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# Gender Representation & Bias at ASM Journals

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DR. ADA HAGAN, ALLIANCE SCICOMM & CONSULTING  
SHE/HER

 @ADAHAGAN  
@ALLIANCE\_SCC



# Overview

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- LAND ACKNOWLEDGEMENT
- ABOUT ME
- ORIGIN STORY
- CONTEXT
- DATA
- NOW WHAT?
- SUGGESTIONS
- QUESTIONS



# Overview

## Land Acknowledgement

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Karakawas

Atakapa Ishak Nation

Tap Pilam Coahuiltecan Nation

Sana

Help the Karankawas  
build a living cultural  
museum and nature  
preserve



# Overview

## About Me



Bachelor of Science  
Master of Science



Doctorate:  
Microbiology & Immunology



AMERICAN  
SOCIETY FOR  
MICROBIOLOGY

Postdoctorate: Academic  
Journals & Data Science



Editing & revising services  
Writing professional  
development & accountability

# Overview

About



EAST TENNESSEE  
UNIVERSITY

Bachelor of  
Master of Science

## DISCLAIMER

- I am no longer employed by, work with, or receive funding from ASM
- I am not a representative of ASM
- I don't know the type or extent of changes that ASM journals have or have not implemented

CAN  
TY FOR  
BIOLOGY  
Academic  
ta Science

Editing & revising services  
Writing professional  
development & accountability



# Overview

## Origin Story

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[Hagan et al., mBio, 2020.](#)

[Hagan, The Scientist, 2021.](#)



Mia Gregory



Dr. Begüm Topçuoğlu

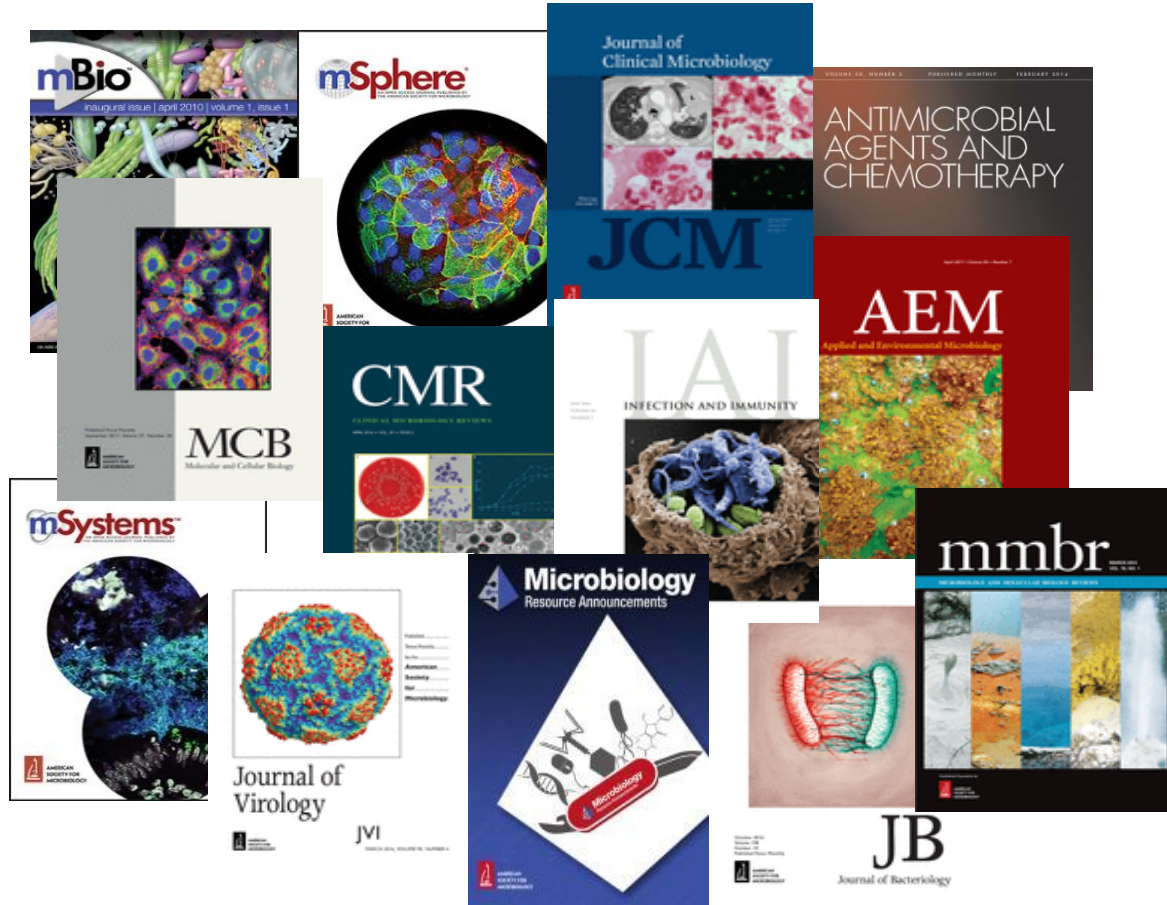


**Dr. Pat Schloss**

Professor, University of Michigan  
Chair, ASM Journals Committee



# Are we serving all members equitably?





What is equity?  
How do you know?

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DISCUSSION QUESTION

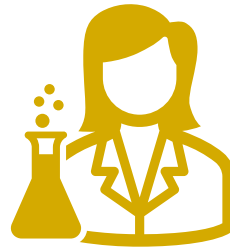
# Women in STEM

## The Context

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50%



40%



30%

Sheltzer & Smith, 2014

# Women in STEM

## The Context

### Proposals & Funding:

Women are less likely to receive funding if the scientist competency is evaluated in addition to the proposal.

(Witteman, et al, Lancet, 2019)

### Evaluation:

Performance and competency of men is rated higher than for women

(Wenneras & Wold, Nature, 1997)  
(Eaton, et al, Sex Roles, 2019)

Women are under utilized as reviewers

(Lerback & Hanson, Nature, 2017)

### Publication:

Men publish more frequently than women

(West et al, PLOSOne, 2013)

33% of first authors in Nature are women

(Bendels et al, PLOSOne, 2018)

### Impact:

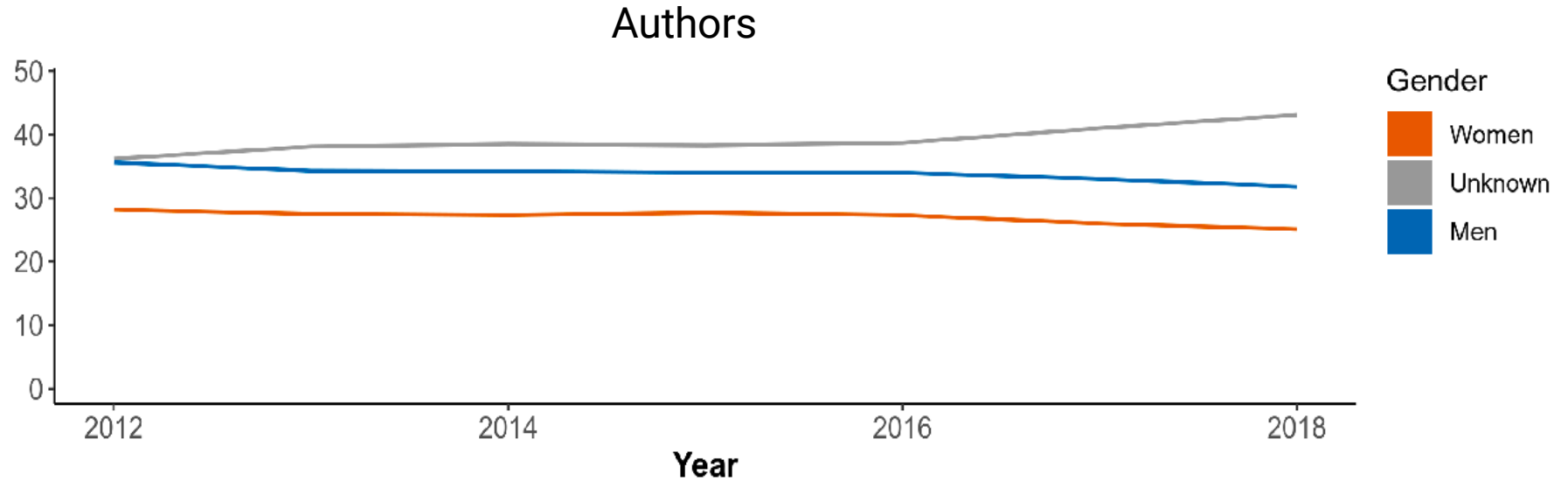
Papers with senior authors that are women are cited less frequently

(Lariviere, et al, Nature, 2013)



# Women at ASM Journals

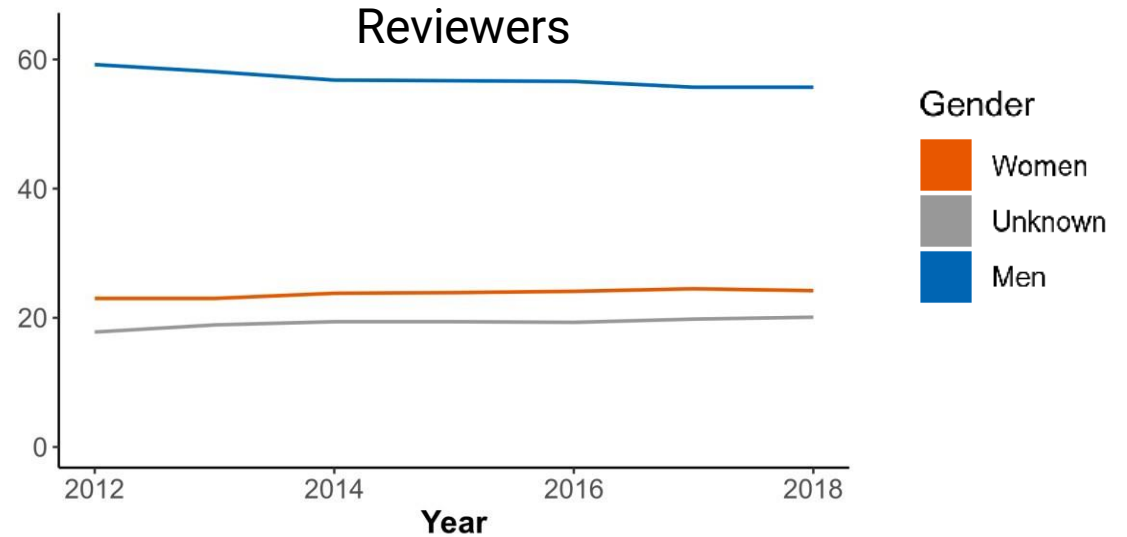
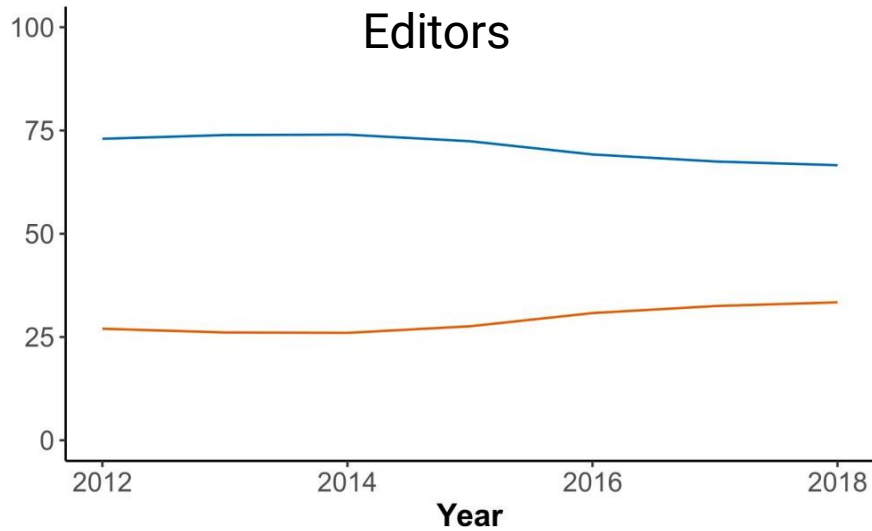
## Representation



Hagan et al. *mBio* (2020)  
<https://doi.org/10.1128/mBio.01680-20>

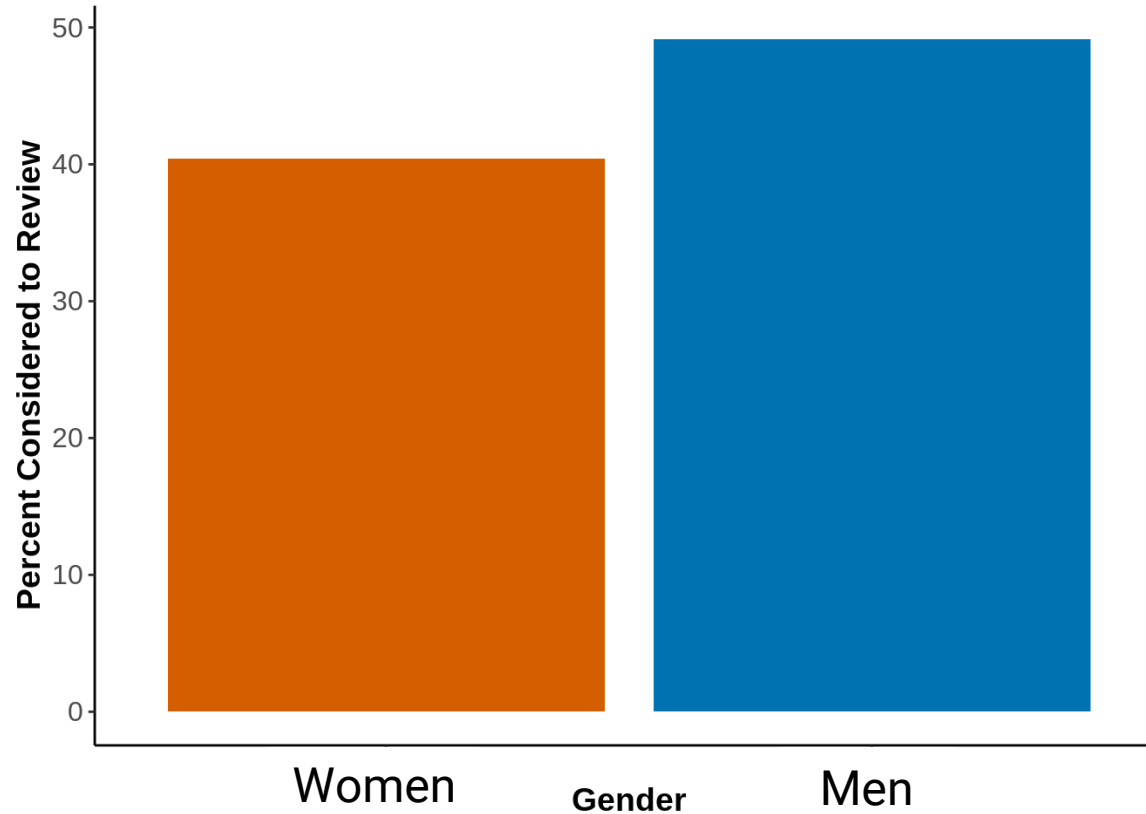
# Women at ASM Journals

## Representation

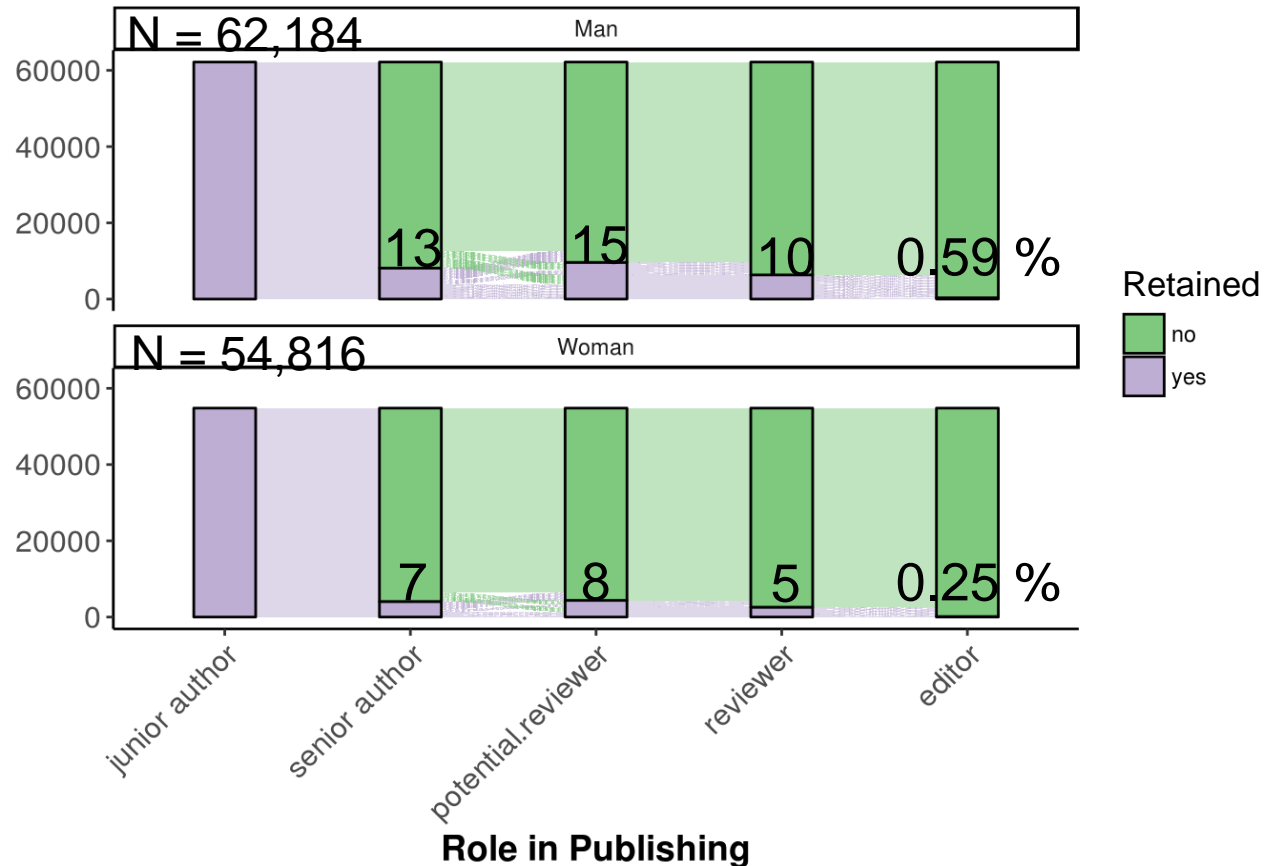


Hagan et al. *mBio* (2020)  
<https://doi.org/10.1128/mBio.01680-20>

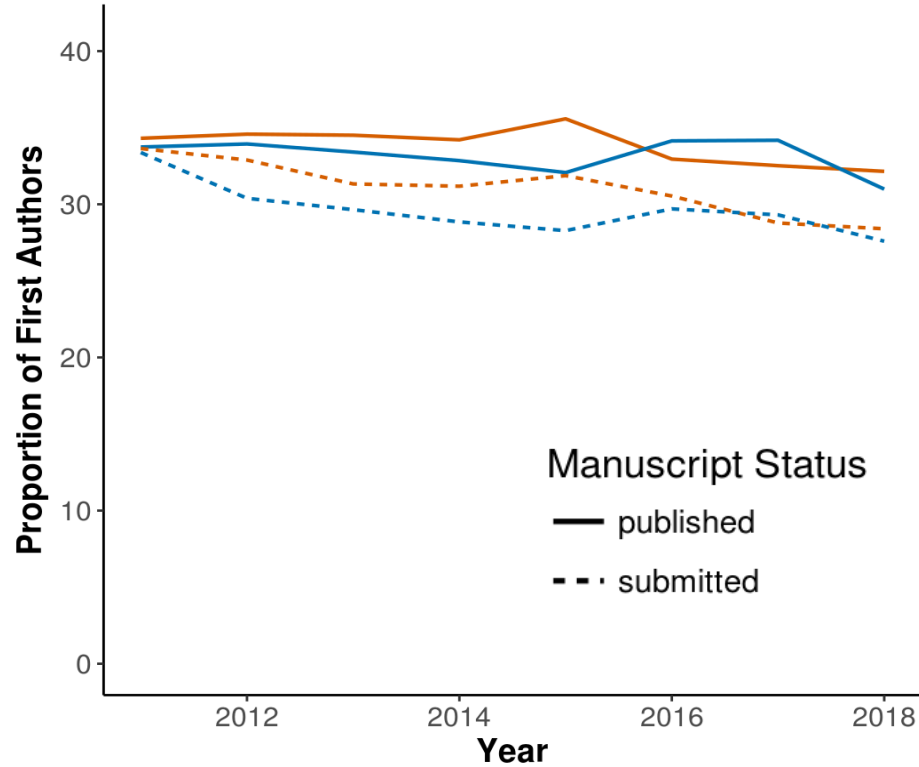
Senior authors that are women are less likely to be considered as reviewers



# Men are more likely to be retained in leadership roles



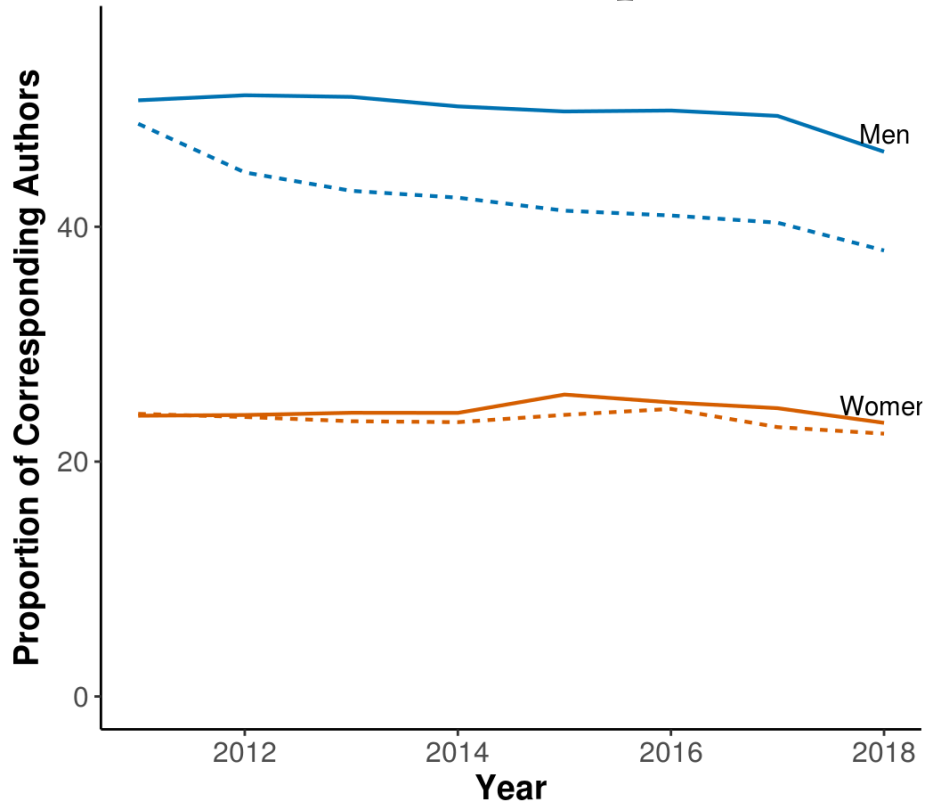
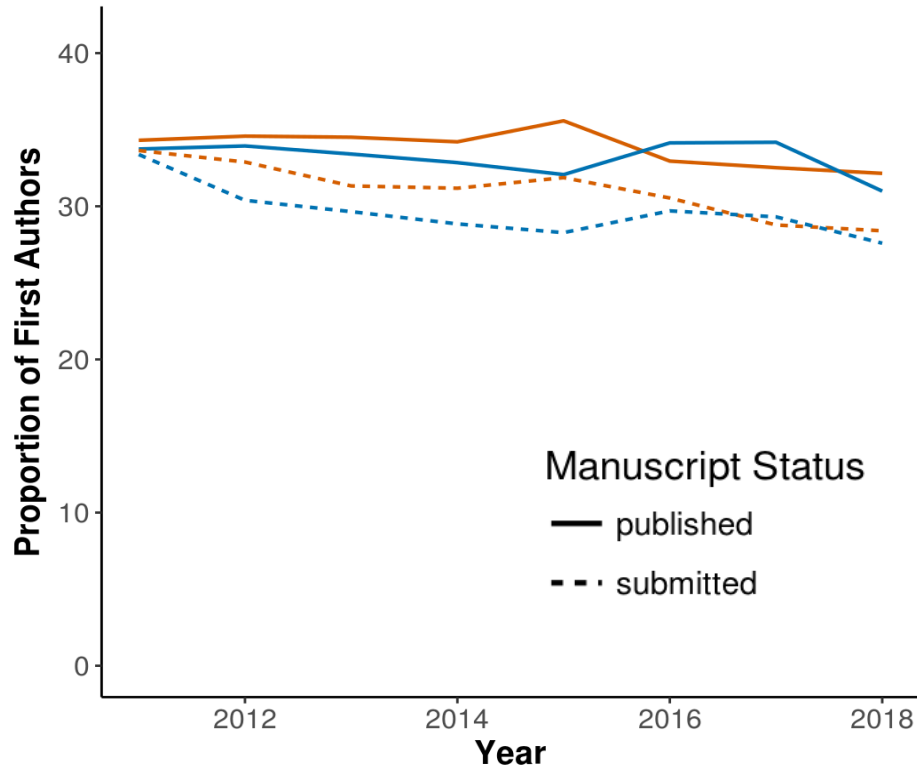
# First-author publications are roughly equivalent





# First-author publications are roughly equivalent

## Men corresponding-author publications are over-represented



# Why & where is this happening?

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DISCUSSION QUESTION

# How do you measure and compare outcomes?

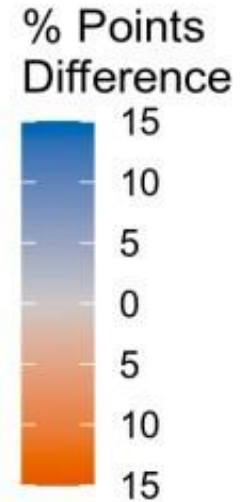
$$\text{Outcome Rate}_{\text{Men}} - \text{Outcome Rate}_{\text{Women}} = \% \text{ Points Difference}$$

% of manuscripts submitted by Men

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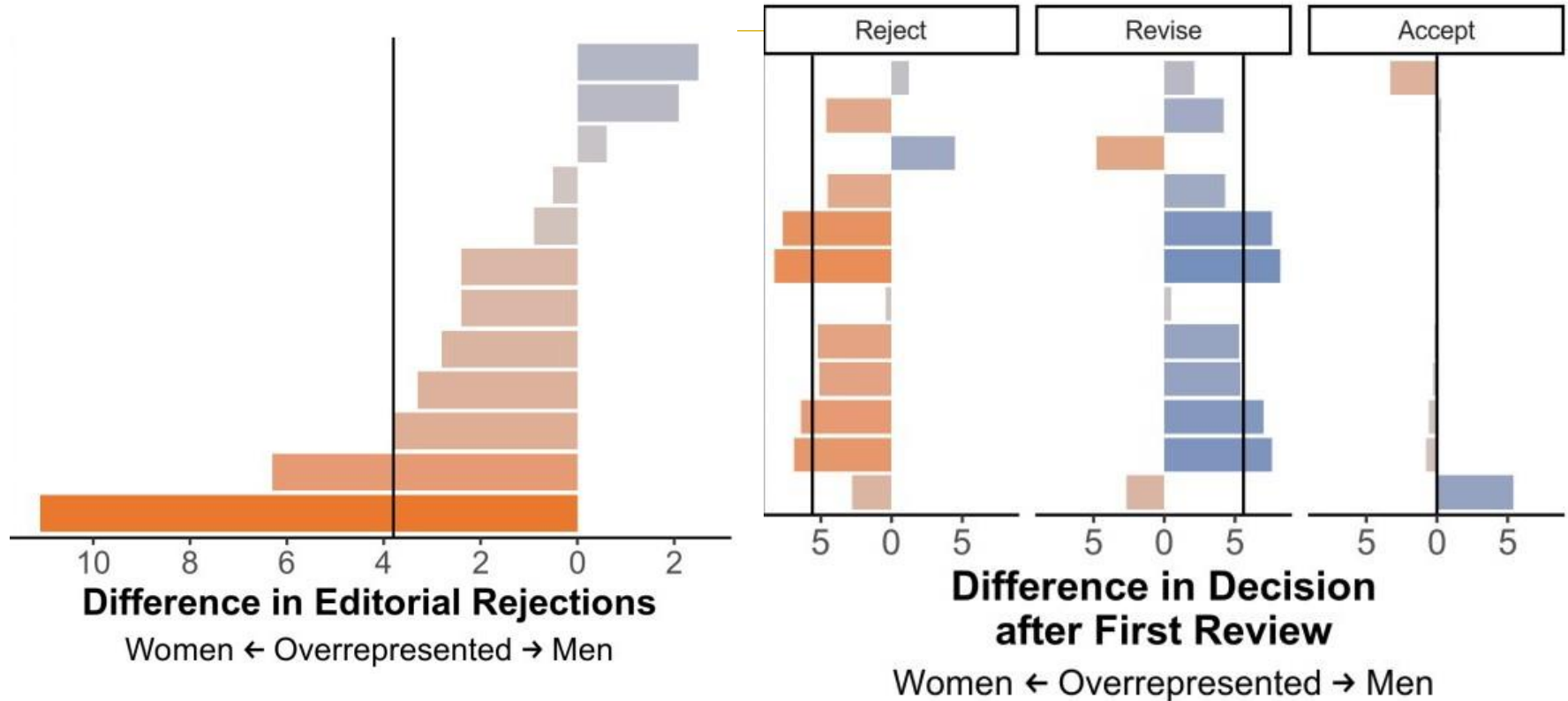
% of manuscripts submitted by Women

—————  
% points difference in  
manuscripts submitted



Hagan et al. *mBio* (2020)  
<https://doi.org/10.1128/mBio.01680-20>

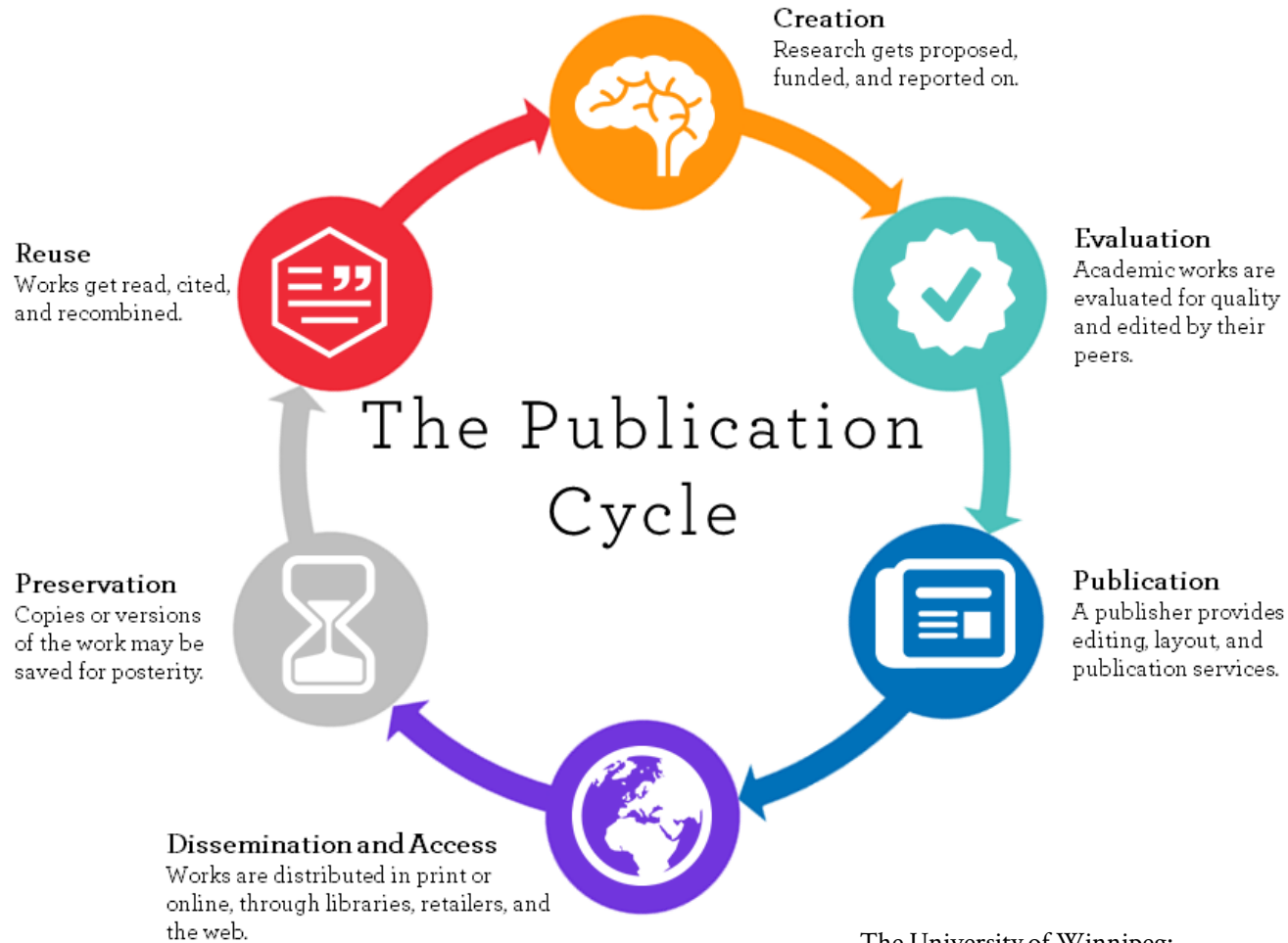
# Manuscripts submitted by women received more editorial rejections outcomes than men



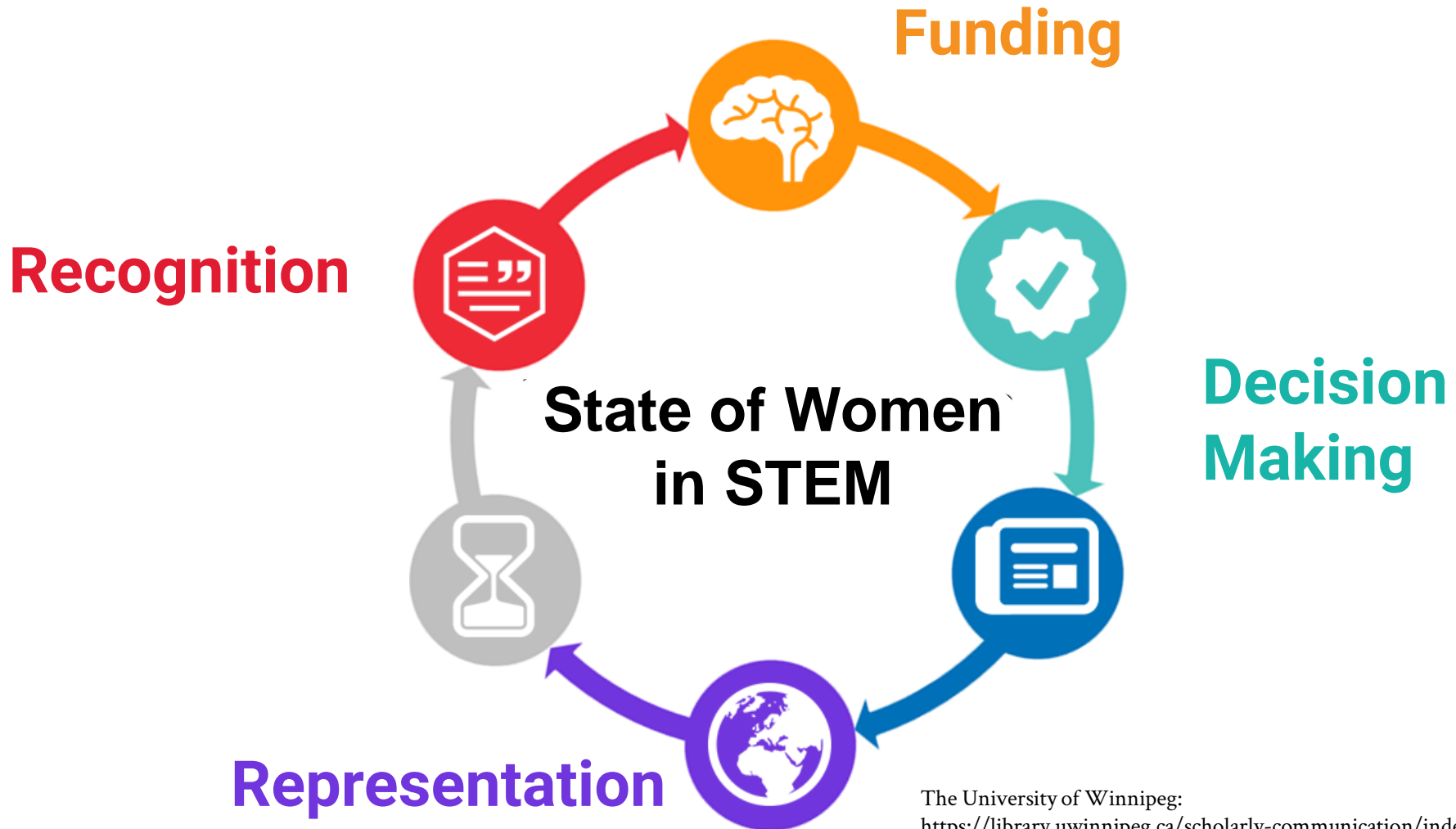
# Now what? How do we fix this?

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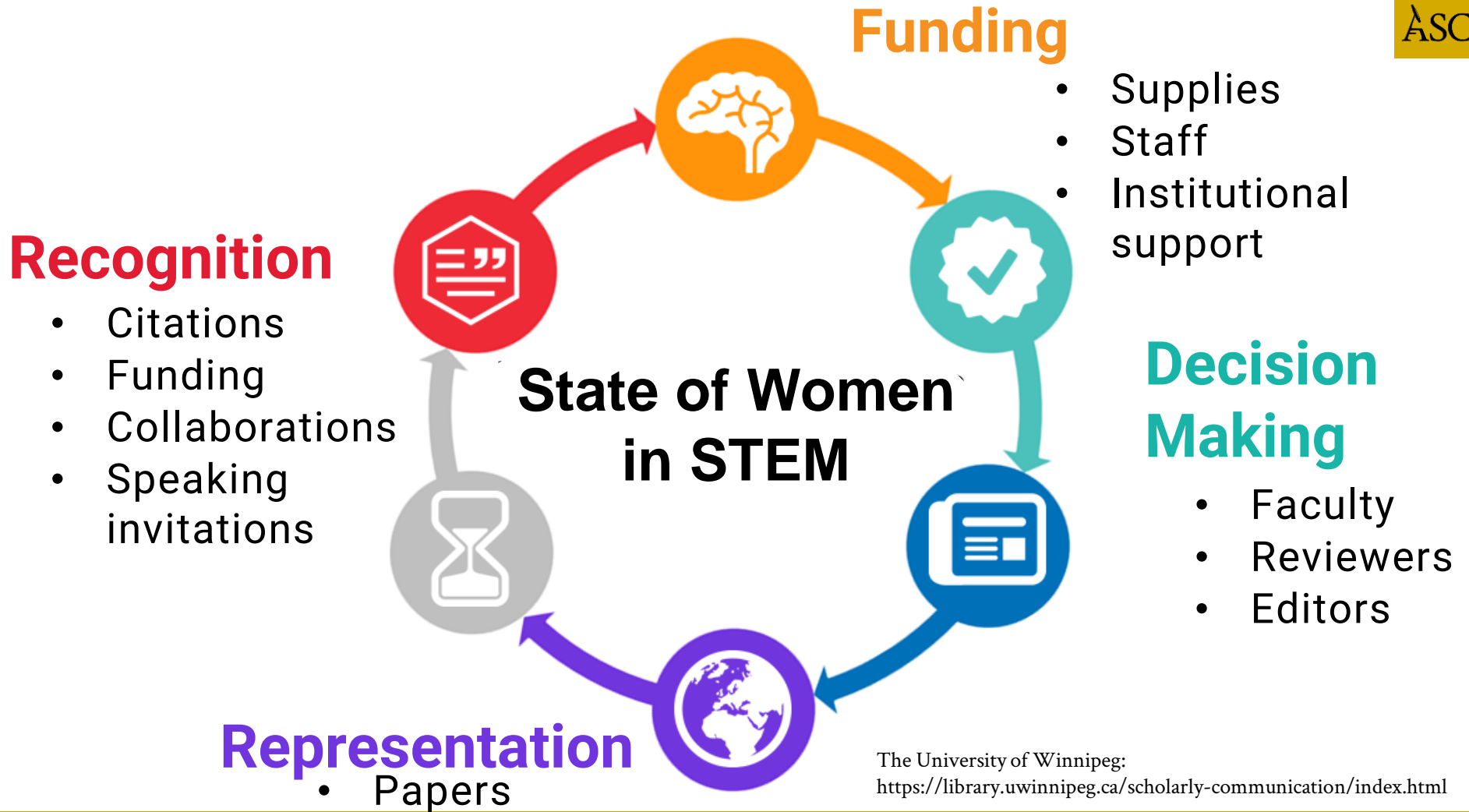
DISCUSSION QUESTION



The University of Winnipeg:  
<https://library.uwinnipeg.ca/scholarly-communication/index.html>



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<https://library.uwinnipeg.ca/scholarly-communication/index.html>





# How do we break the cycle?

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DISCUSSION QUESTION

# Breaking the Cycle

## Our Suggestions

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### 1. Rubrics

- focus reviewer comments
- clarify editorial decisions
- improve the author experience
- emphasize solid research vs novel or impactful

### 2. Journal scope

- expand it
- nontraditional and underserved research fields

### 3. Editorial boards

- add more handling editors to support expanded scope
- improve overall diversity of backgrounds and expertise



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# Questions?

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