

TOOLS FOR IDENTIFYING **IMPLICIT BIAS** AND LIMITING ITS IMPACT

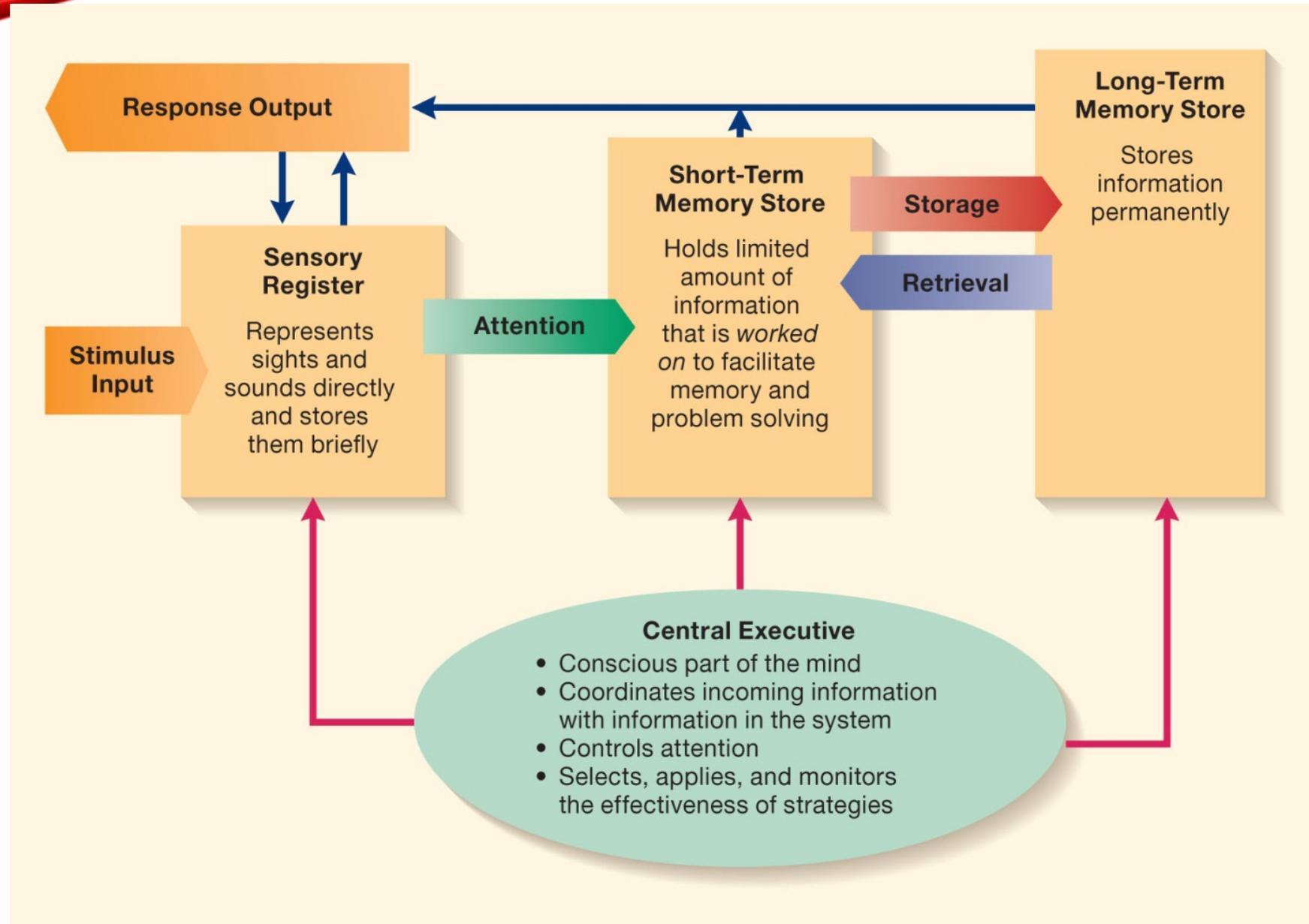
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IMPLICIT BIAS – A HABIT THAT’S A THREAT TO GENDER EQUITY IN THE WORKPLACE

- Also known as **implicit** social cognition, **implicit bias** refers to the attitudes or stereotypes that affect our understanding, actions, and decisions in an unconscious manner
- So, discrimination represents an explicit bias – the person who is discriminating generally holds explicit beliefs about others' inferiority
- Sexual Harassment also represents explicit bias, because the offender is typically able to articulate some form of an entitled attitude: “it was OK for me to do that, because...”
- Implicit Bias is an information processing shortcut taken by our Central Nervous System (CNS) after “multiple learning trials”, as we say in Psychology, or a **habit**

Human Information-Processing System Model



ACADEMIC SETTING DEFINITION

- Gender equity in an academic setting means that men and women enjoy equal opportunities for education, employment, success, advancement, recognition, compensation, and satisfaction

GENDER EQUITY/IMPLICIT BIAS RESEARCH STIMULATED BY STEM RETENTION ISSUES:

- Remarkable success since 1972 attracting women into STEM disciplines^{1,2}
- Women disproportionately leave STEM at each career stage^{1,3}
- Disproportionate loss of women = waste of human capital and an economic threat (NSF⁴, NAS⁵, NIH⁶)

¹ Association of American Medical Colleges, 2007, 2008, 2009

² National Science Foundation, 2007

³ Nelson, 2007

⁴ National Science Foundation, 2006

⁵ National Academy of Sciences, 2007

⁶ National Institutes of Health, 1995, 2009

DOCUMENTING BIAS: GOLDBERG DESIGN

- “Goldberg” designs indicate that work performed by women is rated of lower quality than work performed by men regardless of rater gender (reviewed in Isaac et al., *Academic Medicine* 2009)
 - Goldberg published the first experimental study assessing the effect of manipulating author gender of scientific papers by randomly assigning students to read the same manuscript written by an author with either the first name ‘John’ or ‘Joan’ (Goldberg, 1968)
 - Participants, all of whom were female students, consistently gave higher ratings to the manuscripts written by John than to the same paper written by Joan
- Science faculty rated a male applicant as more competent, hireable, deserving of mentorship, and worth a higher salary than an identically credentialed female student whom they found more likeable (Moss-Racusin et al., *Proceedings of the National Academies of Science* 2012)

SCIENCE FACULTY'S SUBTLE GENDER BIASES FAVOR MALE STUDENTS

CORINNE A. MOSS-RACUSIN, JOHN F. DOVIDIO, VICTORIA L. BRESCOLL,
MARK J. GRAHAM AND JO HANDELSMAN

- Despite efforts to recruit and retain more women, a stark gender disparity persists within academic science. Abundant research has demonstrated gender bias in many demographic groups, but has yet to experimentally investigate whether science faculty exhibit a bias against female students that could contribute to the gender disparity in academic science. In a randomized double-blind study (n = 127), science faculty from research-intensive universities rated the application materials of a student—who was randomly assigned either a male or female name—for a laboratory manager position. Faculty participants rated the male applicant as *significantly more competent and hireable* than the (identical) female applicant. These participants also selected a *higher starting salary and offered more career mentoring* to the male applicant. The gender of the faculty participants did not affect responses, such that female and male faculty were equally likely to exhibit bias against the female student. Mediation analyses indicated that the *female student was less likely to be hired because she was viewed as less competent*. We also assessed faculty participants' preexisting subtle bias against women using a standard instrument and found that preexisting subtle bias against women played a moderating role, such that subtle bias against women was associated with less support for the female student, but was unrelated to reactions to the male student. These results suggest that interventions addressing faculty gender bias might advance the goal of increasing the participation of women in science.

WHY HAVE WE NOT YET ACHIEVED EQUITY?

“It is not a lack of talent, but unintentional biases and outmoded institutional structures that are hindering the access and advancement of women.”

National Academy of Sciences, National Academy of Engineering, and Institute of Medicine of the National Academies, *Beyond Bias and Barriers* 2007