

Examining the Impact of Race and Gender on Psychiatric Diagnosis and Treatment Equity: A Computerized Case-Based Survey Instrument



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Introduction

- Black Americans are diagnosed with psychotic disorders such as schizophrenia more often than white Americans, yet are less likely to receive appropriate medication treatment.¹ The specific mechanisms, cultural misconceptions, and biases that drive these disparities within clinical encounters remain poorly understood.
- This study examines how patient race and gender shape clinicians' interpretation of mental health symptoms, using a computerized, case-based survey instrument.

Objective

1. Identify the clinical decision-making factors that produce diagnostic bias when clinicians evaluate mental health symptoms across racial and gender identities.
2. Determine whether patient gender, alongside race, shapes how clinicians interpret a patient's expressed mistrust of the medical system.

Methods

- A clinical vignette was scripted to simulate a realistic presentation of emerging psychosis in a young adult patient. A survey instrument was developed with items designed to align with different clinical reasoning processes.
 - Four AI-generated videos portraying the same scenario, where the patient was brought to the emergency room by police after a workplace conflict and voicing mistrust, across four conditions: Black man, Black woman, white man, and white woman. The script and affect were identical for each patient.
 - Characters were chosen based on phenotypes that may elicit phenotypic bias (e.g., skin tone, Afrocentric and Eurocentric features, age) so that physical features vary significantly with each patient.²
- In a Qualtrics survey, respondents are randomized to view one of the four videos and then respond to a series of 25 items including closed- and open-ended items drawn from the prominent clinical reasoning theories below.

Figure 1. Patients as portrayed through artificial intelligence generation



Frameworks

- Four theoretical frameworks guided the survey design:
1. van Ryn et al. (2011) models how implicit and explicit racial biases and stereotypes generate diagnostic bias, where interactions occur between both patient and clinician characteristics.³
 2. Situated cognition describes clinical decision-making as shaped by the clinical context including physician factors, patient factors, and specific features of the individual encounter (e.g., inpatient vs. outpatient).⁴
 3. Dual process theory describes clinical reasoning as a product of two interacting systems: System 1—fast and intuitive patterns recognition, and System 2—slower analytical reasoning.⁵
 4. Signal detection theory characterizes clinical reasoning as a process of separating meaningful data (or signals) from non-meaningful data (or noise).⁶

The Script: a sample

“There has been a misunderstanding... I am not— I'm not supposed to be here!

It's all a setup, I'm telling you. My co-workers, they're... they're out to get me. They've been plotting against me for weeks now. They called the police on me because they know I'm onto them. I've just been trying to do my job, and they started whispering, um, calling me names, under their breath. Racial slurs – I heard them.”

Next Steps...

With design and development complete, pilot recruitment begins in fall 2026 and will draw from across the medical education pipeline, from medical students to late-career faculty (pilot sample n=30; national sample n≥100).

By pinpointing which aspects of clinical reasoning are most vulnerable to bias, we aim to identify the specific cognitive mechanisms behind diagnostic bias, yielding a behavioral measure for anti-racism and bias-reduction training and supporting more equitable diagnostic practice.

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