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reflections on the study of human social interactions

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BORN INTO 500 YEARS OF TRADITION

**LIFE INSIDE
THE CONTRADE**



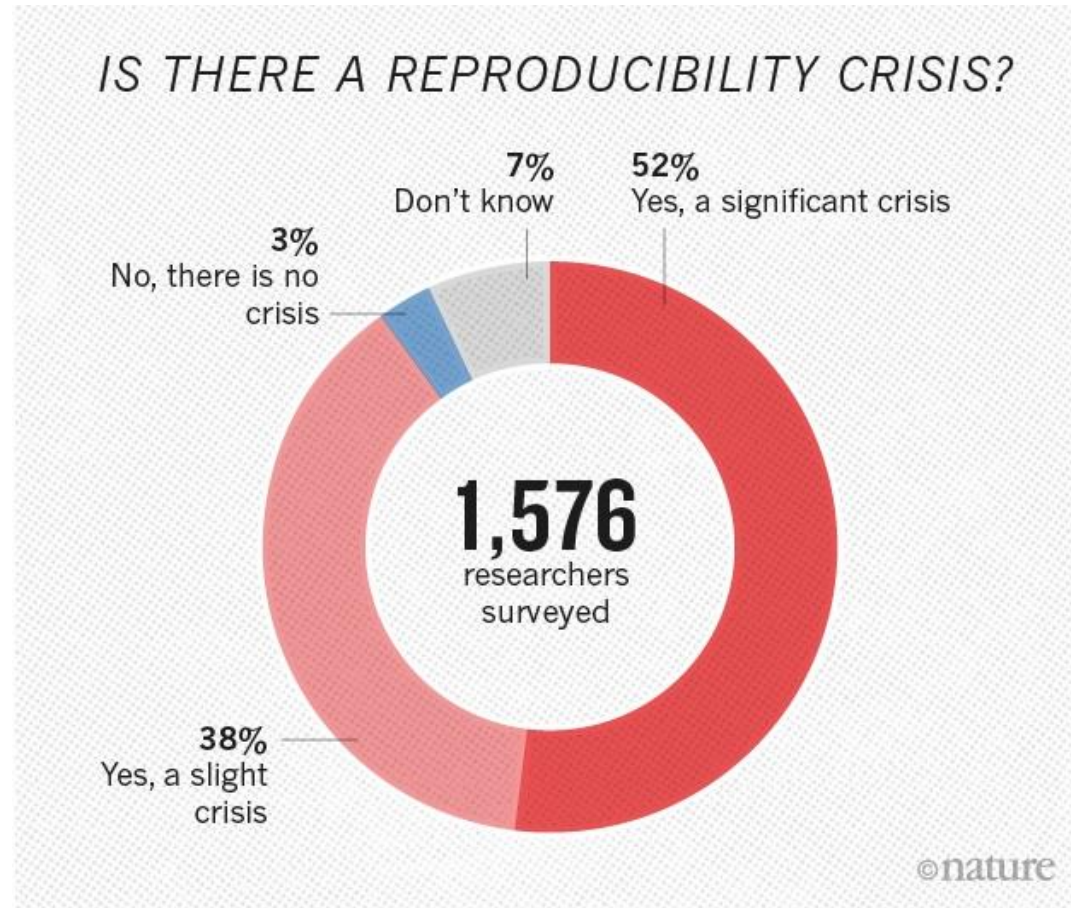
THE PALIO, SIENA

premise

- the human phenomenon is at once interesting and bizarre
- the "quirks" that characterise our species manifest across all aspects of the human experience (e.g. behaviour, language, norms)
- these quirks also apply to how we make sense of the world, and therefore to the research process itself



science in crisis



practical implications



DAVIDE BONAZZI

Plan to replicate 50 high-impact cancer papers shrinks to just 18

By Jocelyn Kaiser | Jul. 31, 2018, 5:45 PM

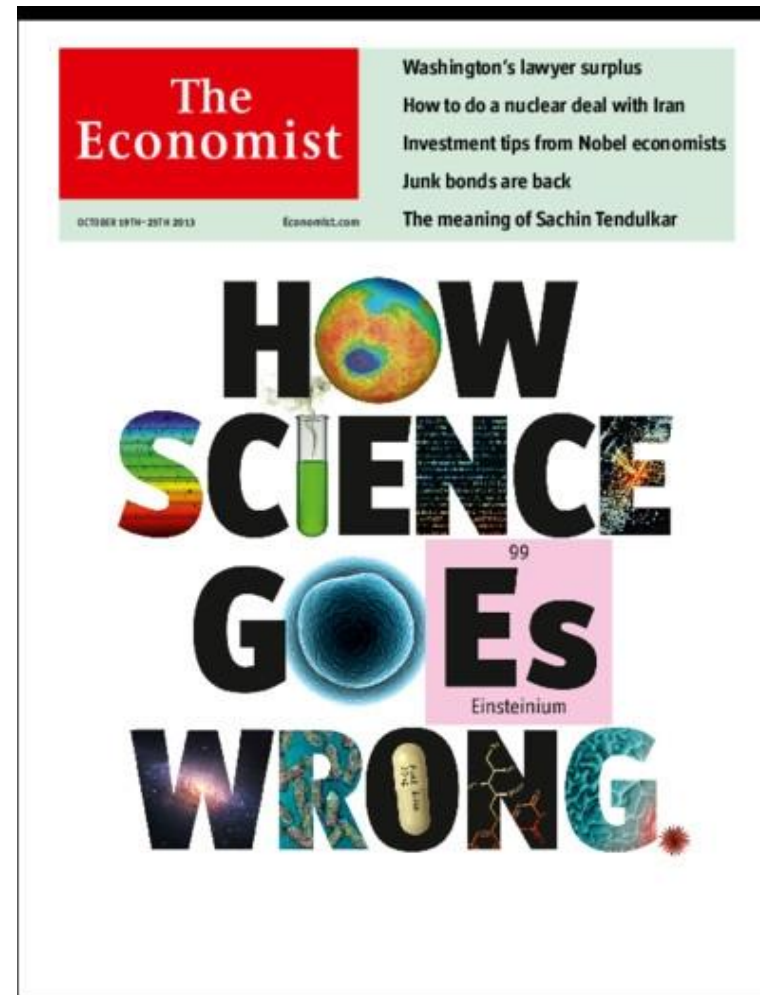


ISTOCK

Unreliable social science research gets more attention than solid studies

By Cathleen O'Grady | May. 21, 2021, 2:15 PM

public trust in science



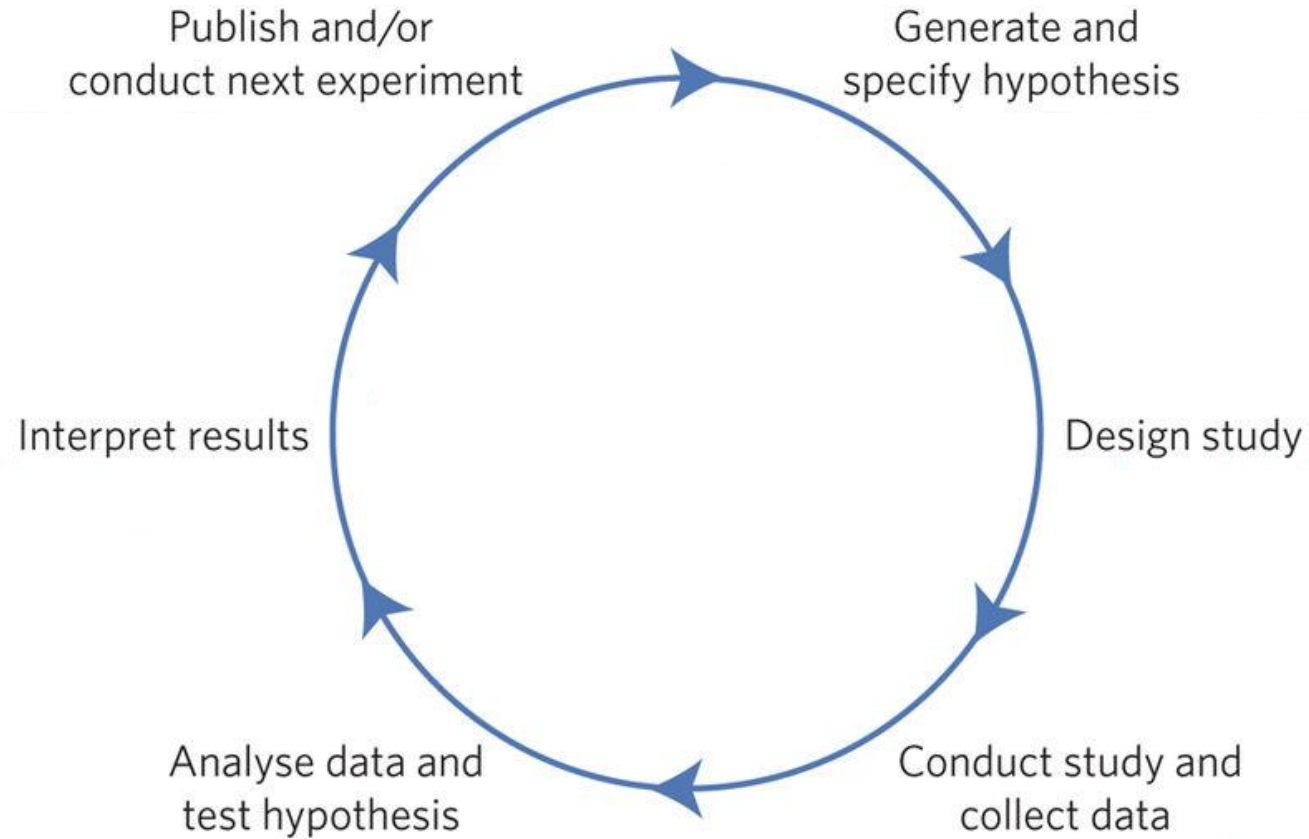
how did we get here?

The natural selection of bad science

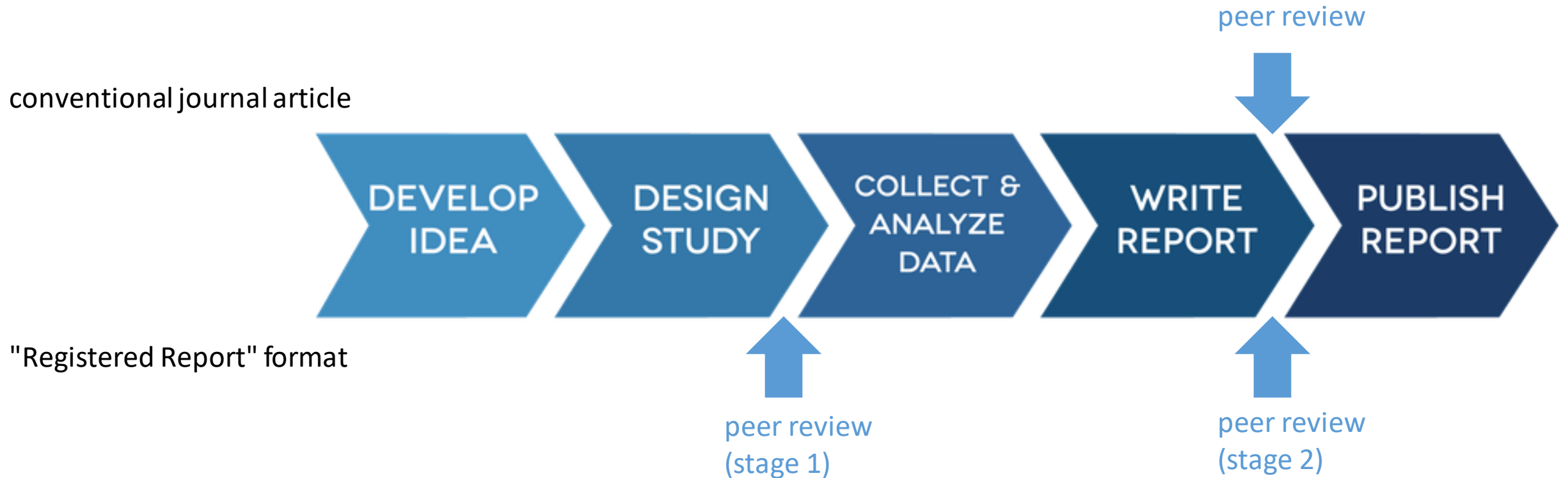
Paul E. Smaldino¹ and Richard McElreath²

"Poor research design and data analysis encourage false-positive findings. [...] The persistence of poor methods results partly from incentives that favour them, leading to the natural selection of bad science. This dynamic requires no conscious strategizing—no deliberate cheating nor loafing—by scientists, only that publication is a principal factor for career advancement. [...] As in the real world, successful labs produce more 'progeny,' such that their methods are more often copied and their students are more likely to start labs of their own. Selection for high output leads to poorer methods and increasingly high false discovery rates. [...] Improving the quality of research requires change at the institutional level."

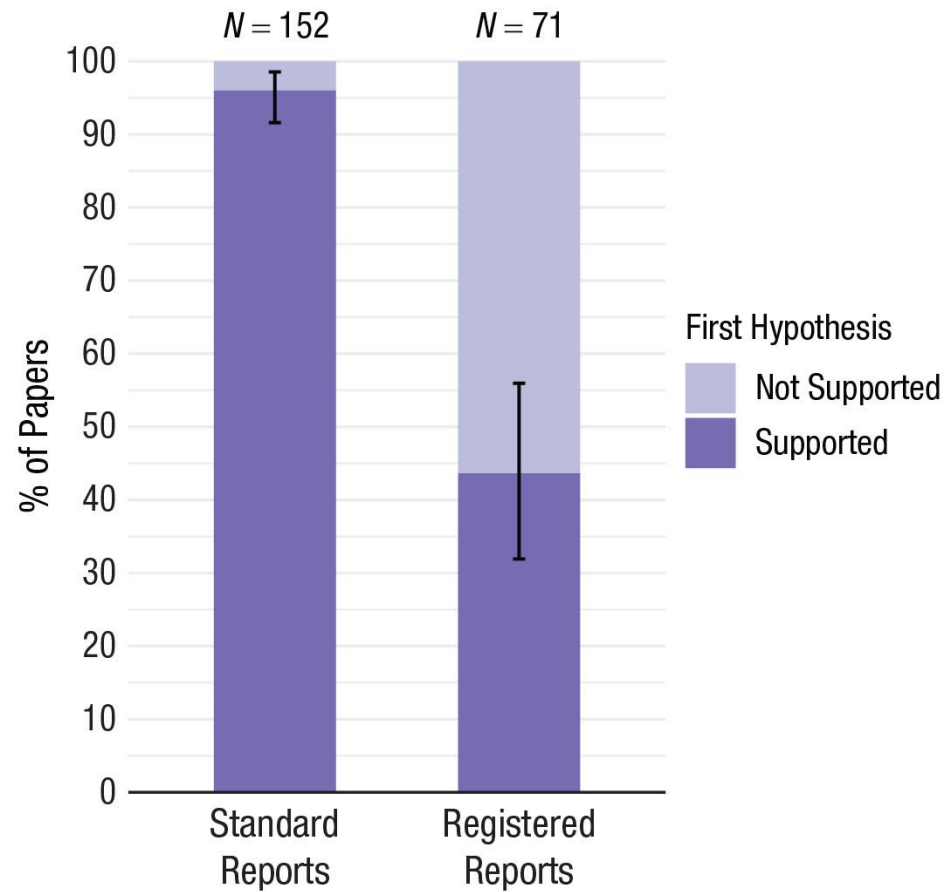
threats to reproducible science



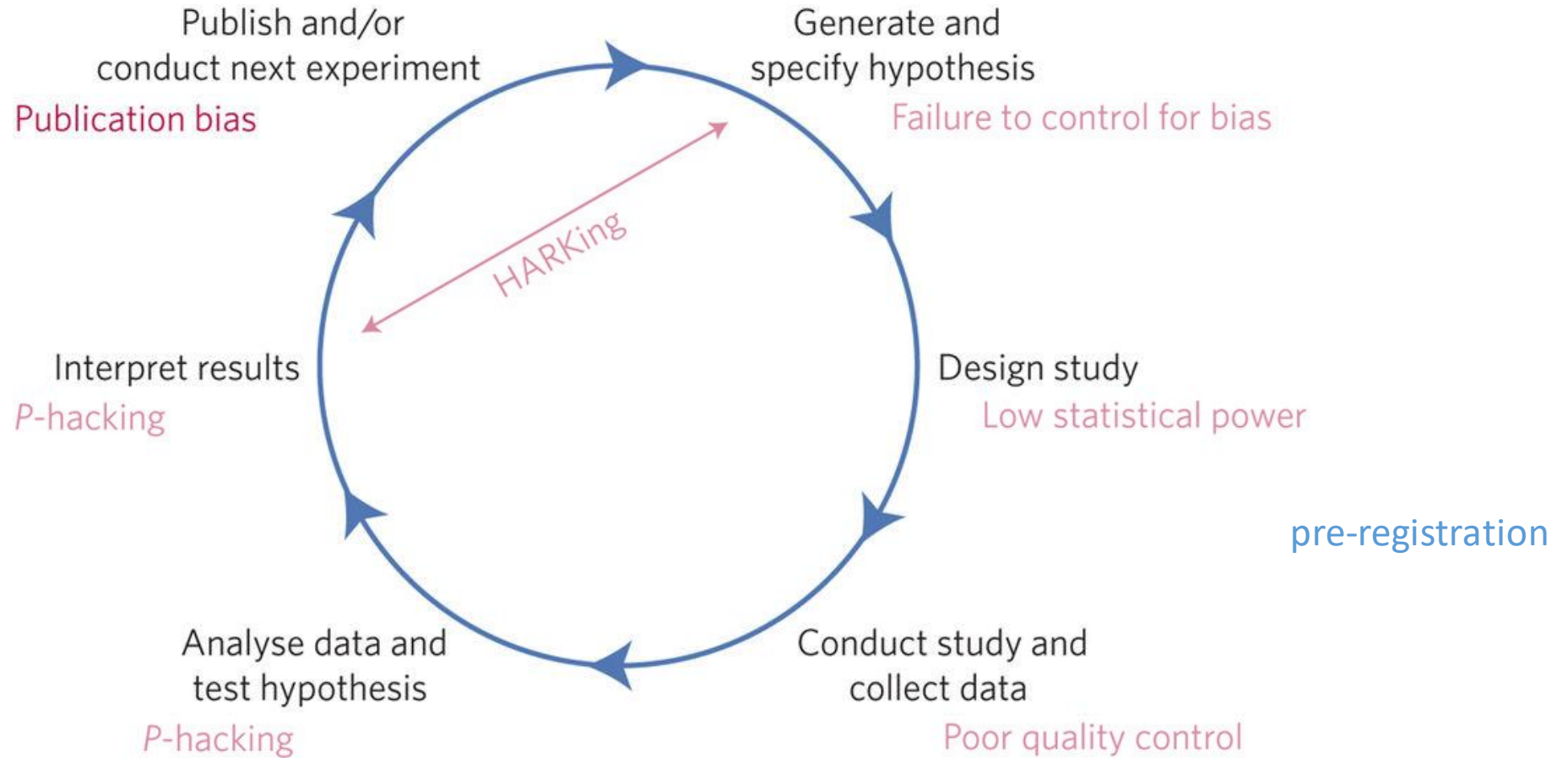
publishing pipeline



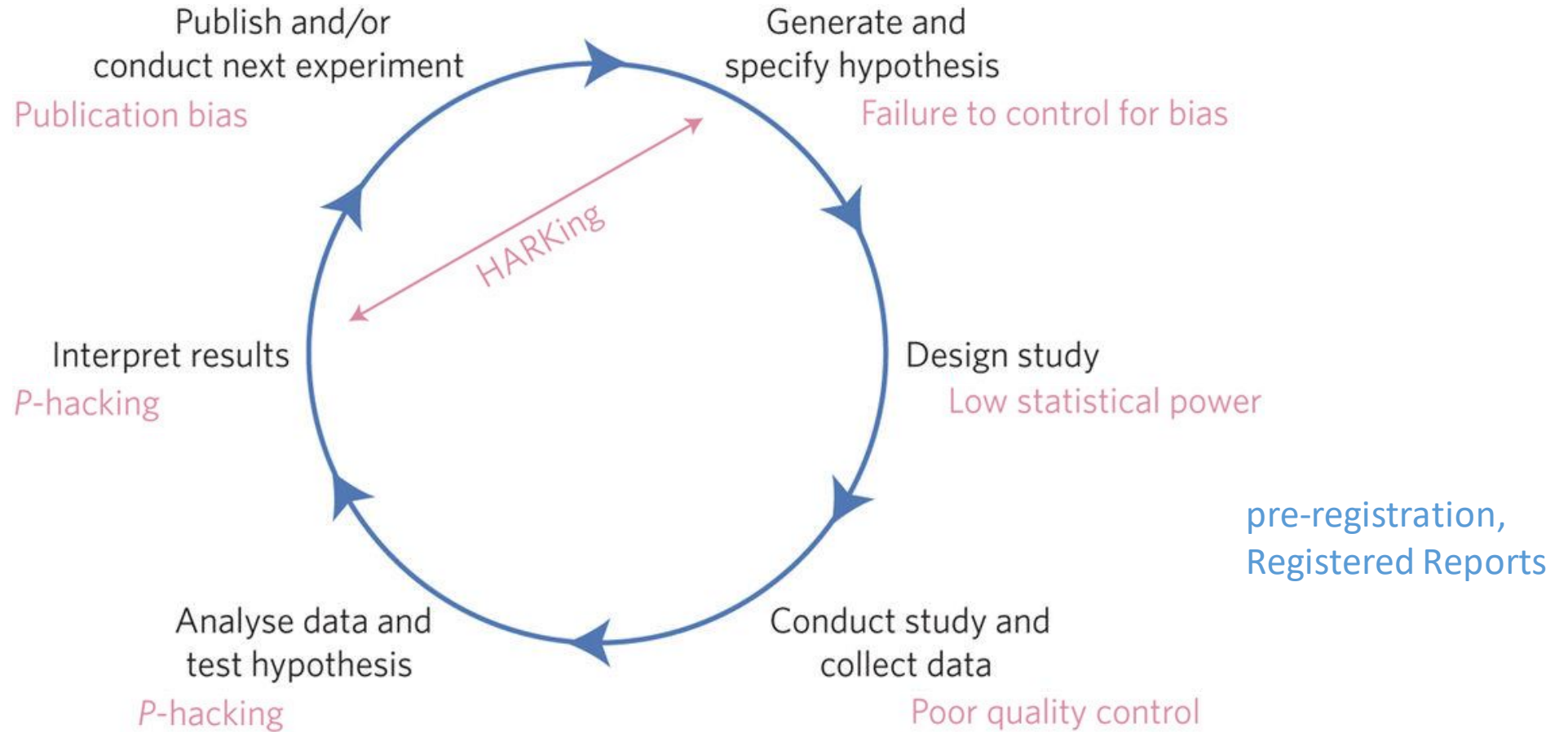
evidence from psychology



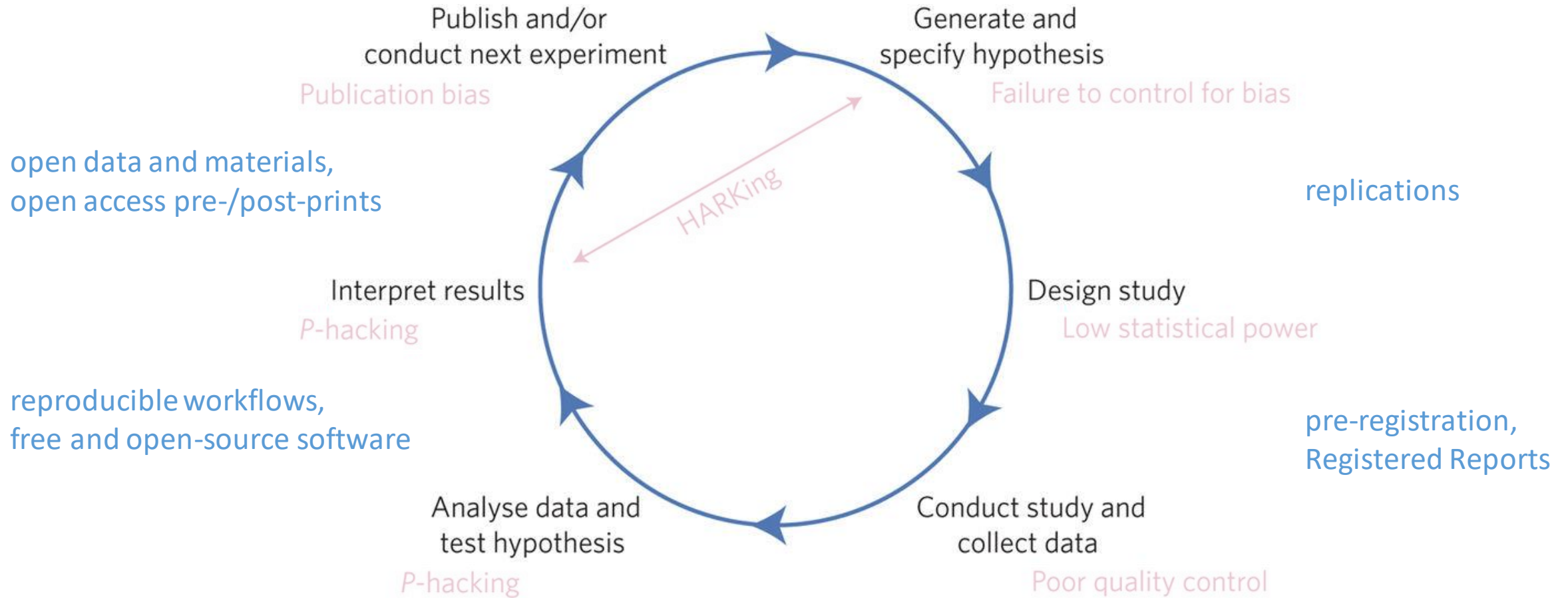
threats to reproducible science



threats to reproducible science



threats to reproducible science: safeguards



aligning **values** with culture and practice



Dorothy Bishop | Experimental Psychology, University of Oxford
Laura Fortunato | Human Sciences, University of Oxford

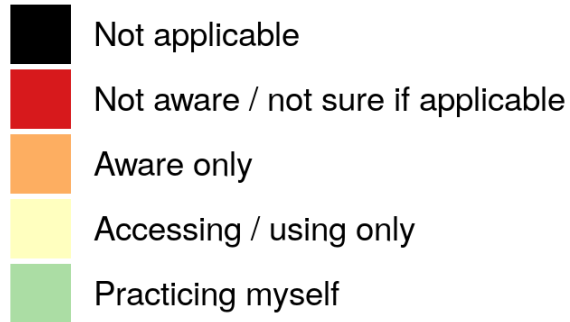
"open research at Oxford" survey

Malika Ihle | Reproducible Research Oxford
(currently at LMU Open Science Center)

background and descriptives

- two consecutive rounds
 - Jan—March 2021: post-graduate research (PGR) students
 - Jan—March 2022: **PGR students** + researchers at all career levels (**research staff or fellows, research support staff, academics**)
- participation voluntary, anonymous, incentivised
 - N = 1307, an estimated ~9% of all Oxford researchers from the four academic divisions of the University (Medical Sciences, **MSD**; Mathematical, Physical, & Life Sciences, **MPLS**; Social Sciences Division, **SSD**; Humanities Division, **Hum**)
 - attrition rate 22% on average
- full results and discussion available from <https://osf.io/yhbv3>

Which of the following ORPs are you aware of, and which do you have experience with?

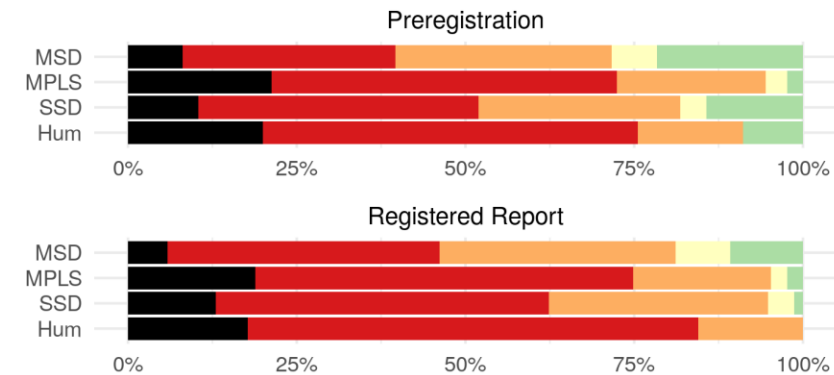
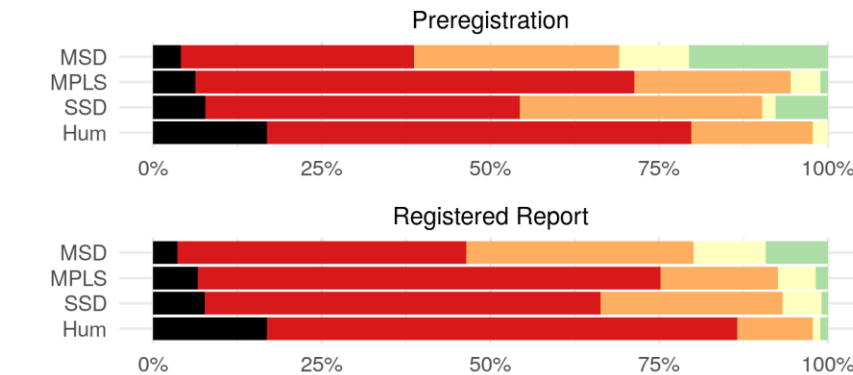
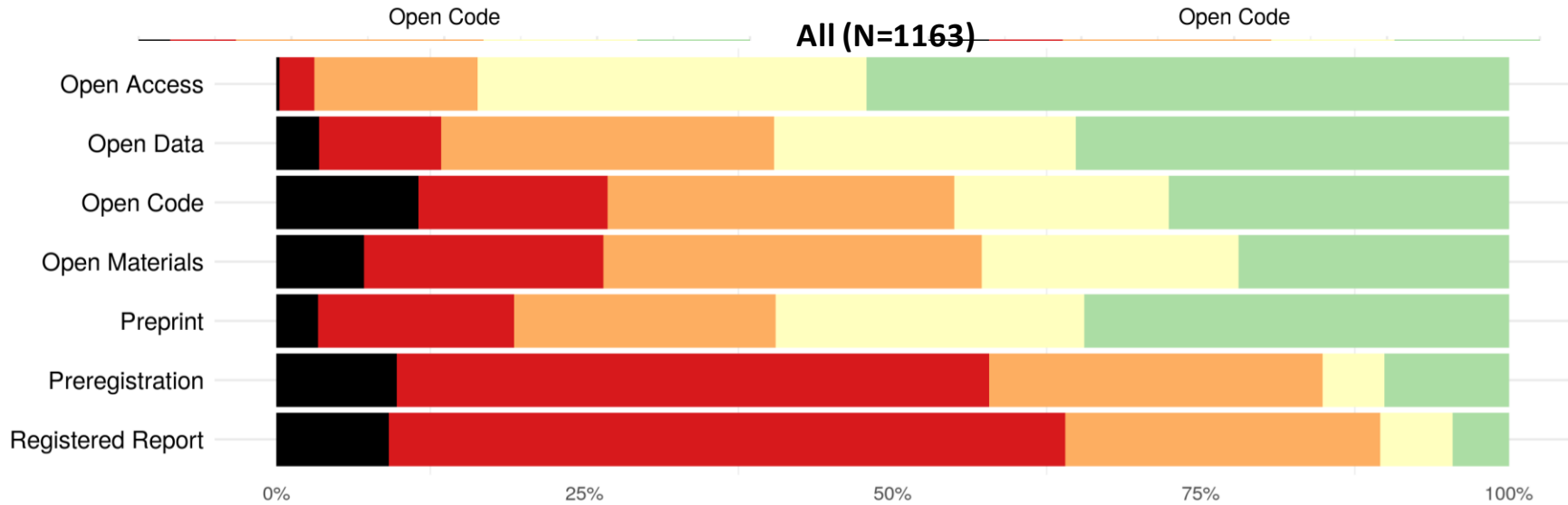
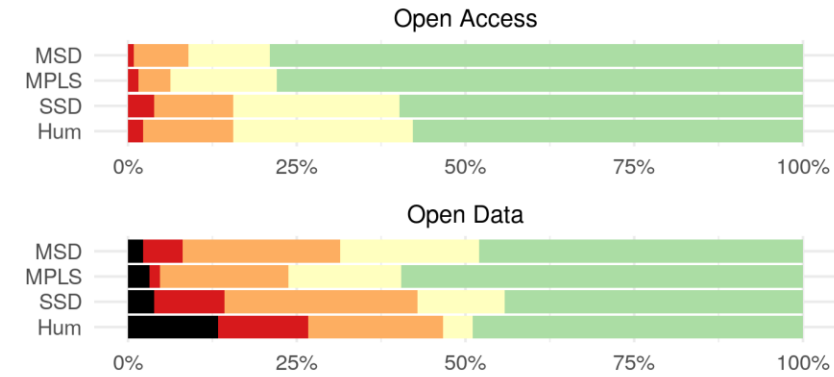
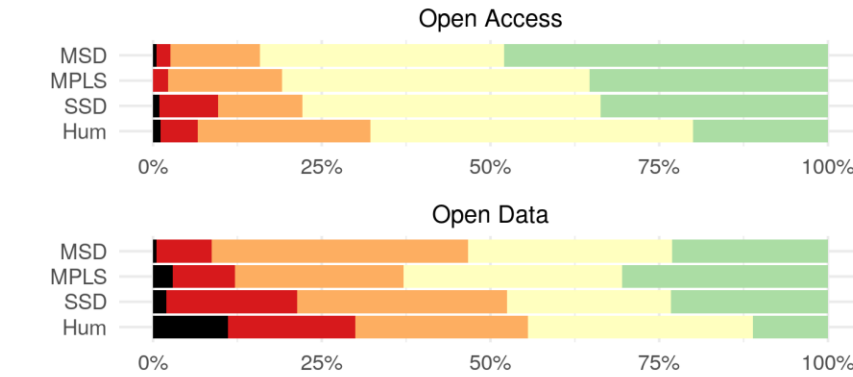


Awareness and usage of ORPs vary by practice and, to some extent, by Division.

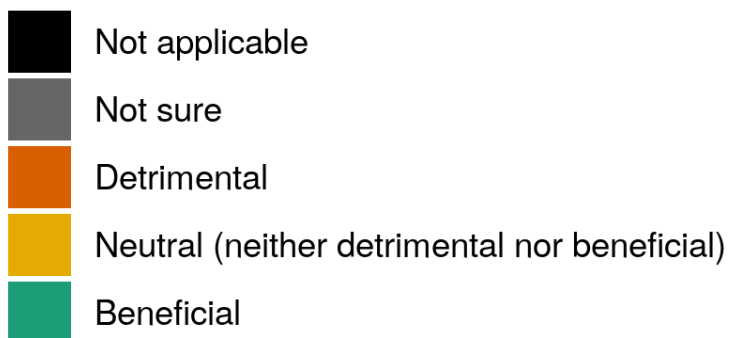
Many respondents are aware but do not practice themselves.

PGR students (N=662)

Researchers (N=473)



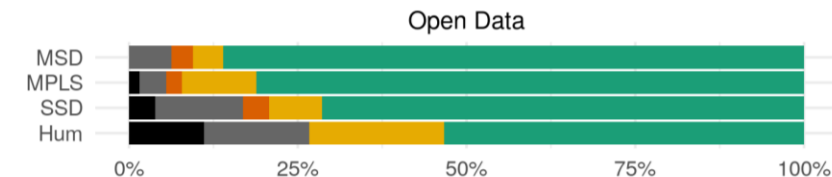
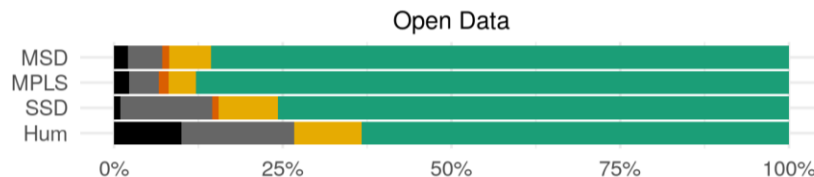
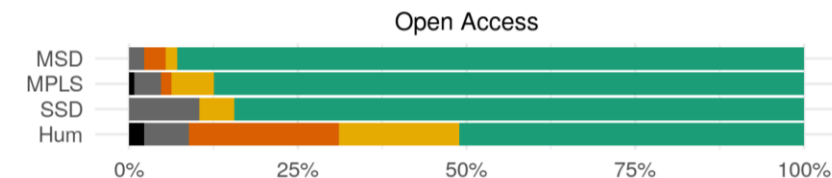
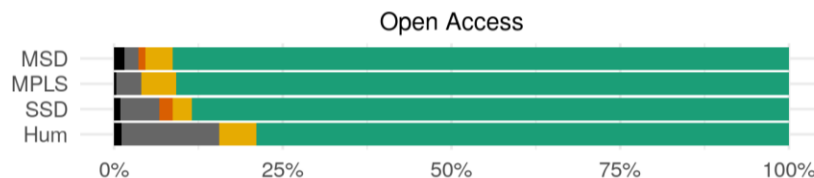
In your opinion, what would be the overall effect of widespread adoption of the following practices in your field of research?



Widespread adoption of ORPs is largely believed to be beneficial (unless unaware of a given practice).

PGR students (N=661)

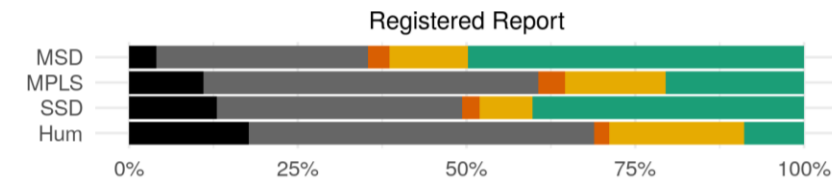
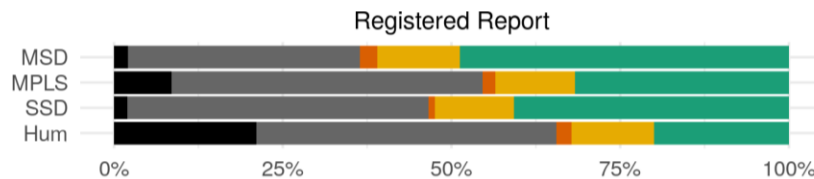
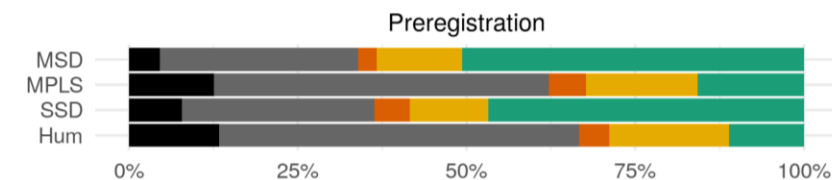
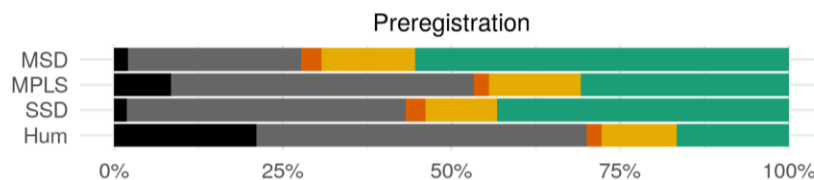
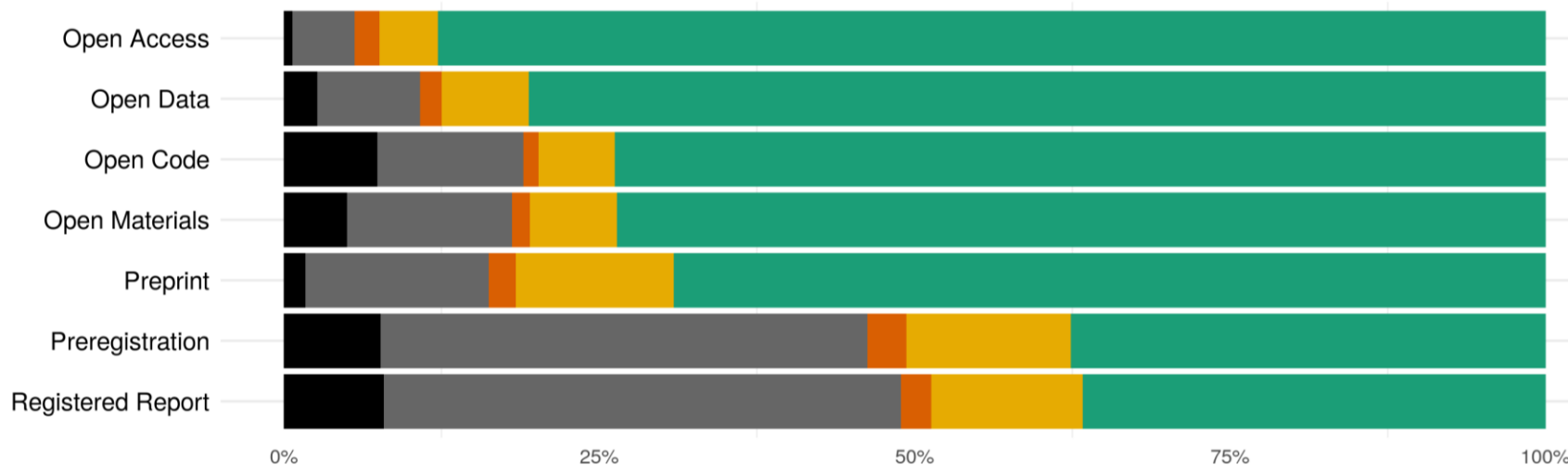
Researchers (N=473)



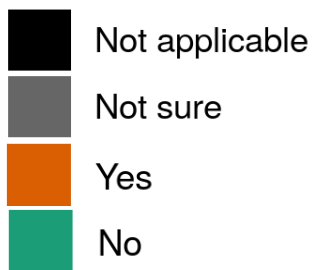
Open Code

All (N=1162)

Open Code



In your view, are there *any* downsides to widespread adoption of the following practices in your field of research?

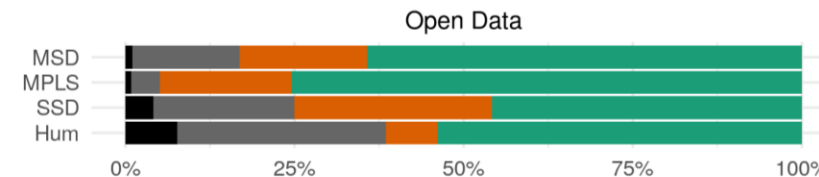
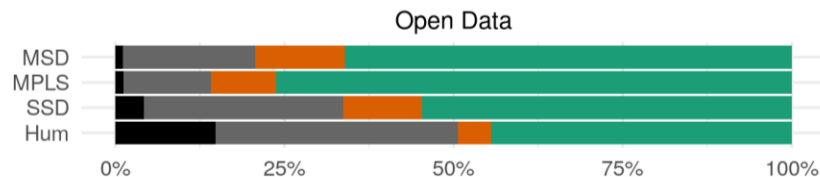
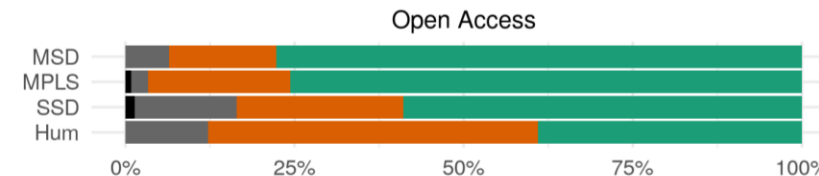
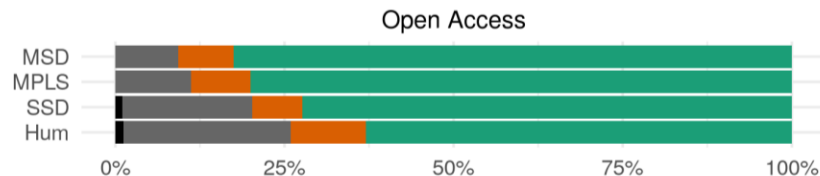


Most respondents think there are no downsides associated with ORPs (unless unaware of a given practice).

Open Access and Open Data have largest shares of "yes" responses.

PGR students (N=601)

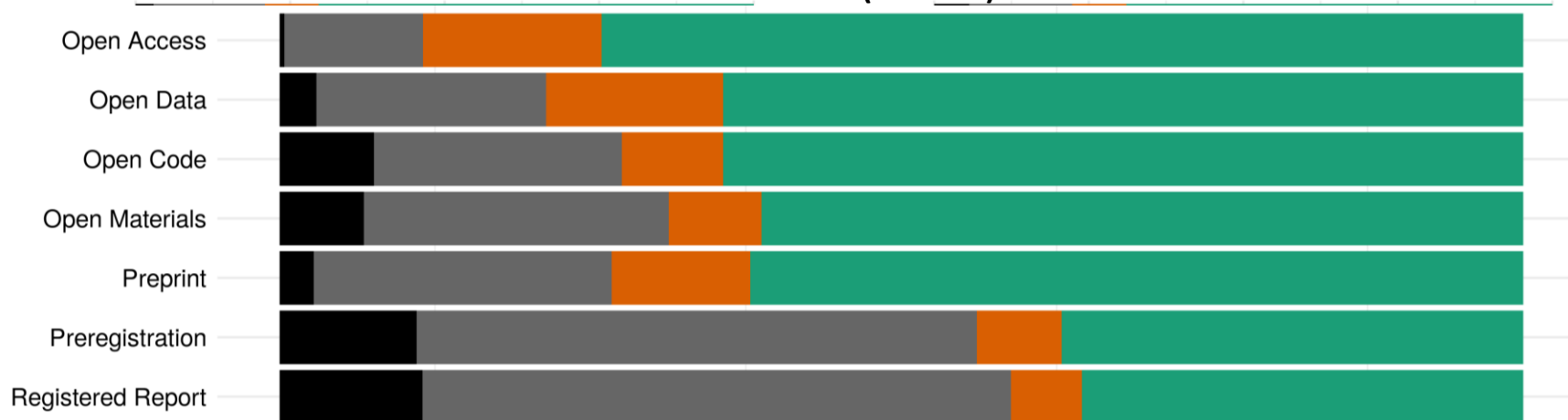
Researchers (N=435)



Open Code

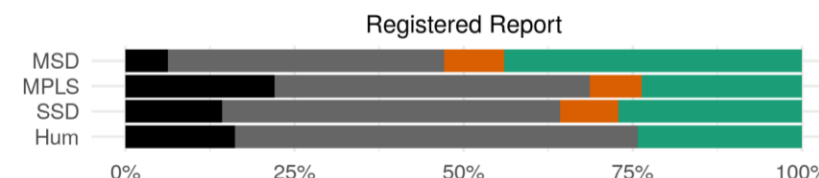
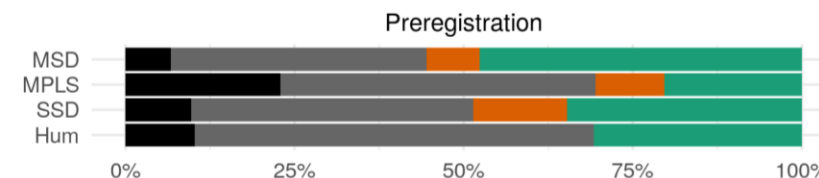
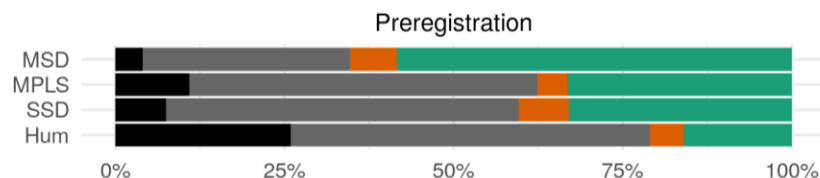
All (N=1063)

Open Code



Preregistration

Preregistration

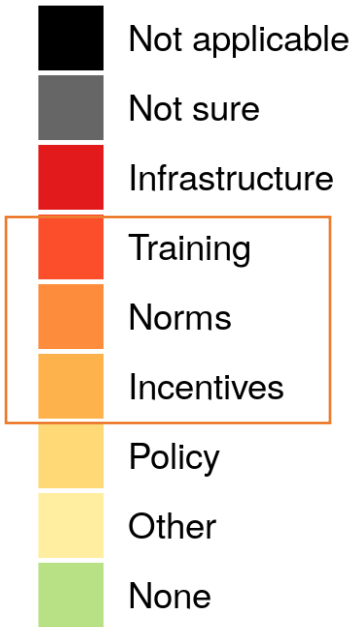


possible downsides

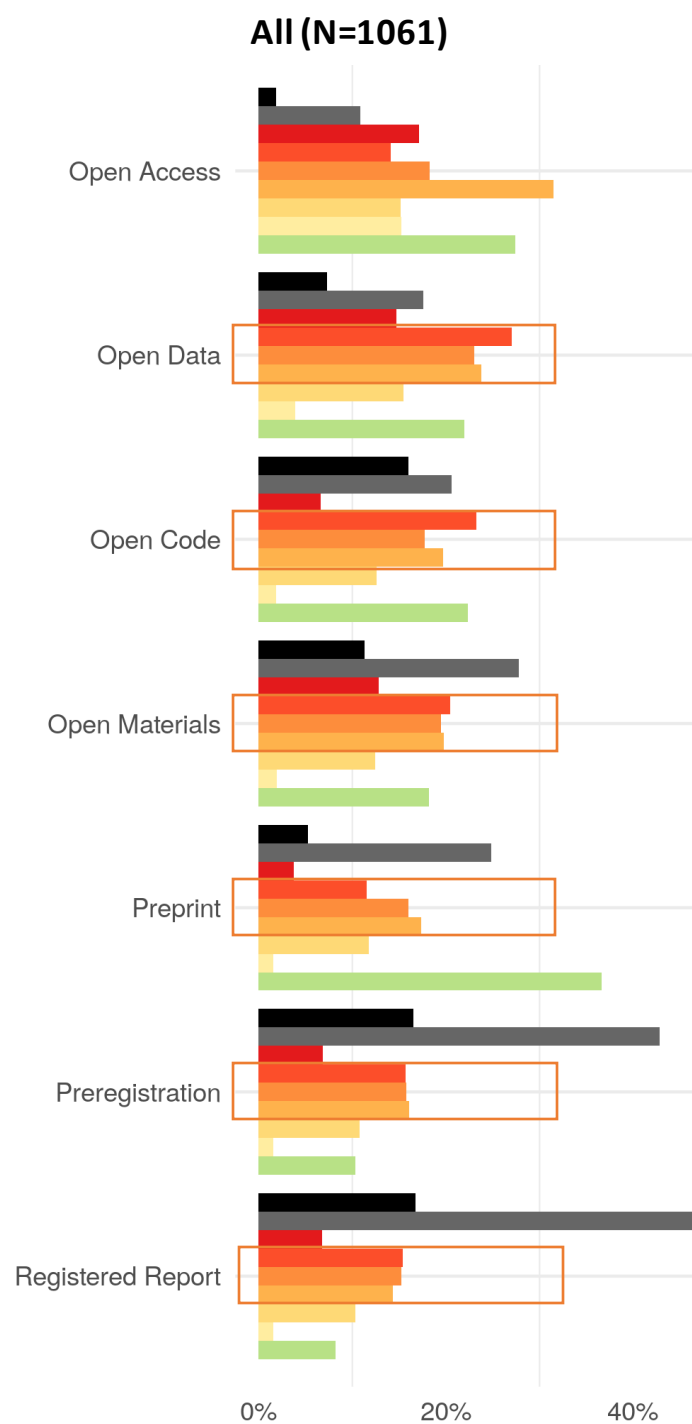
- Open Access
 - costs* leading to inequalities among researchers/fields/institutions
 - predatory behaviours by publishers lowering quality of editorial/peer review
 - loss of income for scholarly societies, authors, publishers (e.g. monographs)
- Open Data
 - concerns around ethics, safety, and security (e.g. participant anonymity)
 - no control over reuse, with potential misuse and/or misrepresentation
 - issues relating to intellectual property (e.g. "scooping", no recognition)
 - not useful/relevant in the absence of widespread metadata standards, and/or if the data are shared in proprietary formats

*specifically, article processing charges (APCs), which only apply to "gold" Open Access (vs. "green" or "diamond")

Do you face any barriers in adopting the following practices and, if so, what are they?



Most respondents think that there are barriers to the adoption of ORPs, especially lack of training, norms, and incentives, followed by lack of policy and infrastructure.



aligning **values** with culture and practice



BORN INTO 500 YEARS OF TRADITION

**LIFE INSIDE
THE CONTRADE**

—

THE PALIO, SIENA

Laura Fortunato | Human Sciences, University of Oxford

behaviour

Adam Kenny | Human Sciences, University of Oxford

 anthrologue.org/people/adam-kenny

 [@kennyanthropus](https://twitter.com/kennyanthropus)

Siena fieldsite

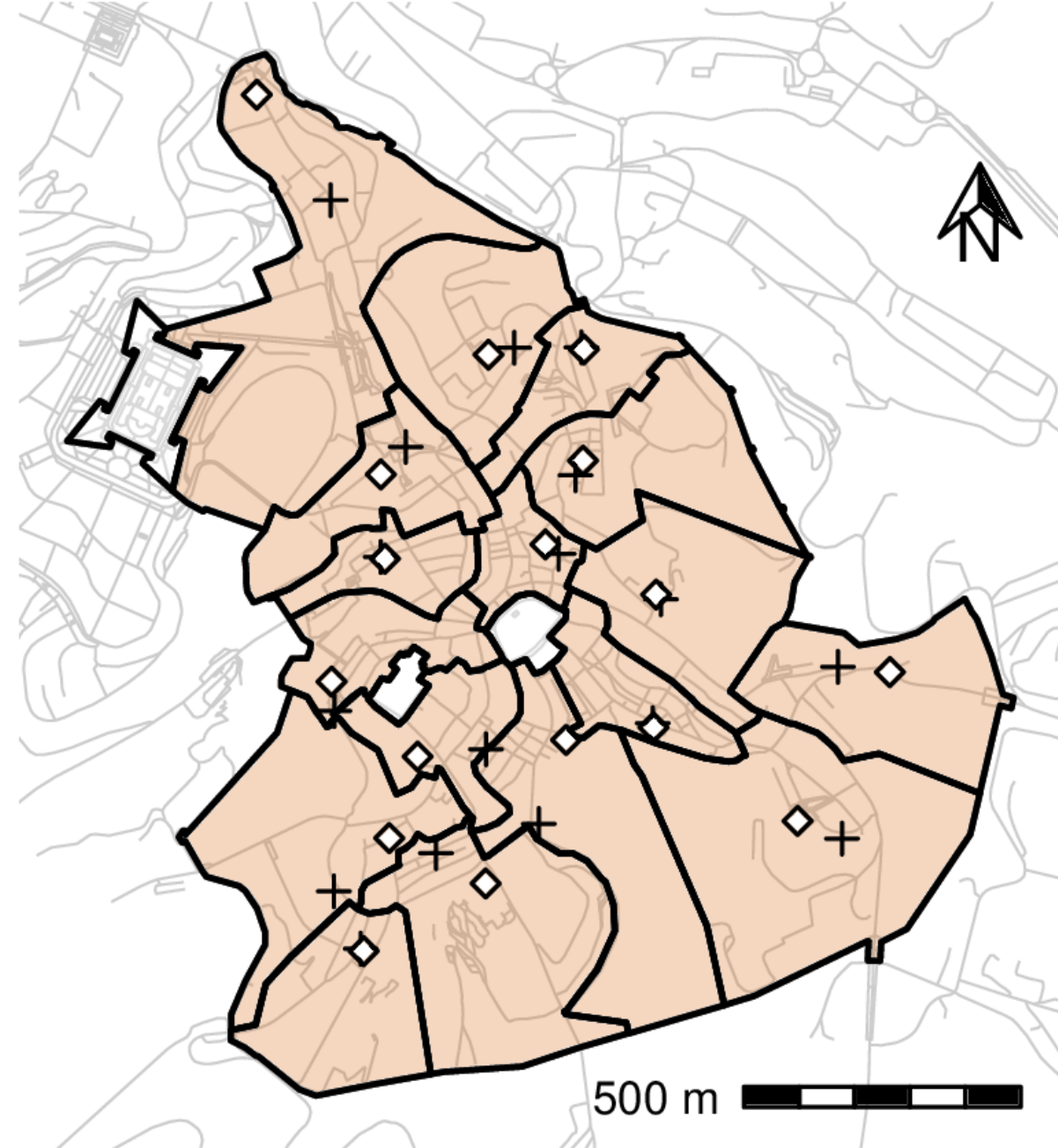
active since 2016,
a "natural laboratory"



the city of Siena

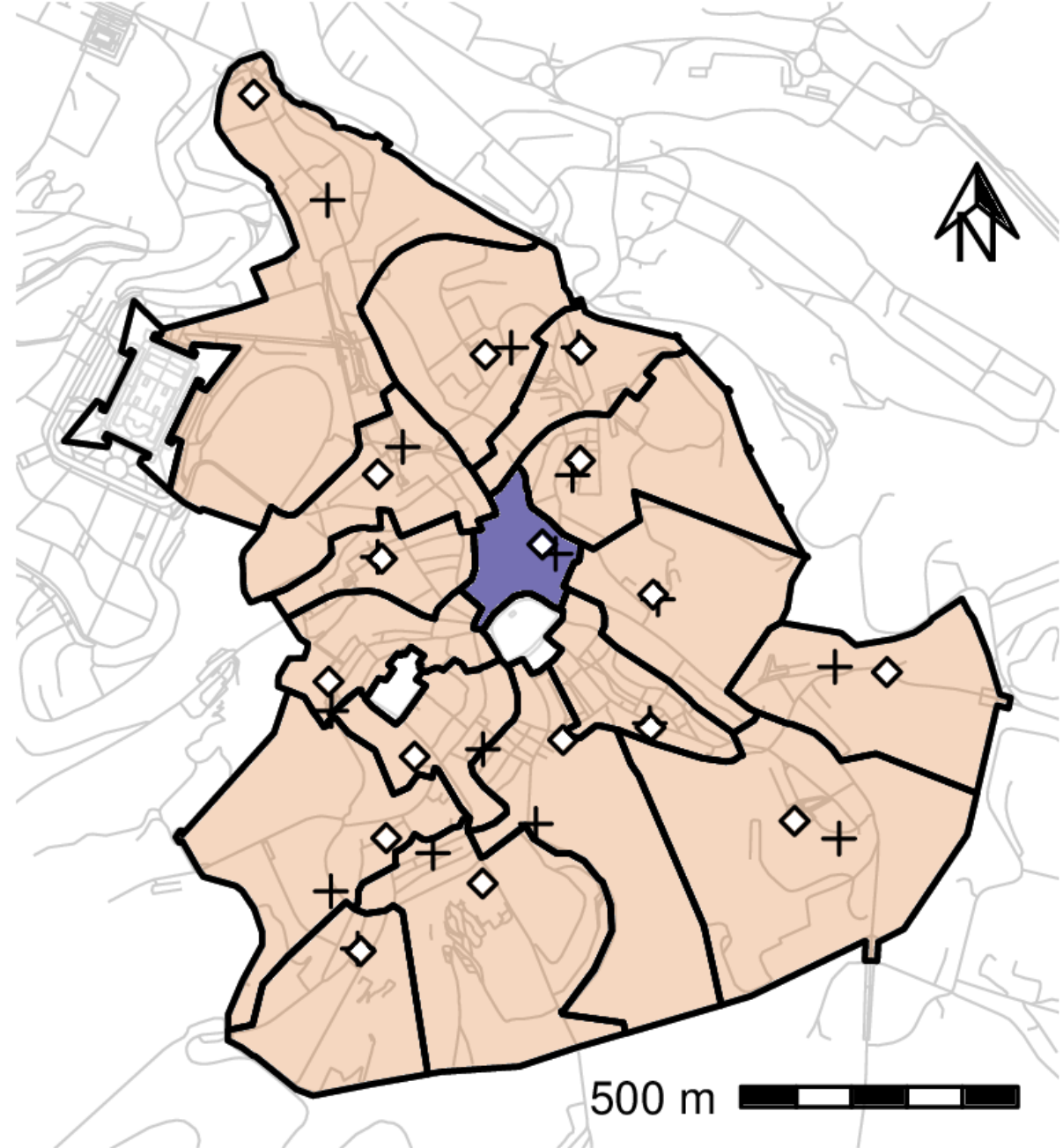
city centre divided into 17 *contrade*

- medieval origins
- 800—4,000 members
- distinctive identities



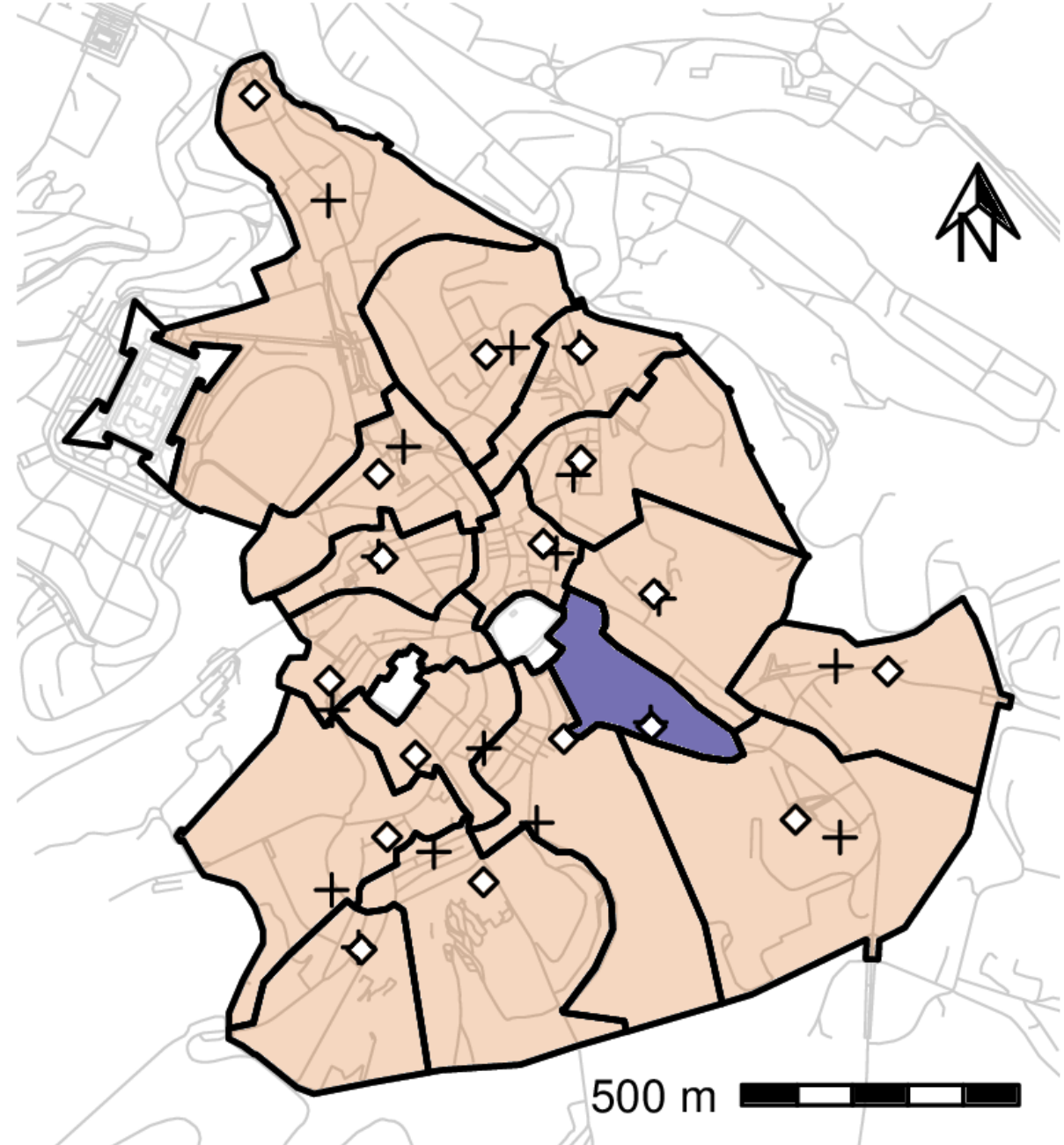
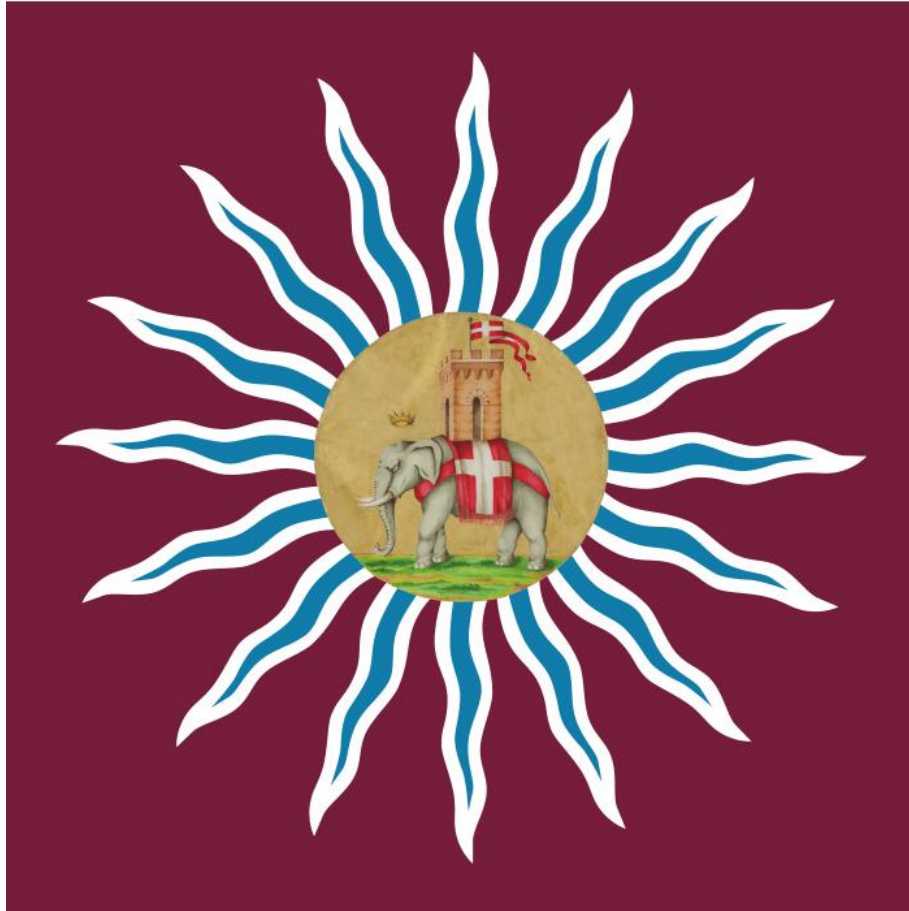
building + church ◇ clubhouse

e.g. Owl *contrada*



building + church ◇ clubhouse

e.g. Tower *contrada*



building + church ◇ clubhouse



birth announcement (Giraffe)



tattoo (Owl)



tattoo (Tower)

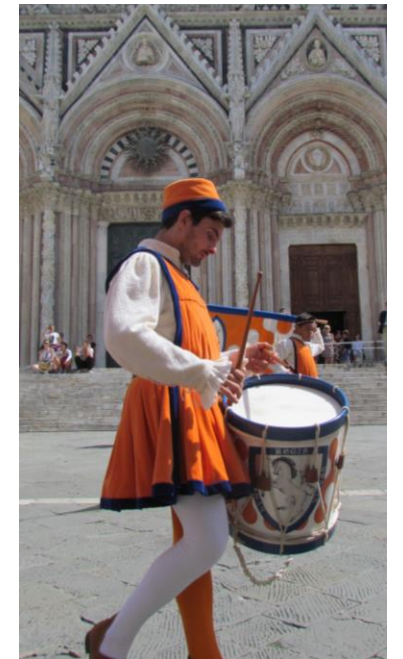


parade (Goose)



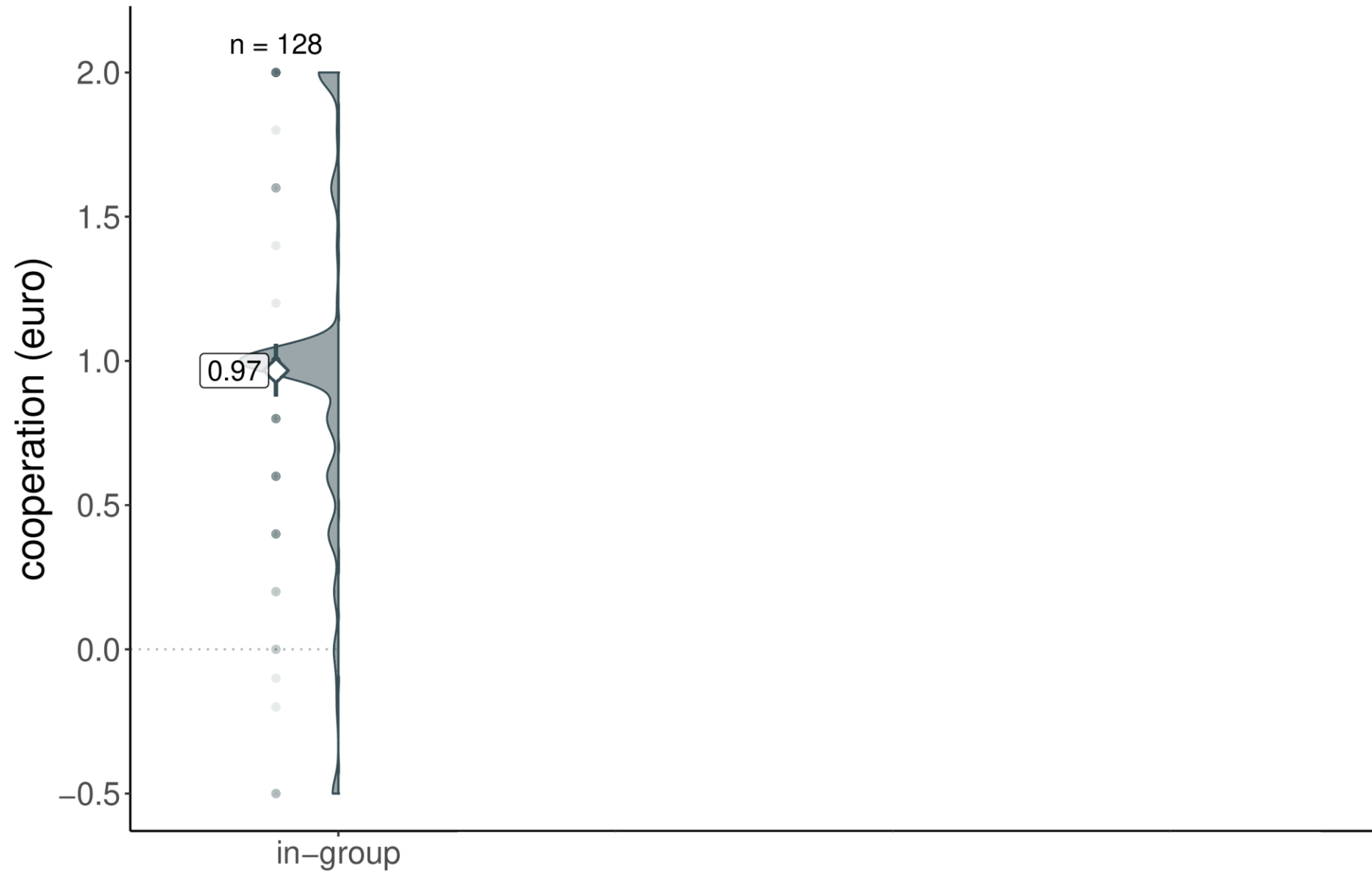
competition and group relationships

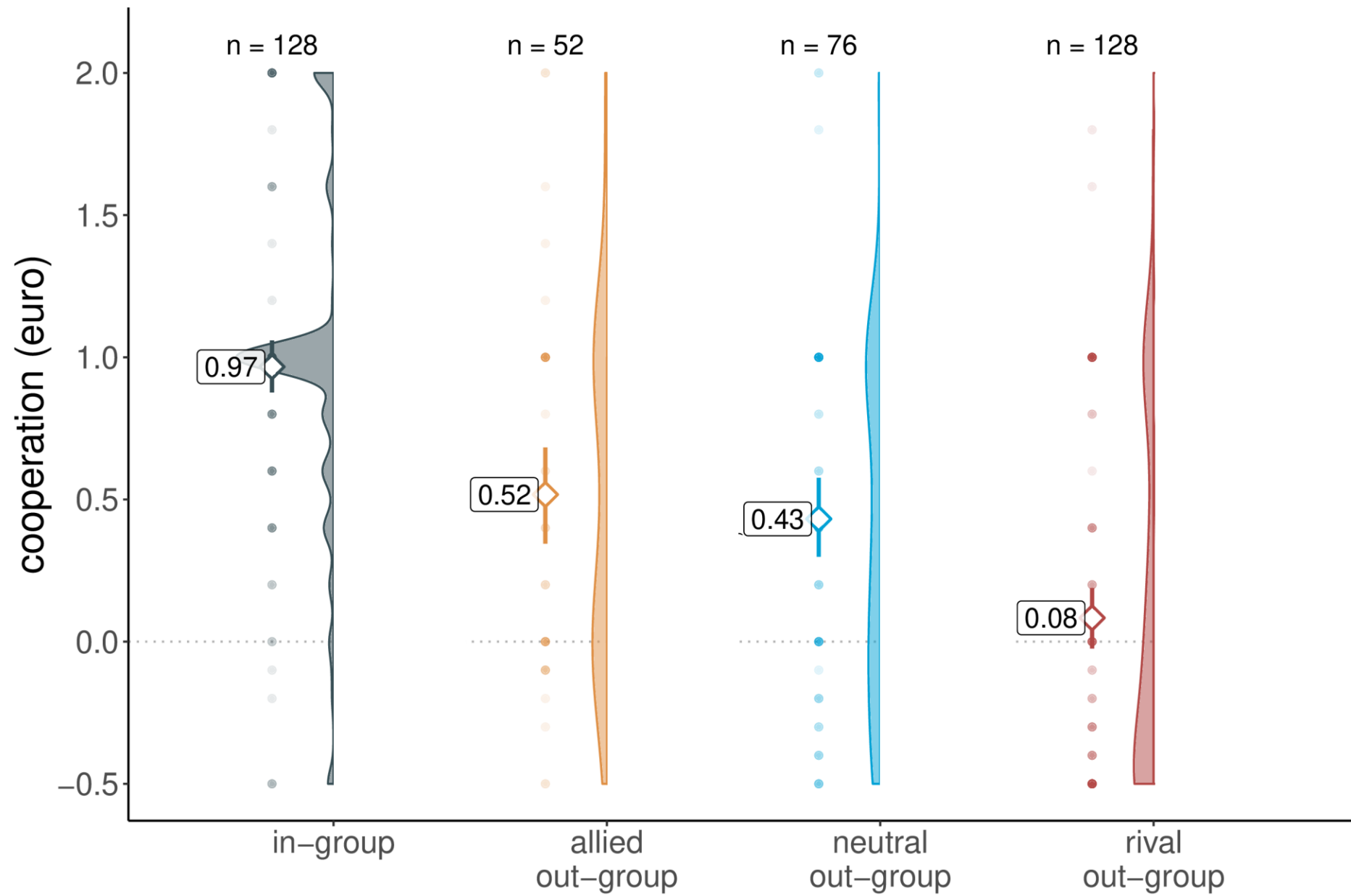
- does competition increase in-group cooperation and decrease out-group cooperation?
- modified dictator game
 - 367 members across 5 *contrade*
 - the participant could either give to, or take from, another member
 - the other member was either from the same *contrada* (in-group) or from a different *contrada* (out-group)
 - half played six months before the *palio* (low competition), half played in the days leading up to *palio* (high competition)

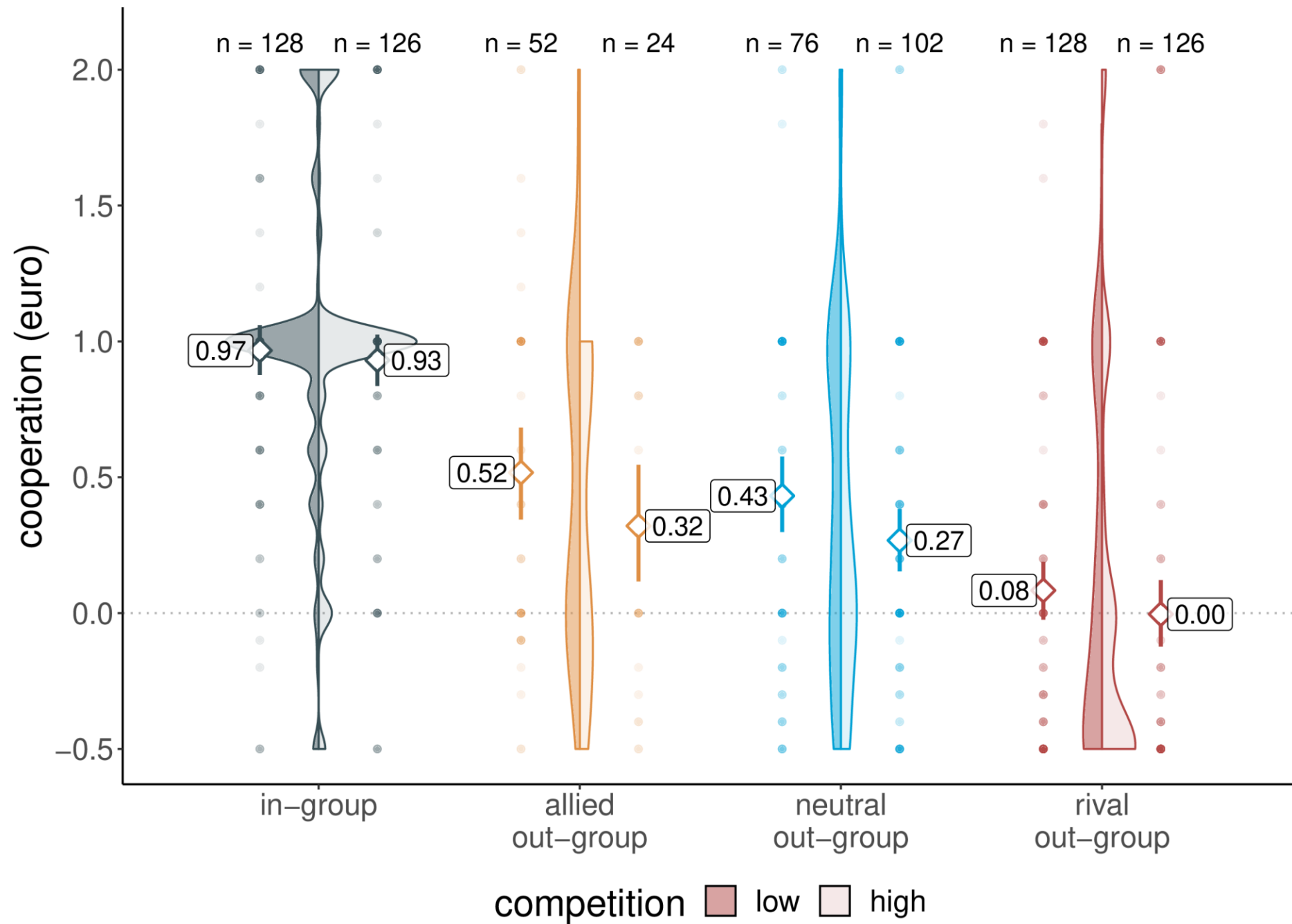


Kenny (2020), *In-group bias in human cooperation: insights from the contrade of Siena, Italy*

Kenny & Fortunato (2021) in *Open Science Framework*







relationship type shapes intergroup bias

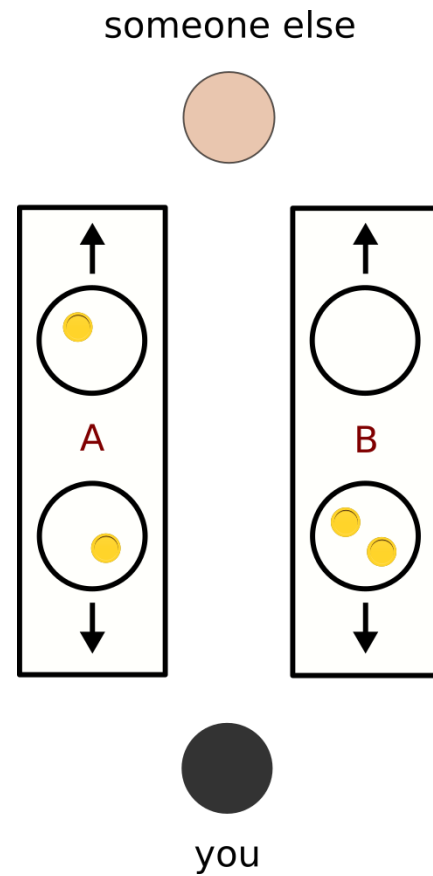
- does competition increase in-group cooperation and decrease out-group cooperation?
- key results
 - in-group > out-group cooperation
 - level of competition has no effect
 - own > allied > neutral > rival cooperation, e.g. participants only take from rivals
- full results and discussion available from <https://osf.io/j3q28/>

ontogeny of intergroup bias

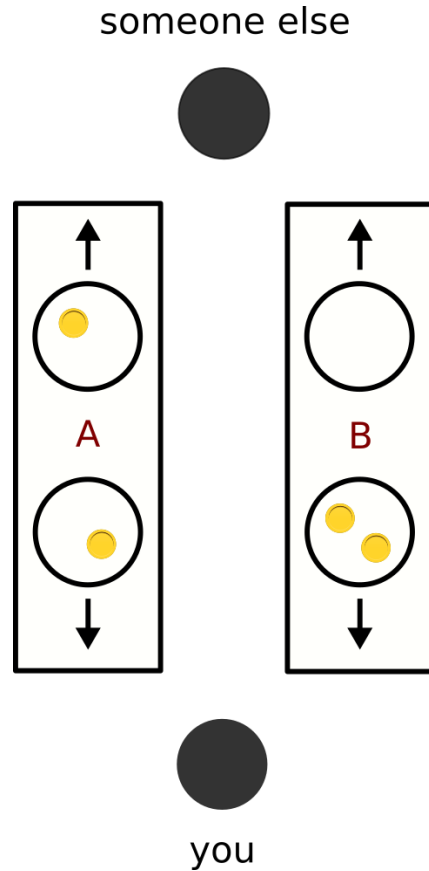
- research questions
 - at what age does intergroup bias emerge?
 - how does intergroup bias change with age?
e.g. when does it become adult-like?
 - what is the influence of social learning on its development?
- sharing game played by *contrada* members
from 3 to 18+ years of age



let's play a game!



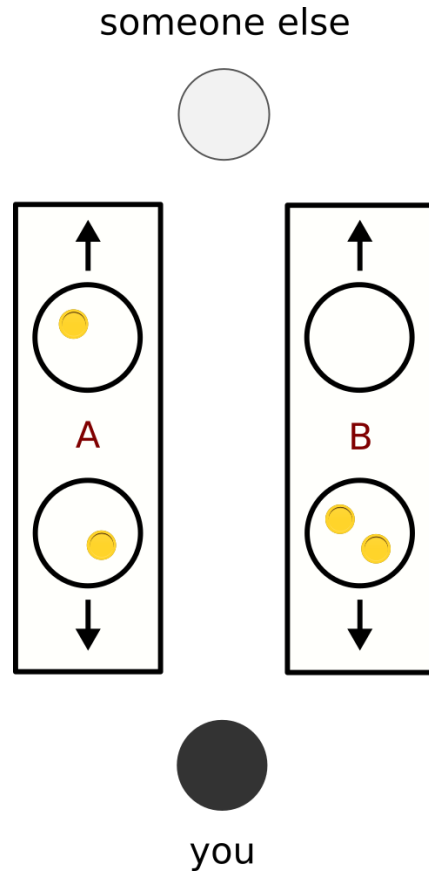
decision 1



choose between option:

- A. 1 token for you and
1 token for someone from the **black** group
- B. 2 tokens for you and
0 tokens for someone from the **black** group

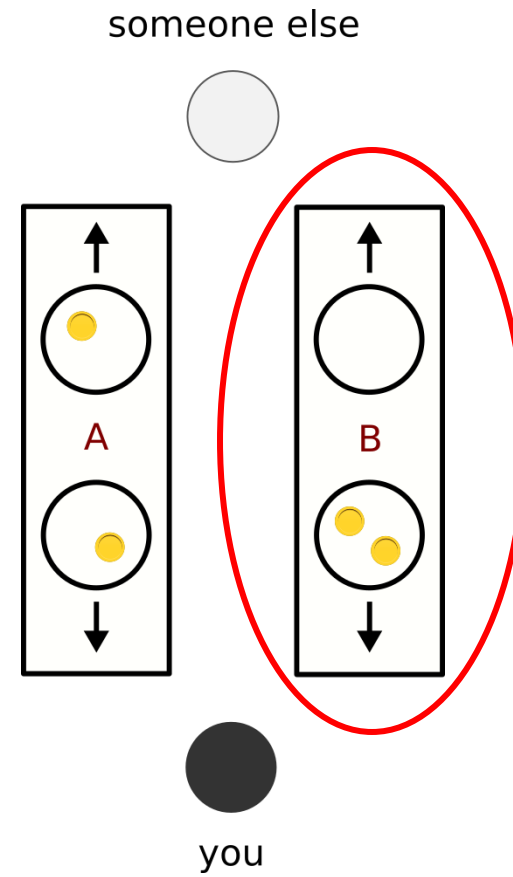
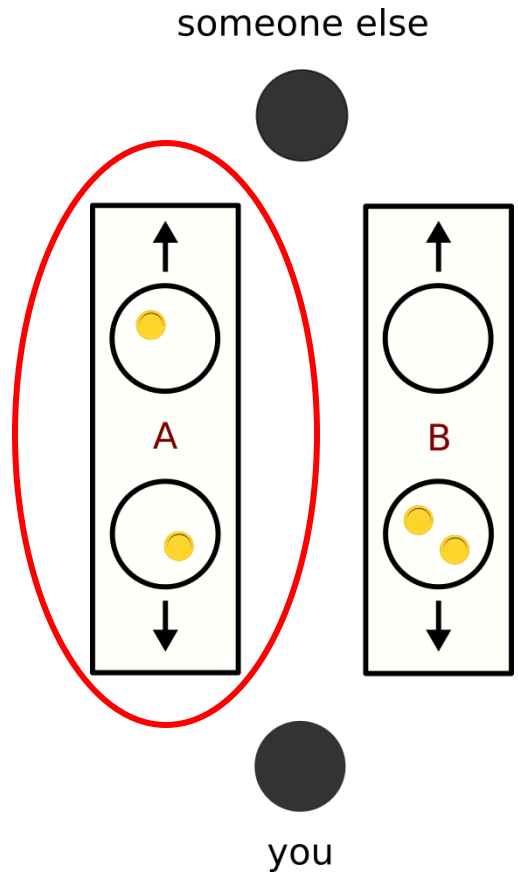
decision 2



choose between option:

- A. 1 token for you and 1 token for someone from the **white** group
- B. 2 tokens for you and 0 tokens for someone from the **white** group

expectations



artificial vs. natural intergroup bias

artificial ("minimal") groups:
black vs. white group



natural groups:
own vs. other *contrada*



Adam Kenny | Human Sciences, University of Oxford

Laura Fortunato | Human Sciences, University of Oxford

language

Ilse Pit | Human Sciences, University of Oxford

 anthrologue.org/people/ilse-pit

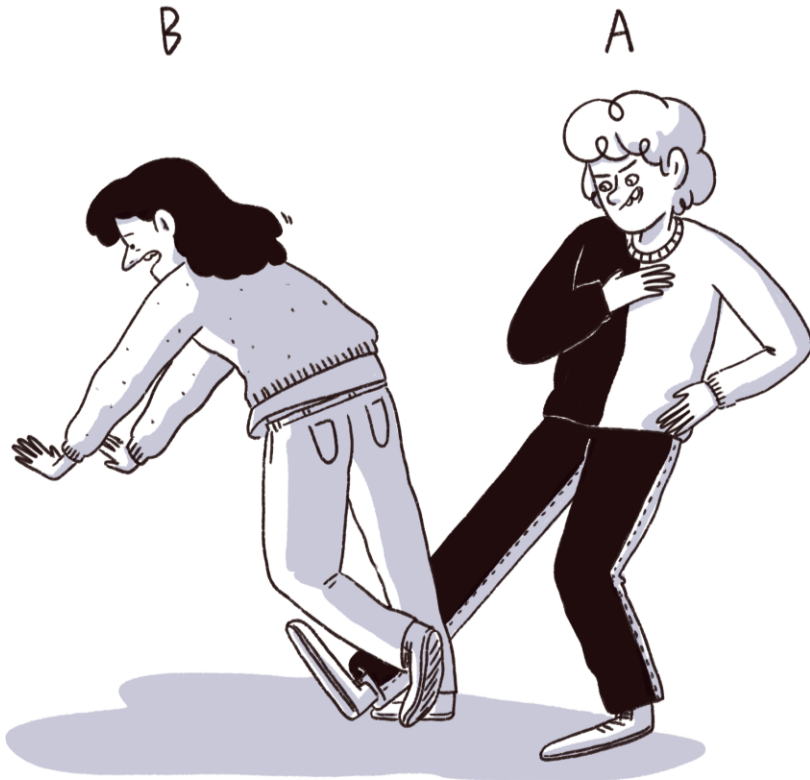
 @ilsepit

intergroup bias in language use

- more or less abstract language is used to describe behaviour, based on group affiliation (in-group vs. out-group) and desirability of the behaviour (positive vs. negative)
- posited to be involved in the maintenance of stereotypes, i.e. positive/negative beliefs about the in-group/out-group
- Maass et al. (1989) in *Journal of Personality and Social Psychology*, initial evidence from members of the *contrade* of Ferrara, Italy

experimental materials

e.g. Alice is a member of CSSS



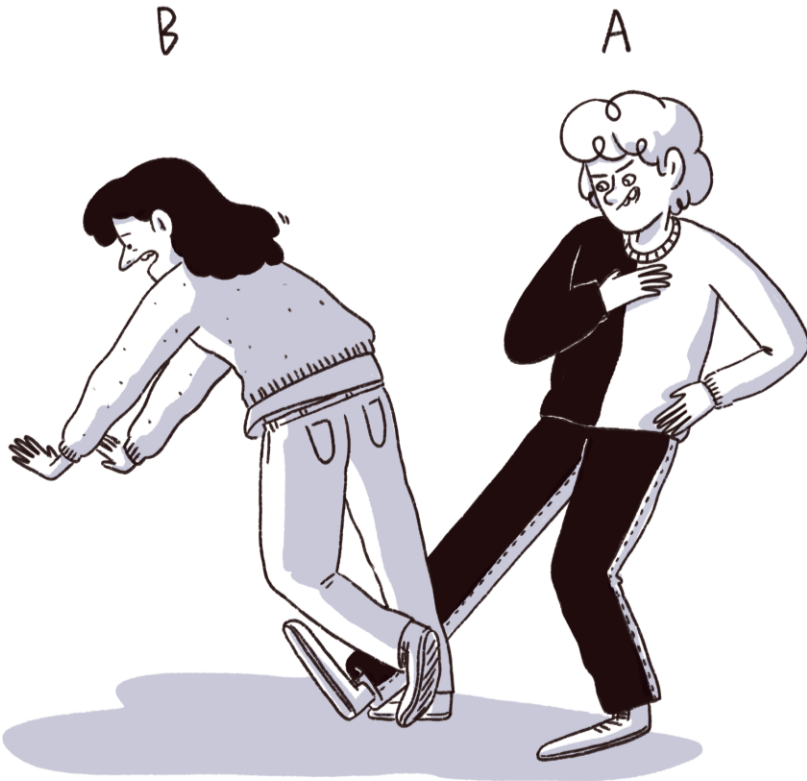
- "Alice trips Bob"
- "Alice is aggressive"

experimental materials

e.g. Alice is a member of CSSS

- "Alice trips Bob"
- "Alice is aggressive"

in-group + undesirable behaviour =
concrete language



experimental materials



e.g. Alice is a member of CSSS

- "Alice hugs Bob"
- "Alice is affectionate"

experimental materials



e.g. Alice is a member of CSSS

- "Alice hugs Bob"
- "Alice is affectionate"

in-group + desirable behaviour =
abstract language

linguistic intergroup bias

theoretical predictions

	desirable behaviour	undesirable behaviour
in-group member	abstract language	concrete language

linguistic intergroup bias

theoretical predictions

	desirable behaviour	undesirable behaviour
in-group member	abstract language	concrete language
out-group member	concrete language	abstract language

pilot study in Siena

conducted July 2022

- context differences: 1980s vs. today, Ferrara vs. Siena
- desirability: how would you evaluate this behaviour?
- realism: has this behaviour happened in Siena?
- survey and focus group with *contrada* members

original



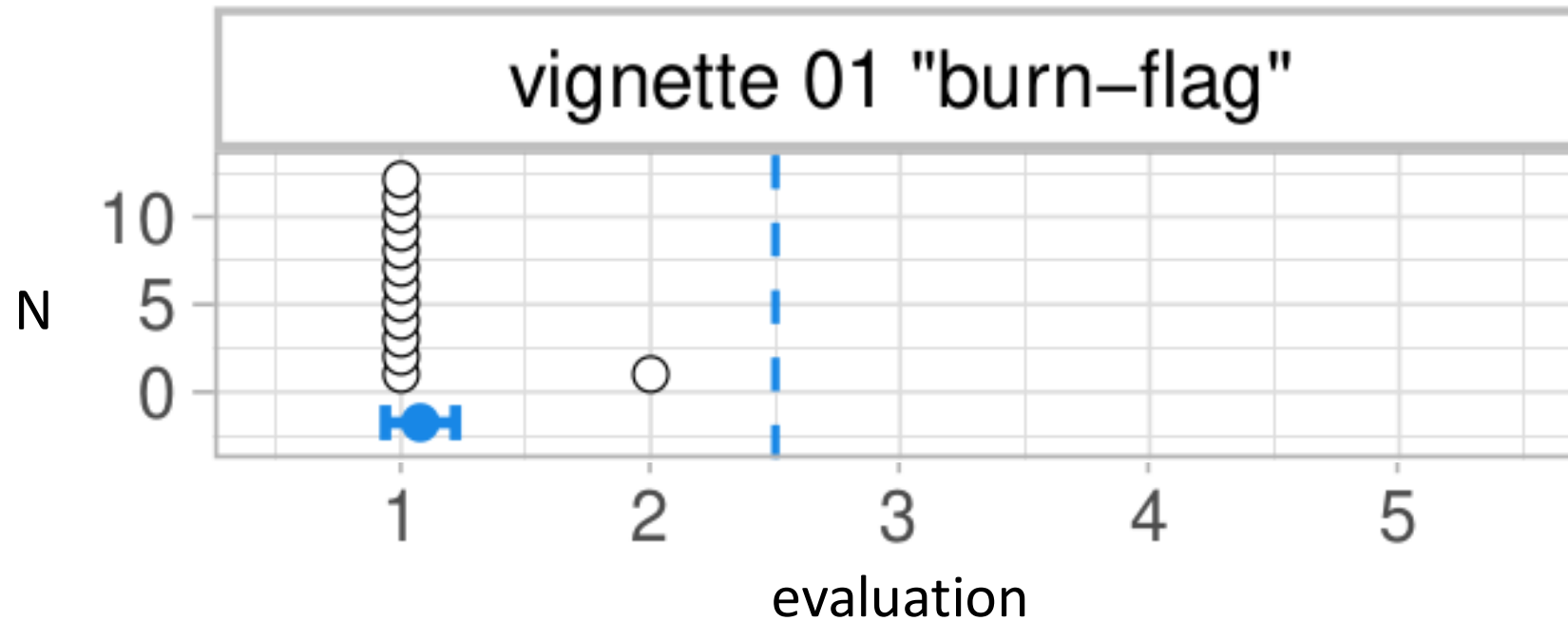
pilot



pilot results

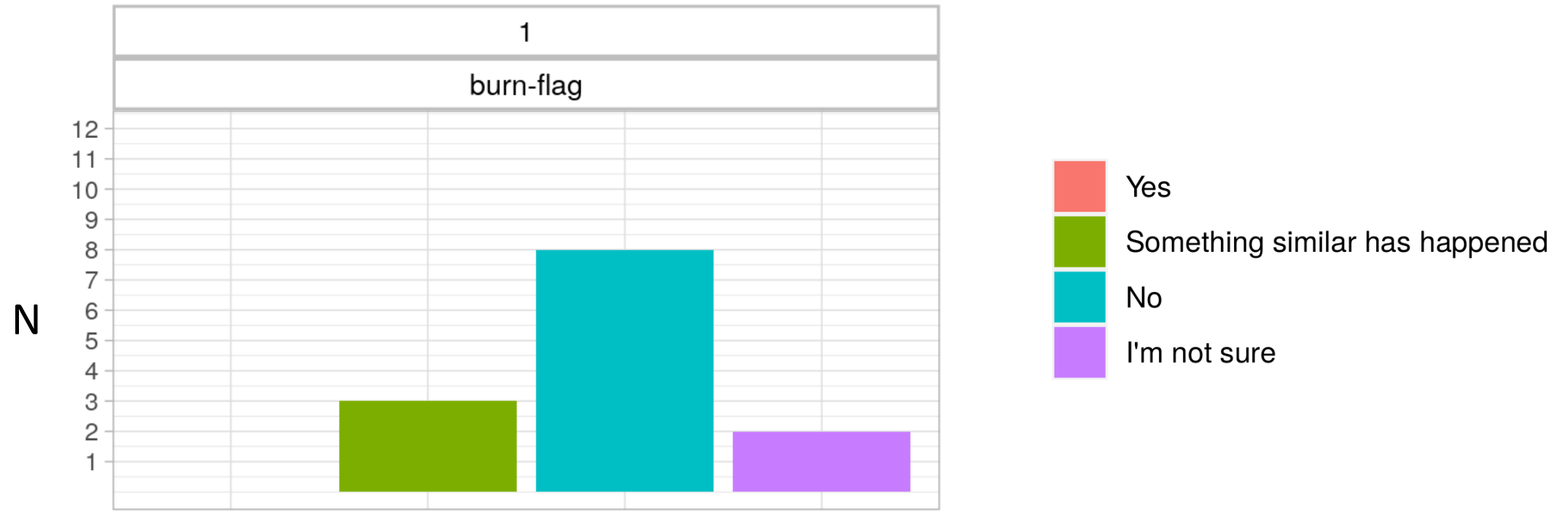
how would you evaluate the behaviour of person A in the image?

1 = very negative; 5 = very positive



pilot results

has behaviour like this ever occurred in Siena?



original



pilot



final



replication study in Siena

in preparation as a Registered Report

- use of experimental materials validated through pilot study
- large sample of *contrada* members (~450 participants)
- near-exact replication of the original study

threats to reproducible science: safeguards

