



# KNOWLEDGE BASE FOR EFFECTIVE INTERVENTIONS



### **Essential Leader Characteristics**

Competence and expertise are essential for instilling confidence among lab members and collaborators



Shein, 1996; Mumford et al., 2002; Tierney et al, 1999)

### Nurturing the Heart and Mind: A Closer Look at the Career Journey of Scientific Leaders



## Patient Scientific Inquiry, Amidst Performance Pressure: Balancing Curiosity and Ethical Boundaries



**Discretion** 

A successful lab leader needs to understand how to make informed decisions, protect the integrity of research data, and maintain a responsible attitude towards the lab's resources and members.



**Guiltless Conduct** 

Guiltless conduct here means making decisions that stand up to scrutiny, even when no one is watching. Leaders should not manipulate data to suit their objectives or hide uncomfortable truths.

### ...Amidst Career and Performance Pressure

The quest for novel findings, grant funding, and prestigious publications can often overshadow leader development and long-term scientific discovery.



#### Scarcity

Scientists grapple with a scarcity of grants, access to resources, including mentors and funding.

#### **Solo Stars**

Scientists are under pressure to produce high volumes of publications in prestigious journals to garner recognition.

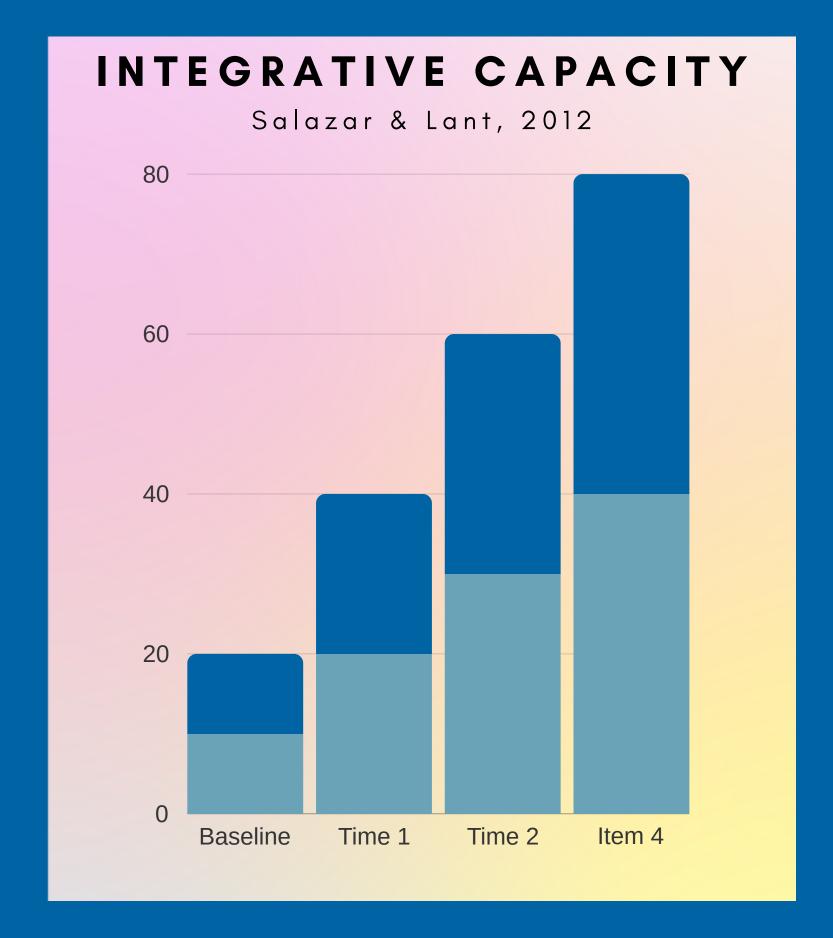
#### Socialization

The desire to 'win' in this competitive landscape can sometimes overshadow the scientific process and the collective knowledge base.

### A Solution: Training & Development

Leadership is a complex interaction between people and environments that emerges through social systems (Day, 2000).

- Address blindspots and gaps over time
- Focus on relevant outcomes at appropriate intervals
- Broaden the leadership focus to collective aspects of science
- Use multiple training approaches for growth (coaching, badges, workshops)



Long Term Impact: Sustain a Scientific Ecosystem for Progress

How do you create a culture supportive of leadership development?

Passing along best practices, from advisor to student, P.I. to postdoc, is critical.

### How do you do this?

 By implementing evidence-based training and development programs

 Acknowledging and rewarding leadership and team impact.



### What holds up Back? Narrow Career Enmeshment

When too attached to our careers and accomplishments, an intense focus on achievement and external validation can limit a growth orientation.

Scientists often prioritize reaching specific career milestones or outperforming others, rather than focusing on personal growth and leadership capabilites – to the detriment of the discovery.

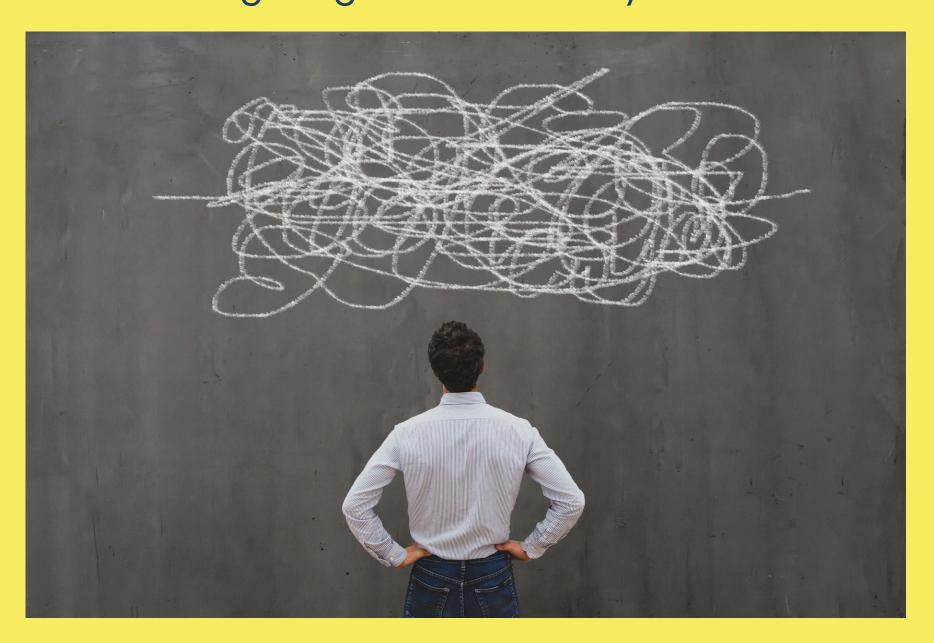
How do you motitivate a leader to want to address gaps and strengths?



### THE DIFFICULTY OF

COMMUNICATING THE PATH

Navigating the Uncertainty Ahead



Crucial Leadership Proceses

- Identifying the Problem
- Understanding its Context
- Determining its Boundaries
- Articulating the Problem
- Motivating and Engaging
   Others around the Problem



Education does not equal smart;
Smart does not equal competent (to lead a lab)...



### Enhancing Leadership Capabilities

= Maximizing ROI

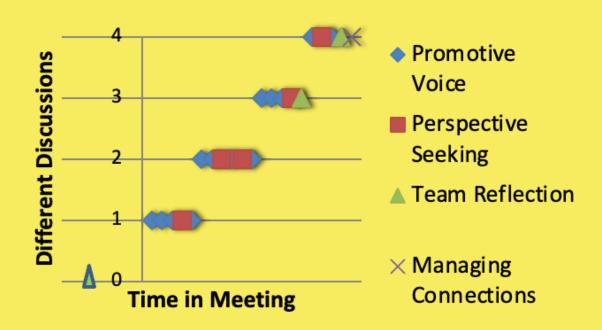


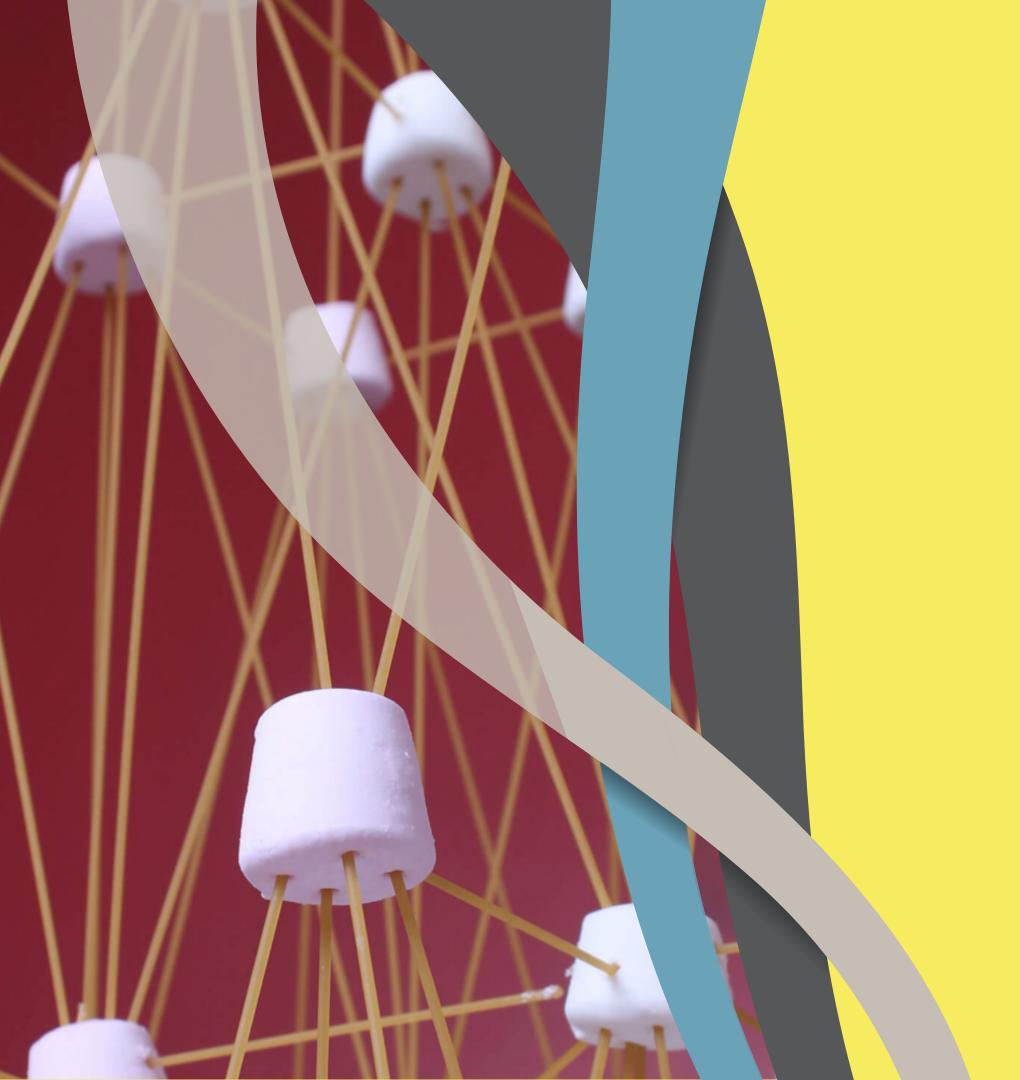
### **Skills & Abilities**

- Forecasting Skills
- Creative Problem-Solving
- Communication
- Strategic Planning
- Group Processes

11-20% average increase in our measure of interdisciplinary collaboration behaviors and communication.

50% increase in external funding application and 2x increase in publication rate within a year.





### EXPERIENTIAL TEAM-BASED EDUCATION

Unlearning, failure, and openness to alternatives are crucial for innovation.

Yet, threat and pressures to perform can foster increased rigidity.

Experiences that elicit the importance of flexibility, prototyping, playfulness, and learning from feedback can kick-start development.

## Cultivating Interpersonal Skills: Catalyzing Career Development

Mentors + Mentorship

Leadership Coaching

 Fostering Increased Self-Efficacy





Hund et al, 2018; Mubasher et al, 2021;

Maritza Salazar Campo, PhD, MSW

Management Professor | Talent & Team

Development | Organizational Scientist | off....





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