

Implicit & Cognitive Biases

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Why?

- Lykke
- Treating patients differently
 - Positively
 - Negatively
- Man up, pink
- Race and the effect on CV selection for job interview

Who said this quote?

“Your beliefs become your thoughts,
Your thoughts become your words,
Your words become your actions,
Your actions become your habits,
Your habits become your values,
Your values become your destiny.”

Introduction (1a)

- A father is driving his son in a car
- The car crashes, the father dies.
- The son is injured and is brought to hospital.
- He needs emergency surgery and is brought to theatre
- The surgeon says “I cannot operate. This is my son”.
- **Who is the surgeon?**

Introduction (1b)



<https://www.youtube.com/watch?v=J69HkKz9g4A>

Introduction (2)



Learning Objectives

- Determine the difference between conscious and unconscious bias
- Understand that everyone has unconscious bias
- Appreciate the impact that unconscious bias has on society
- Appreciate the impact that bias has on medicine
- Understand strategies how biases work in healthcare and how to mitigate them

What is Unconscious Bias & What causes it?

- 3 mins



Unconscious Bias

- Bias: support or preference for or against someone or something especially in an unfair way
- Every moment, we process 11 million pieces of information
- How much can we consciously process?

40 pieces

Information processing

- Survival – predators
- Tribalism
- Sitting
- What bias do we all possess?

Tokyo Medical University scandal is a throwback to when discrimination against women was the norm

BY HIFUMI OKUNUKI

Flabbergasted. That was my feeling last week reading the news of an example of brazen institutional sexism and fraud 33 years after the enactment of the Equal Employment Opportunity Law.

Each year since 2010, Tokyo Medical University fraudulently lowered the scores of female applicants who took the annual entrance exam, keeping the percentage of young women admitted at about 30 percent.

Only those who pass the school's written multiple-choice exam can move on to the final short-essay-and-interview phase. The cap on number of admissions is set without reference to gender. This year 2,614 took the entrance exam, of which 61 percent were male and 39 female. The university took the women's test scores and multiplied them by a coefficient less than 1 in order to reduce their scores across the board. This resulted in men comprising 67 percent of those passing phase one and 82 percent (141) of those passing both phases. Only 30 women (18 percent) managed to make it through to admission.

By 2010, the percentage of women gaining admission had skyrocketed to nearly 40 percent of the total. Many new female physicians leave the workplace for childbirth or child care, so some in the university apparently

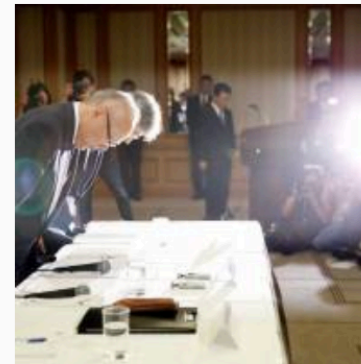
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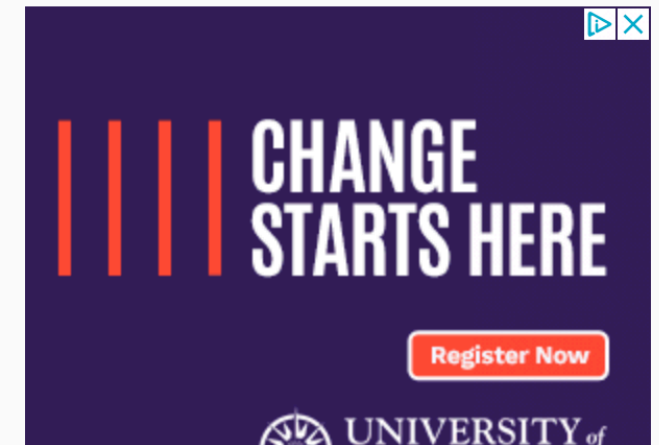


KEYWORDS

[GENDER, LABOR LAWS,](#)
[UNIVERSITIES,](#)
[DISCRIMINATION, DOCTORS,](#)
[TOKYO MEDICAL UNIVERSITY](#)

Murasame

- > [Tokyo police arrest 13 in Shibuya after Halloween mayhem](#)
- > [Japanese towns that thrive on once-abundant squid suffer as numbers decline at alarming rate](#)
- > [Minister says rules will be tightened after JAL pilot's arrest in U.K. over drinking before flight](#)
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Test your biases

What's the test? What does it mean?

- Harvard Implicit Association Test (IAT) or Project Implicit
- Measure strength of association between
 - Concepts AND
 - Evaluations/stereotypes
- Easier and faster if you have implicit preferences

I have a bias, does that make me a ...ist

- Cognitive Dissonance
- Dissociation

Who is this man?



Implicit Association Test – load of... (Jordan Peterson)

- Is it validated?
- Is it reliable?
- Is there a key intervention that can correct our biases?
- Can you measure the difference between unconscious bias and automation/perception?

Medicine & the Implicit Association Test (1)

RESEARCH ARTICLE

Open Access

Implicit bias in healthcare professionals: a systematic review



Chloë FitzGerald* and Samia Hurst

Abstract

Background: Implicit biases involve associations outside conscious awareness that lead to a negative evaluation of

Discussion: The evidence indicates that healthcare professionals exhibit the same levels of implicit bias as the wider population. The interactions between multiple patient characteristics and between healthcare professional and patient characteristics reveal the complexity of the phenomenon of implicit bias and its influence on clinician-patient interaction. The most convincing studies from our review are those that combine the IAT and a method measuring the quality of treatment in the actual world. Correlational evidence indicates that biases are likely to influence diagnosis and treatment decisions and levels of care in some circumstances and need to be further investigated. Our review also indicates that there may sometimes be a gap between the norm of impartiality and the extent to which it is embraced by healthcare professionals for some of the tested characteristics.

Conclusions: Our findings highlight the need for the healthcare profession to address the role of implicit biases in disparities in healthcare. More research in actual care settings and a greater homogeneity in methods employed to test implicit biases in healthcare is needed.

Keywords: Implicit bias, Prejudice, Stereotyping, Attitudes of health personnel, Healthcare disparities

Medicine & the Implicit Association Test (2)

...anger.

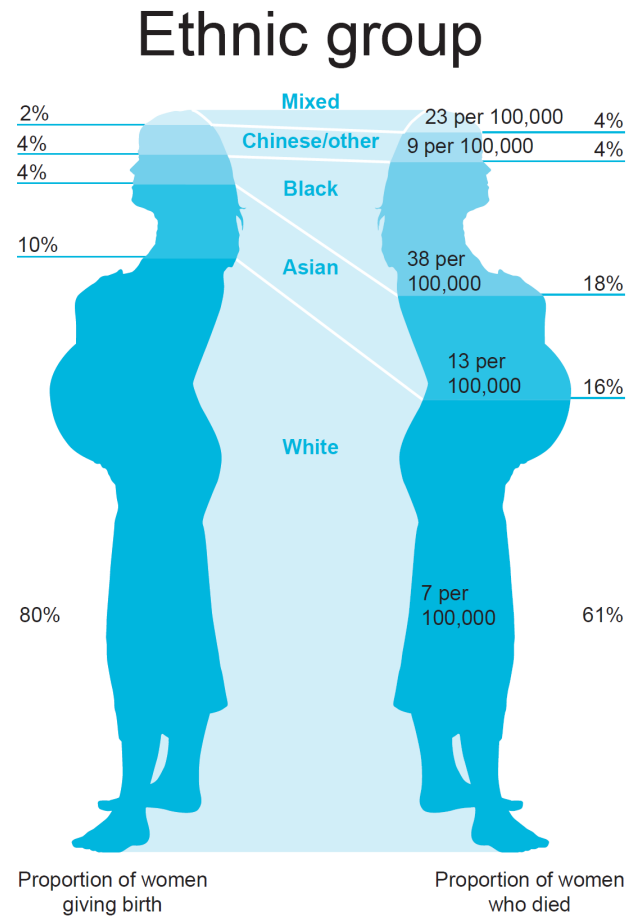
Main Results. Almost all studies used cross-sectional designs, convenience sampling, US participants, and the Implicit Association Test to assess implicit bias. Low to moderate levels of implicit racial/ethnic bias were found among health care professionals in all but 1 study. These implicit bias scores are similar to those in the general population. Levels of implicit bias against Black, Hispanic/Latino/Latina, and dark-skinned people were relatively similar across these groups. Although some associations between implicit bias and health care outcomes were nonsignificant, results also showed that implicit bias was significantly related to patient-provider interactions, treatment decisions, treatment adherence, and patient health outcomes. Implicit attitudes were more often significantly related to patient-provider interactions and health outcomes than treatment processes.

Conclusions. Most health care providers appear to have implicit bias in terms of positive attitudes toward Whites and negative attitudes toward people of color. Future studies need to employ more rigorous methods to examine the relationships between implicit bias and health care outcomes. In-

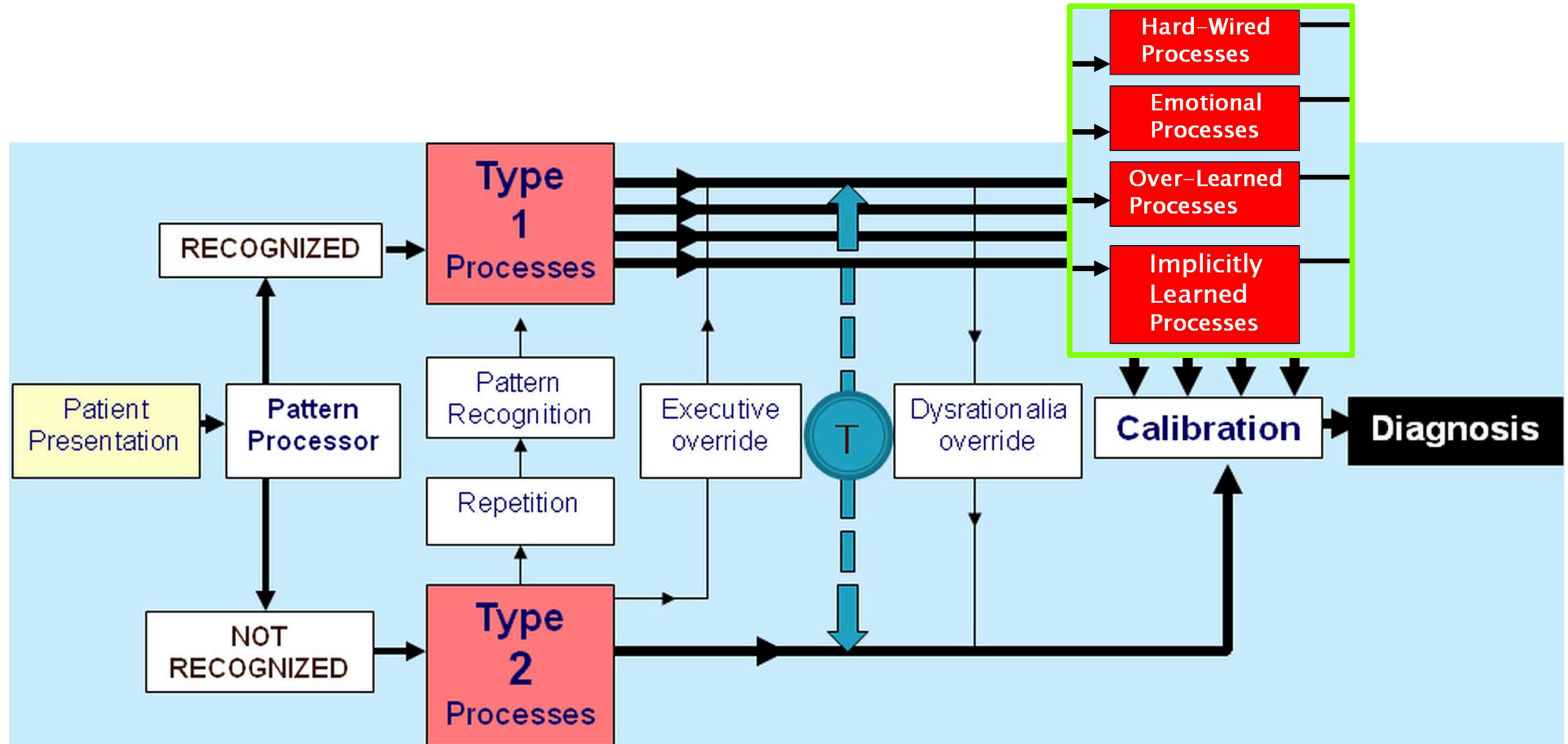
Women in clinic and heart attacks

- Patients (n=150) were 17.1% significantly less likely to recognise female consultants as doctors compared to their males counterparts
- Large cohort studies (n=105000 total) found increased in-hospital mortality by 15-20% (adjusted odds ratios) for female patients compared to male patients
- Women were 16.7% less likely to be told their symptoms were cardiac in origin.

Inequalities in maternal mortality



How do our minds work?



What biases do you think other people have about you?

- 2 minute



Progress

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Progress

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- **Appreciate the impact that bias has on medicine**
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Types of biases

1. **Framing bias**
 - A. recent missed PE prompts excessive CTPA scanning in low risk patients
2. **Availability bias**
 - B. A woman presents with tiredness and central chest pain is misdiagnosed with anxiety whereas a man with 'typical' left sided chest pain is treated for an MI
3. **Confirmation bias**
 - C. A consultation is shorter than most with an obese patient or longer with someone reminds you of someone you know
4. **Representativeness**
 - D. Suspecting the patient has an infection and the raised WCC proves this, rather than 'I wonder why WCC are raised, what other findings are there?'
5. **Diagnostic momentum/
anchoring bias –**
 - E. an oncologist tells the patient that there is an 85% chance of cure rather than 15% of recurrence with immunotherapy
 - F. Fixating on a previously assigned label of 'possible pulmonary embolism' and organizing CT imaging for a patient who may have subsequent results that suggest otherwise (e.g. positive blood cultures the following day)
6. **Visceral bias**

Types of biases

- | | |
|---|---|
| 1. Framing bias | E. an oncologist tells the patient that there is an 85% chance of cure rather than 15% of recurrence with immunotherapy |
| 2. Availability bias | A. recent missed PE prompts excessive CTPA scanning in low risk patients |
| 3. Confirmation bias | D. Suspecting the patient has an infection and the raised WCC proves this, rather than 'I wonder why WCC are raised, what other findings are there?' |
| 4. Representativeness | B. A woman presents with tiredness and central chest pain is misdiagnosed with anxiety whereas a man with 'typical' left sided chest pain is treated for an MI |
| 5. Diagnostic momentum/
anchoring bias – | F. Fixating on a previously assigned label of 'possible pulmonary embolism' and organizing CT imaging for a patient who may have subsequent results that suggest otherwise (e.g. positive blood cultures the following day) (f) |
| 6. Visceral bias | C. consultation is shorter than most with an obese patient or longer with someone reminds you of someone you know (c) |

How can we combat bias in healthcare settings?

- 3 minutes



Strategies: thinking slow? (1)

- Consider whether data are truly relevant, rather than just salient
- Did I consider causes besides the obvious ones?
- How did I reach my diagnosis?
- Did a patient or a colleague suggest the diagnosis?
- Did I ask questions that would disprove, rather than confirm, my current hypothesis?
- Have I been interrupted or distracted while caring for this patient
- Is this a patient I do not like or like too much for any reason?
- Am I stereotyping the patient or presentation?
- Remember that you are wrong more often than you think!

Strategies (2)

- Motivation – how motivated are you?
- Debiasing strategies
- Verbal and non-verbal communication

Strategies to combat Implicit Bias in Medicine

- What is your first impression? WHY?
- Elderly
- Poverty & homeless
- Access: physical and virtual - internet, home visits.
- Clinic types: Mother and baby?
- **Engage with different healthcare professionals**: nurses, different specialties

Conclusions

- We are all biased!
- Bias has wide-reaching implications for all aspects of medicine and society
- Call yourself and others out! Ask why and justify your actions.
- Organisations to make collective decisions
- Think outside your in-group!
- **Think about structures that impact access to, quality and equity of healthcare**
- **Use audit to measure inequity, set targets and implement change**



<https://www.youtube.com/watch?v=BDSurHtFtZA&>

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Introduction (1) – Quick Maths

- A bat and a ball cost £1.10
- The bat costs £1 more than the ball
- How much does the ball cost?