



Utrecht University

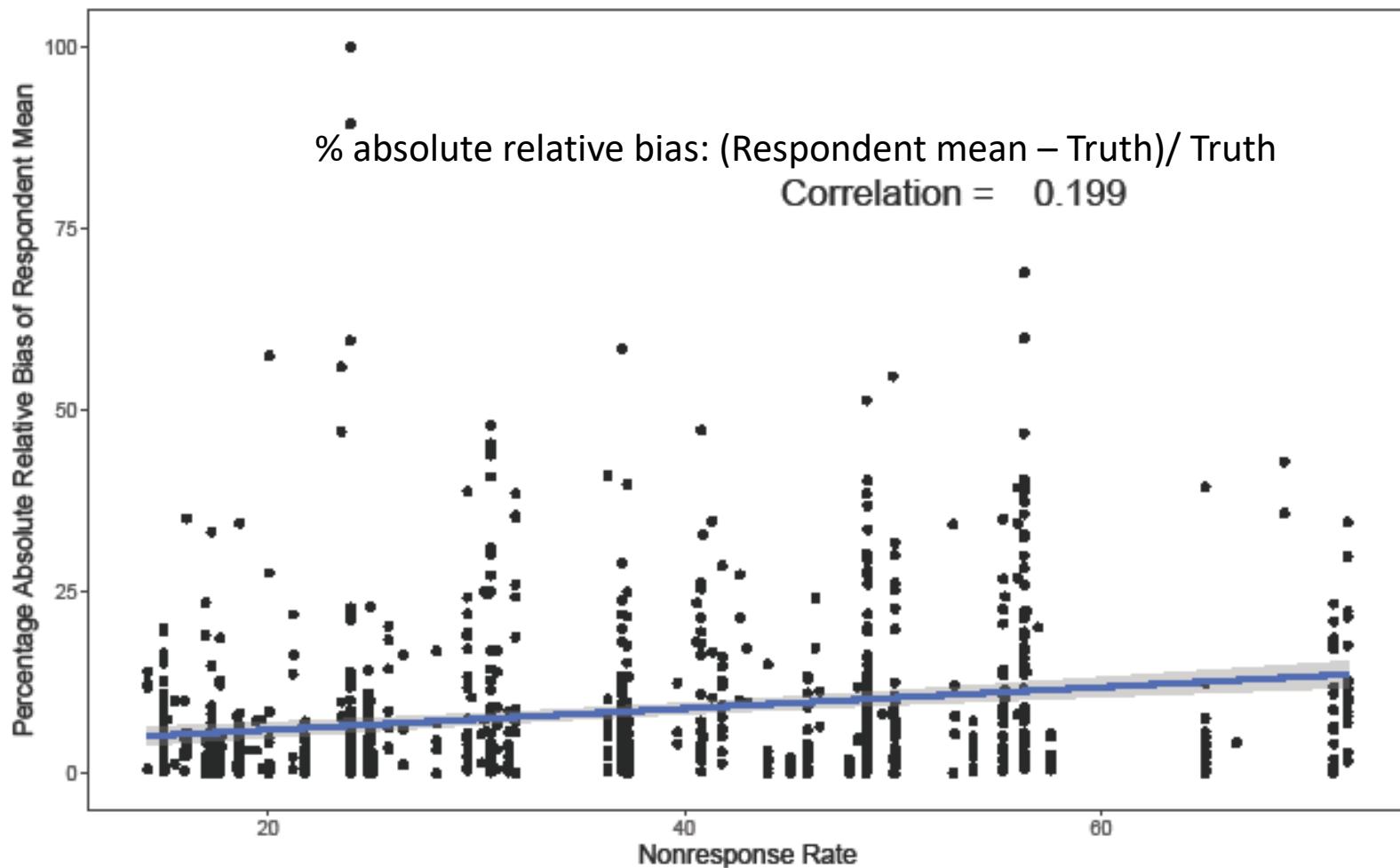
The Relation Between Nonresponse Rates and Nonresponse Bias. An Update and Extension of Groves and Peytcheva (2008)

Shannon Dickson, Peter Lugtig, Bella Struminskaya, Annemarie Timmers, Celine Henneveldt, Kirsten van Kessel, Emilia Peytcheva, Robert Groves

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Weak correlation between NR rates and bias

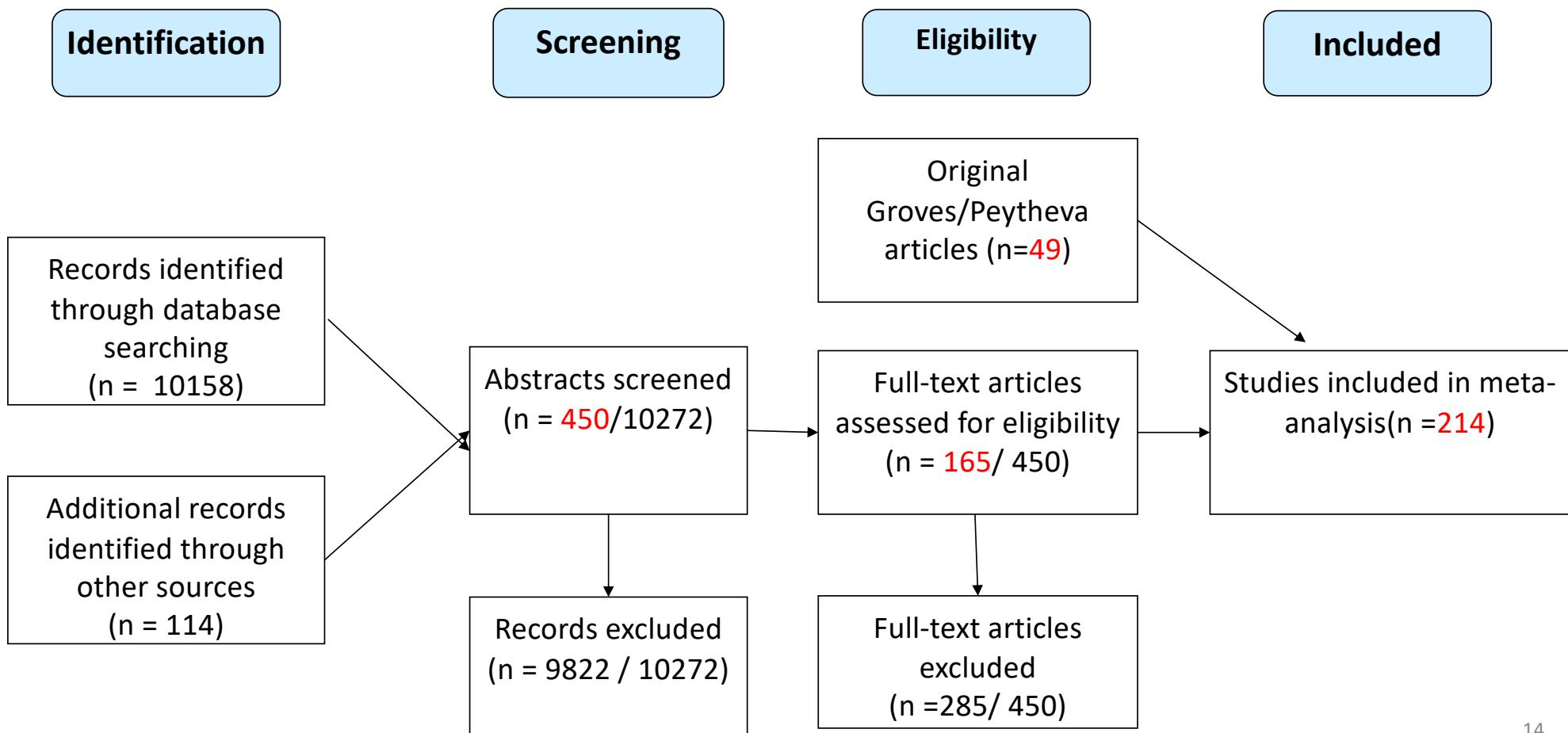


Today

- How have nonresponse rates, nonresponse bias developed?
- Groves and Peytcheva also coded 56 design characteristics of surveys
 - > What characteristics relate to:
 - Nonresponse rates?
 - Nonresponse bias?
- What can we do to:
 - Reduce nonresponse rates
 - Reduce nonresponse bias



Prisma search strategy



Coded for every article

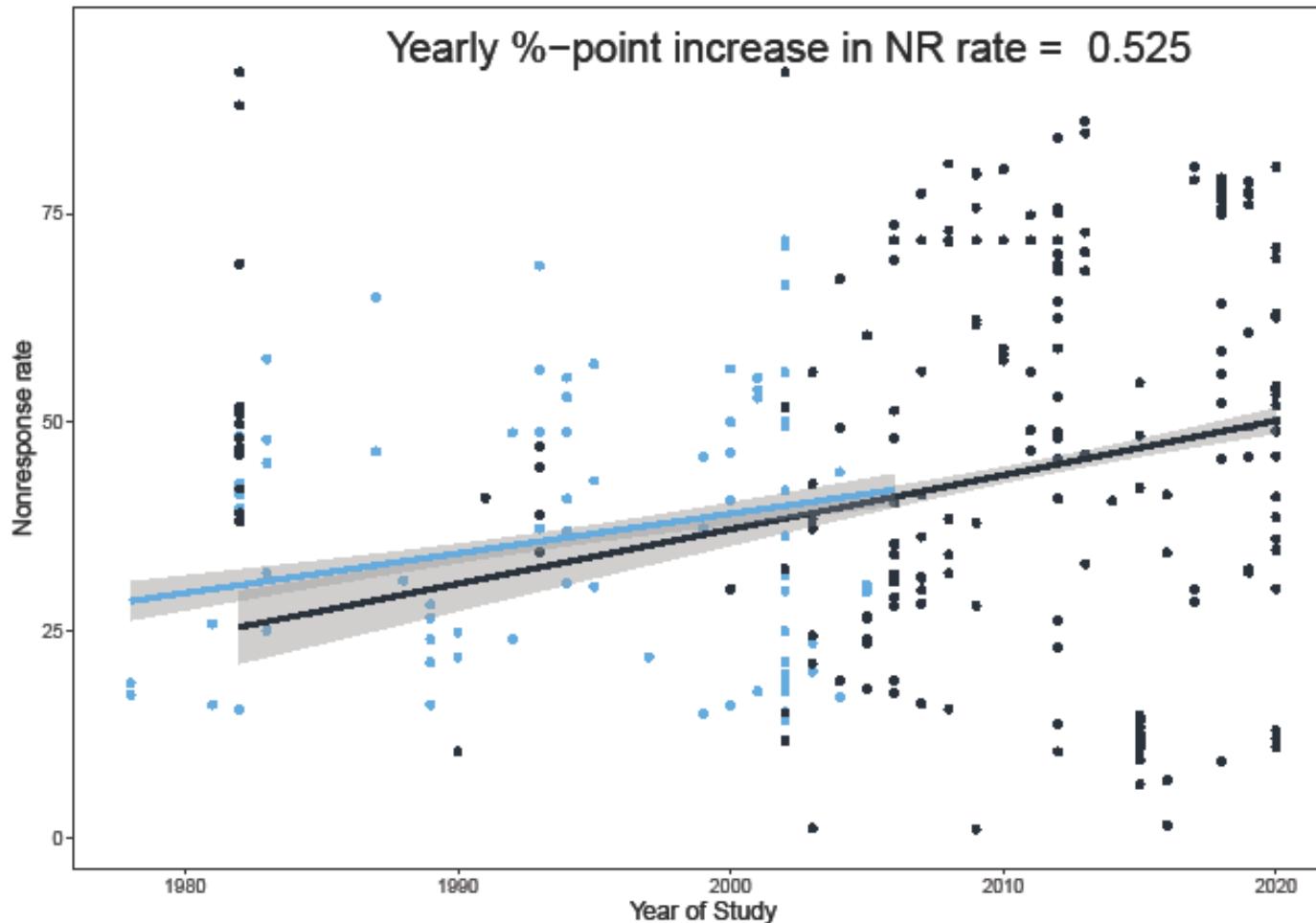
- 56 variables
 - Nonresponse rates, nonresponse bias
 - Followed Groves and Peytcheva
 - Study design (modes, incentives, population, sponsor, ...)
 - Outcome variables (what type, relevant for study, ...)
 - + additionally characteristics around modes, incentives

Results today:

1. how is updated relation nonresponse rates <-> bias?
2. how do design characteristics affect Nonresponse rates and bias?
3. What can we do?

Results

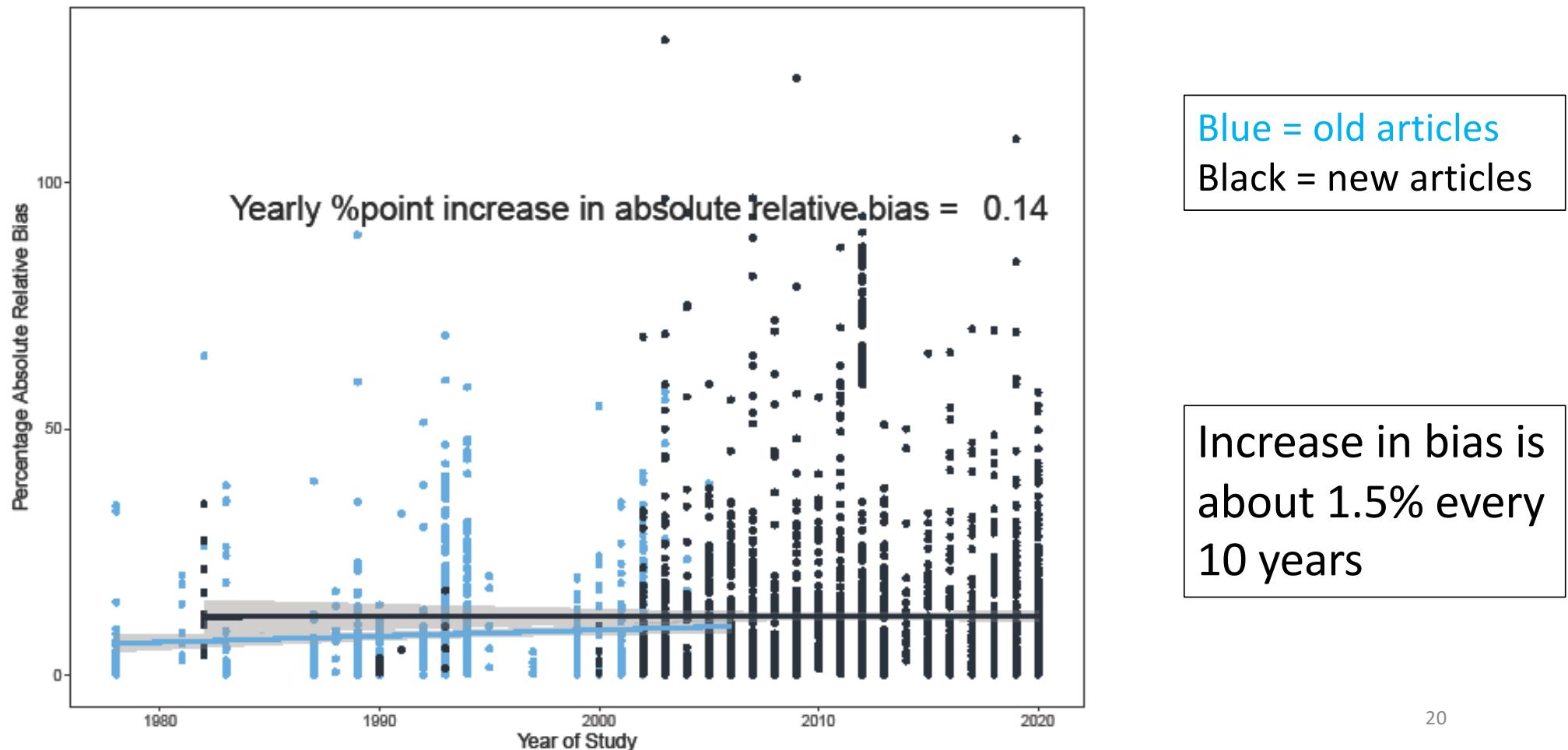
Part 1: Linear increase in Nonresponse rates



Blue = old articles
Black = new articles

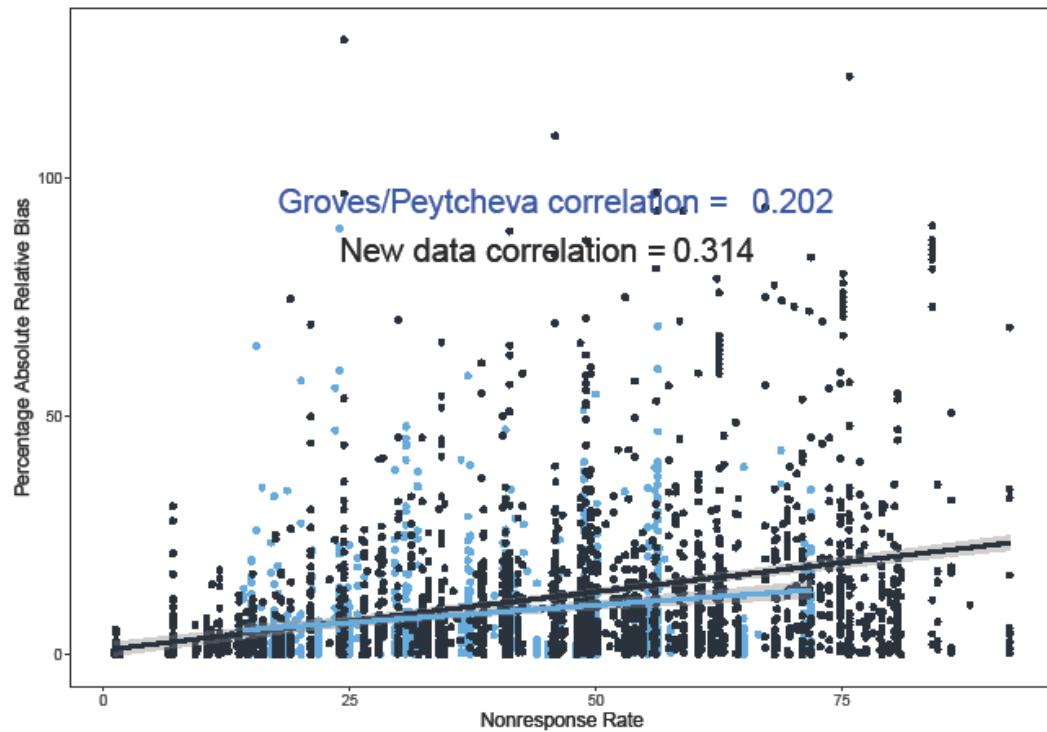
Increase in
nonresponse rate
is about 5% every
10 years

Results: Nonresponse bias almost stable

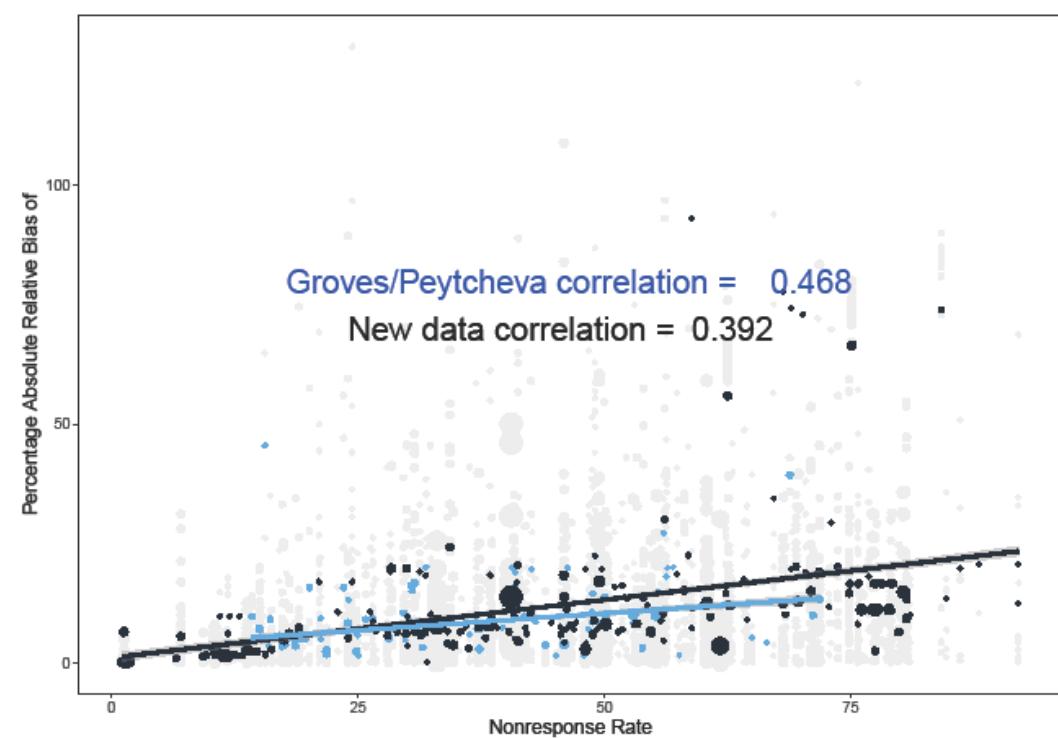


Relation nonresponse rates <-> mean bias stable

80% of variance in
nonresponse bias **within study**



20% of variance in nonresponse
bias **between study**



Part 2: What design characteristics affect nonresponse rate and nonresponse bias?

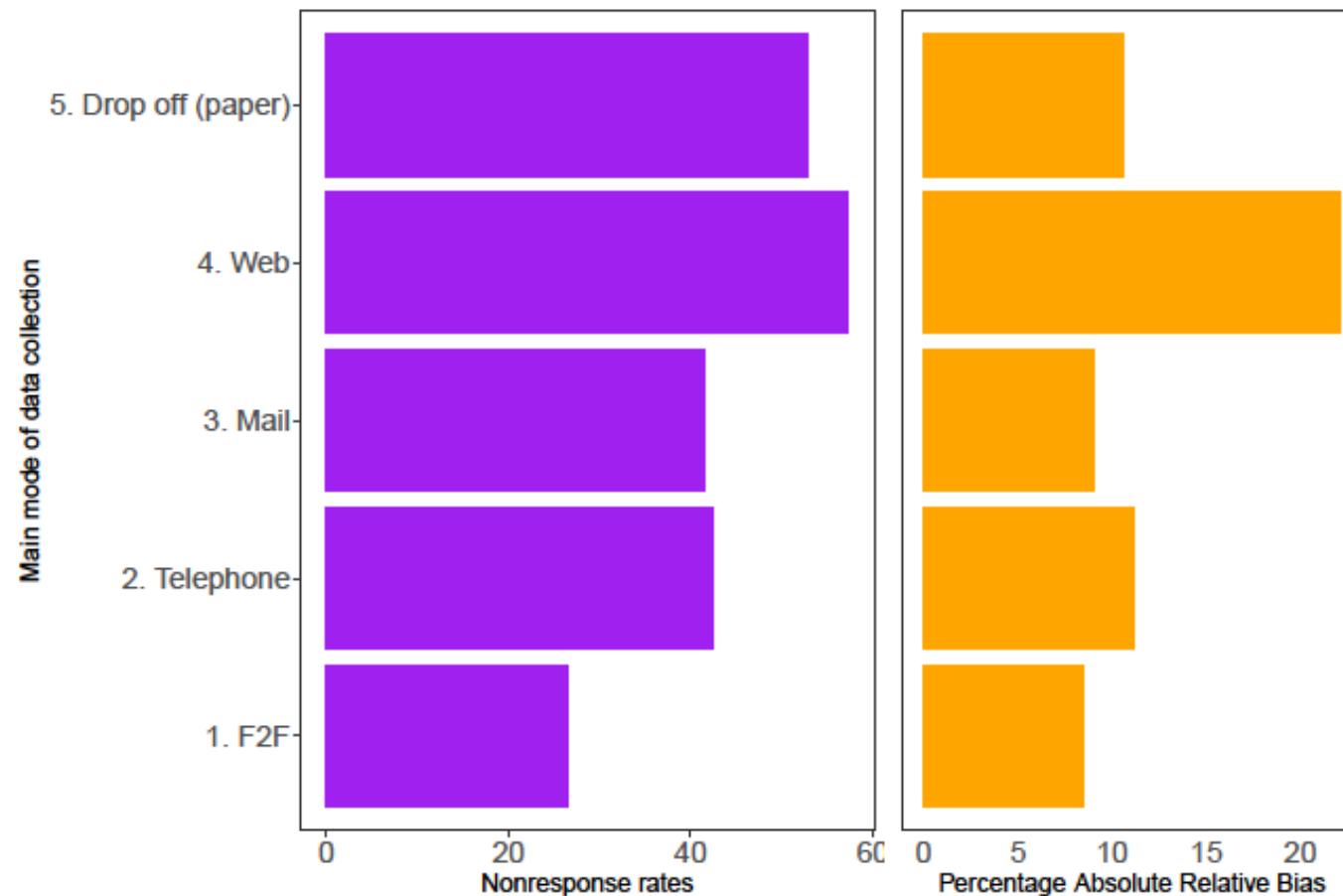
Between study design:

- Mode
- Incentives, reminders
- *+ more (not shown today)*

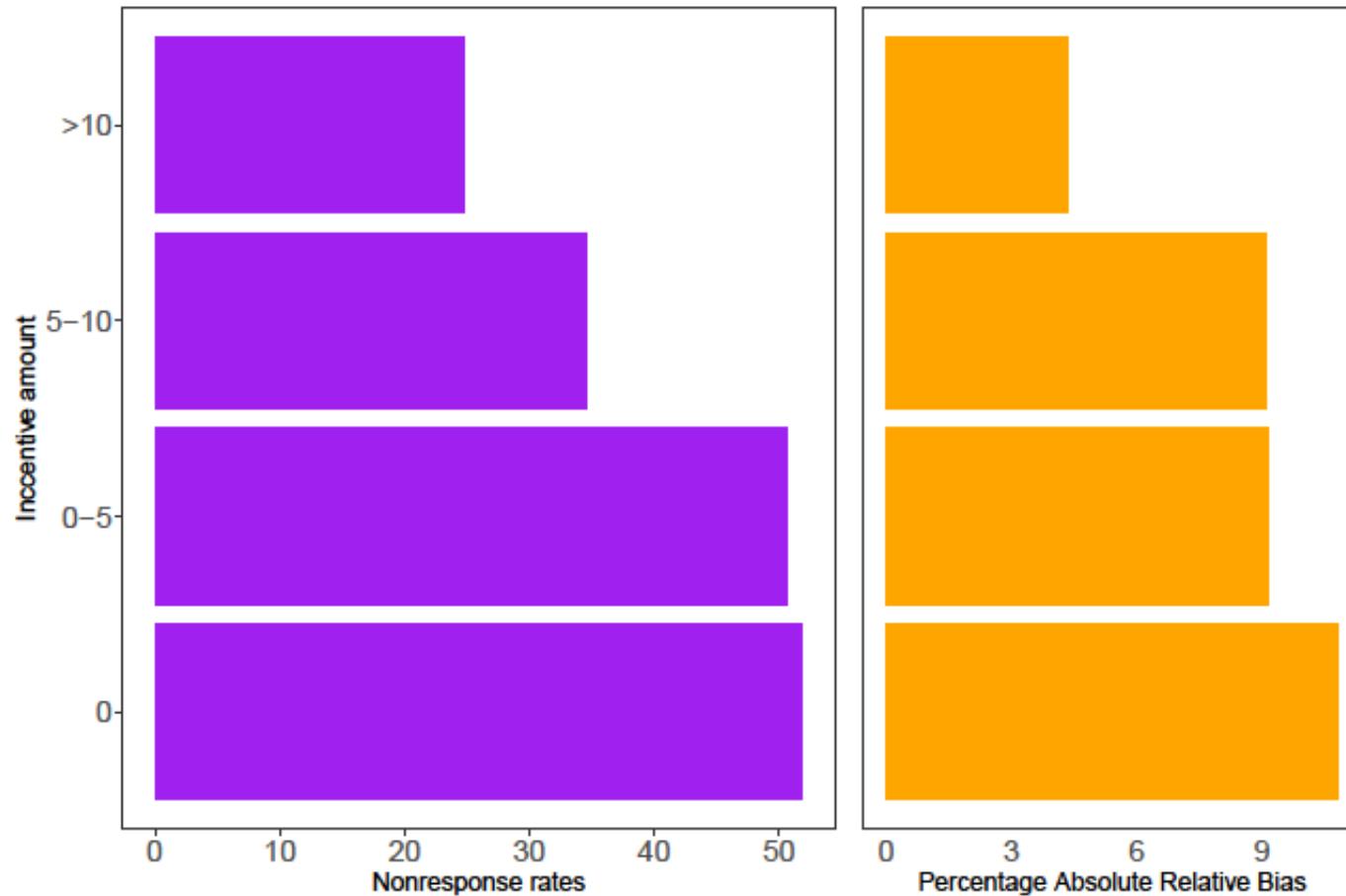
Within study design

- Relevance of statistic for study
- Type of population

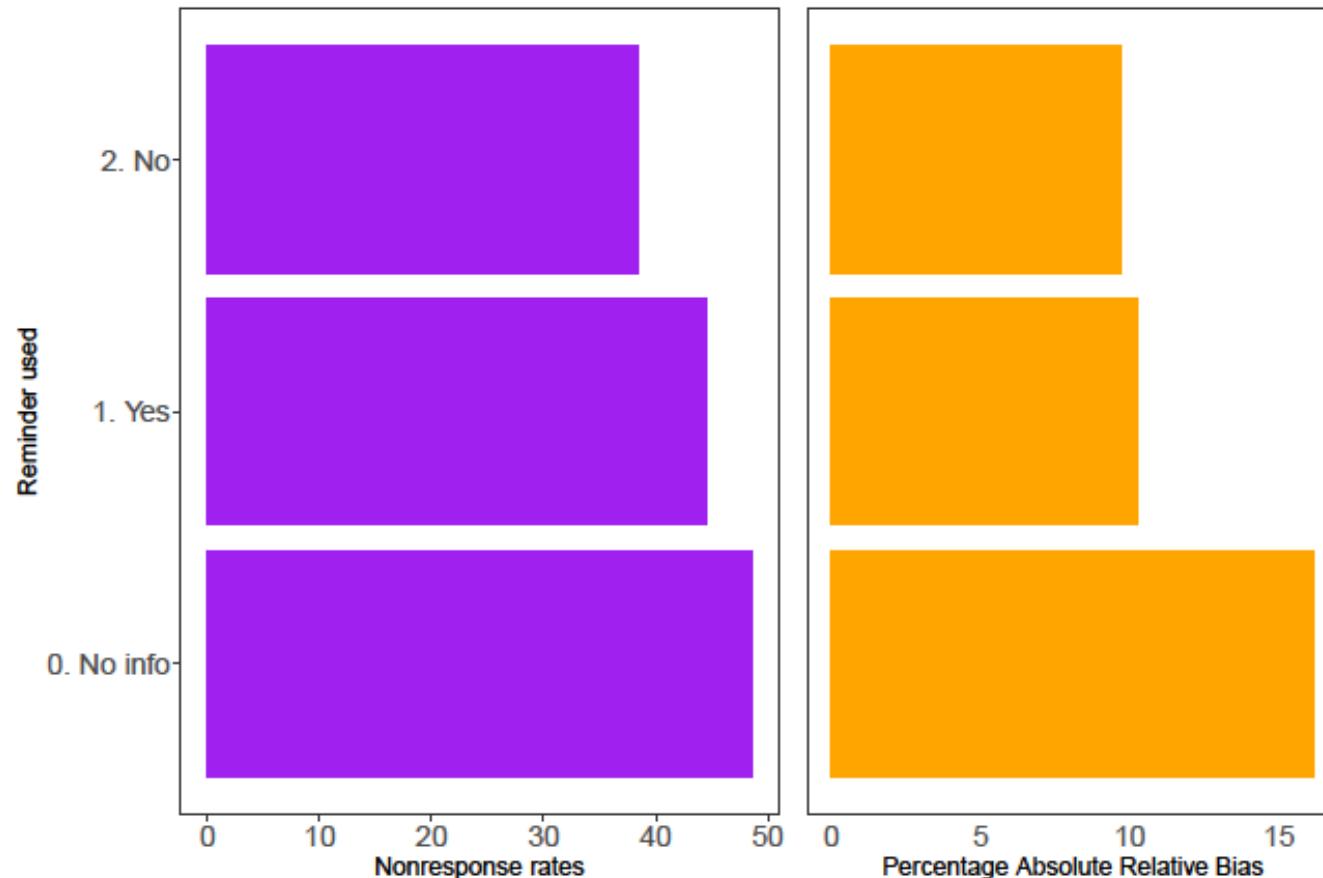
Effect of mode on rates and bias: web surveys have larger bias



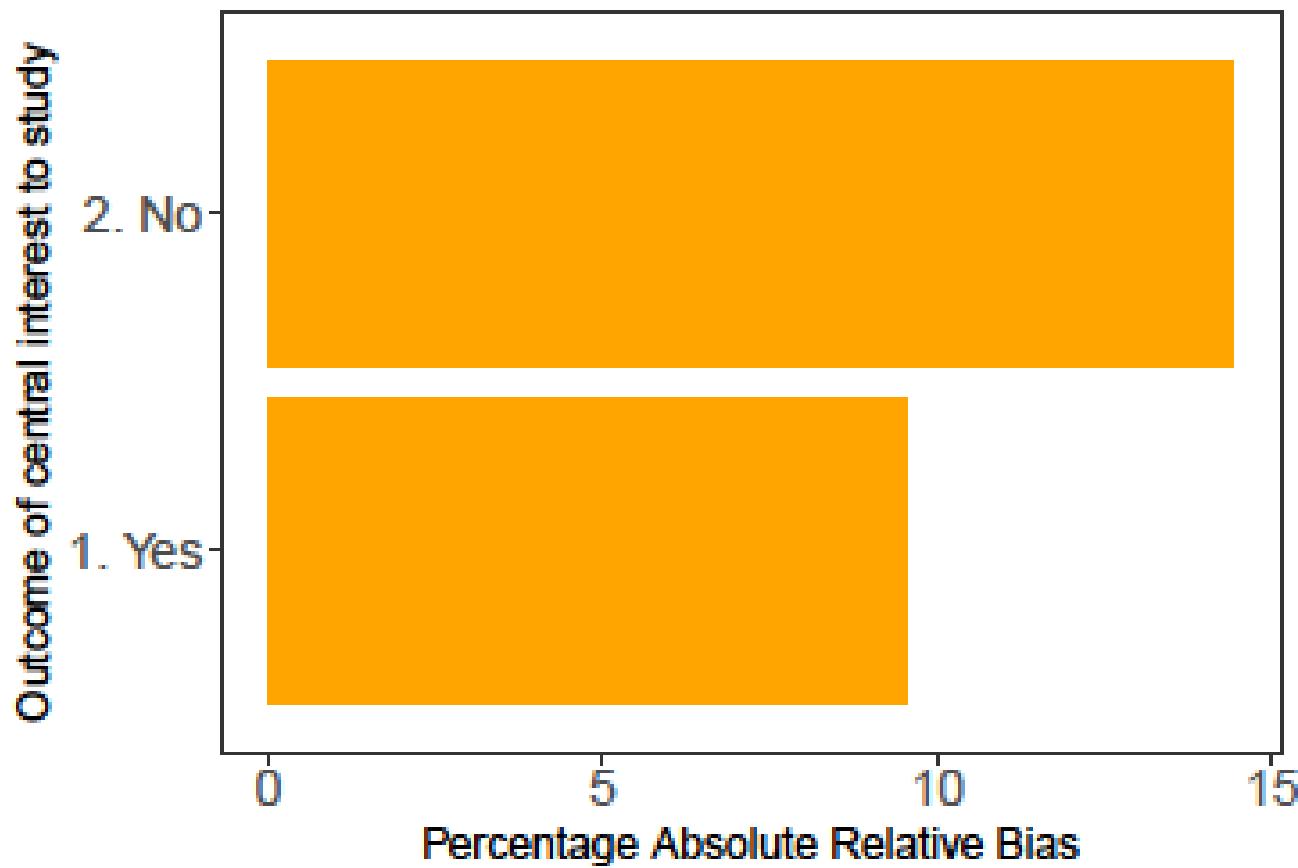
Effect of incentives: good for response rates and bias



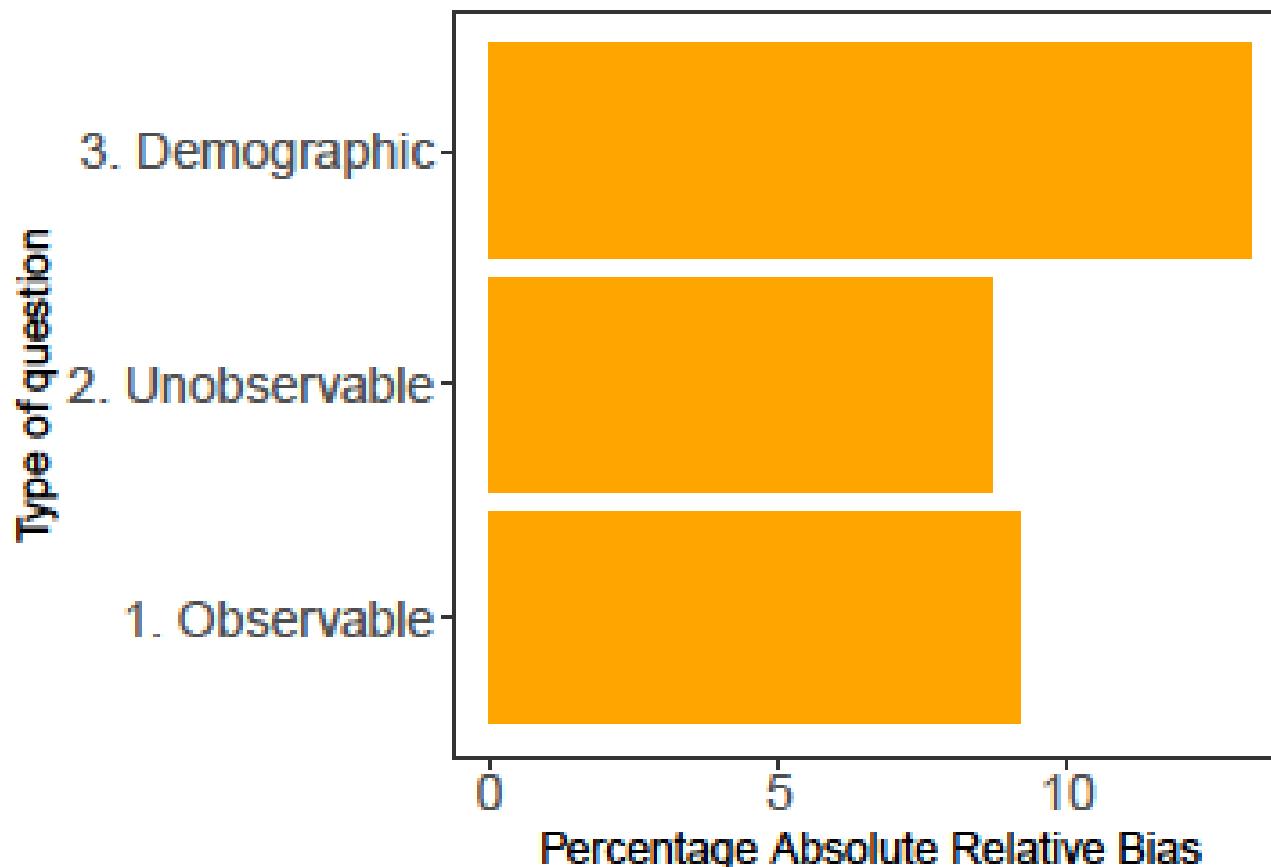
Effect of reminders in self completion no clear effect



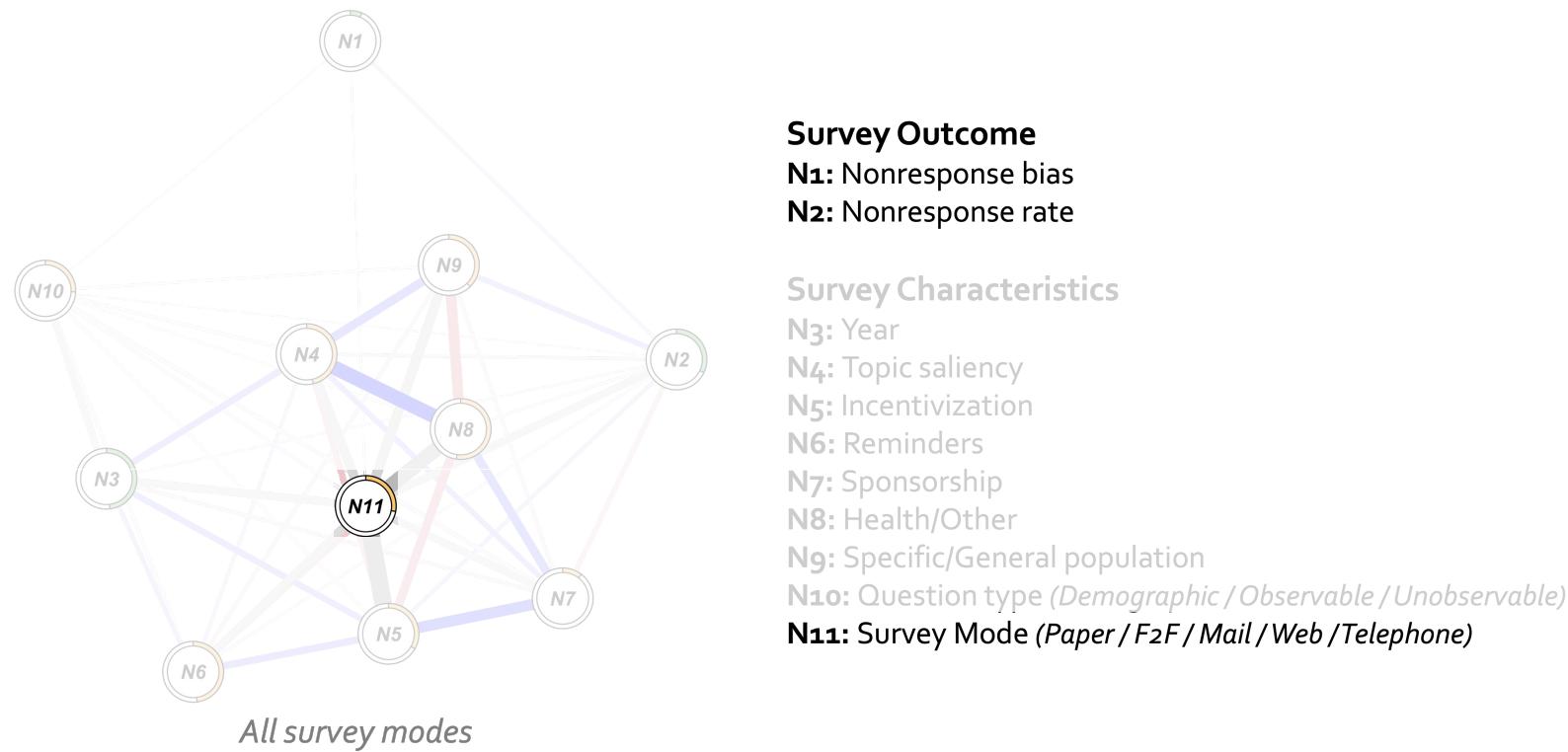
Relevance of outcome statistic:
bias is larger for statistics not central to study



6. Effect of type of outcome statistics: demographics bias a bit larger



Part 3: Network Models



Survey Outcome

N1: Nonresponse bias

N2: Nonresponse rate

Survey Characteristics

N3: Year

N4: Topic saliency

N5: Incentivization

N6: Reminders

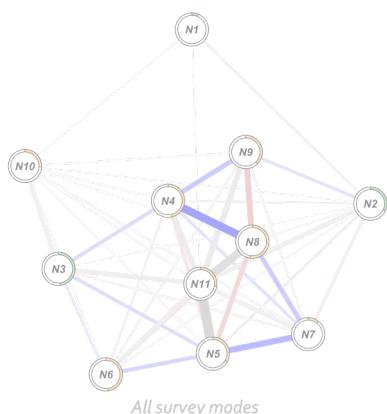
N7: Sponsorship

N8: Health/Other

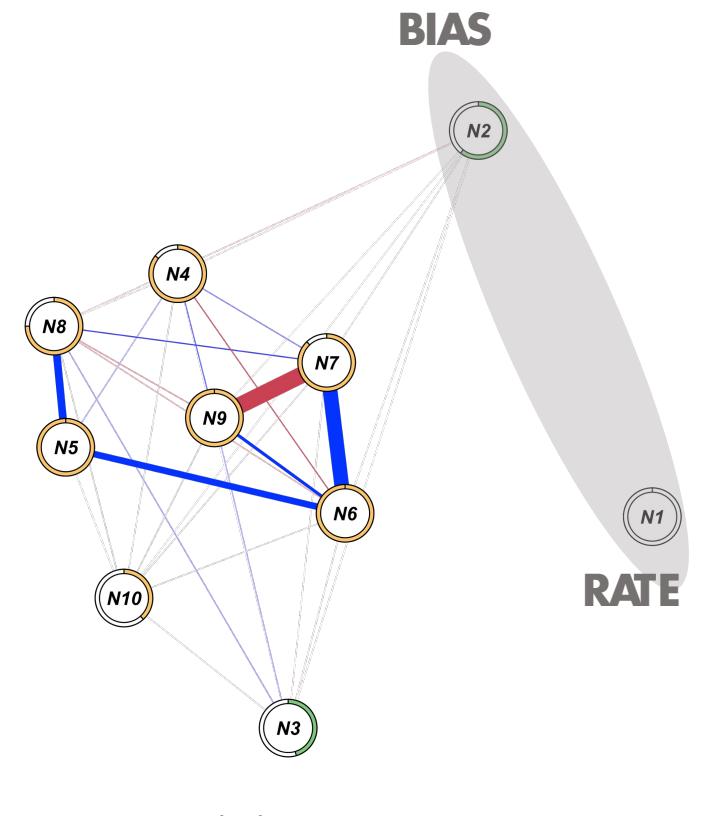
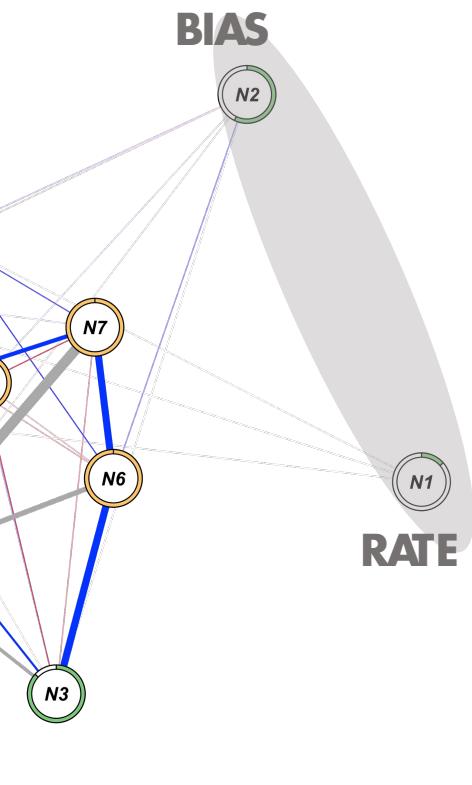
N9: Specific/General population

N10: Question type (*Demographic / Observable / Unobservable*)

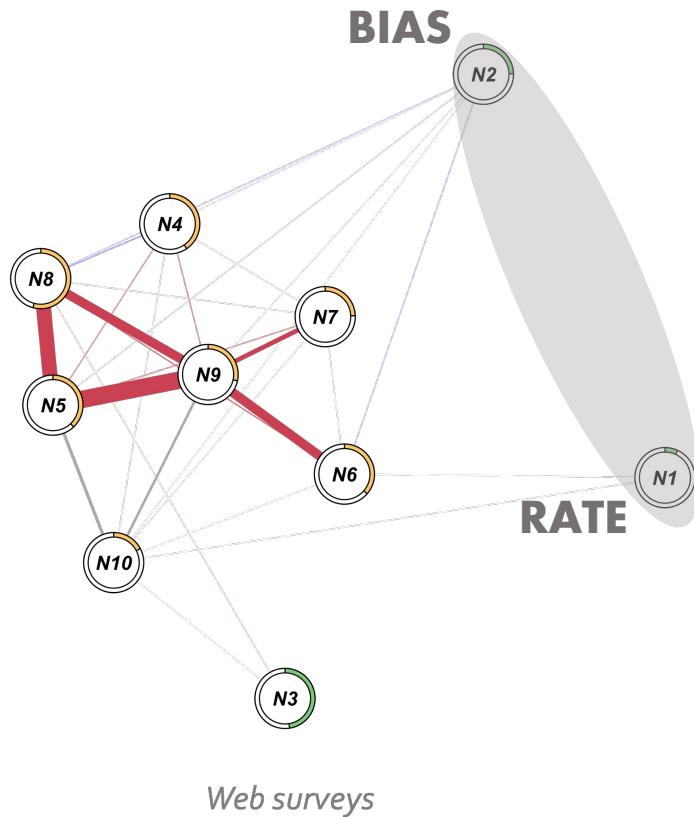
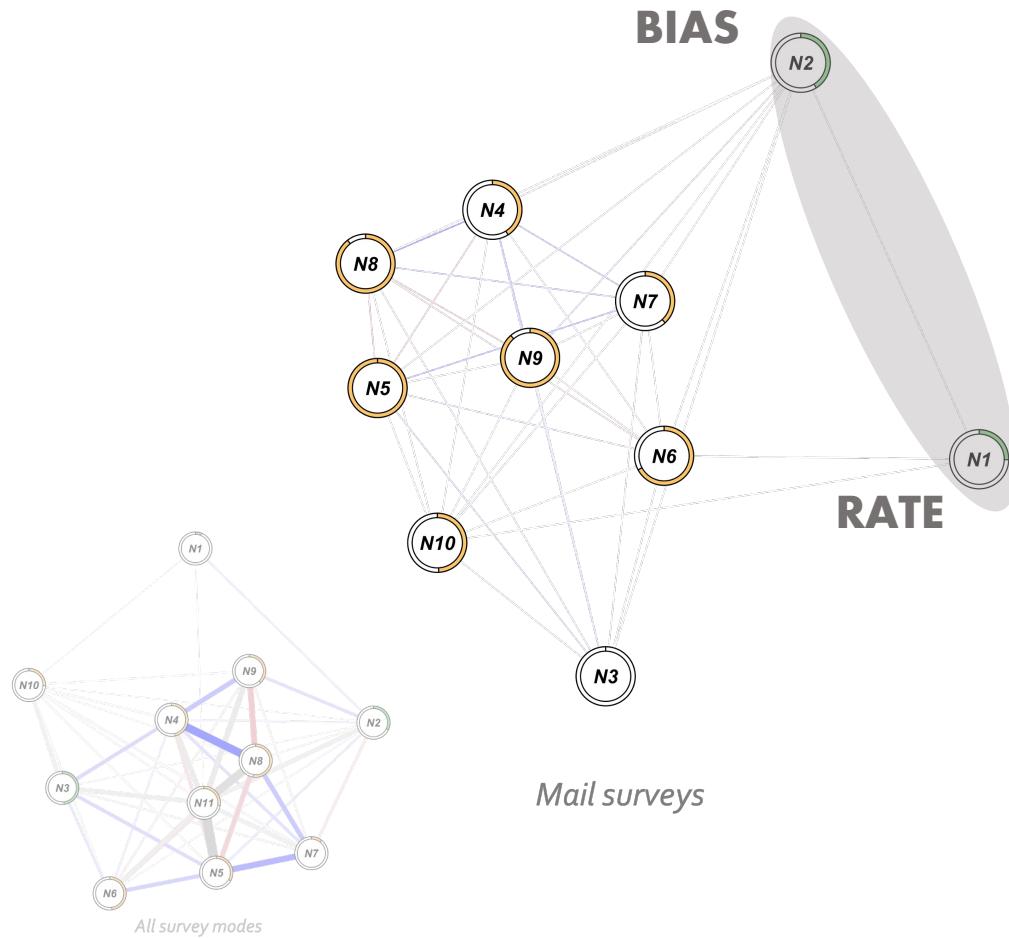
N11: Survey Mode (*Paper / F2F / Mail / Web / Telephone*)



Face-to-face surveys



Telephone surveys



Thank you! 5 Take-aways:

1. Nonresponse rates are increasing by about 5% every decade, but bias is increasing by only 1.5% every decade
2. The relation between nonresponse rates and bias is stable over time, and quite weak (correlation: .2 - .4)
3. 80% of the variation of nonresponse bias occurs within a study, and only 20% between
4. Conditioned on survey design, bias and rates are not related!
5. Survey design characteristics (apart from mode) do very little to explain nonresponse rates, and are not related to bias.
 - What we do in fieldwork doesn't matter or
 - We already know what combination of survey design 'works'

Questions? P.lugtig@uu.nl