Gender, Leadership, and Authorship in Interdisciplinary Research Teams

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Gender Gap in STEM

Differences between disciplines
Effects on authorship practices
Importance to interdisciplinarity
Intrapsychic Perspective

Internal characteristics of the leader
Leadership Styles

**Women**

- Focus on relationships and sharing
- Emphasize the process
- Support contributive, consensual decision-making
- Facilitative leadership

**Men**

- Focus on completing tasks and achieving goals
- Emphasize the product
- Support the majority rule with rewards and punishments
- Lead from the front
Social Structure Perspective

Role and status in society
Do rank and gender dynamics impact publication productivity?
**Data Collection**

**Team Survey**
- NSF-funded interdisciplinary environmental science teams
- Demographics, disciplines, diversity, leadership, authorship, inclusion, satisfaction

**Publication Search**
- All publications resulting from team collaborations, publicly available on NSF website
- Project PIs, number of coauthors, gender of first and last authors
RESULTS

118 participants from 32 research teams

337 publications between 2006 and 2018
Intrapsychic Perspective

Internal characteristics of the leader

Do personal values and leadership characteristics differ between genders?
Leadership Styles

Priorities

Main aims

Decision making

Leadership behaviors
Not gender-based traits, but chosen behaviors

Do these behaviors impact team outputs?
Social Structure Perspective

Role and status in society

Are gender roles apparent in the outputs of interdisciplinary teams?
To what extent do you think you received appropriate authorship credit on papers published by your team?

First Author
- Women: 44%
- Men: 56%

Last Author
- Women: 26%
- Men: 74%

Only Author
- Women: 17%
- Men: 83%

Survey results:
- Men: 74% appropriate, 17% inappropriate, 5% neutral
- Women: 26% appropriate, 17% somewhat appropriate, 58% neutral, 10% somewhat inappropriate
Impacts on productivity and authorship

NO correlations between proportion of women leaders, total publications, total coauthors, female first authors, disciplines represented, or any survey results such as overall team satisfaction except total publications significantly correlated with total women first authors
CONCLUSIONS

Differences in leadership behaviors
Unequal credit on publications
No correlation of output variables
FUTURE RESEARCH

Exploration of leadership behaviors

Perceptions of roles compared to actual tasks and duties

Qualitative assessment of stereotyping within teams
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Settles, I., Brassel, S., Soranno, P., Cheruvelil, K., Montgomery, G., Elliott, K. In Review. Team climate mediates the effect of diversity on science team satisfaction and data sharing.
THANK YOU!

Any questions?

Connect with me!

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