Identifying factors that promote and/or hinder responsible conduct of research

Jelte M. Wicherts – Tilburg University

Gowri Gopalakrishna – Amsterdam UMC

Lex M. Bouter – Amsterdam UMC

Olmo R. van den Akker – Tilburg University

The Netherlands

www.nsri2020.nl

National Survey on **Research Integrity**

Home | About | FAQ | Endorsements | News | Privacy Policy | Protocols | Contact

What's the purpose of the NSRI?

How do we protect your privacy?

www.nsri2020.nl

The Dutch National Survey on Research Integrity

1. **Prevalence of questionable research practices (QRPs) by discipline**

2. **Potential underlying factors = explanatory variables**

disciplinary fields specific across the academic community in NL

5 Clusters

Individual/ Group Norms	Own & Peer's Normative Behaviour
Org Justice	Org Justice of science, institution, detection of QRPs
Perceived Pressure	Work pressure, competitiveness, funding dependence
Mentoring Social Support	Responsible vs Survival
Likelihood of detection	Individual, institution, system of science: peer review

Norms Study

Previous surveys show norms of good science:

- communality (vs. secrecy),
- disinterestedness (vs. self-interestedness),
- universalism (vs. particularism),
- organized skepticism (vs. organized dogmatism)

are important in promoting Responsible Research Practices (RRPs)

(Merton, 1973; Mitroff, 1974)

Norms Study

- Test whether researchers' assessment of:

-peer's norms,

-competitiveness

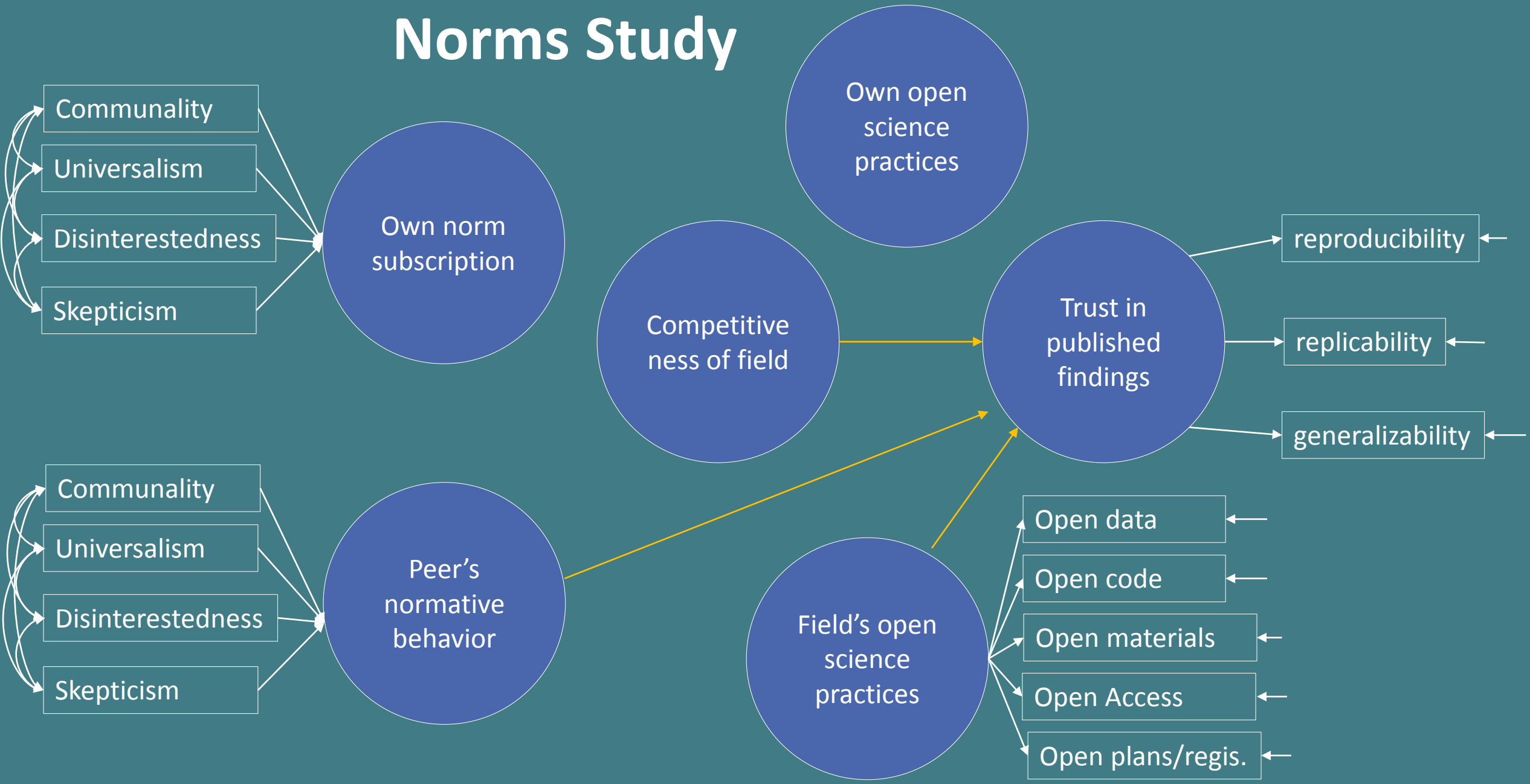
- open science practices

predict trustworthiness in science

- **Trust** as defined by NAS 2019
- **Reproducibility**
- **Replicability**
- **Generalizability**

National Academies of Sciences, E., & Medicine. (2019). *Reproducibility and replicability in science*. National Academies Press.

Norms Study


Communality
Universalism
Disinterestedness
Skepticism
Own norm subscription
Own open science practices
Competitive ness of field
Trust in published findings
reproducibility
replicability
generalizability
Communality
Universalism
Disinterestedness
Skepticism
Peer's normative behavior
Field's open science practices
Open data
Open code
Open materials
Open Access
Open plans/regis.

Trust in Science

	Peers' norm	Compet	Field's Open Sci	Trust
Peer norm				
Compet.	-	6		
Field OS	+	-	5	
Trust	+	-	+	3

Competitiveness

Peers' Norms; Open Science Practices

Norms Study

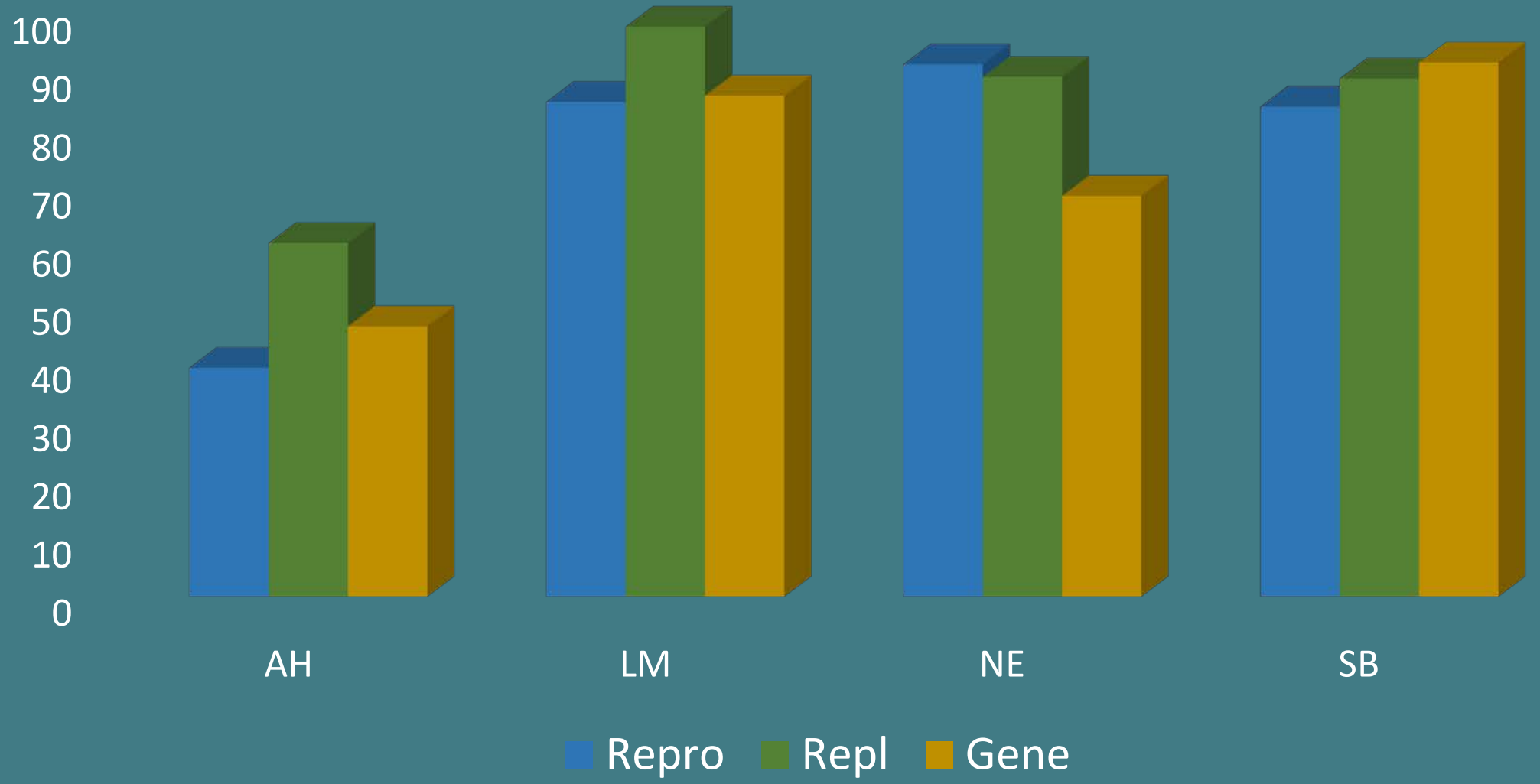
- Cross sectional; Qualtrics; across 4 DF; first authors from WoS 2019 onwards
- No personally identifiable information
- Sample sizes based on power of .85

Main analyses:

- Applicability of OS & Trust in Published Findings across 4 DF
- Bivariate Fisher transformed Pearson correlations for hypothesis testing

Applicability: Open Science Practices (n=387)

Applicability: Trust in Published Findings



Bivariate correlations

	Peers' norm	Compet.	Field's Open Sci	Trust
Peer norm	**.833**			
Compet.	-.55**	**.748**		
Field OS	+.13*	-.09	**.689**	
Trust	**+.32****	**-.24****	**+.28****	**.707**

Preliminary conclusions

1. Normative behaviour of one's peers & OSP positively influences Trust while competitiveness does the opposite for Trust and OSP

2. OSP including Prereg are least applicable to Art & Humanities

3. However, Open Access is highly applicable to all DFs

>> Factors for improving / facilitating RRP need to take into account DF differences

>> Peer's normative behaviour and OSP have a clear positive correlation on this

END