

# It's Not You...It's Me

## Implicit Bias in Residency Application

[Project Implicit](https://implicit.harvard.edu/implicit/takeatest.html) (<https://implicit.harvard.edu/implicit/takeatest.html>) is a site through Harvard University that allows you to take Implicit Association Tests - consider taking before you come to this didactic.



Explicit Bias are the preconceived beliefs you hold and are aware of.  
Implicit Bias are the associations you have that you are unaware of.  
Both can play a role in the application process.

## A New Generation of Leadership

"We need to ensure that the citizens of the 2nd Hampshire District have a strong voice in the State House. **I will bring energy, enthusiasm, and experience as your state representative** to fight for Western Mass. Working together, we can bring a new generation of leadership to our Commonwealth."

### AS YOUR STATE REPRESENTATIVE

#### Dan will step forward and stand up for:

- Adequate school funding, safety and tolerance in our schools, and relief from crushing student loan debt.
- Improved health care, including affordable medications and increased resources to stem the tide of the ravaging opioid epidemic.
- Advocacy for Western Mass to ensure that we receive our fair share to repair roads and bridges, and making commuter rail expansion to Western Mass a reality.

**Dan  
Carey**  
State Representative



Flyer of a candidate for state rep

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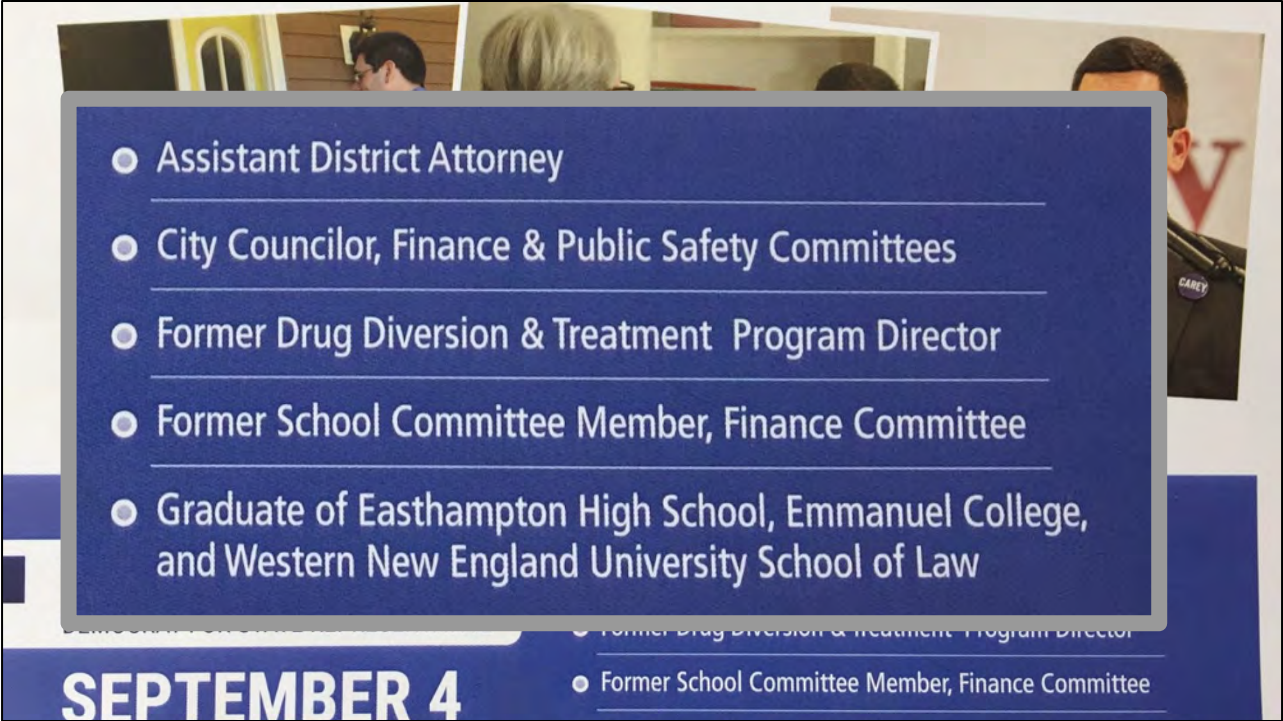
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**Carey**  
State Representative



Positions he holds

- 
- Assistant District Attorney
  - City Councilor, Finance & Public Safety Committees
  - Former Drug Diversion & Treatment Program Director
  - Former School Committee Member, Finance Committee
  - Graduate of Easthampton High School, Emmanuel College, and Western New England University School of Law
- SEPTEMBER 4**

Qualifications he has



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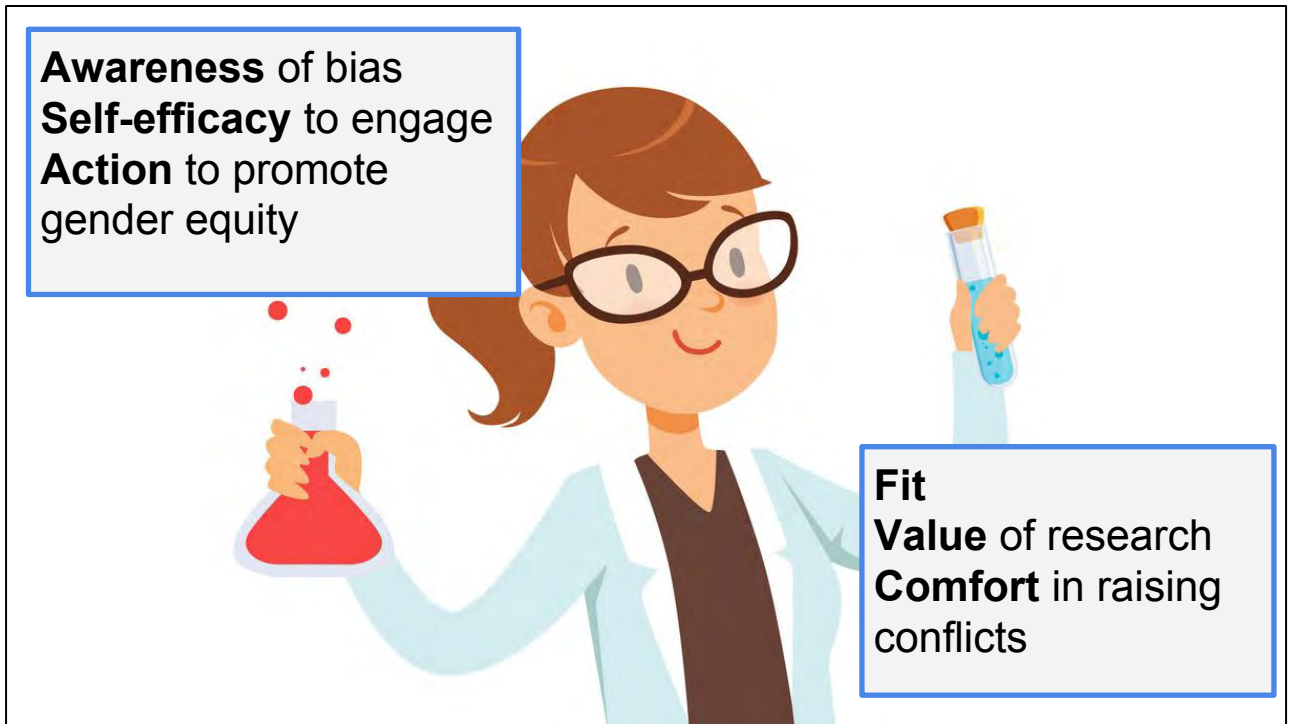


Where is the problem



I made a judgement about this person's fit for this job based on something that I wasn't even conscious of.

When we say that we all, every one of us, has implicit biases, we say it without judgement. We say it because when you can recognize and identify your biases, you can take steps to mitigate and even counteract their effects on your behavior, which is what Caitlin is going to tell you about next.



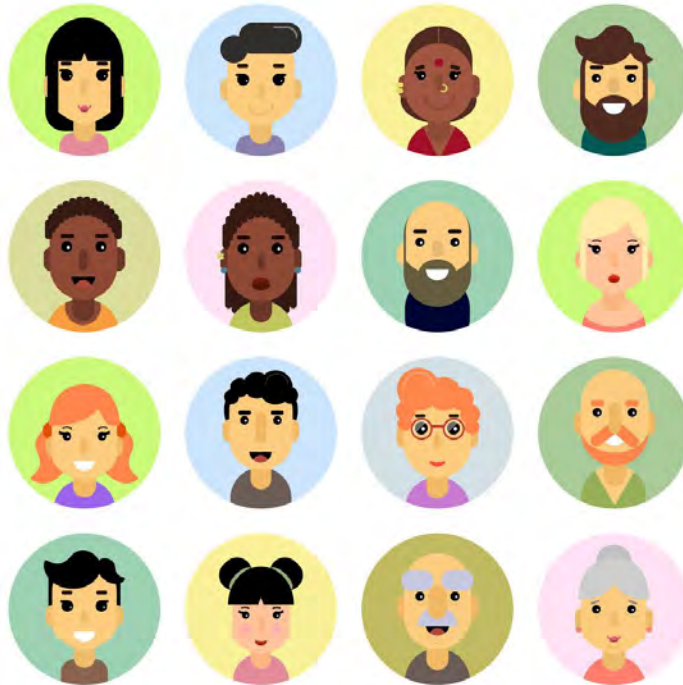
Our hope is that after this talk we will all be able to better recognize our own implicit biases. Recognizing our biases has been demonstrated by other groups to a crucial component in reducing the impact of bias.

- Carnes et. al (2015) studied the impact of a workshop used to break gender-bias habits
  - Problem: There are challenges with women advancing their careers in the scientific fields
  - Methods:
    - Pair-matched, cluster randomized, controlled study
    - Participants were faculty in 92 departments
    - Experimental departments were given a gender-bias-habit-changing intervention as a 2.5-hour workshop.
    - Several surveys given before and after intervention (3 days and 3 months).
  - Results:
    - Intervention lead to significant differences:
      - Personal awareness of bias
      - Self-efficacy to engage in gender-equity-promoting behaviors



- i.e. More people thought that changing their personal habits to promote gender equality was important and reported taking steps to do so.
- Self-reported action to promote gender equity
- Faculty in experimental groups also reported greater perception of fit, value of their research, and comfort in raising personal and professional conflicts
- **What's the point?:** If this intervention to raise awareness can facilitate behavioral change in this group of faculty, our hope is that by promoting this same type of awareness we can limit the impact of bias in the selection and education of residents.

Carnes M, Devine PG, Baier Manwell L, et al. The effect of an intervention to break the gender bias habit for faculty at one institution: a cluster randomized, controlled trial. Acad Med. 2015; 90 (2):221-230.



It is no surprise, that we make judgements based on appearance. For the majority of us, sight plays an important role in how we make sense of the world.

Prior research has shown hiring biases related to physical attributes including race, age and body size.

- Quillian L, Pager D, Hexel O, Midtbøen AH. Meta-analysis of field experiments shows no change in racial discrimination in hiring over time. *Proc Natl Acad Sci U S A*. 2017 Oct 10;114(41):10870-10875.
- Kaufmann MC, Krings F, Zebrowitz LA, Sczesny S. Age Bias in Selection Decisions: The Role of Facial Appearance and Fitness Impressions. *Front Psychol*. 2017 Dec 8.
- O'Brien KS, Latner JD, Ebner D, Hunter JA. Obesity discrimination: the role of physical appearance, personal ideology, and anti-fat prejudice. *Int J Obes (Lond)*. 2013 Mar;37(3):455-60.

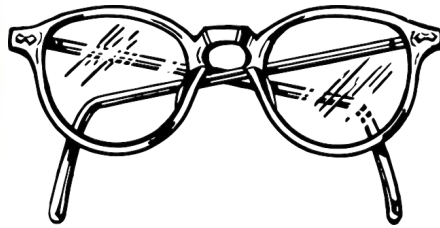
The logo for the Electronic Residency Application Service (ERAS), featuring a purple square with a white caduceus symbol and the word "ERAS" in white, bold, sans-serif capital letters.

ERAS

- So how does appearance bias affect the hiring of residents?
  - It starts with the ERAS photo, which is the first time application reviewers “see” and applicant.
  - If appearance plays a role in our judgements of others then we have to wonder- are these photos biasing reviewers before the even meet applicants?
- Corcimar A, Morrell MC, Morrell DS. Do looks matter? The role of the Electronic Residency Application Service photograph in dermatology residency selection. *Dermatol Online J.* 2018 Apr 15;24(4).
  - Methods
    - Analyzed ERAS photos of all Derm applicants (422) at one institution in 2012.
    - Looked for attire, accessories, glasses, professional quality of photos, facial expression.
    - Also looked for the presence/absence of gender sterolytical attire, accessories, etc.
    - Compared to match status to determine which appearance characteristics were correlated with applicants being more/less likely to match.



**$p=0.037$**



**$p=<0.001$**

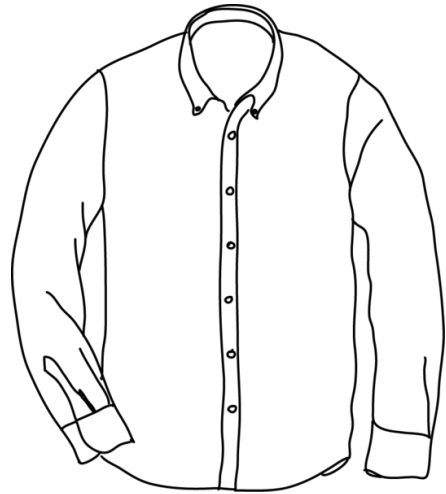


**$p=0.004$**

- Results (more likely to match)
  - Picture>No picture
  - Smiling
  - Glasses
  - Collared shirt (female)
  - Hair to shoulders or longer (female)



**$p=0.023$**



**$p=0.03$**

- Questions Prompts to the Audience
  - What are your initial reactions to the findings in this study?
  - Why do you think the authors decided to look at personal appearance characteristics rather than race or other visual characteristics?
  - What do you think they would have found if they decided, instead to look at race or gender?
  - Can you predict how the results might look for the field of emergency medicine?
  - What do you think we can do to mitigate this bias?





- Milkman:
- Audit survey 6548 professors@ top US universities 89 disciplines & 259 institutions -pathway vs gateway
  - US department of ED database used to identify faculty gender race...
- Contacted via email fictional prospective students seeking to discuss research opportunities prior to applying to PhD program
- Random names assigned for race and gender(w/B/H/I/C)
- Messages identical looked at faculty response
- Minority faculty oversampled to reach statistical power



Minorities  
Women

Higher Pay  
Private  
Institution

- More receptive to white males greatest in higher paying disciplines and private inst
- This did not change with women or minorities(representation did not reduce bias)
  - women and minority prospective PhDs, collectively, receive less support than White males from prospective academic advisors when seeking meetings for a week in the future (Milkman, Akinola, & Chugh, 2012).
  - White men 50% higher callback(Bertrand & Mullainathan 2004)
  - Black & latino without criminal record treated like W just released from prison(Pager)



Fine Arts is the only discipline where white males had a discrimination gap



1.4X

- women and minorities are still collectively ignored at 1.4-2.2 times the rate of White males(humanities)
- “almost no benefits to women or minority students contacting faculty who share their demographics, consistent with recent work by Moss-Racusin et al. (2012) and consistent with Greenberg and Mollick (2014): only Chinese students experience significant benefits from contacting same-race faculty.”





The idea for this talk grew out of a question regarding LGBTQ applicants should edit their application to try to avoid subjecting themselves to bias related to their sexual and gender stats

- The status and visibility of Lesbian, Gay, Transgender, and Queer people has been continually at the forefront of political and public attention over the last 20 years. While progress towards acceptance and equality has been made, this progress has been inconsistent and intolerance and hostility towards sexual and gender minorities remain a pervasive part of our society.
- Many of our senior colleagues and indeed, probably many of us remember a time when endemic explicit discrimination against sexual and gender minorities was the norm. While I would like to say that this is not the case anymore, the reality is not so black and white and that institutional memory of not 20-30 years ago still reverberates today.



# 176 Medical Schools

2009- 2010

29%

43%

- Manish M, White W, Gee-Tong L, Lunn M, Mitchell R, Obedin-Maliver J, Stewart L, Goldsmith E, Brenman S, Tran E, Wells M, Fetterman D, Garcia G. Sexual and Gender Minority Identity Disclosure During Undergraduate Medical Education: "In the Closet" in Medical School. Acad Med. May 2015;90(5):634-44.
  - Survey of all medical students enrolled in the 176 MD and DO schools across the United States and Canada from 2009 to 2010.
    - Sexual and gender identity
    - Whether they were "out" (had publicly disclosed their identity) or concealing their identity ("in the closet")
    - If not out, assessed for reasons for concealing their identity
  - Nearly 6000 responses.
    - 29.5% of students who identified as sexual or gender minorities concealed their identity in medical school
    - 43.5% of these students cited fear of discrimination as the reason

Concealing one's sexual or gender identity can have significant negative effects on physical and mental well being, yet many of our LGBTQ applicants still struggle with whether or not to disclose this part of themselves during the residency application process because of fear of bias from all of you in this room

- What are your initial reactions?
- Do any of these results surprise you?
- What do you think we can do to address this?



- We hope you will come away from this talk with a better understanding that:
  - 1. Implicit bias affects every single one of us
  - 2. Addressing our own implicit biases and becoming aware of them can mitigate their effect
  - 3. There are changes we can make on a systems level to address and reduce the effect of implicit bias
- [Project Implicit](https://implicit.harvard.edu/implicit/takeatest.html) (<https://implicit.harvard.edu/implicit/takeatest.html>) is a site through Harvard University that allows you to take Implicit Association Tests - if you haven't already consider taking some now that you've come to this didactic.