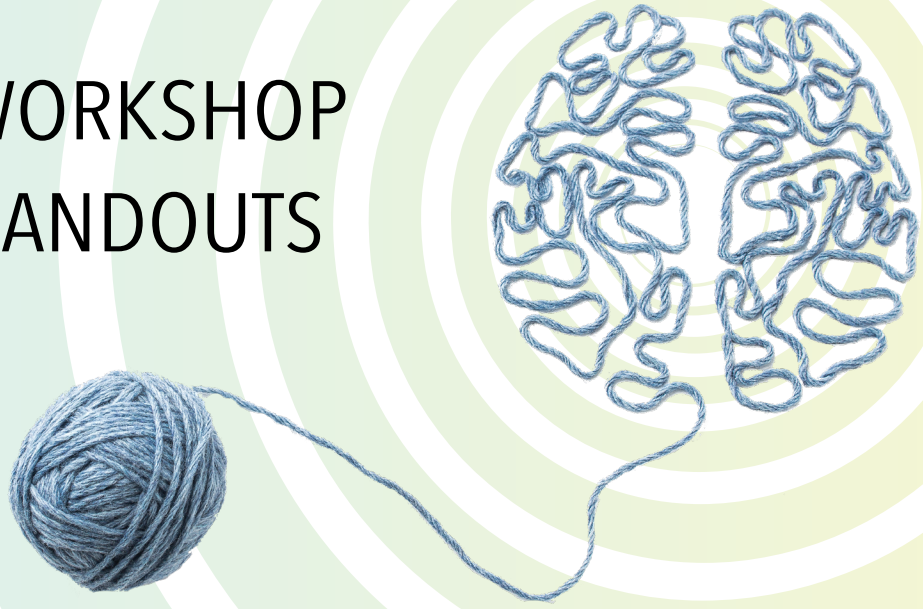
Unraveling BIAS in the Brain

WORKSHOP HANDOUTS



By Meagan Pollock, PhD

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Unraveling BIAS in the Brain

PREJUDICE is a preconceived opinion that is not based on reason or actual experience.

DISCRIMINATION is the unjust or prejudicial treatment of different categories of people.

OPPRESSION is the combination of prejudice and power which creates a system that discriminates against some groups and benefits other groups. There are four types of oppression: ideological, interpersonal, institutional, and internalized.

SYSTEMS OF OPPRESSION enable dominant groups to exert control over non-dominant groups by limiting their rights, freedom, and access to basic resources such as health care, education, employment, and housing.

STEREOTYPES are a widely held but fixed, oversimplified, and generalized image or idea of a particular type of person or thing, including personal traits or circumstantial attributes.

MARGINALIZATION is the treatment of a person, group, or concept as insignificant or peripheral.

MARGINALIZED GROUPS refer to individuals who are consistently confined to the lower or peripheral edges of society or groups, because they are commonly seen as different from perceived norms and dominant cultures. They often experience disadvantage and discrimination that stem from systemic social inequalities and injustices.

MICROMESSAGES are small, subtle, unconscious messages that are sent and received when communicating with others.

IMPLICIT BIAS refers to the attitudes or stereotypes that affect one's understanding, actions, and decisions in an unconscious manner.

IMPLICIT PREJUDICE is in favor of or against one thing, person, or group compared with another, usually in a way considered to be unfair.

SELF-REGULATION is the ability to manage one's behaviors, including the ability to set specific goals, and to use appropriate strategies to attain those goals. Or it is the process of acting in an intentional manner, often through mechanisms of cognitive control.

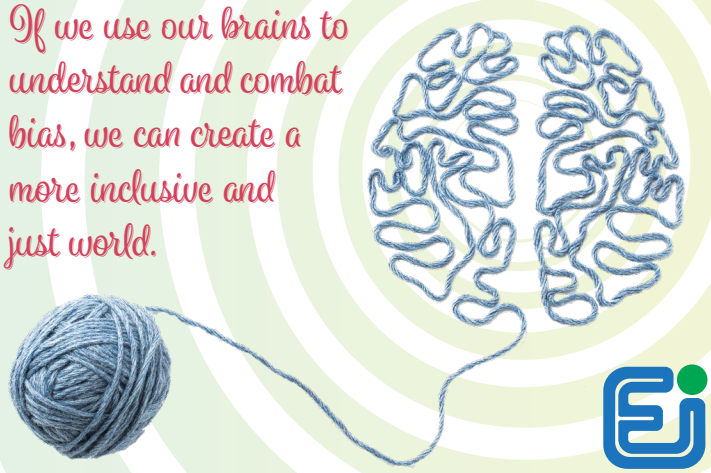
FEAR CONDITIONING refers to the pairing of an initially neutral stimulus, such as light, a tone, symbol, or color, with an aversive fear eliciting stimulus. The conditioned fear response is described in terms of emotional, behavioral and physiological responses.

EMPATHY is the ability to understand and share the feelings of another.

MENTALIZING is the process of considering a person's unique perspective and motives.

DEHUMANIZATION is the process of depriving a person or group of positive human qualities, and the literal stripping of human attributes with an animal or object association.

If we use our brains to understand and combat bias, we can create a more inclusive and just world.



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Unraveling BIAS in the Brain

KNOW YOUR BRAIN

The brain supports the learning, experience, and expression of prejudice, and the storage, activation, and behavioral expression of social stereotypes. These are the neural mechanisms of social cognition that underlie forms of bias. So, if you have a brain, you hold prejudice, bias, and stereotypes. Recognition of this truth can help diminish some of the discomforts that come with the realization that we all have these things. The good news is that networks in the brain also support the self-regulation of cognitive control, which can reduce the expression of prejudice and stereotypes.

EXAMINE YOUR FEAR CONDITIONING

Fear conditioning is a mechanism underlying implicit prejudice. It is a learned threat response (Emotional, behavioral, and physiological) to outgroups or people who are different than you. In what circumstances do you experience behavioral freezing, anxiety, and heightened vigilance? Can you rationalize this fear conditioning based on your own experiences?

PRACTICE EMPATHY TO DRIVE CONNECTION

It can be easy to jump to conclusions about people. Because of how our brain works, we are prone to assign stereotypes attributing the causality of events. Most of the time, we don't know the whole story. When you find yourself doing this, ask yourself, "What else might be true?" Try to think of five different explanations rather than the immediate one likely based on prejudice, stereotypes, and bias. When possible, ask and don't assume. This practice can help you to understand others, or in the least, not assume the worst. Empathy is a skill that can bring people together and make people feel included.

WATCH, READ, AND LEARN

To increase empathy and to expand our world-view, we must learn more about other people, cultures, and ways of knowing and doing. Watch films, read books, and attend talks that will help you expand your knowledge of others.

STOP DEHUMANIZING OTHERS

Dehumanization starts with language and can lead us to place stigmatized groups placed outside the boundary in which moral values, rules, and considerations of fairness apply. We must consider how stereotypes, prejudice, and bias affects how we see and engage with others. Examine how you've perhaps unintentionally stopped seeing groups of humans as humans.

CHANGE YOUR LENS

If mentalizing is the process of considering a person's unique perspective and motives, how could your lens affect your assessment of others? Does a narrow world view cloud your lens? Is your lens out of focus to the humanity of others? Is your lens one of empathy and kindness? Evaluate the state of your lens and make a plan to adjust it accordingly.

ACTIVELY CHALLENGE STEREOTYPES

Stereotypes reinforce the marginalization and oppression of others. We must actively challenge stereotypes, dispel myths, and provide more authentic stories of individuals.

IDENTIFY YOUR IMPLICIT BIASES

You can take implicit association tests to help you identify your unconscious biases (implicit.harvard.edu). The control of implicit bias requires the detection of a conflict between a biased tendency and one's goal to act without bias. So, first, you must decide that you don't want to be biased, then increase awareness of how prejudice and stereotypes manifest in your interactions with others, and finally, take action to change this behavior.

SILENCE IS COMPLICITY

By not saying anything, by not standing up for those who are marginalized and oppressed, we become complicit in their oppression.

If we use our brains to understand and combat bias, we can create a more inclusive and just world.

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Activity 1

INSTRUCTIONS

In small groups, brainstorm answers to the following two prompts. When we return to the large group, we will discuss and suggested answers will be provided.

PROMPTS

What does an inclusive and just world look like?

Brainstorm	*Notes*

What are the barriers to an inclusive and just world?

Brainstorm	*Notes*

KNOW YOUR BRAIN

INSTRUCTIONS

Use this worksheet to take notes about the 8 neural mechanisms in the brain that underlie forms of bias.

1. Amygdala

>> Jump to Activity 2

2. Insula

>> Jump to Activity 3

3. Striatum

4. Orbital Frontal Cortex & Ventral Medial PreFrontal Cortex

5. Medial PreFrontal Cortex

>> Jump to Activity 4

6. Temporal Lobe

7. Inferior Frontal Gyrus

>> Jump to Activity 5

>> Jump to Activity 6

8. Anterior Cingulate Cortex

>> Jump to Activity 7

Activity 2: Examine Your Fear Conditioning

INSTRUCTIONS

Independently reflect on the prompts. Be prepared to discuss in small groups.

KEY TERMS

Fear conditioning refers to the pairing of an initially neutral stimulus, such as light, a tone, symbol, or color, with an aversive fear eliciting stimulus. The conditioned fear response is described in terms of emotional, behavioral and physiological responses.

Self-regulation is the ability to manage one's behaviors, including the ability to set specific goals, and to use appropriate strategies to attain those goals. Or it is the process of acting in an intentional manner, often through mechanisms of cognitive control.

PROMPTS

What is an irrational fear conditioning can you identify in your life?

What is your emotional, behavioral, or physiological response to this stimulus?

How can you use self-regulation to modify this fear conditioning?

Use this formula to help you: When I see **[X (a stimulus that is generally a stereotype)]**, I feel or do **[Y]**. I know that this is fear conditioning, so I can change my response by doing **[Z]**.

When I see:	When I see:	When I see:
I feel or do:	I feel or do:	I feel or do:
I know that this is fear conditioning, so I can change my response by doing:	I know that this is fear conditioning, so I can change my response by doing:	I know that this is fear conditioning, so I can change my response by doing:

Activity 3: Practicing Empathy

INSTRUCTIONS

Independently reflect on the prompts. Be prepared to discuss in small groups.

KEY TERM

Empathy is the ability to understand and share the feelings of another.

PROMPTS

Describe some areas in your life where you can practice empathy.

How will you practice empathy to drive connection with people who are not like you?

How can you use the phrase "**What else might be true**?" to help you increase empathy for others?

Activity 4: Lens Evaluation

INSTRUCTIONS

Independently reflect on the prompts. Be prepared to discuss in small groups.

KEY TERMS

Mentalizing is the process of considering a person's unique perspective and motives.

Dehumanization is the process of depriving a person or group of positive human qualities, and the literal stripping of human attributes with an animal or object association.

PROMPTS

If mentalizing is the process of considering a person's unique perspective and motives, how could your lens affect your assessment of others?

Might your lens clouded by a narrow world view?

Is your lens out of focus to the humanity of others?

Is your lens one of empathy and kindness?

Evaluate the state of your lens, and make a plan to adjust it accordingly.

Activity 5: Make a List

INSTRUCTIONS

Review Engineer Inclusion's **Recommended Read and Watch List**. Make a list of diversity, equity, inclusion, and justice topics you'd like to study and resources you want to access. Be prepared to discuss in small groups. Access the List: **engineerinclusion.com/read**

PROMPTS

Topics You'd Like to Study	Books You Want to Read	Videos You Want to Watch

Activity 6: Single Stories

INSTRUCTIONS

Watch **The Danger of the Single Story** by Chimamanda Adichie. Reflect on the prompts.

PROMPTS

1. Provide three examples of "single stories" from her entire talk.

2. According to Adichie, how is a "single story" created and why is it dangerous? (9:25)

3. What is Adichie's call to action at the end of her talk? (18:16)

4. What are examples of "single stories" in your personal life?

5. What are examples of "single stories" in your education?

6. What are examples of "single stories" in the news?

7. How might we begin to "reject the single story" in our lives to regain Adichie's so-called "paradise"?

Activity 7: Implicit Association Test

INSTRUCTIONS

Independently take at least one Implicit Association Test. Visit **Implicit.harvard.edu**

Read the PDF "**Making Sense of Your IAT Results**."

Reflect on your experience.

KEY TERMS

Implicit bias refers to the attitudes or stereotypes that affect one's understanding, actions, and decisions in an unconscious manner.

PROMPTS

Which IATs did you take? Why? What did you learn? How do you feel about your results?