

# Assessing for gender bias in ophthalmology resident evaluations

Tiffany N Lien, Jeffrey R SooHoo MD, Emily McCourt MD, Jasleen Singh MD

## Abstract

**Objective:** To assess for gender bias in ophthalmology resident surgical evaluations.

**Design, Setting, and Participants:** Cross-sectional study at a single institution. Participants were faculty cataract surgery attendings and postgraduate year 4 (PGY-4) residents.

### Main Outcome and Measures:

- Masked scores (gender unknown to evaluators): ICO-OSCAR for phacoemulsification scores
- Unmasked scores (gender known to evaluators): residents' PGY-4 surgical evaluation scores by cataract surgery attendings

**Purpose:** The aim of this study is to assess for gender bias in faculty evaluations of ophthalmology residents.

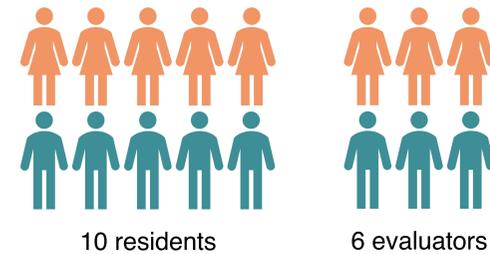
## Introduction

Literature to date has shown the presence of gender bias and stereotyping in faculty evaluations of resident physicians across specialties.<sup>1,2</sup> While gender gaps in ophthalmology are well-documented,<sup>3</sup> there is limited research on this topic in the realm of resident evaluations.

## Methods

- Attendings evaluated anonymous videos of cataract surgery performed by the residents to evaluate the residents' surgical skills using the ICO-OSCAR for phacoemulsification. Gender is masked to evaluators.
- The residents' surgical evaluation scores from their PGY-4 rotations were collected. Only scores given by cataract surgery attendings were collected. Gender is known (unmasked) to evaluators.
- Data were analyzed using student's t-test and two way ANOVA.

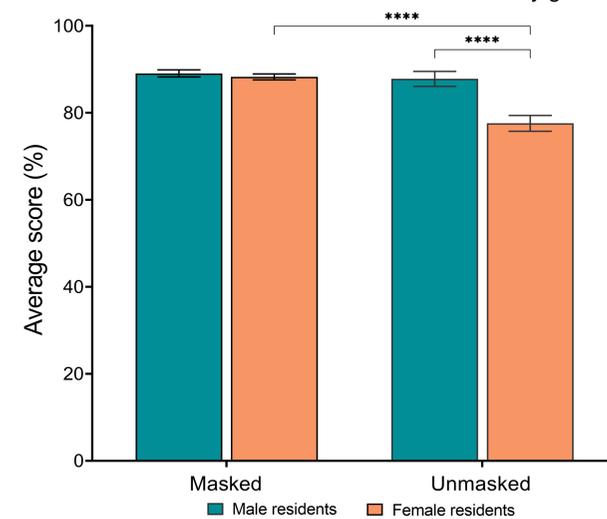
## Results



Two way ANOVA results for masked and unmasked scores

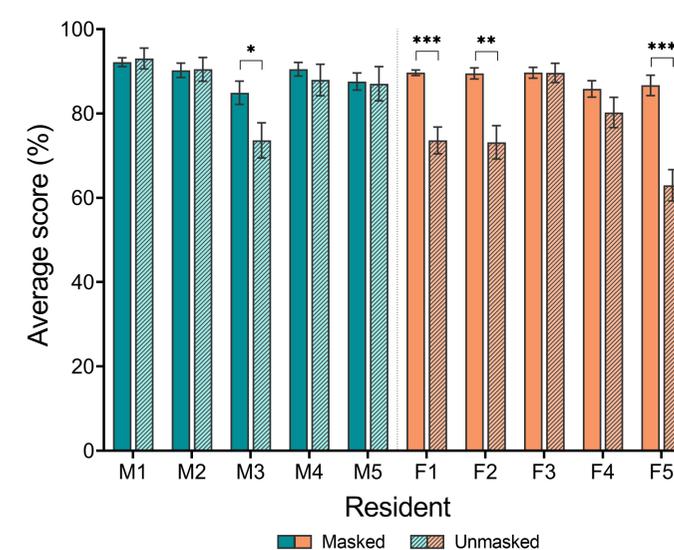
	Source	df	F	P
Masked	Resident gender	1	.588	.45
	Evaluator gender	1	2.909	.09
	Resident gender x evaluator gender	1	.088	.77
	Error	116		
Unmasked	Resident gender	1	11.716	<.001
	Evaluator gender	1	.940	.33
	Resident gender x evaluator gender	1	.229	.63
	Error	116		

Masked vs. unmasked scores of residents by gender



- No significant difference was found between female evaluators' mean scores of female residents and male residents.
- Female residents' mean unmasked score was significantly lower than their mean masked scores ( $P < .001$ ).
- Male residents' mean masked and mean unmasked scores did not differ significantly ( $P = .49$ ).

Individual residents' masked vs. unmasked scores



- Three female residents and one male resident were found to have significant differences between their masked and unmasked mean scores.

## Limitations

- Unequal study arms
- Small sample size
- Confounding
- Single institution

## Conclusion

- When gender was known to evaluators, female residents were scored significantly lower than both their male counterparts and their own scores when gender was masked.
- While this study had low statistical power, our findings suggest that masking gender and other characteristics relating to identity to evaluators may uncover implicit bias in resident evaluations.

## Literature cited

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No conflict of interest exists for any author.

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