

Strategies and Tools to Improve Psychological Safety and Cross-Disciplinary Teamwork

Karthik Balakrishnan, MD, MPH, FAAP, FACS

Surgeon-in-Chief, Stanford Children's Health



Thank you

- Martha Kerr
 - Dr. Carla Parkin-Joseph
 - Mike Ball, Heather Gardner, Mattijane Epperson
 - CAN conference leadership
 - CAN conference attendees
-
- Thank you all for the essential work you do to keep children safe and help them thrive.

Disclosures

- Textbook royalties from Springer, Inc
- None relevant to this presentation

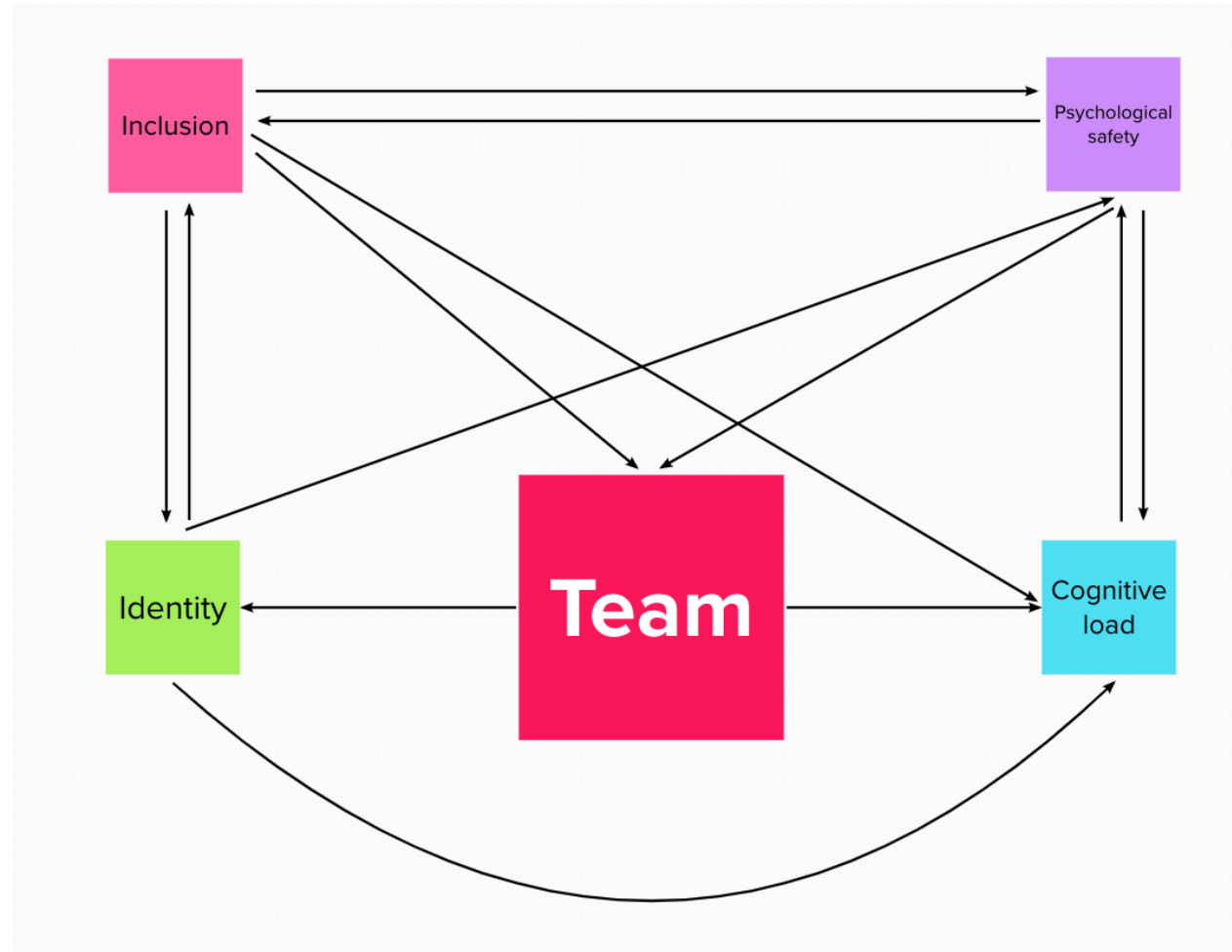




What have you learned about yourself as a result of working in this field?

Goal

- Motivate us all (myself included) to think about how we relate to others in our professional settings

Overview





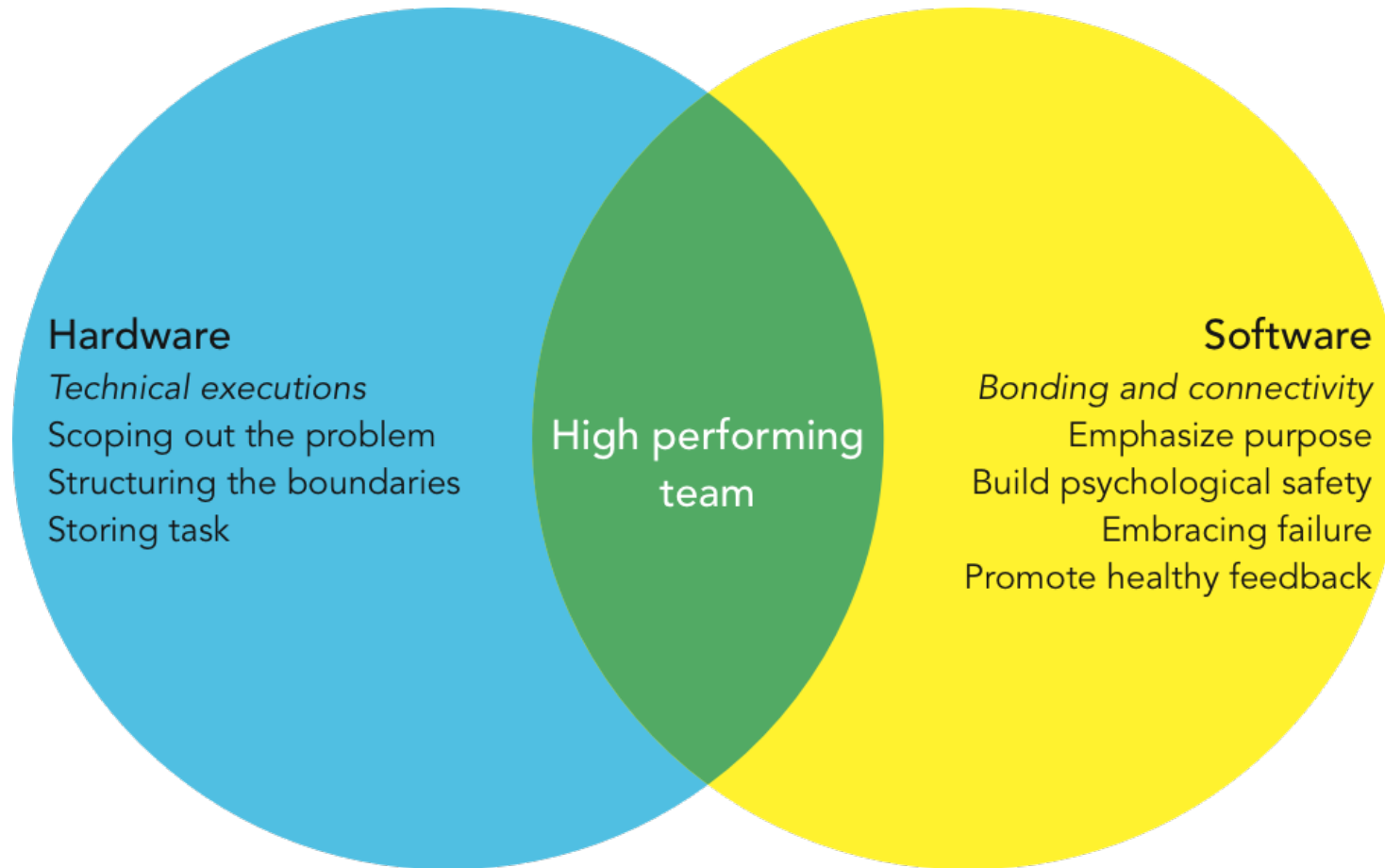
**Share 1-3 words that come to mind when you think of the
best team you've ever worked on.**

1. The foundation of a team

What makes a group of people a team?

- Lots of views from lots of experts
- Basics:
 - Shared goal or target
 - Interdependence
 - Complementary skills or knowledge
 - Stable membership

”Hardware” vs “Software”



www.weq.io

“Teaming”

- Amy Edmondson
- Not the same as a stable *team*
- “Teamwork on the fly”
- Many of the same characteristics
- Some different vulnerabilities
- Often applies in healthcare, social services, multiprofessional work

Rank the options into your preferred order, from most to least important for a team's success.

Teammates are fun to work with

Teammates have complementary skillsets and expertise

Teammates feel safe raising ideas, questions or concerns

Teammates share the same goals for the work

Teammates have similar background or training

Psychological safety: the core of a team

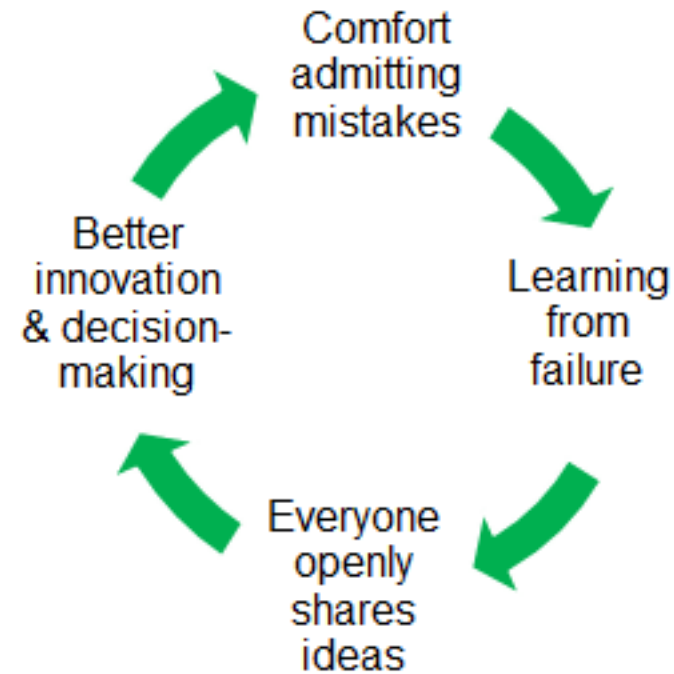
- First described by Schein and Bennis in 1960s
- Popularized by Edmondson in 1990s and 2000s
- Describes how people perceive the “consequences of taking interpersonal risks in a particular context”
- “Absence of interpersonal fear” (Edmondson)

Edmondson and Lei 2014

Psychological Danger



Psychological Safety



World Economic Forum

Psychological safety

- Google study: defining trait of the most successful teams
- Pew study: 89% of US workers say it's essential
- Edmondson: medication errors example
 - Better teams/higher performing teams report more mistakes
- Counterexamples
 - Challenger explosion
 - Chernobyl



Recent example



 SIGN IN

 NPR SHOP

 DONATE

 NEWS

 CULTURE

 MUSIC

 PODCASTS & SHOWS

 SEARCH



Shots

HEALTH NEWS FROM NPR



HEALTH INC.

Former nurse found guilty in accidental injection death of 75-year-old patient

March 25, 2022 · 5:25 PM ET

BRETT KELMAN

FROM **KHN**



Stanford
MEDICINE

Otolaryngology —
Head & Neck Surgery



“Psychological safety at work doesn’t mean that everybody is nice all the time. It means that you embrace the conflict and you speak up, knowing that your team has your back, and you have their backs.”

- David Altman, CCL COO

Some key questions

- If you make a mistake in this team, will it be held against you?
- Are the members of this team able to bring up problems and tough issues?
- Do people on this team sometimes reject others for being different?
- Is it safe to take a risk on this team?
- Is it difficult to ask other members of this team for help?
- Would anyone on the team deliberately act in a way that undermines efforts?
- Working with member of this team, are unique skills and talents valued and utilised?

Edmondson 1999
peopleconnexion.com

**If you have been part of a psychologically safe team, please
share 1-3 words that describe the experience**

What about “teaming”?

- Psychological safety is even more important
 - Not a stable/long-term group → needed right away
- Clear/mindful attention to both hardware and software
- Risk of lack of accountability

How to promote psychological safety

- Measure it early (7 key questions)
- Create space for people to speak up
- 3 R's: reflection, recognition, readiness
 - A ritual at the start of the group's meetings
 - Early use of recognition builds trust, confidence, inspiration, respect (for all parties)
- Real listening is essential and takes practice in advance

SURGICAL SAFETY CHECKLIST

EVERYONE MUST STOP AND ACTIVELY PARTICIPATE



Lucile Packard
Children's Hospital
Stanford

	AM huddle	Sign in	Safety stop	Time out	Debrief	Sign out
Who?	<ul style="list-style-type: none"> Attending surgeon - Initiates Attending anesthesiologist Circulating OR RN Surgical Scrub Person 	<ul style="list-style-type: none"> Preoperative RN - Initiates Parents/Patients Circulating OR RN Anesthesiologist 	<ul style="list-style-type: none"> Anesthesiologist - Initiates Surgical Attending/Fellow Circulating OR RN Surgical Scrub Person 	<ul style="list-style-type: none"> Surgical Attending/Fellow - Initiates Circulating OR RN Anesthesiologist Surgical Scrub Person 	<ul style="list-style-type: none"> Surgical Attending - Initiates Circulating OR RN Anesthesiologist Surgical Scrub Person 	<ul style="list-style-type: none"> PACU RN - Initiates Surgical Attending/Fellow/Resident Anesthesiologist Circulating OR RN
Where?	Operating room	Preop/holding	Operating room	Operating room	Operating room	PACU at bedside
When?	1. Monday: 810am 2. Tuesday-Friday: 710am 3. Any time the primary surgeon in the room changes	Immediately prior to leaving preop/holding	At "anesthesia ready". Prior to regional block when applicable.	After draping (when applicable), immediately prior to incision.	At the end of each service's component of the procedure, prior to leaving OR.	On arrival to PACU (NOTE: patients going to ICU from OR have a different sign out process)
Why?	1. To discuss the surgical and anesthetic plan, anticipated concerns, equipment needs, etc for each case in the room. 2. To allow each member of the OR team a chance to raise questions and concerns.	1. To verify correct patient, procedure, and site. 2. To verify allergies. 3. To allow each member of the OR team a chance to raise questions and concerns.	1. To reconfirm patient, procedure, site, allergies, and other key information prior to initiation of the procedure. 2. To allow each member of the OR team a chance to raise questions and concerns.	1. To provide final confirmation of patient, site, procedure, and other key information immediately prior to incision (for prepped/draped procedures). 2. To allow each member of the OR team a chance to raise questions and concerns.	1. To confirm procedures performed, specimens, disposition plan, and other key information. 2. To allow each member of the OR team a chance to raise questions and concerns.	1. To communicate key information about the patient, procedure, and plan to the PACU team. 2. To allow each member of the OR team a chance to raise questions and concerns.
What?	<ul style="list-style-type: none"> Staff name/role FOR EACH CASE: <ul style="list-style-type: none"> Surgical plan/updates Anesthesiology concerns Regional plan Airway concerns Patient positioning COVID status Equipment needs/issues Supply needs Implants Special staff (e.g. laser tech) Antibiotic plan Other medications (e.g. steroids) Blood Imaging Consent (procedure & block) check Fire risk Temp/normothermia plan Pause for questions/concerns 	<ul style="list-style-type: none"> Identity/ID band check Consent (procedure & block) check Site mark H&P confirmation Allergies Pause for questions/concerns 	<ul style="list-style-type: none"> Staff name/role Patient name Patient ID number Patient date of birth Planned procedure Consent check Site mark confirmation Allergies Antibiotic plan Other medications Blood Imaging Implants Fire risk/laser pause/roles Temp/normothermia plan HAPI risk/prevention plan Pause for questions/concerns 	<ul style="list-style-type: none"> Antibiotic administered Other medications administered Identity confirmation Procedure confirmation Site confirmation Pause for questions/concerns 	<ul style="list-style-type: none"> Procedures done vs consent Wound class Specimens (see specimen debrief) Counts EBL and fluids Blood disposition Postop destination Equipment needs/issues Feedback and recognition Ideas for improvement Pause for questions/concerns 	<ul style="list-style-type: none"> Identity/ID band check Procedures done Postop concerns Anesthetic concerns Orders Pause for questions/concerns

v. 2022-1-27
Questions? Contact Kerthik Balakrishnan kbalak@stanford.edu



Stanford
MEDICINE

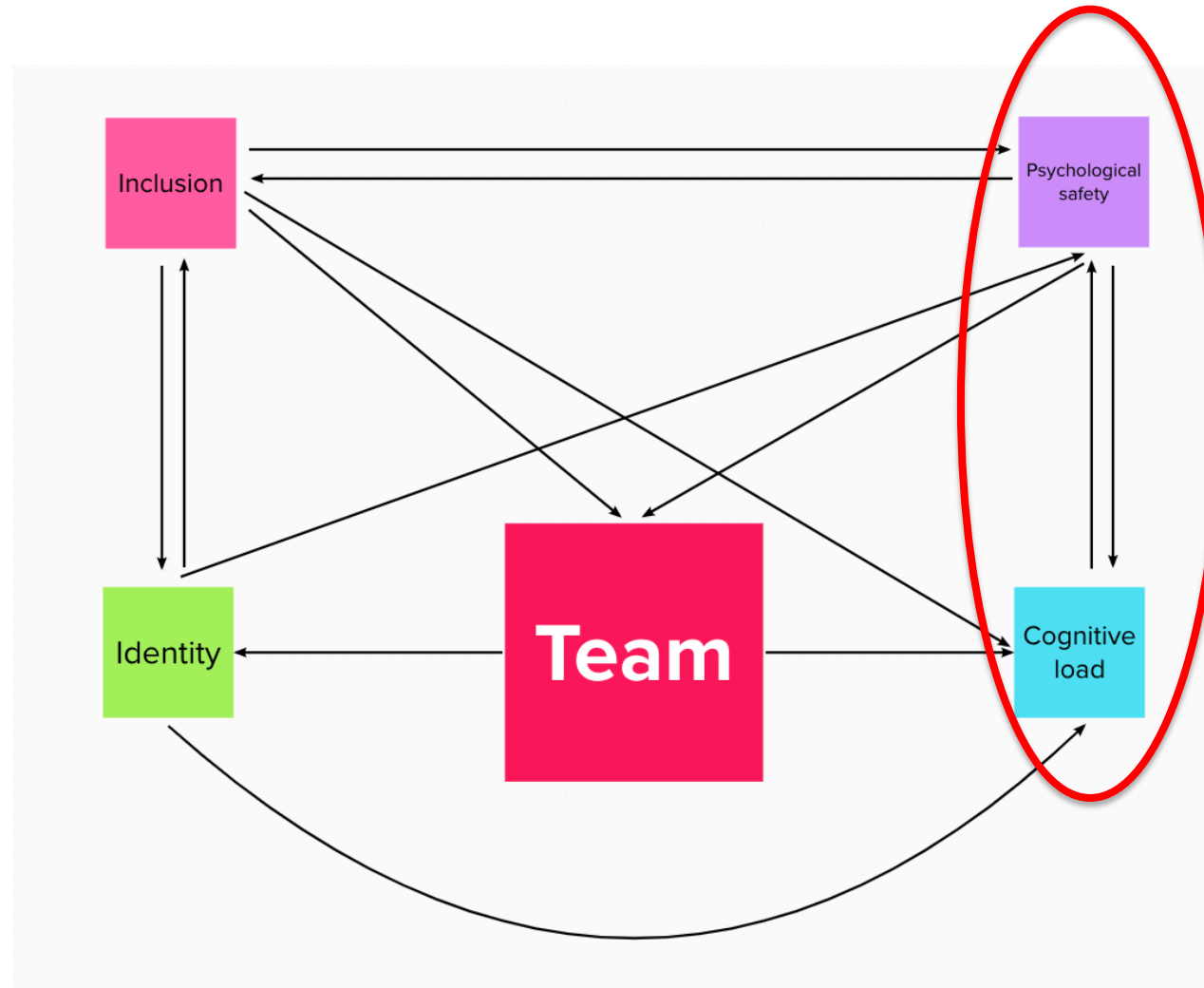
Otolaryngology —
Head & Neck Surgery

Pause for a Zoom chat

- Questions?
- Comments?
- Have you experienced the benefits of psychological safety?
- Have you experienced its absence?
- How have biases and intersectional identities affected your sense of psychological safety in different teams?

2. Cognitive load

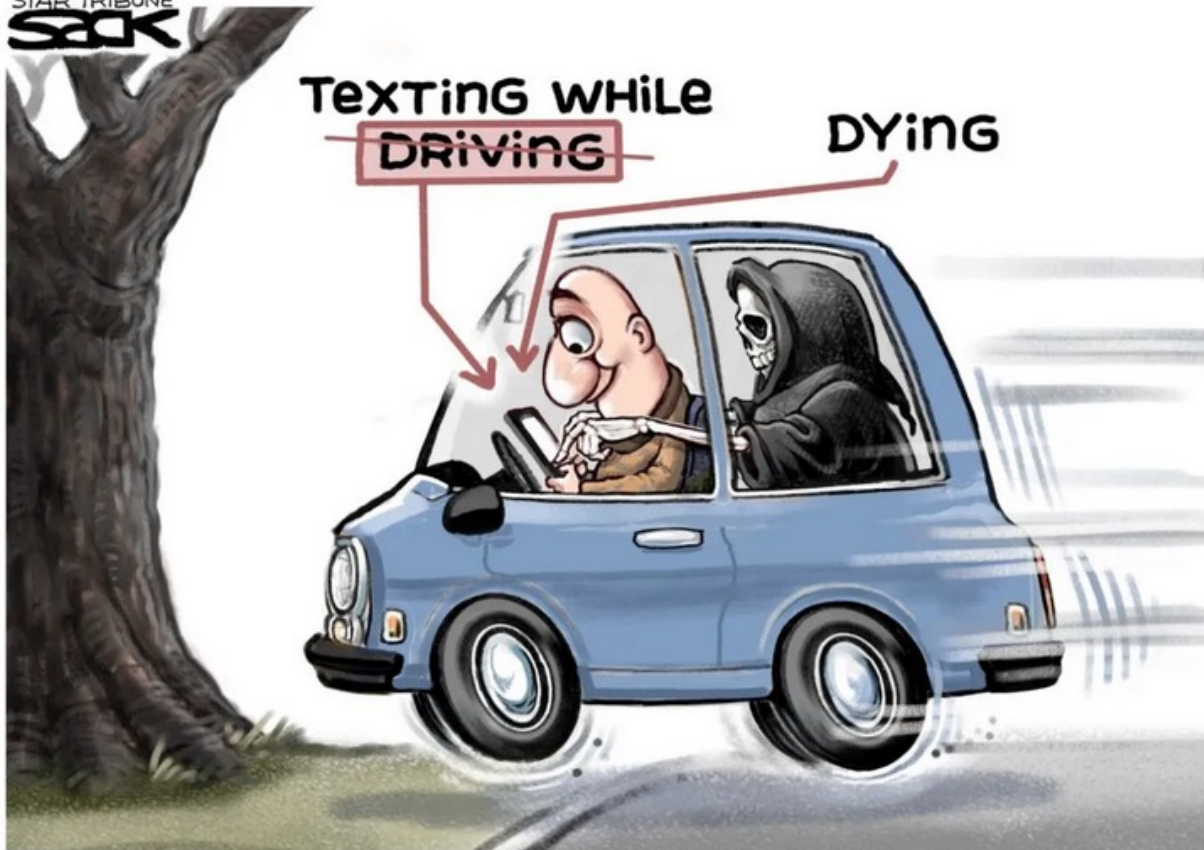
Overview



Cognitive load

- Initially described by Chandler and Sweller in 1988 in relation to teaching and learning
- If the mind is using cognitive resources for one task, it has less available for other tasks
- E.g. solving problems vs. thinking through worked examples
 - Best strategy depends on target audience

Chandler and Sweller 1991

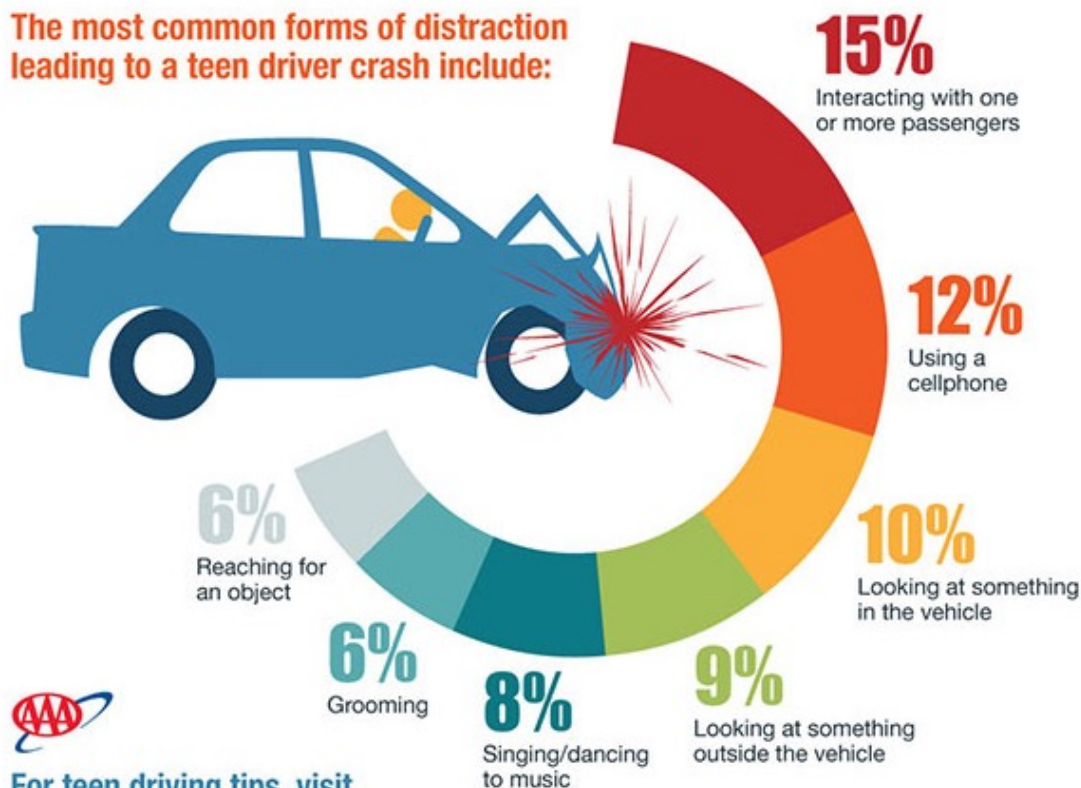


AUTO CORRECT

www.pressherald.com
aaa.com

6 OUT OF 10 teen crashes involve driver distraction.

The most common forms of distraction leading to a teen driver crash include:



For teen driving tips, visit
TeenDriving.AAA.com



Stanford
MEDICINE

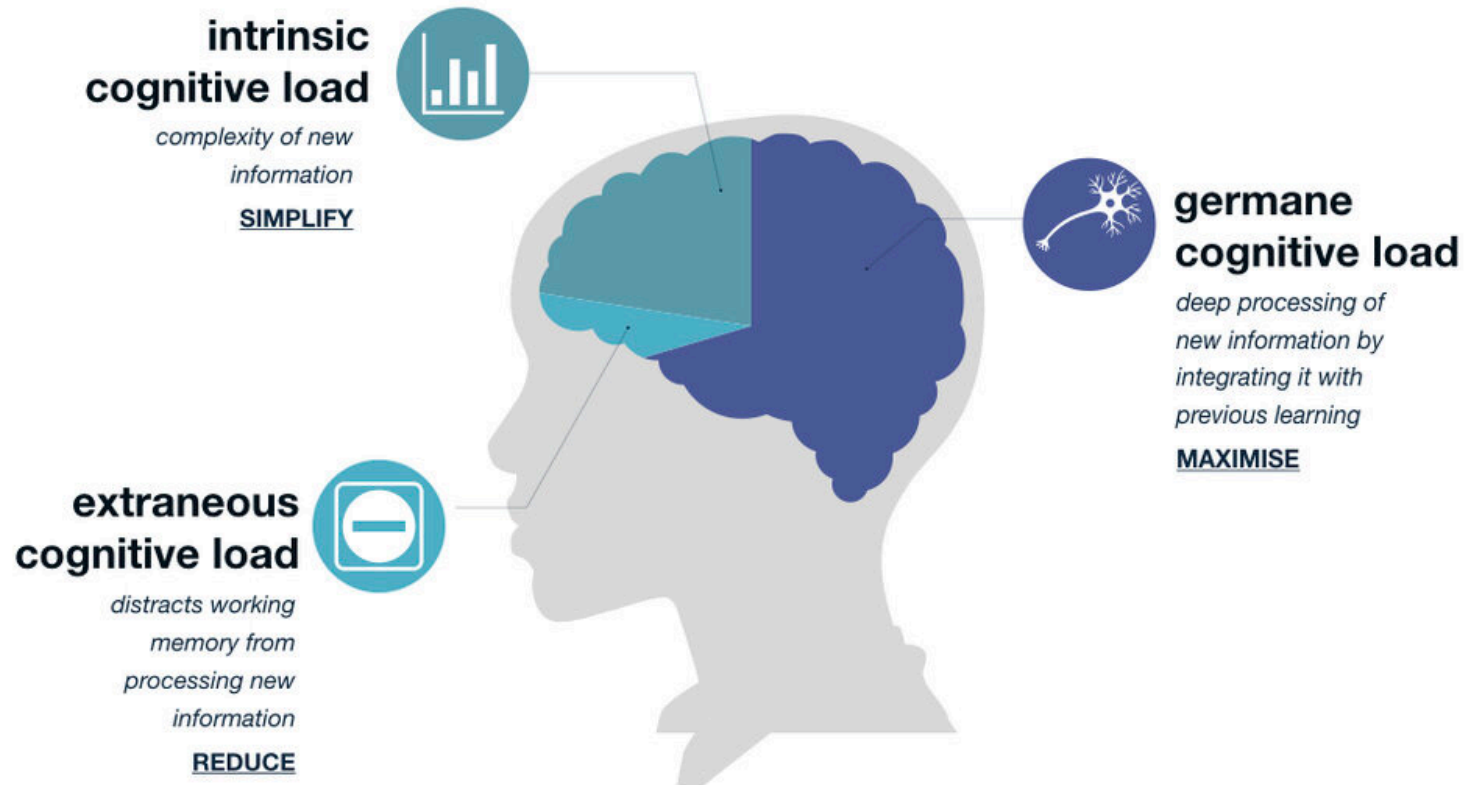
Otolaryngology —
Head & Neck Surgery

Also applies in less obvious circumstances

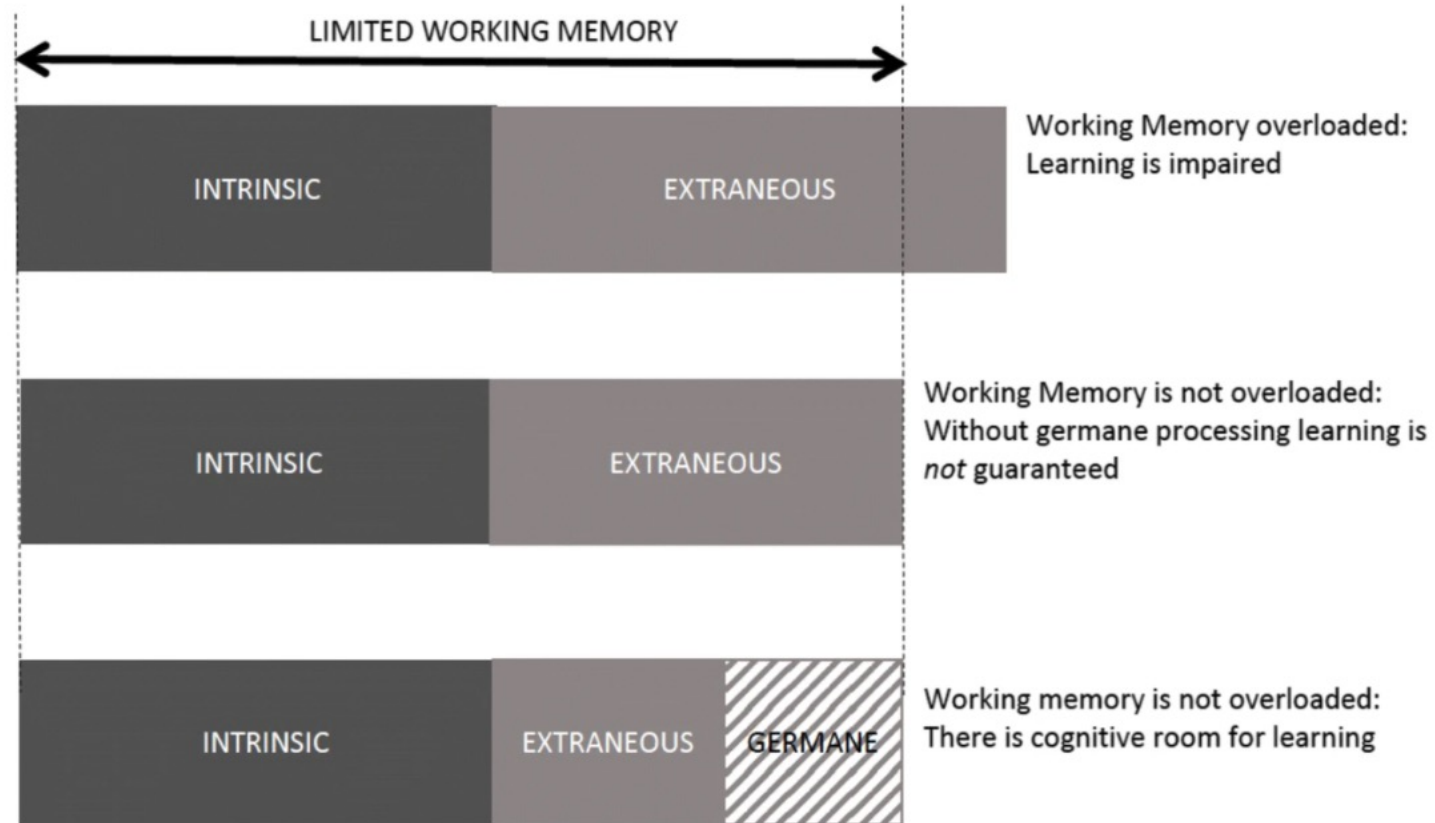
- Greater vulnerability to audiovisual illusions (Michail & Keil 2018)
- Greater effect of cognitive and implicit bias on clinical decisions (Balakrishnan & Arjmand 2019)
- Greater risk of missing important information (Harry & Sweller 2016)
- High cognitive load impairs learning (Chandler & Sweller 1991)

cognitive load

mcdreeamiemusings.com @mcdreemie



Conceptual framework



Fraser et al 2018

What affects our current cognitive load?

- Many variables
- Multitasking
- Familiarity with situation/expertise/experience
- Perceived risk of situation
- Psychological safety
- Identity, e.g. "minority tax"
- Inclusion

These elements can interact

- Good teams (and leaders) reduce cognitive load for others on the team – expertise, questioning, psychological safety
- Psychological safety → good questions → reduces extraneous cognition
- Excessive information without clear framework and relevance → high cognitive load → decreased psychological safety (Madireddy & Rufa 2020)

Tools to decrease cognitive load

- Focus on purpose and goals
 - 3 R's (reflection, recognition, readiness)
 - True North
- Well-designed protocols, work pathways, decision aids
- Good teams and teammates
- Meditation (Jadhav et al 2017; Chambers 2020)



SURGICAL SAFETY CHECKLIST

EVERYONE MUST STOP AND ACTIVELY PARTICIPATE



Lucile Packard
Children's Hospital
Stanford

	AM huddle	Sign in	Safety stop	Time out	Debrief	Sign out
Who?	<ul style="list-style-type: none"> Attending surgeon - Initiates Attending anesthesiologist Circulating OR RN Surgical Scrub Person 	<ul style="list-style-type: none"> Preoperative RN - Initiates Parents/Patients Circulating OR RN Anesthesiologist 	<ul style="list-style-type: none"> Anesthesiologist - Initiates Surgical Attending/Fellow Circulating OR RN Surgical Scrub Person 	<ul style="list-style-type: none"> Surgical Attending/Fellow - Initiates Circulating OR RN Anesthesiologist Surgical Scrub Person 	<ul style="list-style-type: none"> Surgical Attending - Initiates Circulating OR RN Anesthesiologist Surgical Scrub Person 	<ul style="list-style-type: none"> PACU RN - Initiates Surgical Attending/Fellow/Resident Anesthesiologist Circulating OR RN
Where?	Operating room	Preop/holding	Operating room	Operating room	Operating room	PACU at bedside
When?	1. Monday: 810am 2. Tuesday-Friday: 710am 3. Any time the primary surgeon in the room changes	Immediately prior to leaving preop/holding	At "anesthesia ready". Prior to regional block when applicable.	After draping (when applicable), immediately prior to incision.	At the end of each service's component of the procedure, prior to leaving OR.	On arrival to PACU (NOTE: patients going to ICU from OR have a different sign out process)
Why?	1. To discuss the surgical and anesthetic plan, anticipated concerns, equipment needs, etc for each case in the room. 2. To allow each member of the OR team a chance to raise questions and concerns.	1. To verify correct patient, procedure, and site. 2. To verify allergies. 3. To allow each member of the OR team a chance to raise questions and concerns.	1. To reconfirm patient, procedure, site, allergies, and other key information prior to initiation of the procedure. 2. To allow each member of the OR team a chance to raise questions and concerns.	1. To provide final confirmation of patient, site, procedure, and other key information immediately prior to incision (for prepped/draped procedures). 2. To allow each member of the OR team a chance to raise questions and concerns.	1. To confirm procedures performed, specimens, disposition plan, and other key information. 2. To allow each member of the OR team a chance to raise questions and concerns.	1. To communicate key information about the patient, procedure, and plan to the PACU team. 2. To allow each member of the OR team a chance to raise questions and concerns.
What?	<ul style="list-style-type: none"> Staff name/role FOR EACH CASE: <ul style="list-style-type: none"> Surgical plan/updates Anesthesiology concerns Regional plan Airway concerns Patient positioning COVID status Equipment needs/issues Supply needs Implants Special staff (e.g. laser tech) Antibiotic plan Other medications (e.g. steroids) Blood Imaging Consent (procedure & block) check Fire risk Temp/normothermia plan Pause for questions/concerns 	<ul style="list-style-type: none"> Identity/ID band check Consent (procedure & block) check Site mark H&P confirmation Allergies Pause for questions/concerns 	<ul style="list-style-type: none"> Staff name/role Patient name Patient ID number Patient date of birth Planned procedure Consent check Site mark confirmation Allergies Antibiotic plan Other medications Blood Imaging Implants Fire risk/laser pause/roles Temp/normothermia plan HAPI risk/prevention plan Pause for questions/concerns 	<ul style="list-style-type: none"> Antibiotic administered Other medications administered Identity confirmation Procedure confirmation Site confirmation Pause for questions/concerns 	<ul style="list-style-type: none"> Procedures done vs consent Wound class Specimens (see specimen debrief) Counts EBL and fluids Blood disposition Postop destination Equipment needs/issues Feedback and recognition Ideas for improvement Pause for questions/concerns 	<ul style="list-style-type: none"> Identity/ID band check Procedures done Postop concerns Anesthetic concerns Orders Pause for questions/concerns

v. 2022-1-27
Questions? Contact Kerthik Balakrishnan kbale@stanford.edu

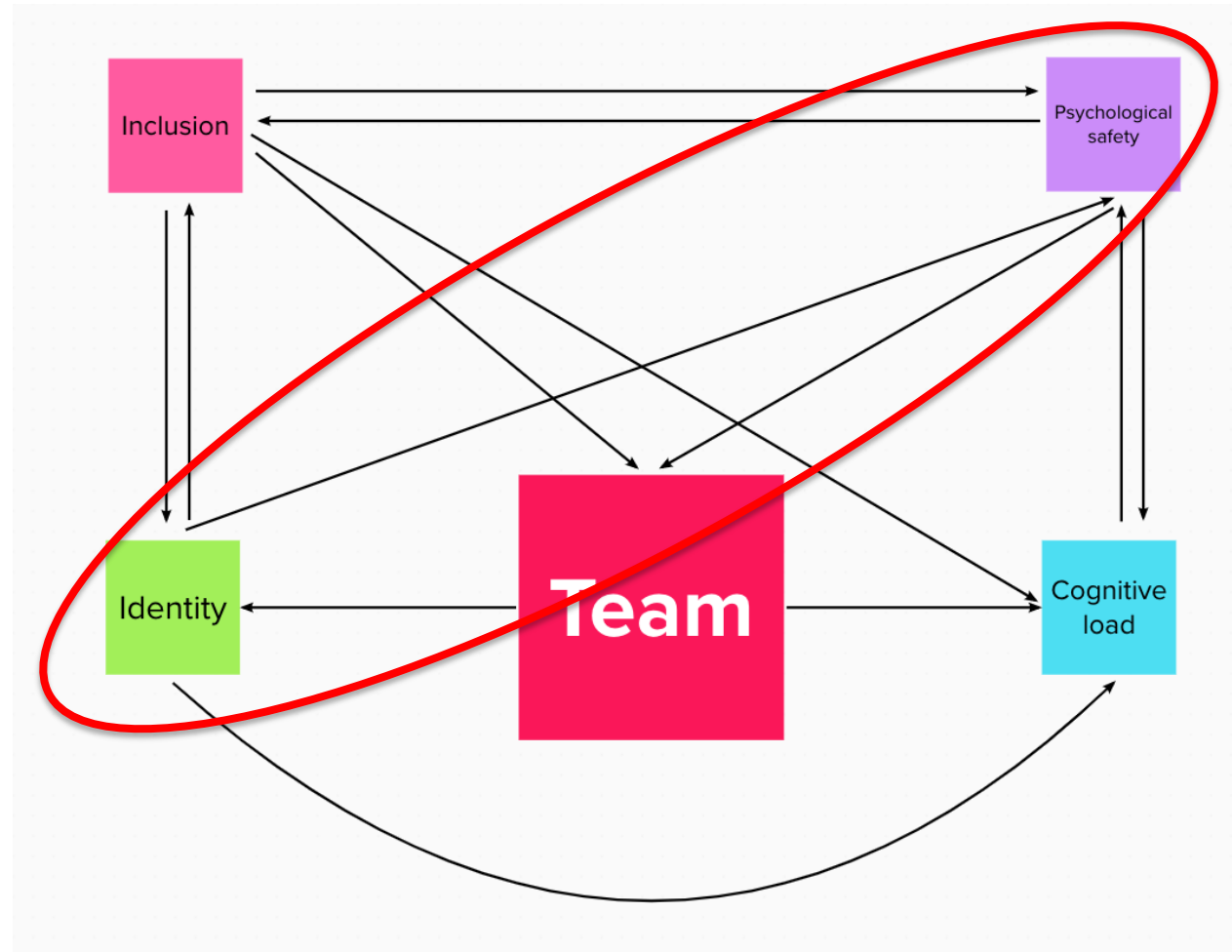


Stanford
MEDICINE

Otolaryngology —
Head & Neck Surgery

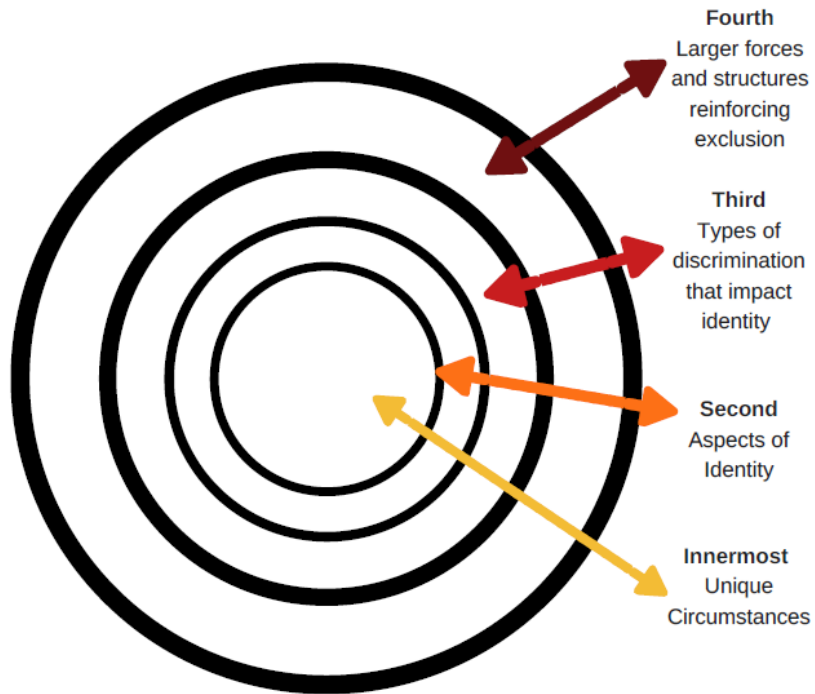
3. Identity

Overview



We are humans living with other humans

- Our attitudes toward each other are directly affected by components of identity



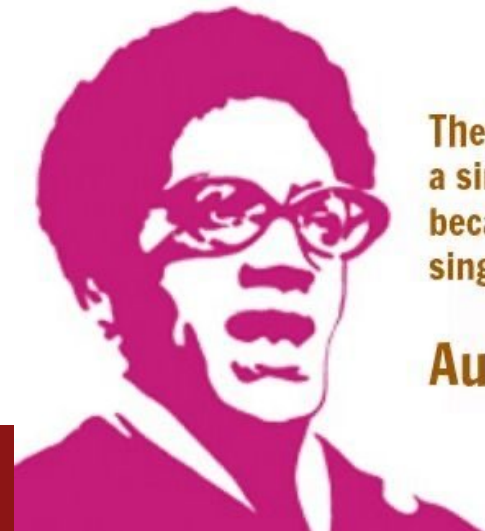
Adapted from: CRIAW / ICREF's Intersectionality wheel

- These attitudes shape the society in which we live and work
- This society in turn shapes our attitudes

Jayakumar 2017



Identity \leftrightarrow experience: intersectionality

- Each of us has a unique identity formed by the INTERSECTION of various axes of identity
- In turn, each of us experiences SYNERGISTIC advantages or disadvantages based on this combination
 - Social, economic, educational, professional, legal, etc
 - These then modify aspects of identity
 - Think about your own identity



There is no such thing as a single-issue struggle because we do not live single-issue lives.

Audre Lorde



**Share 1-3 words that reflect your identity when it comes to
your work.**

Types of identity

- Identities of origin
 - Demographics and geography
 - Identities of growth
 - Experience
 - Identities of aspiration
 - Styles of cognition and work
 - Goals
- How do the identities in the previous slide fit?

de Anca & Aragón 2018

Judgements or characteristics attributed to specific groups of people – races, genders, age groups, etc. – that may or may not be true for any one specific individual within that group.

STEREOTYPES

MICROAGGRESSIONS

Subtle verbal or nonverbal insults, indignities, or denigrating messages directed toward an individual due to their marginalized identity. Often committed by well-intentioned people who are unaware of the hidden messages conveyed or the impact of their statements.

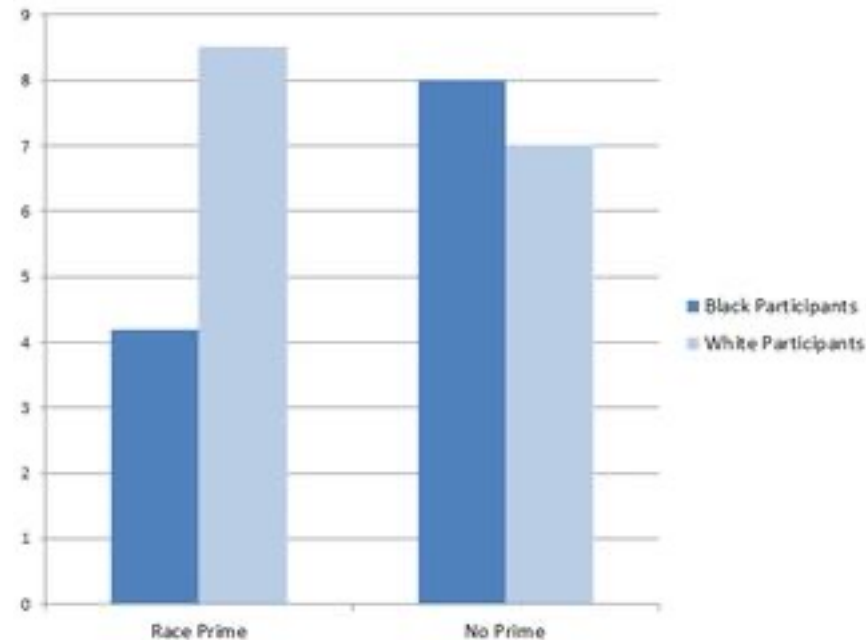
IMPLICIT BIAS

Subconscious attitudes, perceptions and stereotypes that influence our understanding, actions, and behavior when interacting with various identities.

unc.edu

Stereotype threat

- Individual perceives risk of confirming negative stereotype about their group, which in turn affects performance



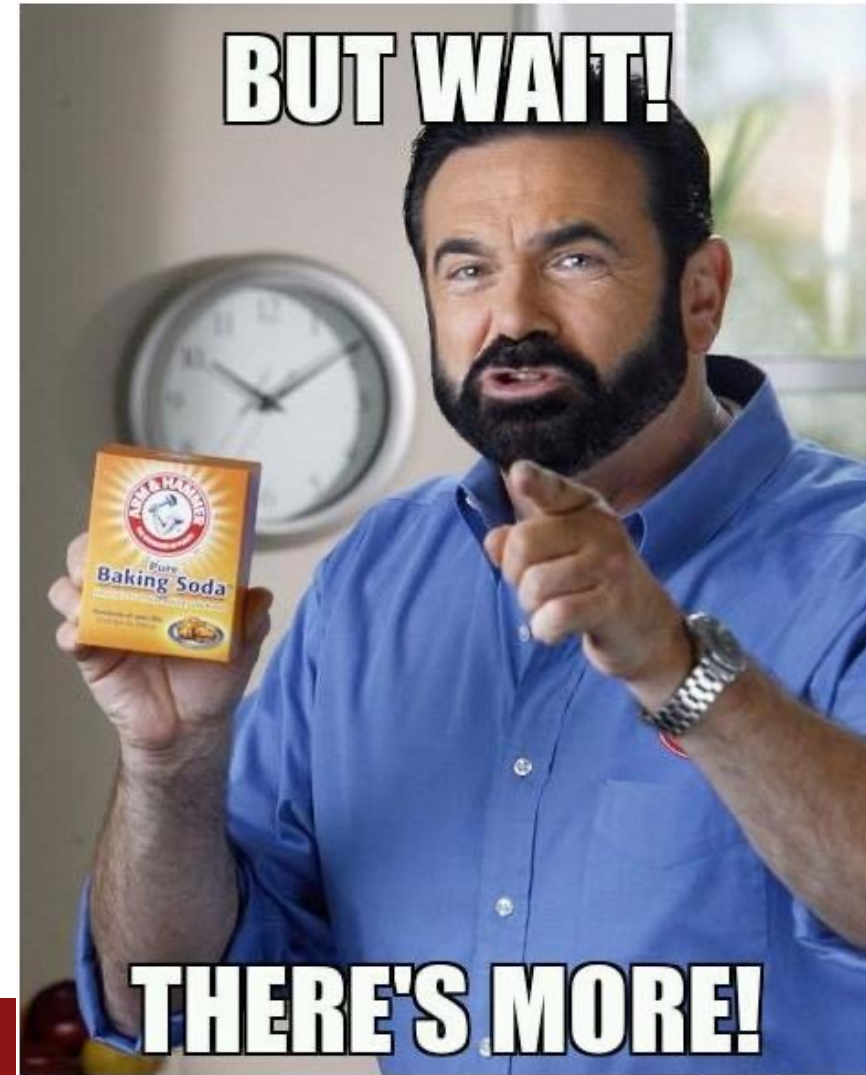
serc.carleton.edu

Identity can help the team

- Teams benefit from people with different, complementary expertise and experience
- Lived experience is unique expertise
 - Jordyn Hope, Kevin Mulcahy
- This expertise requires psychological safety to be shared

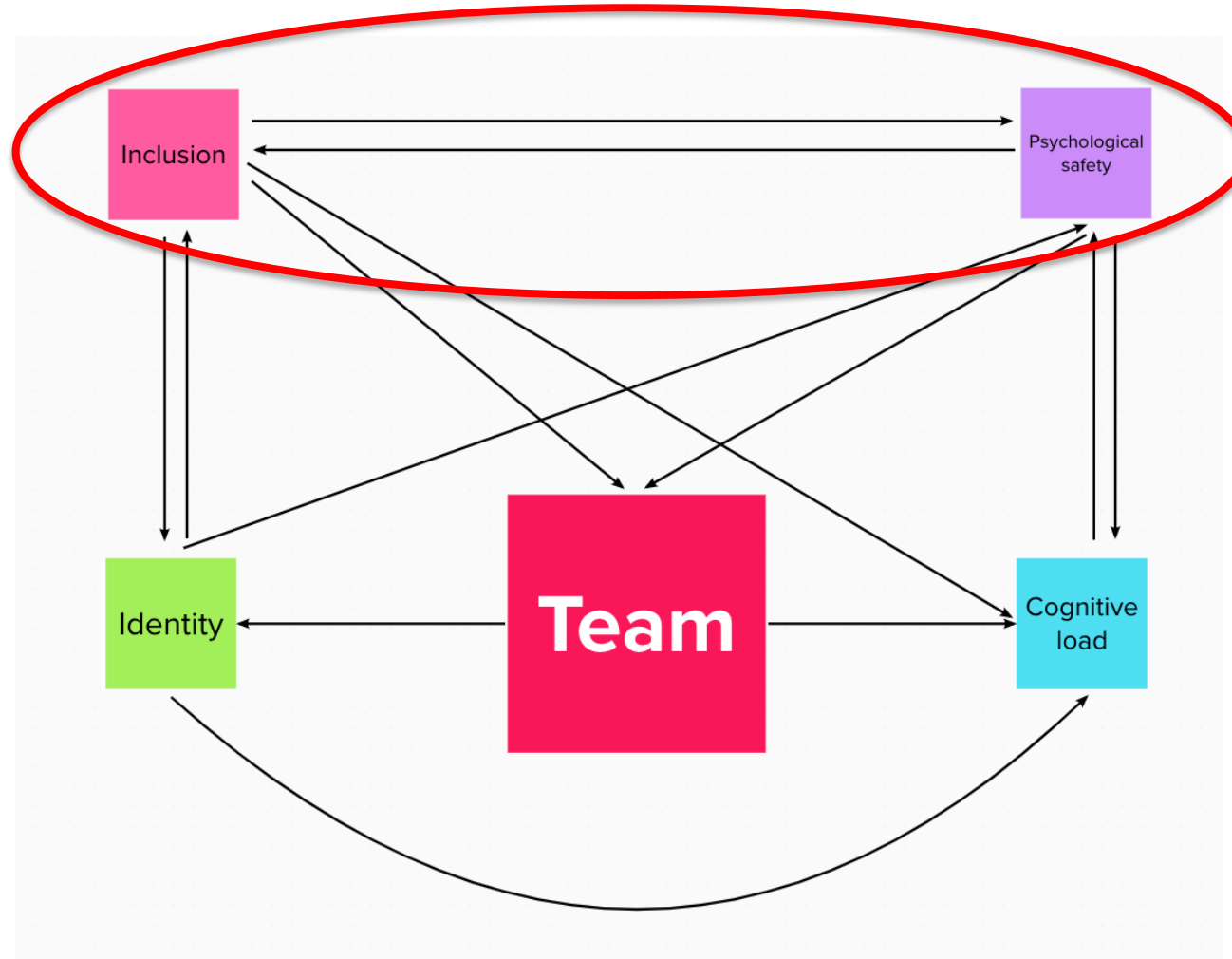
Pause for a Zoom chat

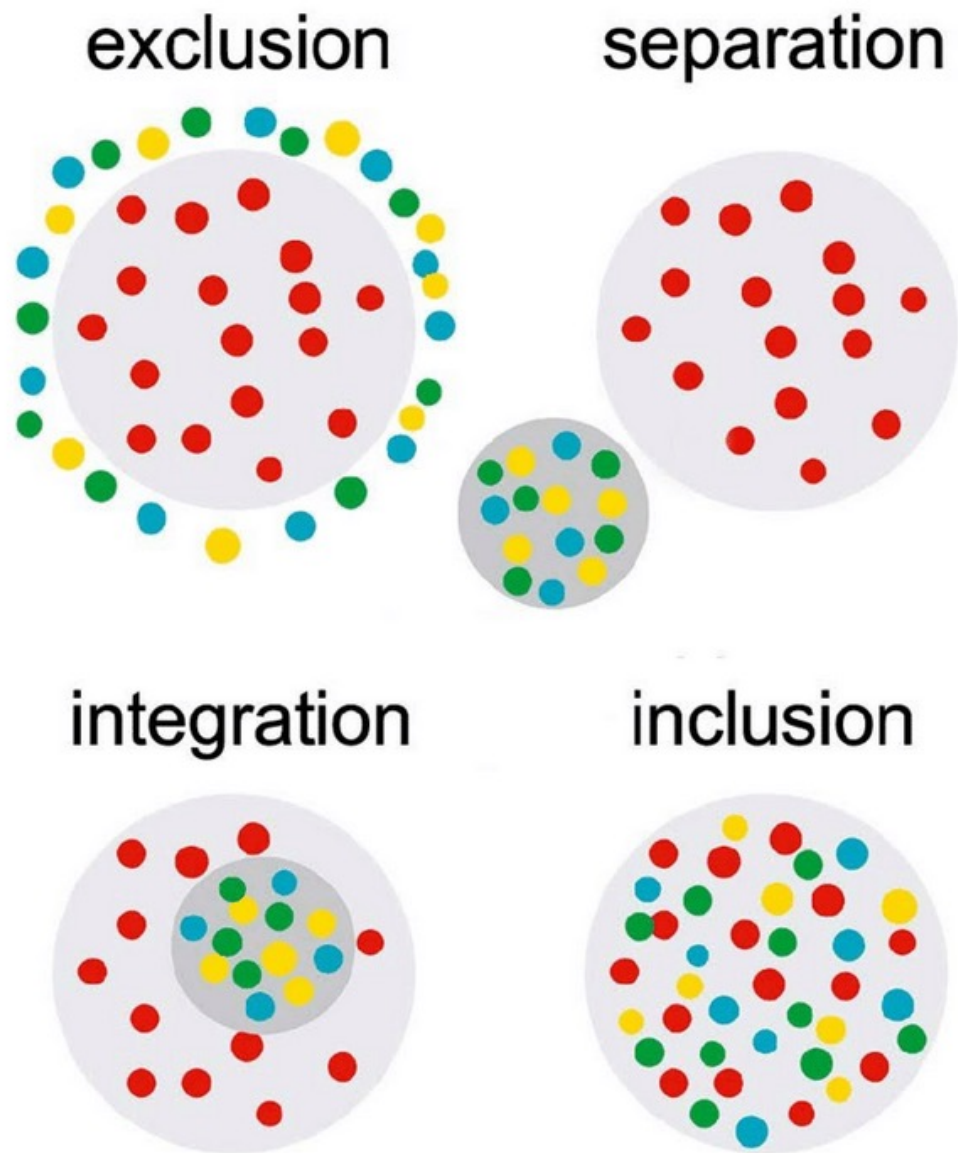
- Have you experienced any of these?
- Share examples in the chat if comfortable doing so...



4. Inclusion

Overview





- Diversity does not equal inclusion
- Separation = segregation
- These are not always easy to recognize in the moment
- For teams, inclusion is essential

Ridley-Duff & Southcombe 2018

Types of identity can drive inclusion

- Origin → usually what is addressed by inclusion efforts
- Growth → people form their own emotional communities based on their experiences
- Aspiration → people find situations and teams that allow or complement their style of thinking and work

de Anca & Aragón 2018

Psychological safety and inclusion

- True psychological safety requires a sense of inclusion and belonging

- If you make a mistake in this team, will it be held against you?
- Are the members of this team able to bring up problems and tough issues?
- Do people on this team sometimes reject others for being different?
- Is it safe to take a risk on this team?
- Is it difficult to ask other members of this team for help?
- Would anyone on the team deliberately act in a way that undermines efforts?
- Working with member of this team, are unique skills and talents valued and utilised?

Inclusion and psychological safety

- At the same time, psychological safety is required for:
 - Any effective work to drive inclusion in a team or organization
 - Honest measurement of impact of this work
 - Individuals to feel included

Edmondson 2020

How do we foster inclusion and psychological safety?

- Step 1: Be aware that these are real factors in the success of organizations and teams
- Step 2: Understand that the two are interrelated
- Step 3: Consider concrete strategies to measure and encourage both

What to do?

- Implicit Association Test

- <https://implicit.harvard.edu/implicit/index.jsp>
- Google “Project Implicit”



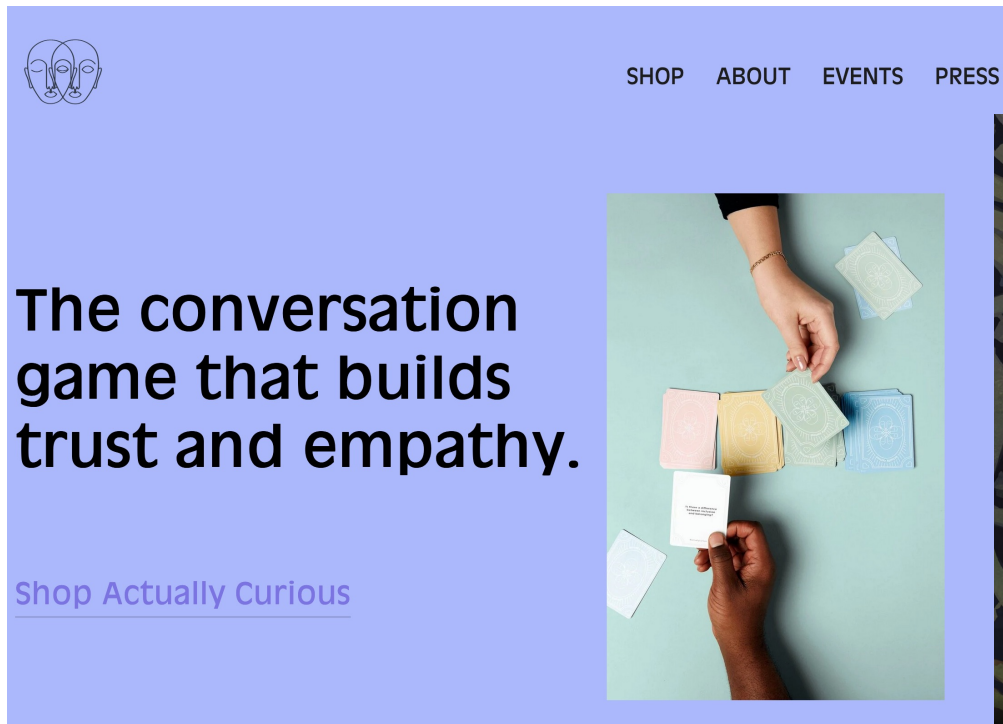
- Turns out individual awareness is not enough

- Bias training has little effect in isolation
- Disregards the structural and social processes that train and perpetuate our biases
- Doesn't give us actual tools to take action
- Without these, leads to frustration and loss of engagement

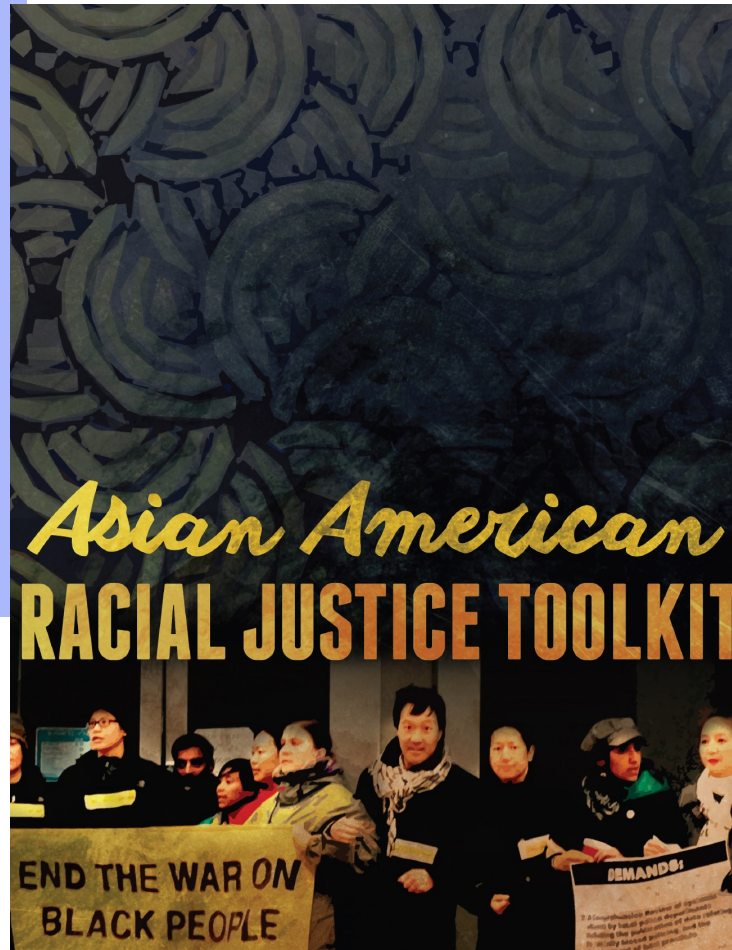
Is bias training useless?

- No! It's just the first step.
- The key is to make it dynamic, longitudinal, and practical
 - Interactive
 - Counter-stereotypic training and perspective-taking
 - Embrace discomfort and prepare for defensiveness
 - Tie to values
 - Lived experience = unique stories (even those with apparent “majority” identities)
 - Track behavior and improvement: metacognition

Example tools



Leanin.org
Apalanet.org



Attention to detail

- Obvious: zero tolerance for overt harassment
- But: how can members feel safe reporting?
- A key step: attend to microaggressions
 - “Stop and fix” toolkit for witnessed behavior
 - Assess the situation: individual safety/stability, trainee and colleague safety
 - Recognize your own negative emotions
 - Repeat the statement and allow time for reflection
 - Use objective statements when possible
 - Debrief later



Wheeler 2018
Princing 2019

Get back to core values

- Values affirmation exercise led to higher clinical performance scores for women surgical residents in one multispecialty Stanford RCT
 - Residents asked to select 2-3 most important values from a list, and to write about these
 - Counters effects of stereotype threat
- Values affirmation reduces defensiveness and increases retention after bias training

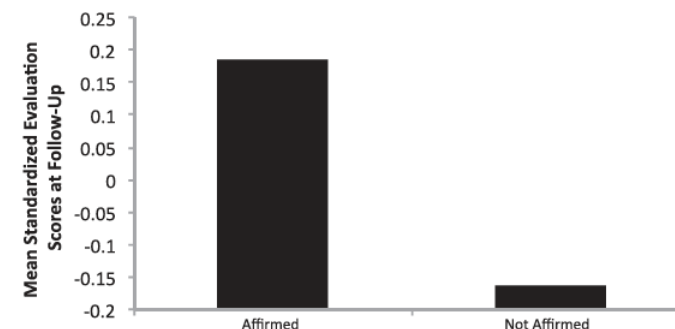


FIGURE 2

Women's Evaluations by Affirmation Condition

Note: These values are derived from a linear regression predicting scores for women based on affirmation condition (treatment or control) and stereotype threat controlling for baseline evaluation scores and specialty.

Salles 2016
serc.carleton.edu

Create support structures

- Subgroups for underrepresented members
 - Networking and mentoring reduce feelings of isolation
 - Builds on identities of origin and growth
 - Membership should be safe and voluntary
- Promote honest intergroup contact
 - Depends on increasing inclusion in membership
 - Be careful of “identity taxes”

Structure and data

- Structured processes tend to be more just
- Structured mentoring programs
- Avoid treating individuals as group ambassadors unless they volunteer to do so
- Burnout assessments: mini-Z etc

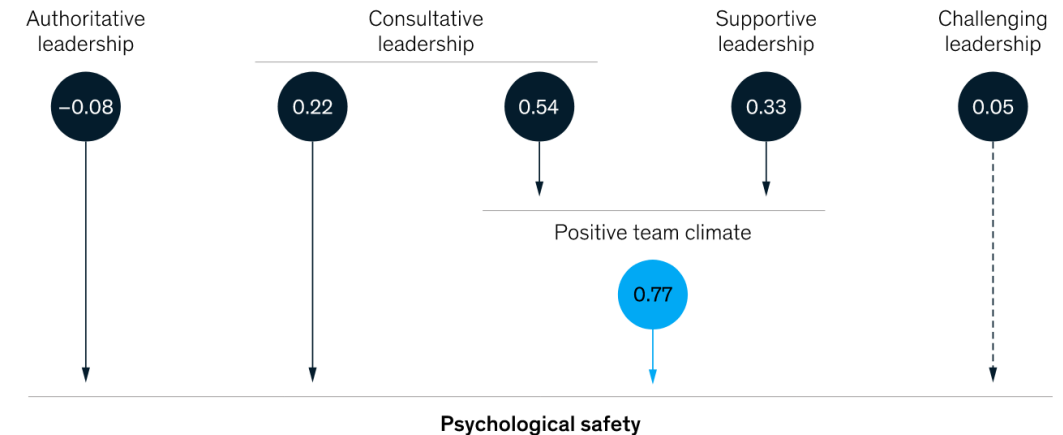
How do we build just processes?

- Actively consider inclusion in all things
 - Clearly stated DEIJ component to core goals or KPIs for all major activities
 - Include DEIJ components in stated mission and vision of teams and organizations
 - Measure leaders
- Making it explicit is a key step, and often challenging

Many levels of action

- Leaders set the tone
 - Both “crowned” and “uncrowned” leaders
 - Consultative style often effective, especially when combined with supportive style

Relationship between leadership behaviors and outcomes,¹
standardized regression coefficients



¹Nonsignificant effects omitted for parsimony.

²The effect of challenging leadership on psychological safety depends on the presence of a positive team climate.

McKinsey
& Company

Leadership development is important... and everyone is a leader

Skills addressed in leadership-development programs that are predictive of positive team-leader behaviors and senior-leader inclusiveness

■ Significant effect

		Supportive and consultative leadership	Challenging leadership	Senior-leader inclusiveness
<div>Most commonly addressed</div> <div>↑</div> <div>↓</div> <div>Least commonly addressed</div>	Group dynamics			
	Open-dialogue skills	■		■
	Self-awareness			
	Cultural awareness			■
	Developing high-quality social relationships in teams	■	■	■
	Mindful listening		■	
	Situational awareness			■
	Unconscious biases			
	Situational humility ¹	■		■
	Sponsorship ¹	■	■	

¹Situational humility and sponsorship are only predictive of consultative-leadership behaviors, not supportive-leadership behaviors.

McKinsey
& Company

What other simple steps can help?

- Frame all work as an experiment with a goal of learning
- Admit fallibility and vulnerability
 - Ask questions and ask for help
- Approach others with curiosity
- Control extraneous cognitive load = more room for curiosity

Applicable in every setting

- Start every meeting by stating values and ground rules
- Follow this with recognitions and celebrations
 - Make sure everyone has a chance to be recognized over time
- One member watches for those who haven't spoken
 - Offer them a chance to speak without pressure to do so
- Most senior person speaks last

The stages of psychological safety

1. Inclusion: members feel safe belonging to the team
 2. Learner: members feel safe learning by asking questions
 3. Contributor: members feel safe contributing ideas
 4. Challenger: members feel safe questioning others
- Not really a linear process, but a useful model

Clarke 2020

Name one concept, strategy, or tool you will take from this presentation to your work team(s)

Questions? Comments?

- kbala@stanford.edu
- 206-914-4605