave safely]
  - Organizational climate: Members of my team are recognized for doing a good job [behaving safely]
- **The rule: The item should be written at the level of analysis to which you wish to aggregate**
- **Remember to check aggregation statistics**
  - $r_{WG}$  (or AD or  $a_{WG}$ )—index of absolute agreement
  - ICC(1)—index of within vs. between variance (ANOVA)
  - ICC(2)—reliability of the aggregate mean (strongly affected by sample size)

Chan, D. (1998). Functional relations among constructs in the same content domain at different levels of analysis: A typology of composition models. *Journal of Applied Psychology*, 83, 234-246.

LeBreton, J. M., & Senter, J. L. (2008). Answers to twenty questions about interrater reliability and interrater agreement.

*Organizational Research Methods*, 11, 815-852.



# Multilevel Research Challenges

- **Multiple, cross-level, serial mechanisms**
  - Identifying primary mechanisms and appropriate levels
- **Sample size**
  - Need adequate sample size at multiple levels, including sample size within each level
- **Qualitative and mixed methods research**



A golden globe sits on a brick floor. In the background, a circular seal of Florida State University is visible, featuring a palm tree and the text 'FLORIDA STATE UNIVERSITY'. The scene is lit with a warm, golden light.

# Final Thoughts on Implementation Climate

Creating an organizational climate for implementation seems like it would take a lot of time, energy, and expense...

All of this stuff on bundles of practices across multiple levels is kind of a pain from a research design and analysis perspective...



Can you just focus on the individual level and ignore the role of the organizational context?

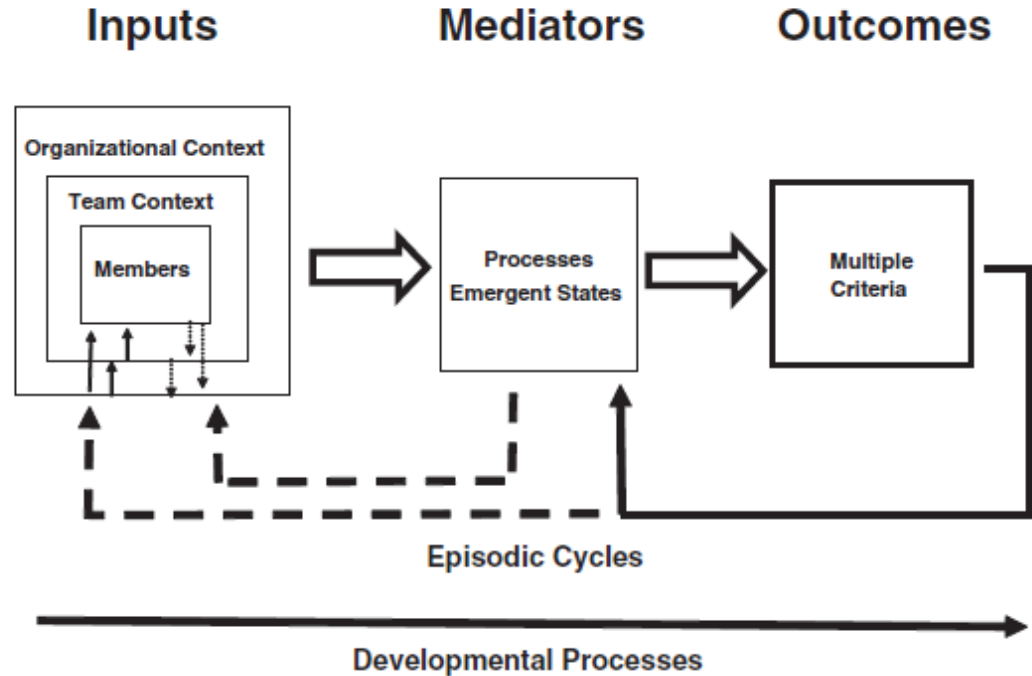


A golden globe sits on a brick floor. In the background, a circular seal of Florida State University is visible, featuring the text 'FLORIDA STATE UNIVERSITY' and '1899'. The scene is lit with a warm, golden light.

# Beyond Climate: Other Relevant Organizational Constructs

# Teams

## Input-Mediator-Outcome (IMO) Team Effectiveness Framework

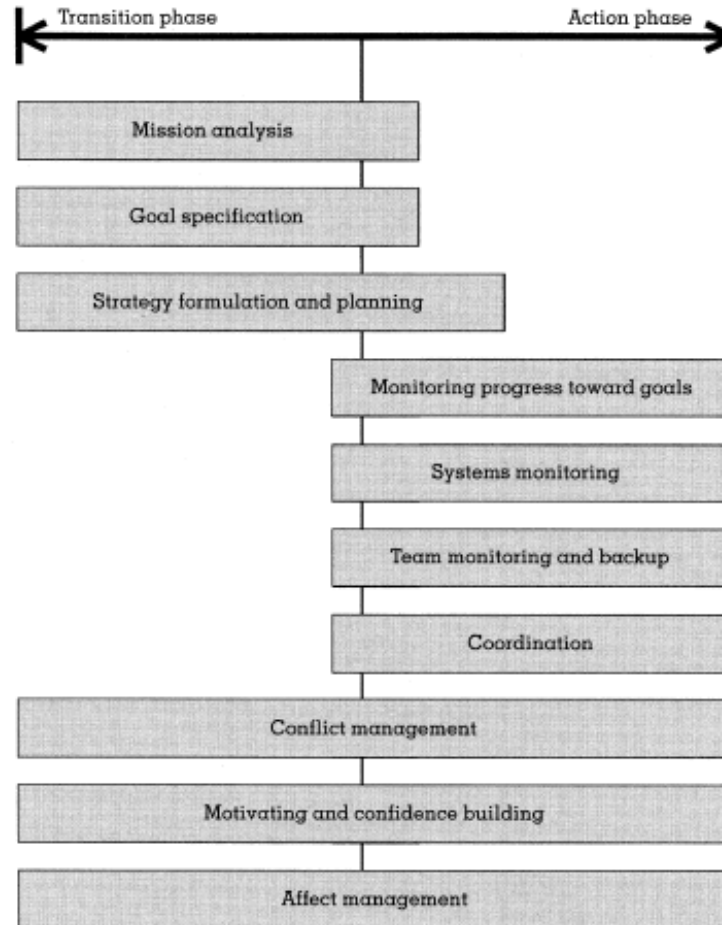


Source: Mathieu, J., Maynard, M. T., Rapp, T., & Gilson, L. (2008). Team effectiveness 1997-2007: A review of recent advancements and a glimpse into the future. *Journal of Management*, 34(3), 410-476.



# Teams

## Manifestation of Processes in Transition and Action Phases



Source: Marks, M. A., Mathieu, J. E., & Zaccaro, S. J. (2001). A temporally based framework and taxonomy of team processes. *Academy of Management Review*, 26(3), 356-376.

# Teams

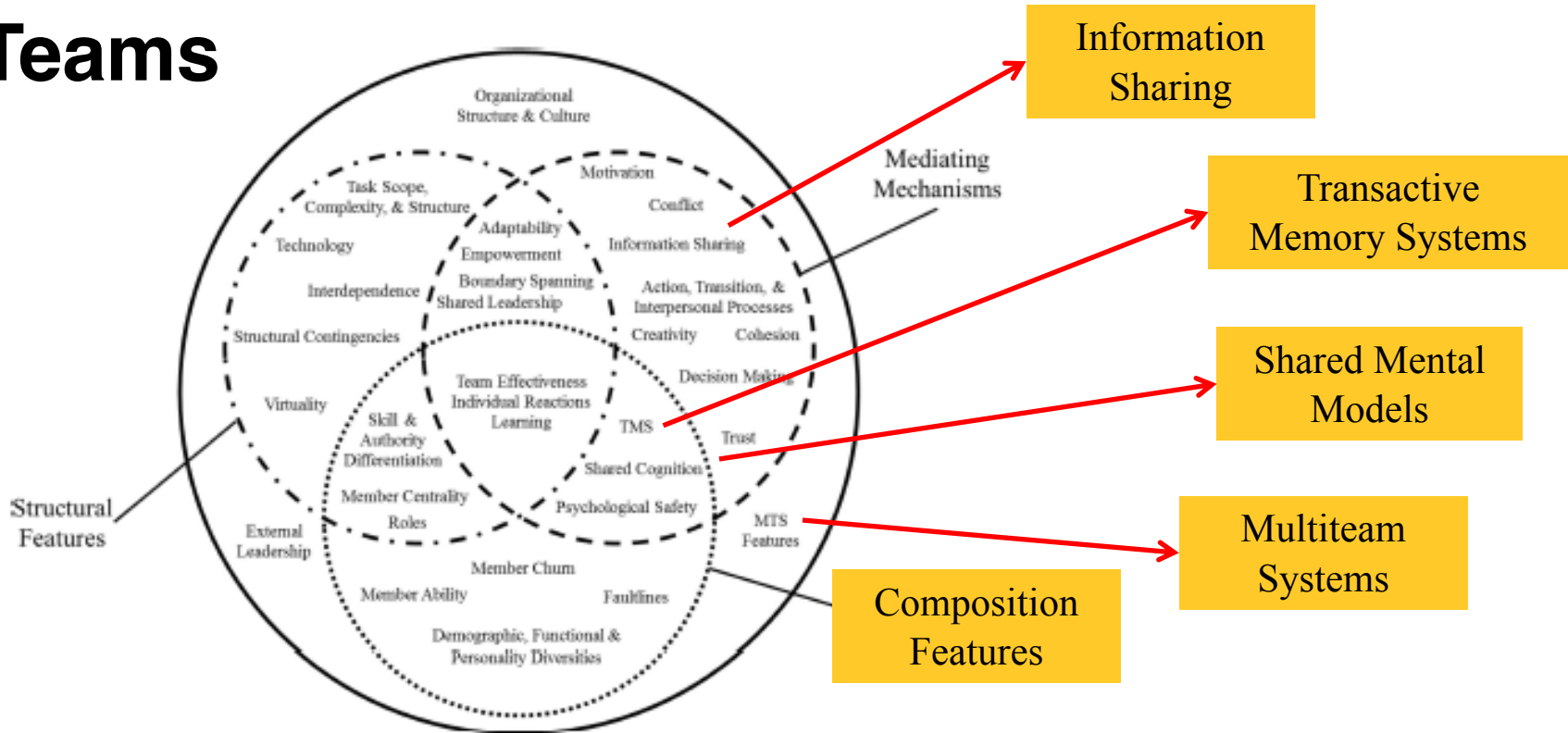


Figure 3. Construct domain for teams research.

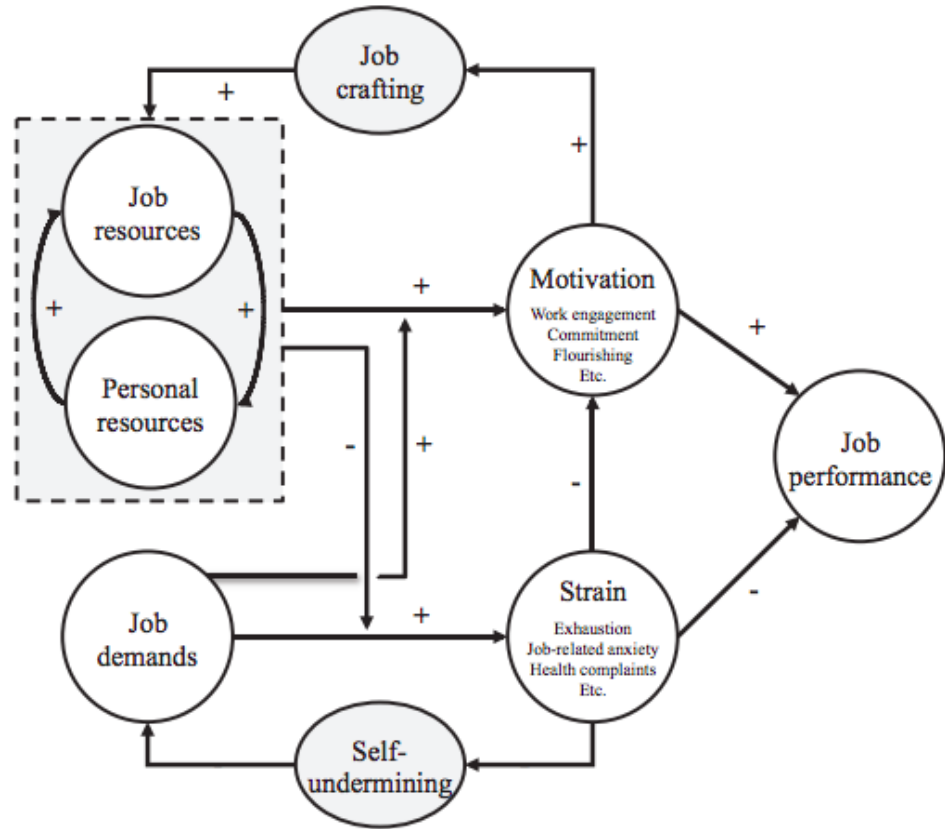
Source: Mathieu, J. E., Hollenbeck, J. R., van Knippenberg, D., & Ilgen, D. R. (2017). A century of work teams in the Journal of Applied Psychology. *Journal of Applied Psychology*, 102(3), 452-467.

# Work Stress

Job demands-  
resources model:

## Sample resources:

- Job security
- Rewards
- Autonomy
- Participation in decision making
- Resilience
- Social support
- Family-friendly workplace policies

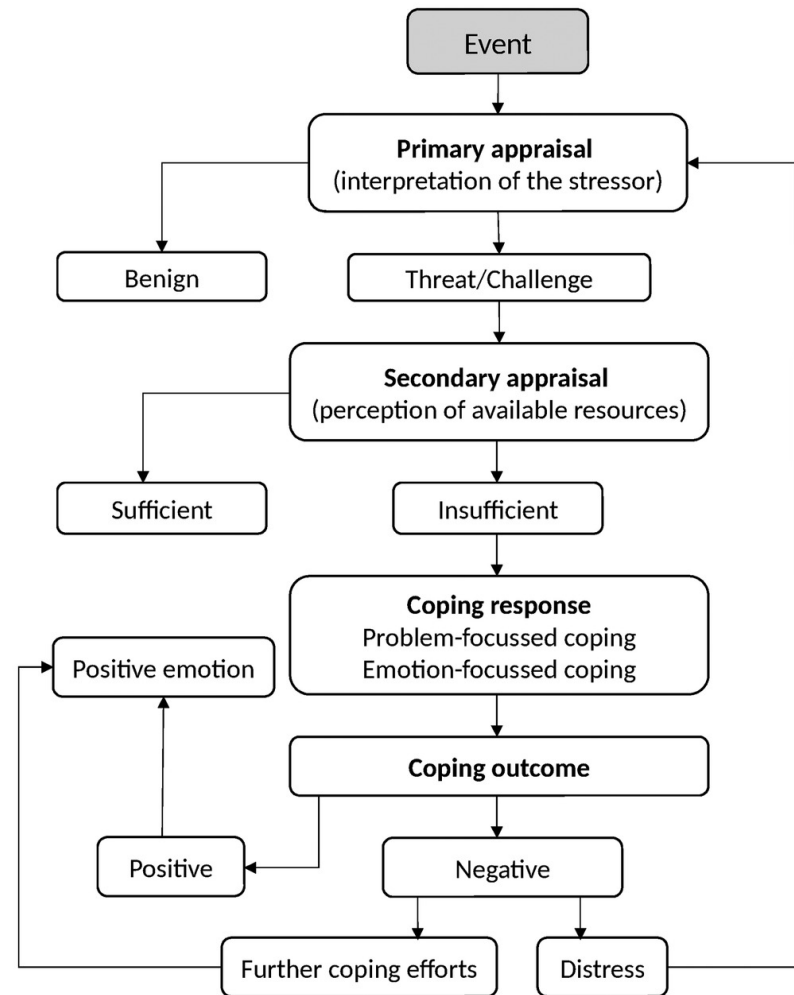


Source: Bakker, A. B., & Demerouti, E. (2017). Job demands–resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology*, 22(3), 273-285.



# Work Stress

## Transactional model of work stress:



Source: Lazarus, R. S. and Folkman, S. (1984). *Stress, appraisal, and coping*. Springer, New York.

Figure source: Turner-Cobb, J. M., & Hawken, T. (2019). Stress and coping assessment. In C. D. Llewellyn et al., *Cambridge Handbook of Psychology, Health and Medicine, 3rd edition*. Cambridge University Press: Cambridge, UK.



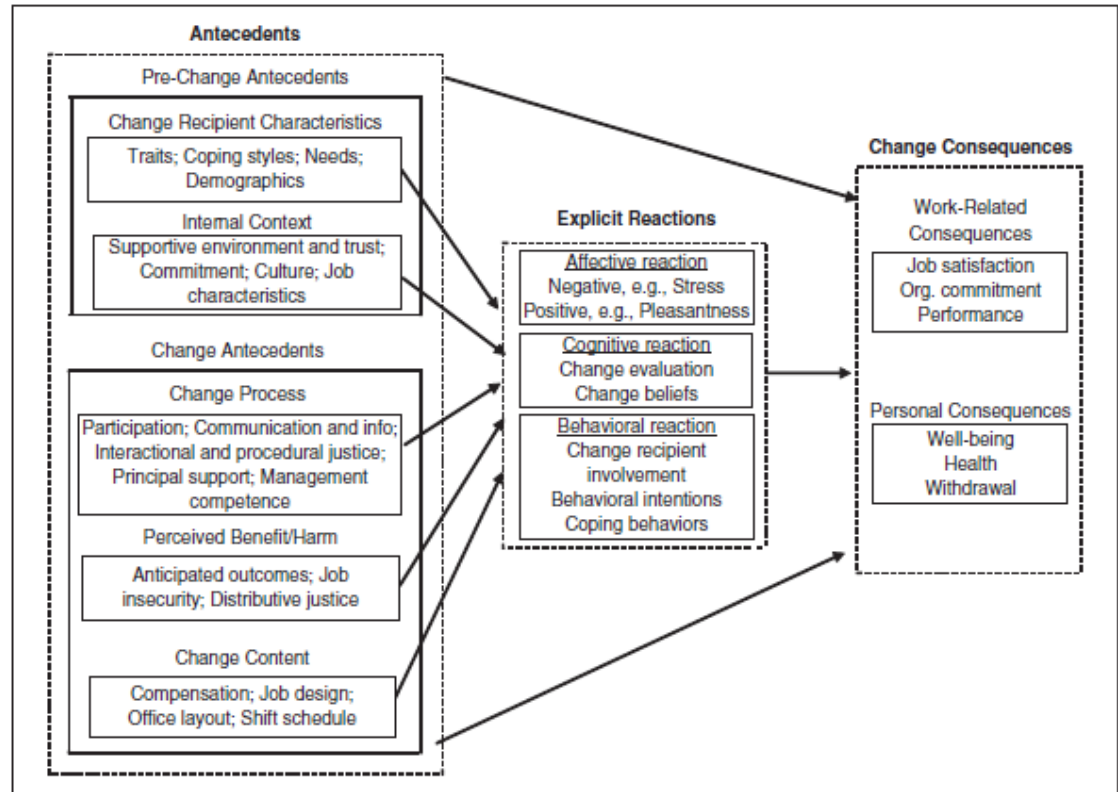
# Threat Appraisal and Resistance to Change (Implementation)

- Why do workers resist change?
  - Loss of control
  - Excess uncertainty
  - Unprepared for change
  - Challenge of learning new routines
  - Loss of face
  - Concerns about future competence
  - More work
  - Past resentments
  - Real loss of status

Source: Kanter, R. M. (1985). Managing the human side of change. *Management Review*, 74(4), 52-56.



# Reactions to Organizational Change

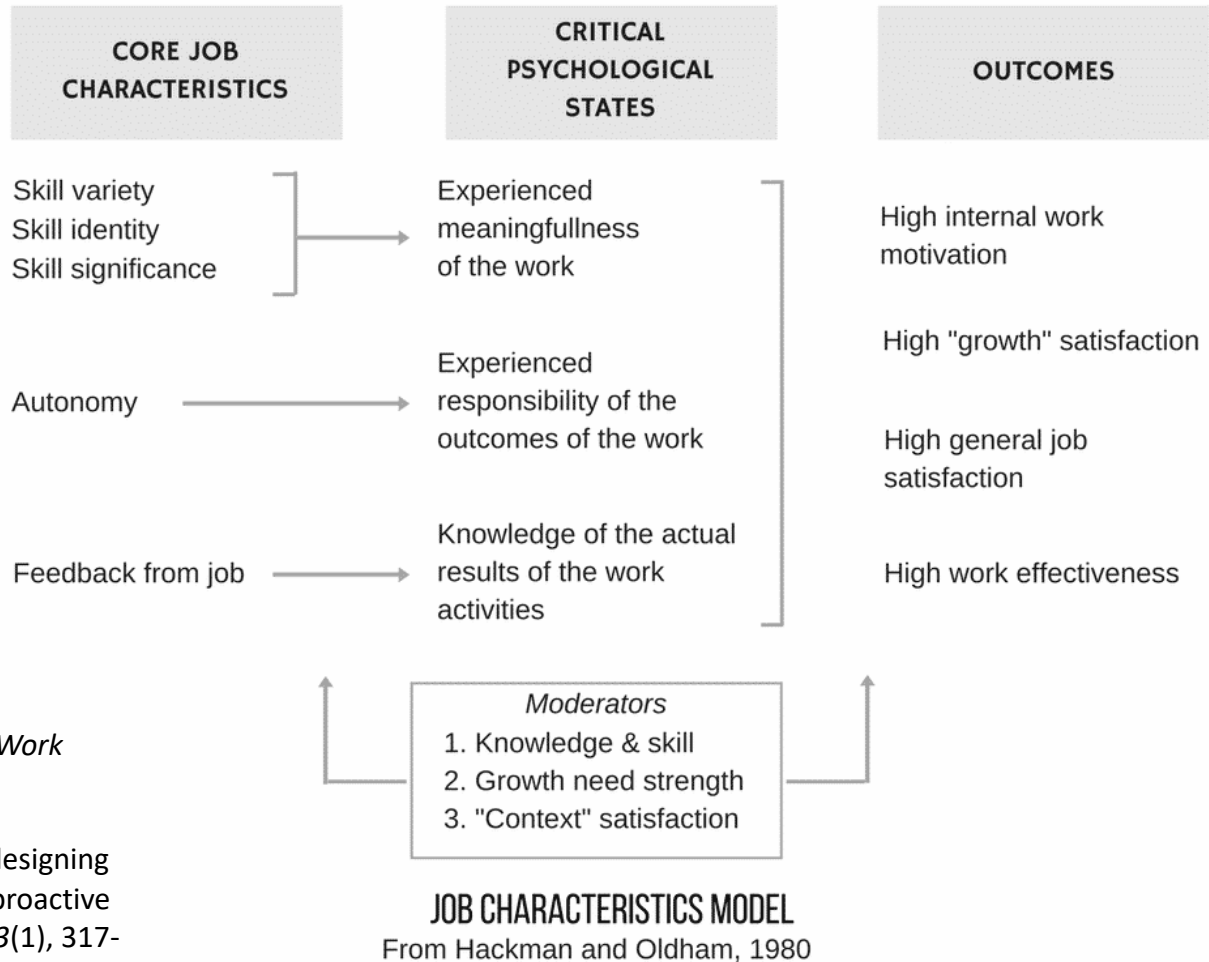


Source: Oreg, S., Vakola, M., & Armenakis, A. (2011). Change recipients' reactions to organizational change: A 60-year review of quantitative studies. *The Journal of Applied Behavioral Science*, 47(4), 461-524.

**Figure 1.** Antecedents, explicit reactions, and change consequences of organizational change  
Note. The variables in each box constitute only a sample of the relevant variables in each category.



# Job Design

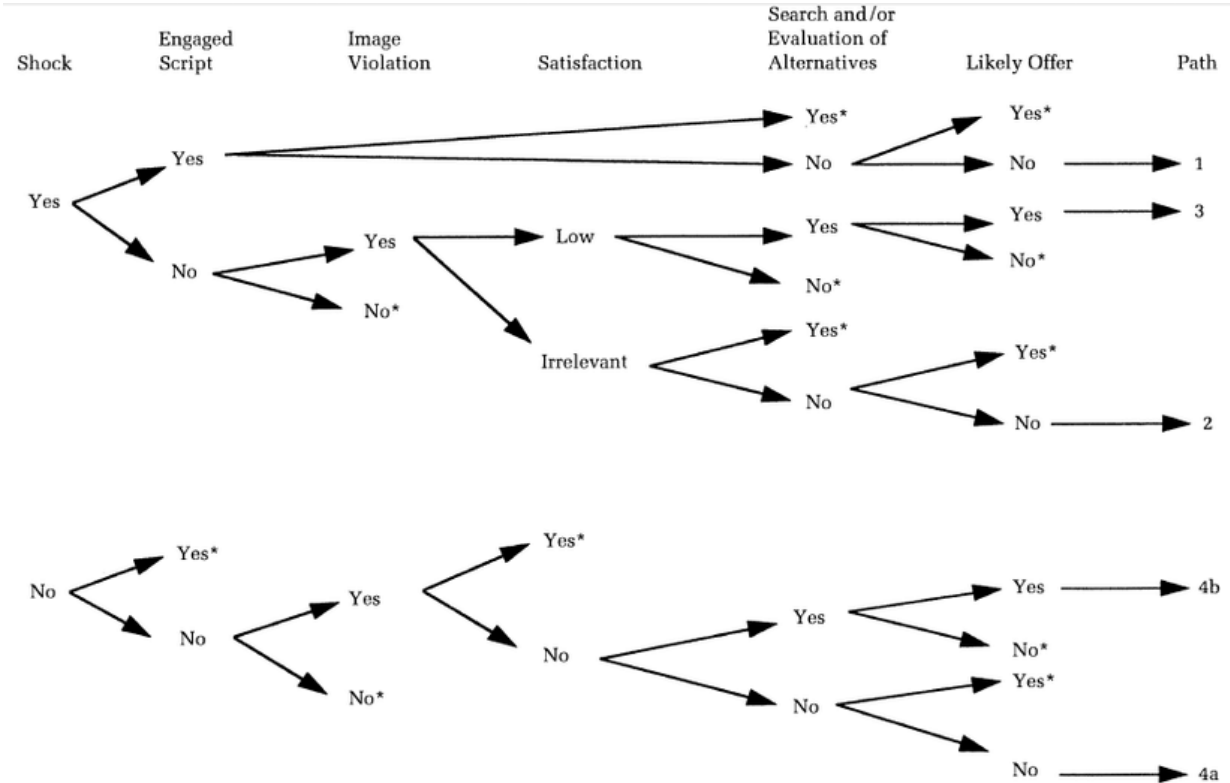


Source: Hackman, J. R., & Oldham, G. R. (1980). *Work redesign*. Reading, MA: Addison Wesley.

See also: Grant, A. M., & Parker, S. K. (2009). Redesigning work design theories: The rise of relational and proactive perspectives. *Academy of Management Annals*, 3(1), 317-375.

# Turnover

## Unfolding Model of Turnover:



Source: Lee, T. W., & Mitchell, T. R. (1994). An alternative approach: The unfolding model of voluntary employee turnover. *Academy of Management Review*, 19(1), 51-89.

<sup>a</sup> This figure includes the changes to the unfolding model added for the present study.

<sup>b</sup> An asterisk (\*) indicates that the route is not classifiable and that it represents a theory falsification—a way in which an individual could leave an organization that would not be part of one of the model's paths.



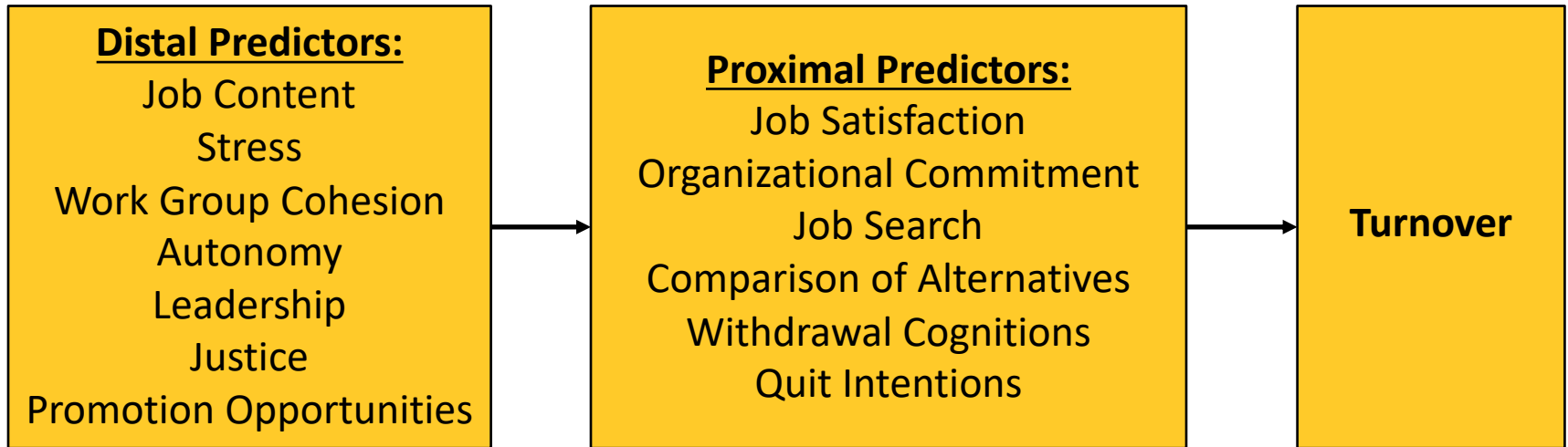
# Unfolding Model of Turnover

- Four “paths” to turnover:
  - 1) Shock leads to immediate turnover response
  - 2) Shock leads to evaluation of job and leaving without a job alternative
  - 3) Shock leads to evaluation of job, comparison with job alternative, and leaving for job alternative
  - 4) No shock; slow, evolving dissatisfaction with job that leads to job search and/or immediate turnover
- Need to understand nature of turnover to determine proper response
- (See also the literature on psychological contract breach)

Source: Lee, T. W., & Mitchell, T. R. (1994). An alternative approach: The unfolding model of voluntary employee turnover. *Academy of Management Review*, 19(1), 51-89.



# Turnover: Meta-Analytic Findings



Source: Griffeth, R. W., Hom, P. W., & Gaertner, S. (2000). A meta-analysis of antecedents and correlates of employee turnover: Update, moderator tests, and research implications for the next millennium. *Journal of Management*, 26(3), 463-488.





# Key Takeaways for Working in Organizations

- People are complex, and organizations made up of people who bring along their unique and diverse perspectives are even more complex
- Alignment is critical!
  - Across policies, practices, and procedures
  - Between espoused values and enacted values
  - Between desired behavior and incentive structures (the folly of rewarding A while hoping for B...)
  - Across levels of leadership
- Long-term thinking is required – there are no silver bullets
- Communicate, communicate, and then communicate some more
- Data and assessment – measure what you value

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# Thank you!

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