

# **EMOTIONAL ERGONOMICS**

## **THE HIDDEN DIMENSION OF HUMAN-CENTERED ORGANIZATION DESIGN**

**37TH SUMMER UNIVERSITY ON ERGONOMICS**

**01.07.2026**



# SAFETY EVOLUTION

Work 1.0 18th century  
industrial revolution

Work 2.0 19th century  
mass production, competition

Work 3.0 20th century  
IT, globalization

Work 4.0 21th century  
digital transformation, AI

1788  
"Chimney  
Sweepers Act"

Safety Standards:  
Physical  
Chemical  
**Ergonomic**  
Biological

2011 Australia, 2013 Canada  
**Mental and Emotional Well-being**  
ISO 45003:2021  
**Psychological Health and  
Safety in the Workplace**  
**Emotional Ergonomics**



# RETHINK HOW WE THINK

Work 1.0 18th century  
industrial revolution

Work 2.0 19th century  
mass production, competition

Work 3.0 20th century  
IT, globalization

Work 4.0 21th century  
digital transformation, AI

I want to talk to you  
about worker safety... I  
intend to make Alcoa  
the safest company in  
America. I intend to go  
for zero injuries."

Paul O'Neill's inaugural  
address as Chairman  
and CEO in 1987

**"The real problem of  
humanity is that we have  
paleolithic emotions,  
medieval institutions, and  
god-like technology."**

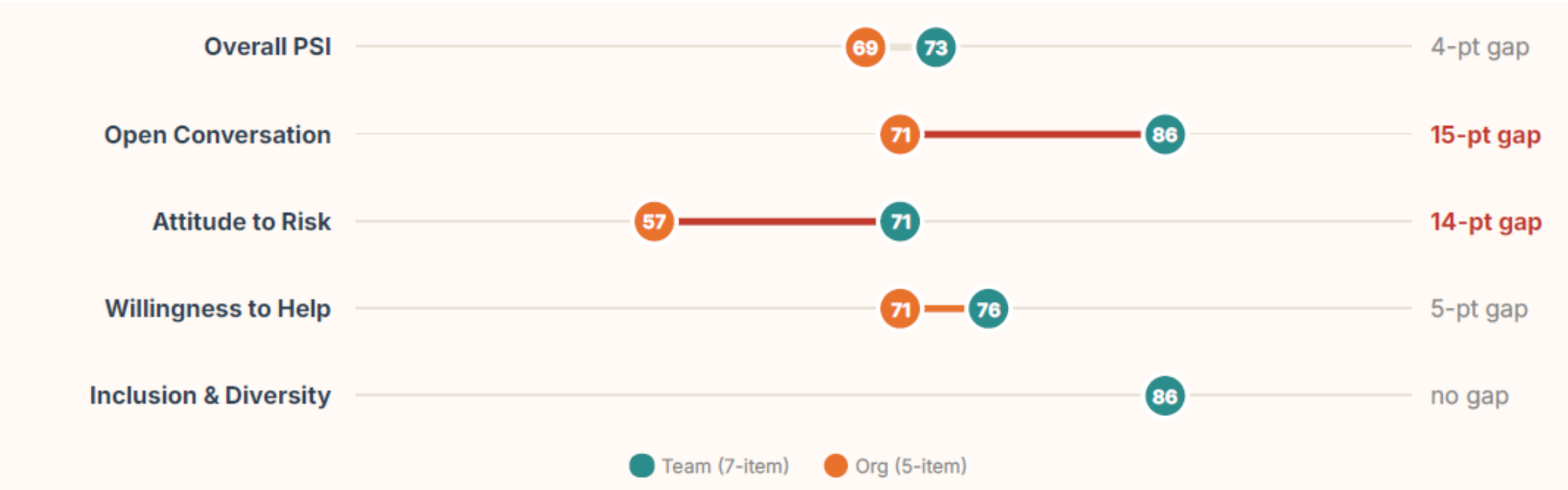
Edward O. Wilson  
Biologist

# PALEOLITIC EMOTIONS

Instincts shaped for survival in small, tribal groups.  
Visceral reactions to stress (fight or flight),  
Tribal loyalty,  
Fear of strangers.



Globalization  
Social media platforms, Privacy deficiency  
Social bonds reduced  
Modern stressors (deadlines, commuting to work, workload, deadlines, gossip culture, etc)



People feel safer on their team than in their organization.

The Fearless Report - The Global State of Psychological Safety at Work 2025 Edition  
The Fearless Organization Scan | [fearlessorganizationscan.com](https://fearlessorganizationscan.com)

# MEDIEVAL INSTITUTIONS

The institutions of human society, such as government, education, or bureaucracy adapt slowly to change and are still based on authority and hierarchy



- V - Volatile

U - Uncertain

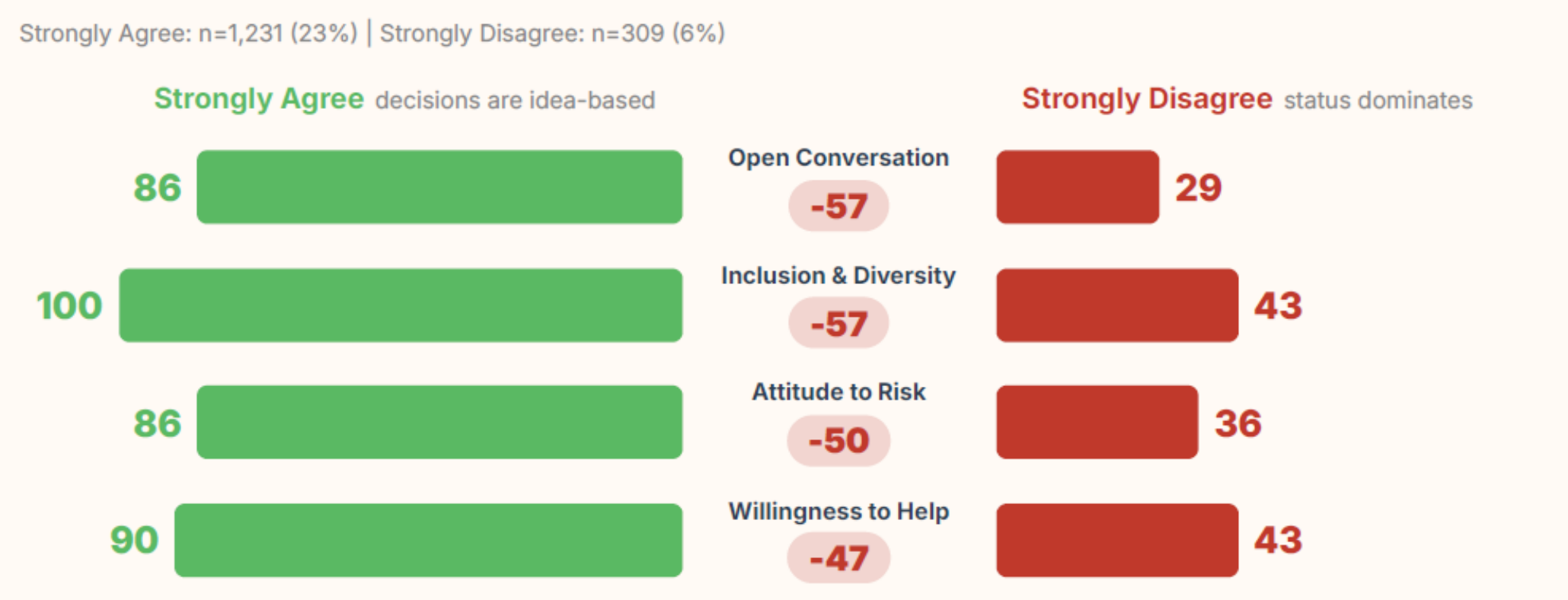
C - Complex

A - Ambiguous
- An orange chevron-style arrow pointing from the left column of terms to the right column.
- B - Brittle

A - Anxious

N - Non-linear

I - Incomprehensible



The HIPPO (Highest Paid Person’s Opinion) effect

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# GODLIKE TECHNOLOGY

unlimited flow of information,  
artificial intelligence, generative AI  
biotechnology,  
automation

VS

\* layoffs due to AI powered productivity  
Cultural changes  
Cognitive atrophy  
AI workstop takes manager time to correct  
Autonomy loss  
Career path disruption  
Wisdom to control - ethical considerations



\* Gartner CHRO Guide: 9 Future of Work Trends for 2026

# STATE OF THE GLOBAL WORKPLACE - LIFE EVALUATION

% THRIVING

Regional

47% +1

Global

34%



% STRUGGLING

Regional

49% +1

Global

58%



% SUFFERING

Regional

4% -2

Global

8%



# STRESS

Regional

37% -1

Global

41%



# INTENT TO LEAVE

Regional

32% -2

Global

52%

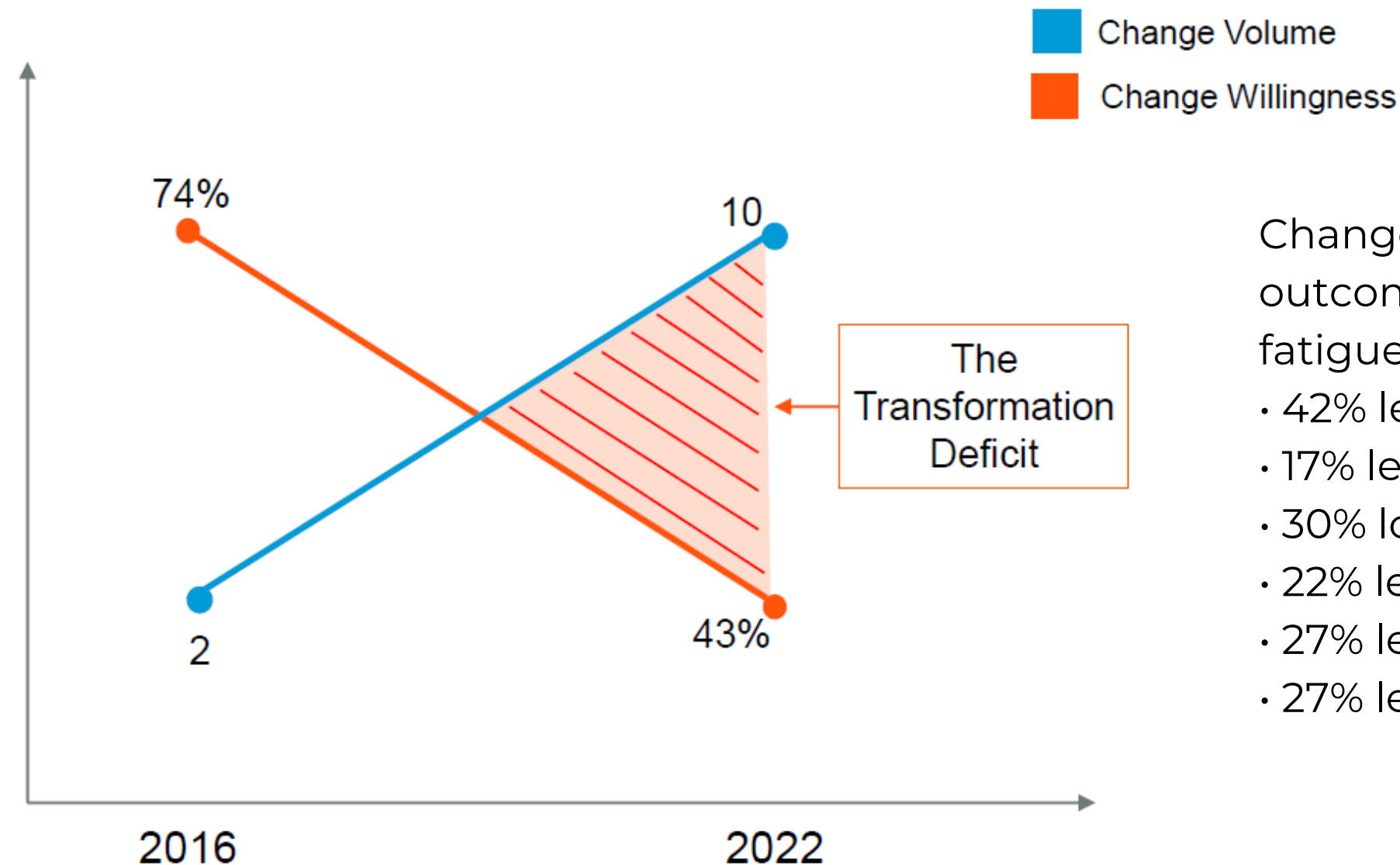


# COMMON PSYCHOSOCIAL HAZARDS IN THE WORKPLACE

- **Excessive Workload and Time Pressure** (unrealistic deadlines, chronic overwork, lack of recovery time)
- **Lack of Role Clarity** (ambiguity regarding job responsibilities and expectations)
- **Toxic Interpersonal Relationships** (between coworkers, supervisors, or teams)
- **Bullying and Harassment** (persistent mistreatment, intimidation, or discriminatory behavior)
- **Hazing** (initiation practices that involve humiliation or coercion)
- **Job-Related Trauma** (traumatic events, particularly in high-risk professions)
- **Poor Communication** (ineffective or unclear)
- **Low Autonomy and Control** (limited decision-making authority or inability to influence one's work environment)
- **Job Insecurity** (uncertainty about employment status or fear of layoffs)
- **Lack of Support** (insufficient support from supervisors or peers, lack of resources, feedback, or recognition)
- **Discrimination and Exclusion** (biases based on race, gender, age, or other characteristics, exclusion from decision-making or opportunities)
- **Work-Life Disruption** (inflexible schedules and excessive demands that encroach on personal time)
- stress, burnout, and reduced resilience
- confusion, frustration, conflict increasing mental strain
- tension, mistrust, and hostility, undermining collaboration and morale
- hostile work environment, stress, anxiety, and decreased job satisfaction
- eroded trust, damaged self-esteem, long-term emotional distress
- post-traumatic stress disorder (PTSD) and other mental health challenges
- misunderstandings, conflict, and stress among employees and teams
- reduced engagement, feelings of powerlessness
- chronic stress and anxiety
- undermines employees' sense of value and wellbeing
- stress and emotional distress
- burnout and reduced mental health.

Spencer-Thomas, S., Kimlinger, D., Lombardo, K., Smith A., & Pastukhova, Y. (2025). Emotional Ergonomics – How the Intersection of Ergonomics, Pain, and Mental Health Shape Worker Wellbeing: A White Paper on Emotional Ergonomics. Denver, CO.

# EMPLOYEES ARE TIRED OF ALL THE CHANGE



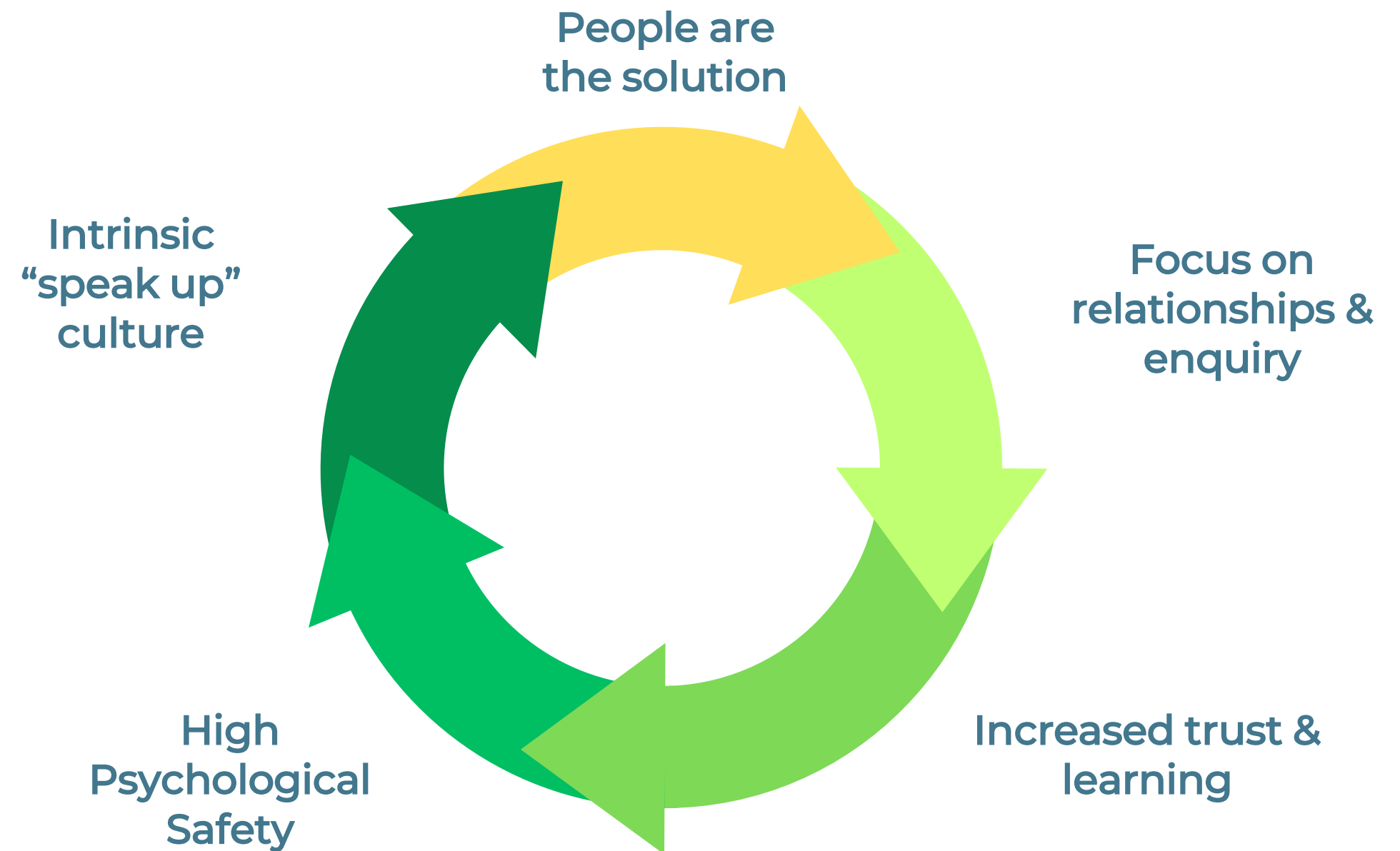
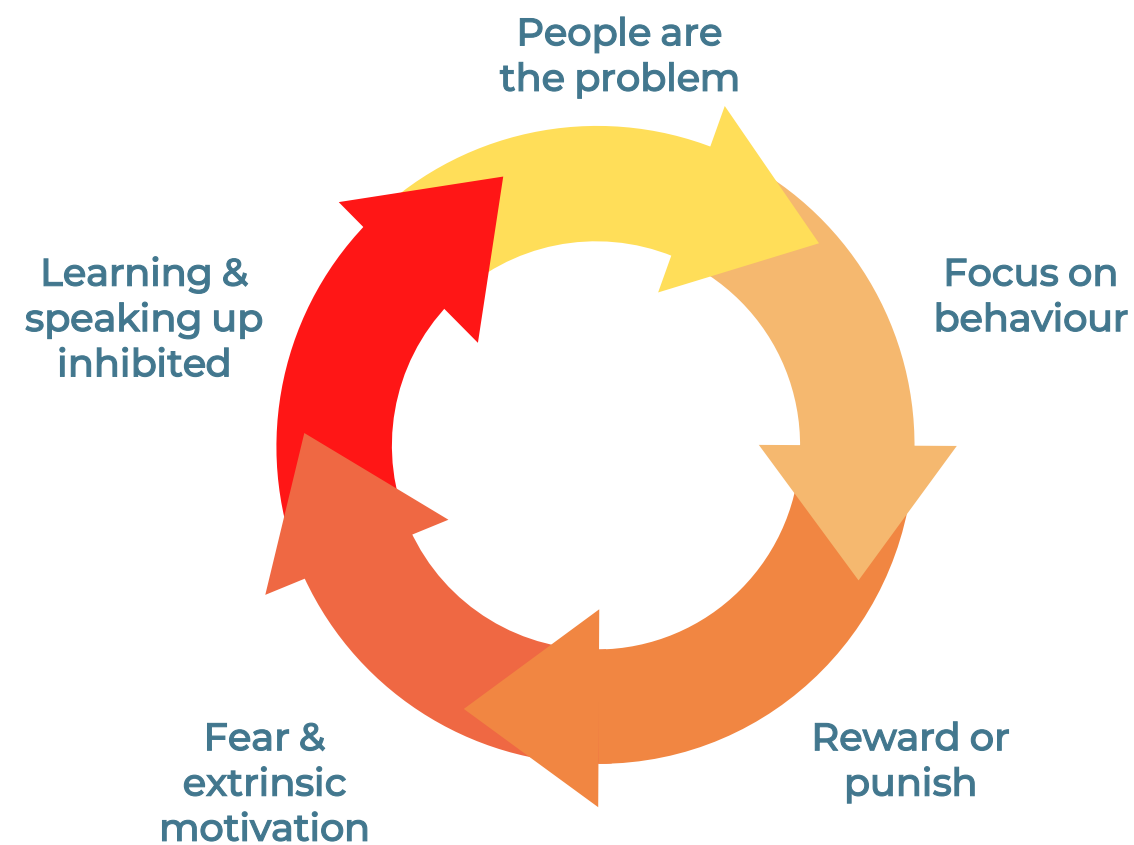
Change fatigue corrodes employee outcomes. Employees experiencing change fatigue report:

- 42% less intent to stay
- 17% less enterprise contribution
- 30% lower levels of trust
- 22% less discretionary effort
- 27% less sustainable performance
- 27% less responsiveness

<sup>a</sup> Average Number of Enterprise Changes in Past 12 Months. Sources: n = 305 organizations Gartner HR Change Readiness Survey; 3,548 employees Gartner 2022 Workforce Change Survey

<sup>b</sup> Percentage of Employees Willing to Change to Support Enterprise Change. Sources: n = 6,686 employees Gartner 2016 Workforce Change Survey; n = 3,548 employees Gartner 2022 Workforce Change Survey; n = 3,497 employees 2022 Gartner Organizational Effectiveness and HR Professionals Key Priorities Survey

# SHIFT THE FOCUS FROM THE INDIVIDUAL TO THE ENVIRONMENT



Clive Lloyd, Next Generation Safety Leadership - From Compliance to Care,  
Taylor & Francis Group, LLC, CRC Press, 2021, Boca Raton, London, New York

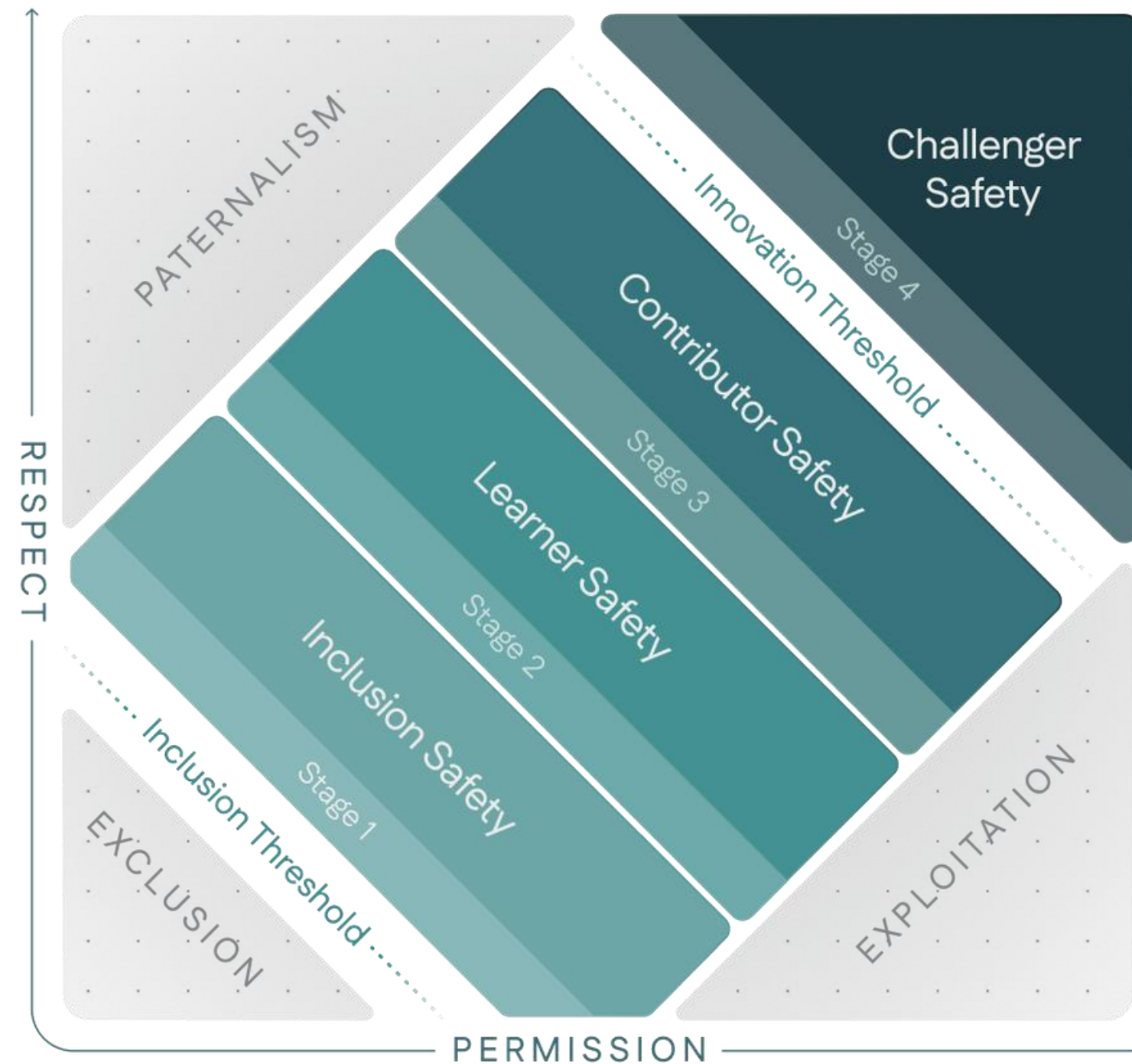
# BUILD PSYCHOLOGICAL SAFETY



"Psychological safety is the belief that you won't be punished or humiliated for sharing your ideas, questions, concerns, or mistakes."

Amy Edmondson

# BUILD PSYCHOLOGICAL SAFETY



“A Culture of Rewarded Vulnerability”

Dr Timothy R. Clark, The 4 Stages of Psychological Safety™ ,  
2020, Berrett-Koehler Publishers Inc, Oakland

# BUILD PSYCHOLOGICAL SAFETY

## INCLUSION



Inclusion is a choice:  
it places the person  
above human  
characteristics



Ask...  
Invite...  
Share...  
Involve...

Timothy R. Clark - The 4 Stages of Psychological Safety  
Photo credit Ann Marie A. Swift

# BUILD PSYCHOLOGICAL SAFETY

## LEARNING



Feel free to ask  
questions  
give it a try  
get help  
talk about  
mistakes  
learn from them



Set an example... (e.g.,  
acknowledging your own  
shortcomings)  
Encourage them... (e.g.,  
ask for their opinion and  
listen respectfully)  
Defend them... (e.g.,  
defusing blame)

# BUILD PSYCHOLOGICAL SAFETY

## CONTRIBUTION



1. Work is important
  2. Clear goals, well-defined roles
  3. Work adds value
  4. We depend heavily on one another
  5. Psychological safety\*
- \* Google's Aristotle Project



Explain the "Why"...

Assign the "What"...

Delegate the

"How"...

# BUILD PSYCHOLOGICAL SAFETY

## CHALLENGING



- Performance
- Creativity
- Innovation
- Flexibility
- Development

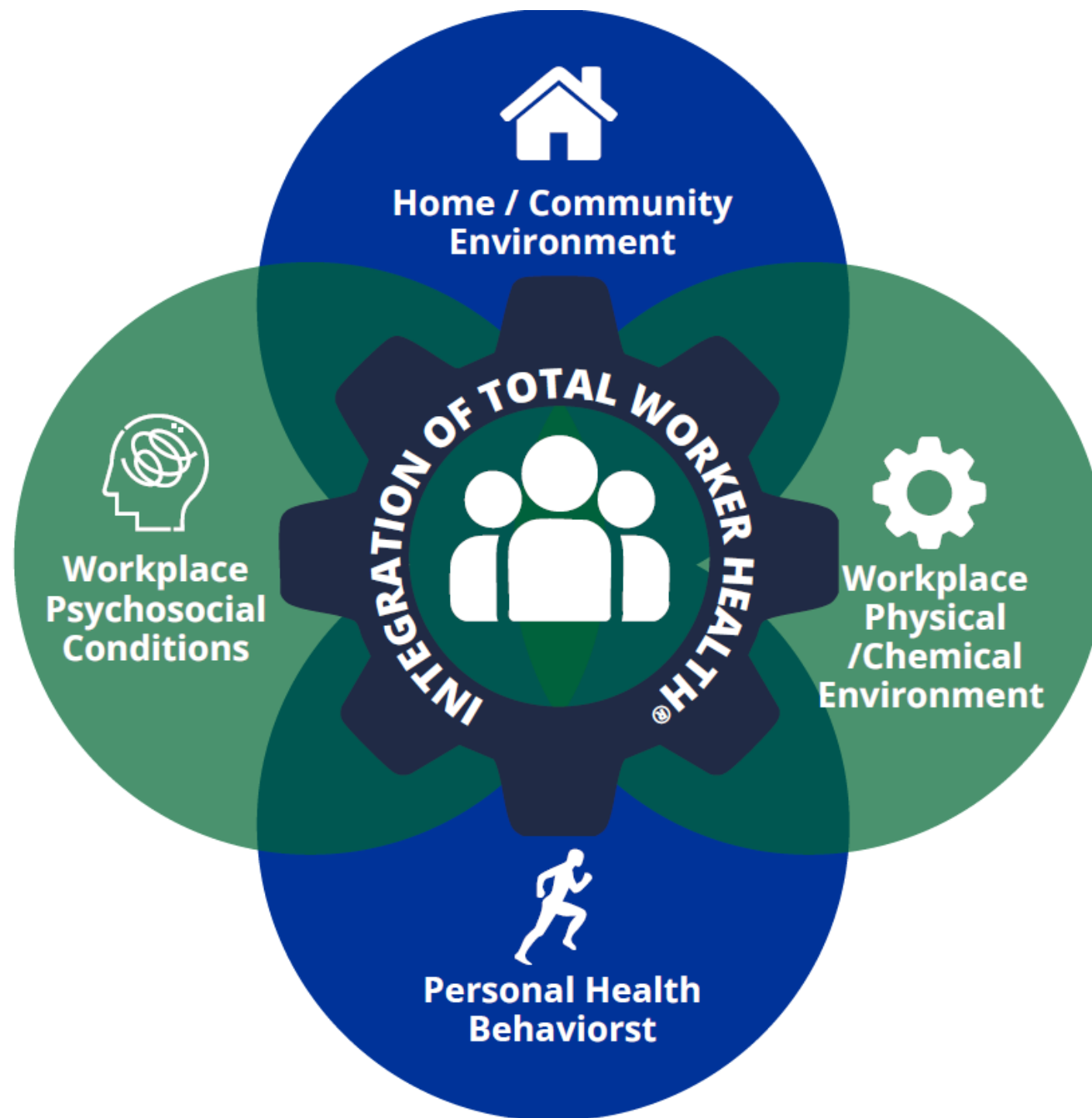


Support:

- divergent thinking
- constructive disagreement
- creativity
- honesty

Timothy R. Clark - The 4 Stages of Psychological Safety  
Photo credit stock

# EMOTIONAL ERGONOMICS



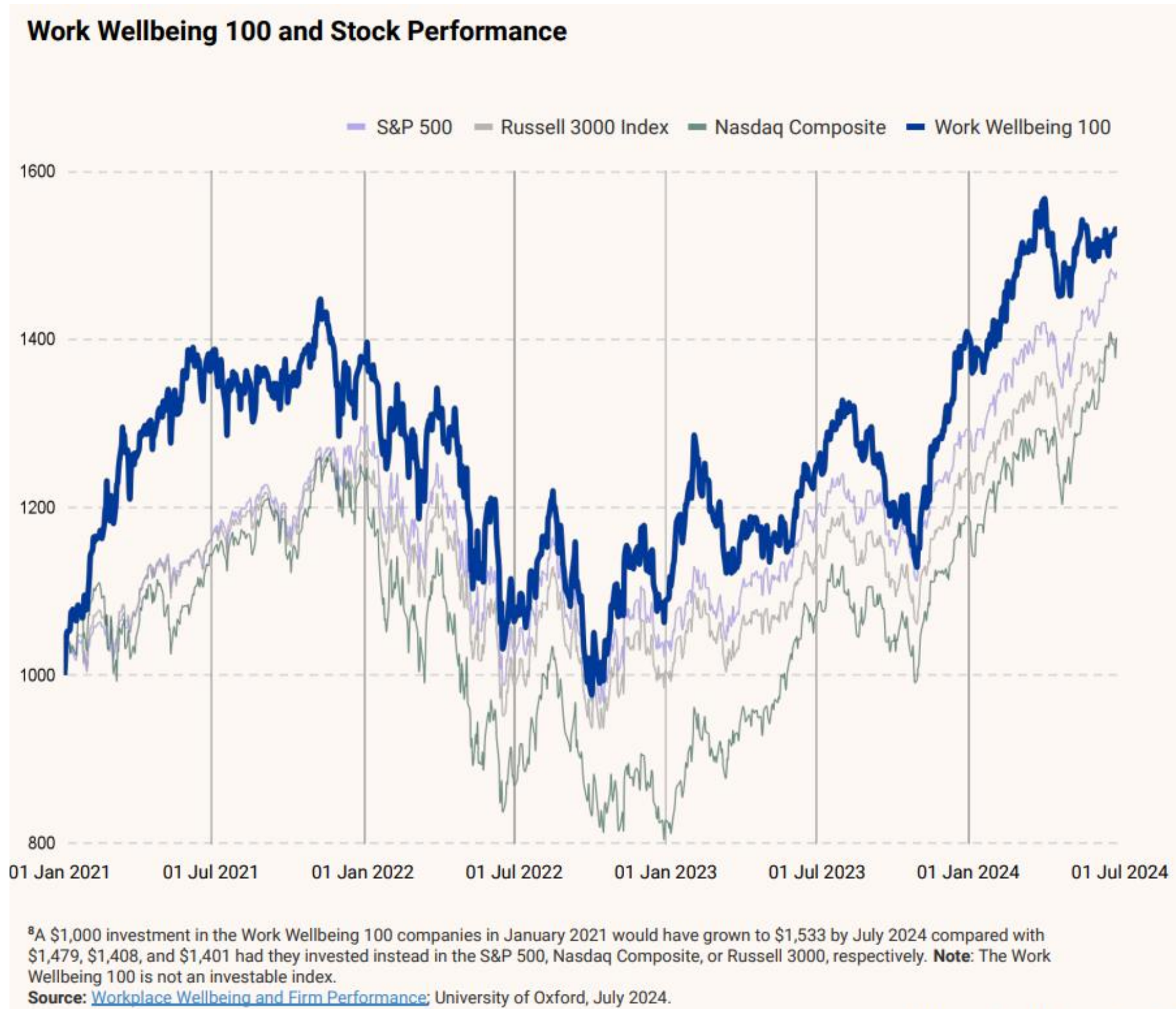
Designing work environments, practices, and tools that support not only physical comfort and efficiency but also emotional and psychological wellbeing.

Intergation = total wellbeing

Punnett, L., Cavallari, J., Henning, R., & Cherniack, M. (2020). Defining 'Integration' for Total Worker Health®: A New Proposal. *Annals of Work Exposures and Health*, 64(3). <https://doi.org/10.1093/annweh/wxaa003>

Total Worker Health® is a registered trademark of the National Institute for Occupational Safety and Health (NIOSH), U.S. Department of Health and Human Services.

# SIGNS AND EFFECTS OF WELL-BEING AWARENESS



- An integral part of strategy and organizational culture
- Comprehensive, continuous, mutually supportive actions
- Shared responsibility
- Transparency: measurable, relevant, transparent

# WHAT CAN LEADERS DO...

Mental health is a state of mental well-being that **enables** people to **cope with the stresses** of life, **realize** their **abilities**, **learn well** and **work well**, and **contribute** to their community.

WHO ([https://www.who.int/features/factfiles/mental\\_health/en/](https://www.who.int/features/factfiles/mental_health/en/))

# ... TO FOSTER EMOTIONAL ERGONOMY?

- Train in emotional intelligence (active listening, empathy, conflict resolution, trauma-informed communication)
- Give autonomy (over schedules, workflows, and creative processes), decentralize power (give trust to own a task)
- Normalize emotional check-ins, feelings matter
- Do not shoot the messenger (risk taking, failure management, restorative culture)
- Workload, rest and recovery
- Clear and compassionate communication
- Mental health resources
- Foster social connections

# WHAT CAN YOU START TODAY?



**ASK!**



# CONTACT

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