

# The Science of Bias: How Cognition and Motivation Impact Judgment

Keith Maddox, Ph.D.  
Department of Psychology  
Tufts University

NEARCP Webinar  
January 27, 2021

# MODERATOR



Christine McKenna,  
MS, LICSW, MLADC, CCTP

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# Disclosures

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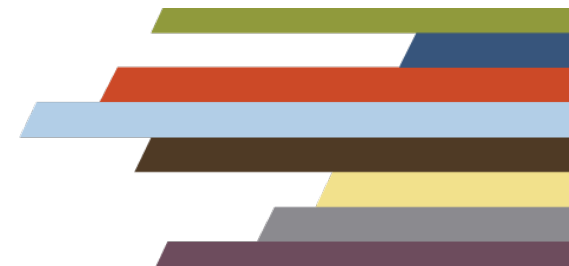


New England (HHS Region 1)

**ATTC**

Addiction Technology Transfer Center Network  
Funded by Substance Abuse and Mental Health Services Administration

***SAMHSA***  
Substance Abuse and Mental Health  
Services Administration



# New England Association of Recovery Court Professionals

- The New England Association of Recovery Court Professionals is a nonprofit consortium of drug treatment court professionals from six states (CT, RI, MA, NH, VT, ME)
- We exist to: Address critical current and emerging issues confronting drug treatment courts through high-quality training and TA
- Promote regional coordination to address challenges common in New England drug treatment courts and develop responsive pro-active policies and practices
- Provide a central forum and repository of resources relevant to the development, operation, and administration of drug treatment courts
- [www.NEARCP.org](http://www.NEARCP.org)



**NEARCP**  
New England Association of  
Recovery Court Professionals

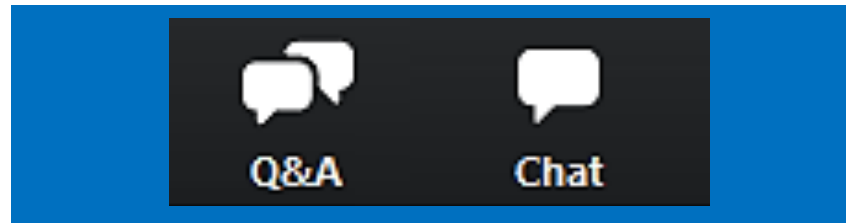
# Meet our Presenter

**Keith Maddox** earned his A.B. in Psychology from the University of Michigan, and his M.A. and Ph.D. in Social Psychology from the University of California, Santa Barbara. He is an Associate Professor in the Psychology Department at Tufts University and the Director of the Tufts University Social Cognition (TUSC) Lab. His research and teaching are focused on exploring social cognitive aspects of stereotyping, prejudice, and discrimination. The long-range goal of this work is to further the understanding of the representation of stereotypic knowledge and its implications for the behavior and treatment of members of stereotyped groups. He has served as the Special Advisor to the Provost for Diversity and Inclusion at Tufts, and seeks to bring social science evidence to bear on the development and evaluation of programs designed to address the challenges and opportunities associated with diversity, equity, climate, and inclusion in organizations.



**Keith B. Maddox, Ph.D.**

# Zoom Webinar Controls



Questions & Answers - Q&A  
Chat Room



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# Evaluations and Certificates

## Evaluations:

You will receive an evaluation link from the New England Addiction Technology Transfer Center (ATTC). Completion of this evaluation helps provide continued support for training such as this.

## Certificates of Completion with CEUs:

National Association of Alcohol and Drug Abuse Counselors (NAADAC) CEUs available through the New England Addiction Technology Transfer Center, NAADAC Approved Provider #62652.

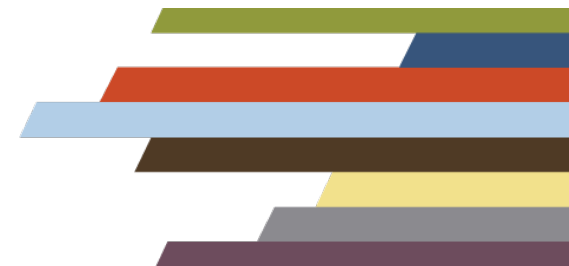
Only attendees who registered for this webinar will receive both evaluation email and CEU certificate.



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# The Science of Bias: How Cognition and Motivation Impact Judgment

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# Overview

- What is Social Psychology?
  - Definitions
- Who is Biased?
  - Explicit & Implicit Associations
- How Can Bias Affect Judgments?
  - Empirical Evidence
- What Can You Do About It?
  - Bias Mitigation Strategies

**Part 1: Definitions**

# **WHAT IS SOCIAL PSYCHOLOGY?**

# Definitions

- Social Psychology
  - The scientific study of how individuals think, feel, and behave in a social context.
    - Real or imagined presence of other people
- Social Cognition
  - The study of how people make sense of themselves and others
    - Focus on process in addition to content
    - Informed from research in cognitive psychology

# Tenets of Social Psychology

- The Social Construction of Reality
  - The way a person construes a person situation dictates our thoughts, feelings, and behavior
- The Dual Determinants of Behavior
  - Personality x Situation/Context = Behavior
- The Power of the Situation
  - Situations often have a large, underappreciated influence on our thoughts, feelings, and behavior
  - Personality is often overemphasized

Demonstration

**A LITTLE MATH**

## Pick a number...

- Pick a number between 1 and 9
- Subtract 5
- Multiply by 3
- Square the number
- Add the digits
- If number is less than 5, add 5 to it. If the number is greater than 5, subtract 4
- Take the absolute value
- Multiply by 2
- Subtract 6

## Pick a number...

- Map your number to its corresponding letter in the alphabet (A=1, B=2, C=3...)
- Pick the name of a country that begins with that letter
- Take the second letter of that country and pick a mammal that begins with it.
- Think of a common color of that animal

**Write down the country, animal, and color  
that you're thinking of.**



Grey Elephant from Denmark

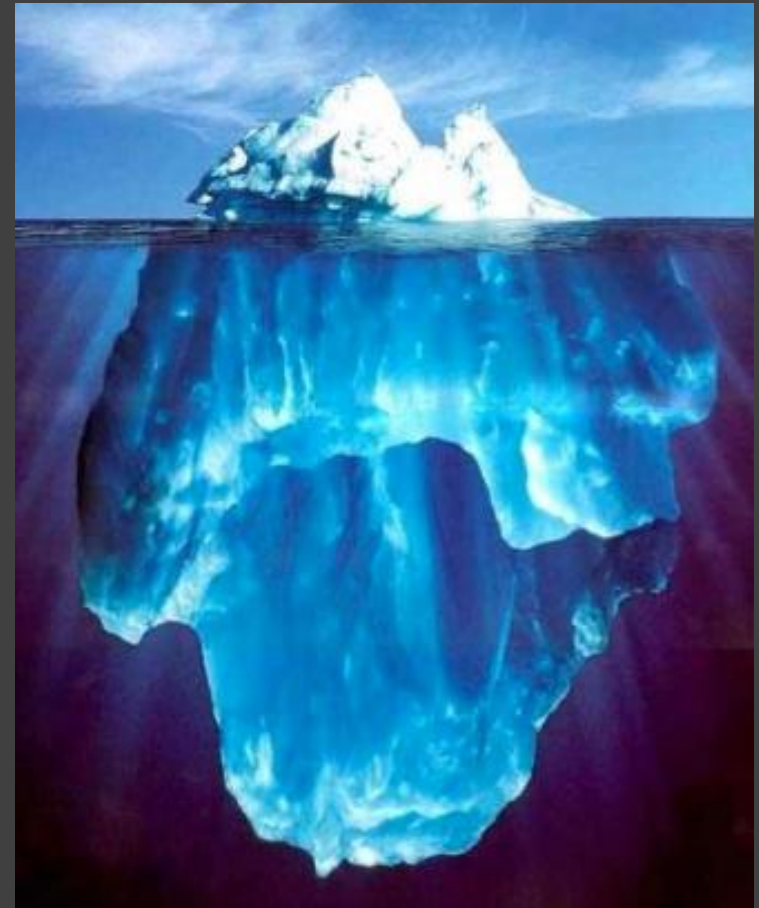
Brown Orangutan from the  
Dominican Republic OR  
Dominica

Yellow Jaguar from Djibouti

# How Did He Do That?!?

- The *Availability Heuristic*
  - Making judgments based on the ease with which information comes to mind.
- Countries:
  - Denmark, Dominica, Dominican Republic, Djibouti
- Mammals:
  - Elephant, Orangutan , Jaguar
- Colors
  - Grey, Brown, Orange





Part 2: Who Is Biased?

# EXPLICIT & IMPLICIT ASSOCIATIONS

## More Definitions

- *Stereotypes*
  - Traits and behaviors
- *Prejudice*
  - Attitudes and feelings
- *Discrimination*
  - Behavior
- Explicit vs. Implicit
  - What you're aware of (conscious)
  - What you're unaware of (unconscious)

Demonstration

# MEASURING IMPLICIT ASSOCIATIONS

CANCER  
HEALTH  
CORPSE  
DIAMOND  
TRUTH  
DEVIL  
ASSAULT  
TRIUMPH  
GLORY  
BRUTAL  
TALENT  
AGONY  
KINDNESS  
FAMILY  
DIVORCE  
STINK  
PLEASURE  
TORTURE  
BOMB  
PEACE

**LEFT side if  
UNPLEASANT**

**RIGHT side if  
PLEASANT**

SARA  
AIESHA  
MEREDITH  
BRETT  
DARNELL  
KATIE  
ABIGAIL  
NIKISHA  
AMANDA  
MEGAN  
SETH  
LATOYA  
LOGAN  
EBONY  
RACHEL  
MARQUIS  
DARRYL  
KIRSTIN  
TAMEKA  
HANNAH

**LEFT side if  
BLACK**

**RIGHT side if  
WHITE**

**LEFT side if  
UNPLEASANT  
or  
BLACK**

**WENDY  
HEALTH  
JACK  
DIAMOND  
AIESHA  
DEVIL  
TYRONE  
TRIUMPH  
LINDA  
BRUTAL  
JAMAAL  
AGONY  
SHANEKA  
FAMILY  
SOPHIE  
STINK  
KAITLYN  
TORTURE  
MALIK  
PEACE**

**RIGHT side if  
PLEASANT  
or  
WHITE**



TRUTH

UGLY

ASSAULT

CHEER

GLORY

CANCER

HEALTH

CORPSE

DIAMOND

FILTH

TALENT

DIVORCE

STINK

PLEASURE

TORTURE

POLLUTE

PEACE

AGONY

DIPLOMA

RAINBOW

**LEFT side if  
UNPLEASANT**

**RIGHT side if  
PLEASANT**

CONNOR

IMANI

AMANDA

HEATHER

TEMEKA

BETSY

DEMETRIUS

JAZMIN

HUNTER

SARA

DESHAWN

TANISHA

LAUREN

MADELINE

DONNA

DARIUS

ALLISON

EMILY

MAURICE

TERRELL

**LEFT side if  
WHITE**

**RIGHT side if  
BLACK**

**LEFT side if  
UNPLEASANT  
or  
WHITE**

**GARRETT  
HEALTH  
COURTNEY  
DIAMOND  
TREVON  
DEVIL  
ROSS  
TRIUMPH  
ELLEN  
BRUTAL  
MALIK  
AGONY  
PEGGY  
FAMILY  
COLLEEN  
STINK  
SHANICE  
TORTURE  
NANCY  
PEACE**

**RIGHT side if  
PLEASANT  
or  
BLACK**

**LEFT side if  
UNPLEASANT  
or  
BLACK**

**RIGHT side if  
PLEASANT  
or  
WHITE**

**Implicit Association Test**  
**<http://implicit.harvard.edu>**

**LEFT side if  
UNPLEASANT  
or  
WHITE**

**RIGHT side if  
PLEASANT  
or  
BLACK**

# Implicit Associations

- Associations like these are everywhere
  - Age, Race, Gender, Political Affiliation, etc...
- They might be inconsistent with how you think about yourself
  - I'm not biased
- They are pervasive
  - We are usually unaware but they can influence real judgment and behavior
    - Not just knee-slapping

# Why is Bias Pervasive?

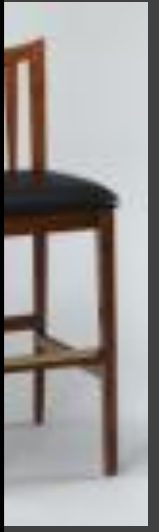
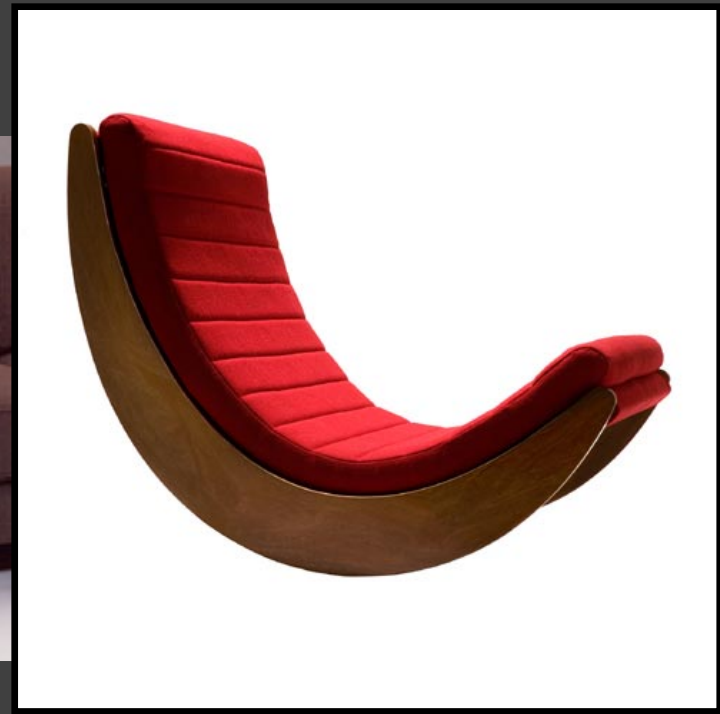
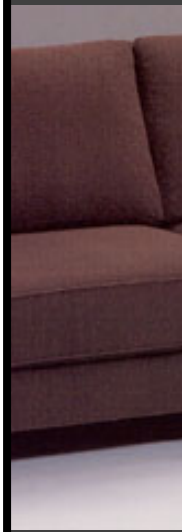
- Humans often rely on cognitive short-cuts
- One is the tendency to categorize objects by salient features



**Enter the three objects you saw, one at a time. Click submit after each answer.**

# Why is Bias Pervasive?

- Humans often rely on cognitive short-cuts
- One is the tendency to categorize objects by salient features





# Why is Bias Pervasive?

Tajfel & Wilkes (1963)



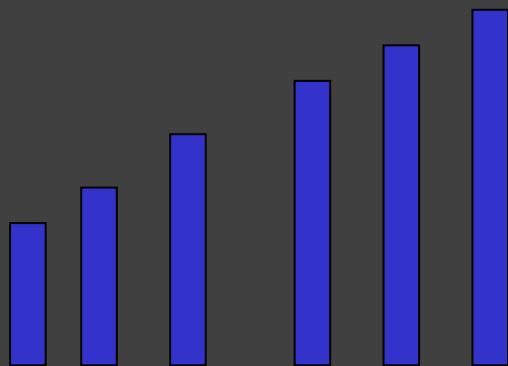
**B**

Lines Only  
Condition

Labeled Lines  
Condition

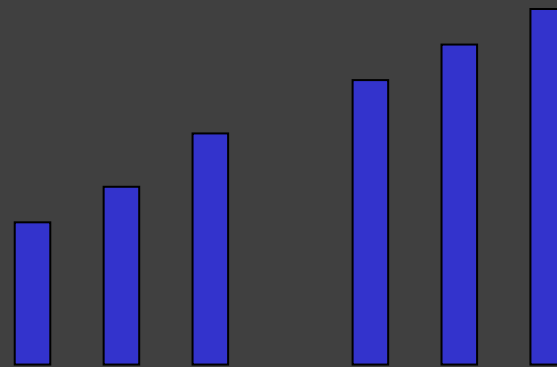
# Why is bias pervasive?

Tajfel & Wilkes (1963)



Lines Only

OR



A

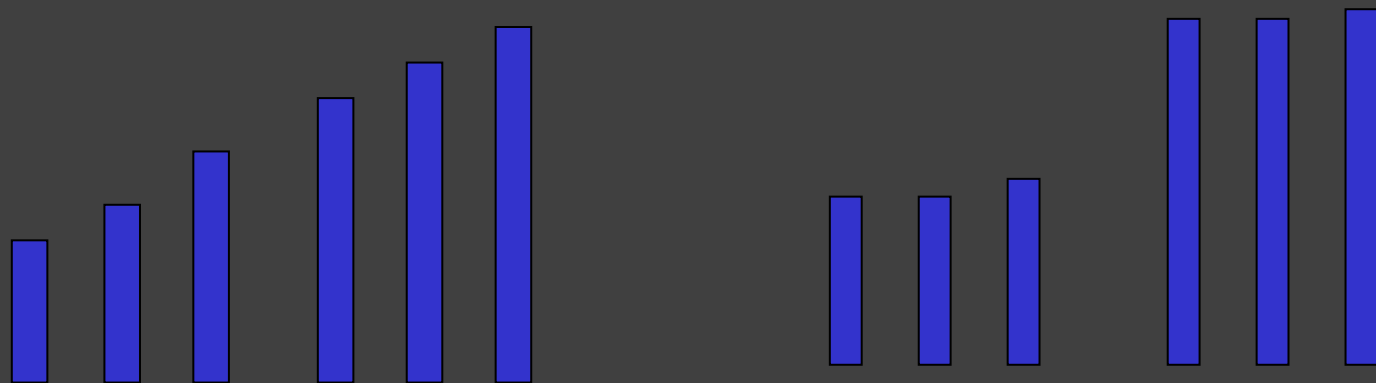
B

Labeled Lines

# Why is Bias Pervasive?

Tajfel & Wilkes (1963)

Participants who got the labels recalled them differently:



Lines Only

Labeled Lines

# Why is Bias Pervasive?

- What about *social* categorization?
  - These tendencies apply to how we see *people* as well
  - Produces belief that: “*they’re all the same*”
    - Appearance
    - Opinions
    - Behaviors
    - Etc.



# Why is Bias Pervasive?

- Implicit and explicit stereotypes guide:

**What we perceive**

**What we remember**

**How we explain behavior**

**What we believe about ourselves**

**How we act towards others**

...and they are self-reinforcing



**Part 3: How Can Bias Affects Judgments?**

**EMPIRICAL EVIDENCE**

# Examples of Bias Domains

- Employment
  - Resumes and Job Interviews
- Education
  - Standardized Test Performance
- Health Care
  - Access & Treatment Quality
- Housing
  - Residential Access & Gentrification
- Law Enforcement
  - Profiling and Use of Force
- Criminal Justice
  - Sentencing

# Implicit Bias and the Law

- School discipline: teachers less likely to give 3rd chance to Black vs. White students (Okonofua & Eberhardt, 2015)
- Police simulations: respondents quicker to “shoot” unarmed Black vs. White targets (Mekawi & Bresin, 2015)
- Racial disparities persist in charging decisions, plea deals, and other trial outcomes that disadvantage Blacks (Sommers & Marotta, 2014)
- Americans express greater support for trying violent juveniles as adults when example provided is a case with Black offender (Rattan et al., 2012)





Part 4: What Can We Do About It?

# APPROACH & STRATEGIES

# Approach:

## Personality and Context Matter

- Everyone has the potential to show bias
  - Racially biased does not equal Racist
    - Don't just search for the “bad apples”. Consider the influence of the barrel
- Addressing bias isn't just about changing what you do, but changing our environments.
  - Media, school, workplace, etc.
- We can use what we know about process to “hack” the system to facilitate equitable outcomes.

# Bias Mitigation Strategies

## Interpersonal Context

Identify and modify situations where stereotypes are most likely to impact judgment

- When behavior is ambiguous
- When behavior is stereotype-consistent
- When judgments are subjective
- When one is busy or distracted
- When one feels threatened or insecure

# Bias Mitigation Strategies

## Decision Making (Selection/Evaluation)

- Get comfortable talking about race and discrimination.
- Spread screening/review process across multiple individuals (committee approach)
- Make the committee racially diverse
- Set specific, objective evaluation criteria and apply evenly across candidates
- Understand and discuss when past discrimination may impact “objective” evaluation criteria.

# Bias Mitigation Strategies

## Organizational Climate Change

- Acknowledge and remedy past injustice
- Diversify the composition of the organization
- Make opportunities and spaces inclusive (welcoming) to traditionally underrepresented members
- Actively advertise and encourage engagement (participation) in programs
- Define and interrogate relevant achievement domains and goals
- Design and conduct assessment efforts for each goal.
- Communicate your progress (or lack thereof).
- Incorporate these efforts into your routine and set expectations among your members

Thank You!