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What is the external validity of sentencing research?

A multi-level meta-analysis of race and gender disparities

Jose Pina-Sánchez & Ian Brunton-Smith

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- Most of the sentencing evidence-base stems from the US
  - US Federal Courts
  - State Courts: Pennsylvania, Arizona, Minnesota, Florida

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  - State Courts: Pennsylvania, Arizona, Minnesota, Florida
- This body of research has influenced sentencing policy and practice worldwide
  - particularly, debates of disparities and guidelines

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  - US Federal Courts
  - State Courts: Pennsylvania, Arizona, Minnesota, Florida
- This body of research has influenced sentencing policy and practice worldwide
  - particularly, debates of disparities and guidelines
- How generalisable are those findings?
  - we should expect differences across jurisdictions
  - but also across offence types, ethnic groups, model choices, etc.

Current Study

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- We employ multi-level meta-analysis to estimate some of that variability
- We consider both gender and race disparities
  - there are three meta-analyses of race disparities, all of them focus exclusively on the US
  - no real meta-analysis on gender disparities yet

Selection & Recording

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- Pre-registered protocol: https://osf.io/2pnua
- We created a pool of 1,024 potentially eligible studies
  - searched Scopus for academic articles, in English, published since 2000
  - "sentencing" AND ("data" OR "quantitative" OR "regress*" OR "model*" OR "multilevel" OR "multi-level") AND ("decisions" OR "outcome*" OR "length" OR "*prison*" OR "custod*").

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- Selection criteria
  - studies based on real sentences imposed on adult offenders
  - reporting the association of gender/race on sentence length conditioning on legal factors

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- Selection criteria
  - studies based on real sentences imposed on adult offenders
  - reporting the association of gender/race on sentence length conditioning on legal factors
- Recording rules
  - estimates are transformed into multiplicative differences, i.e. the % change
  - estimates from different samples and ethnic groups are recorded separately
  - we also record: i) sample details, ii) model information, iii) the study's title, and iv) the number of citations

Preliminary Sample

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- We have selected 120 studies for gender, 110 for race
  - providing 151 estimates of gender disparities and 286 for race

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- We have selected 120 studies for gender, 110 for race
  - providing 151 estimates of gender disparities and 286 for race
- Most studies are based on jurisdictions from the US
  - 102 out of 120 for gender, 102 out of 110 for race
  - 48 of those from the US Federal courts

Findings

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- Pooled effects
  - 3% longer sentences for minority offenders
  - 13% shorter sentences for female offenders

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- Pooled effects
  - 3% longer sentences for minority offenders
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- No significant difference between the US and the rest
  - nor after excluding the US Federal courts

Findings

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- Pooled effects
  - 3% longer sentences for minority offenders
  - 13% shorter sentences for female offenders
- No significant difference between the US and the rest
  - nor after excluding the US Federal courts
- Low external validity
  - at the jurisdictional level for gender
  - at the study and estimate level for both

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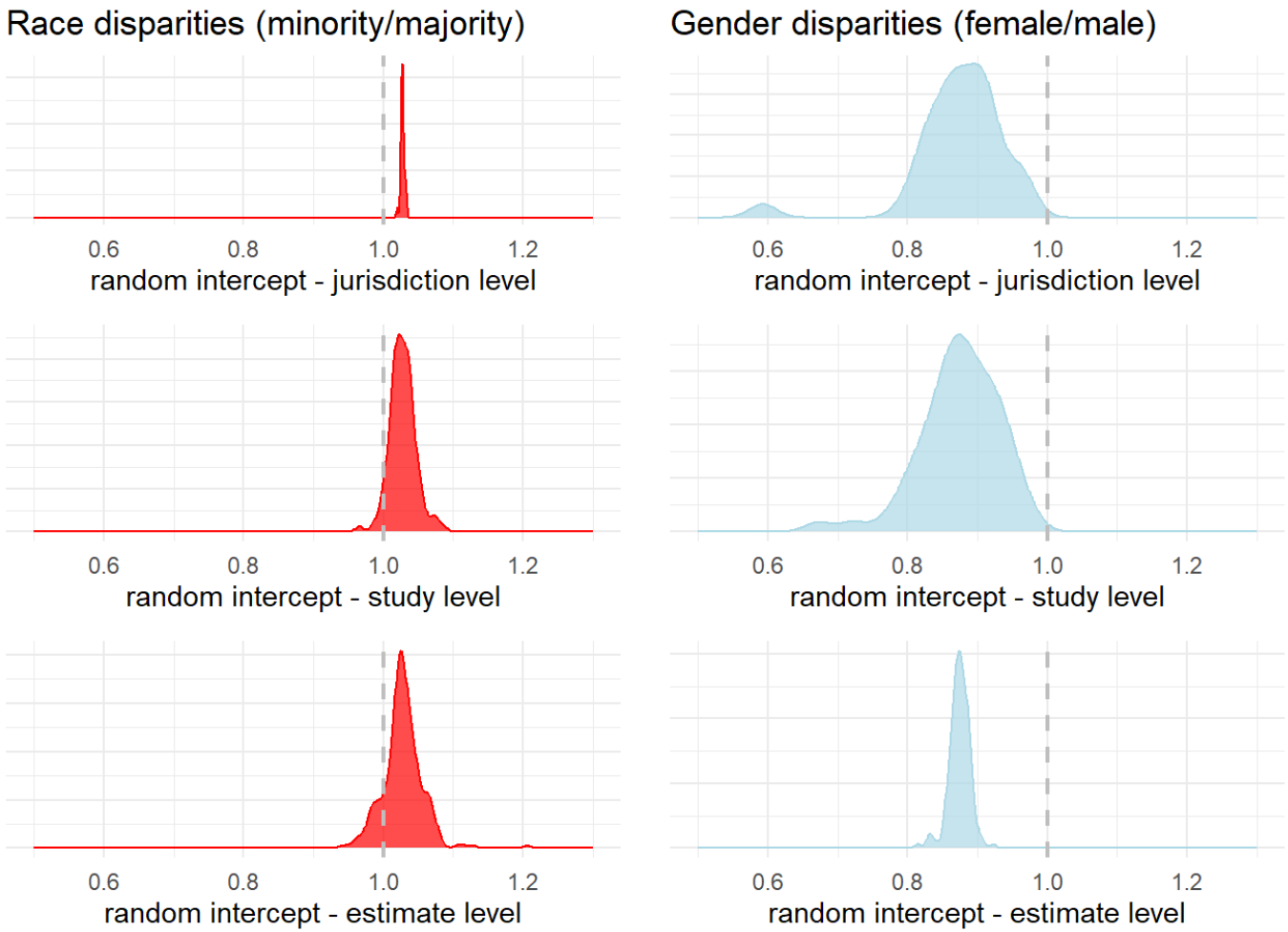

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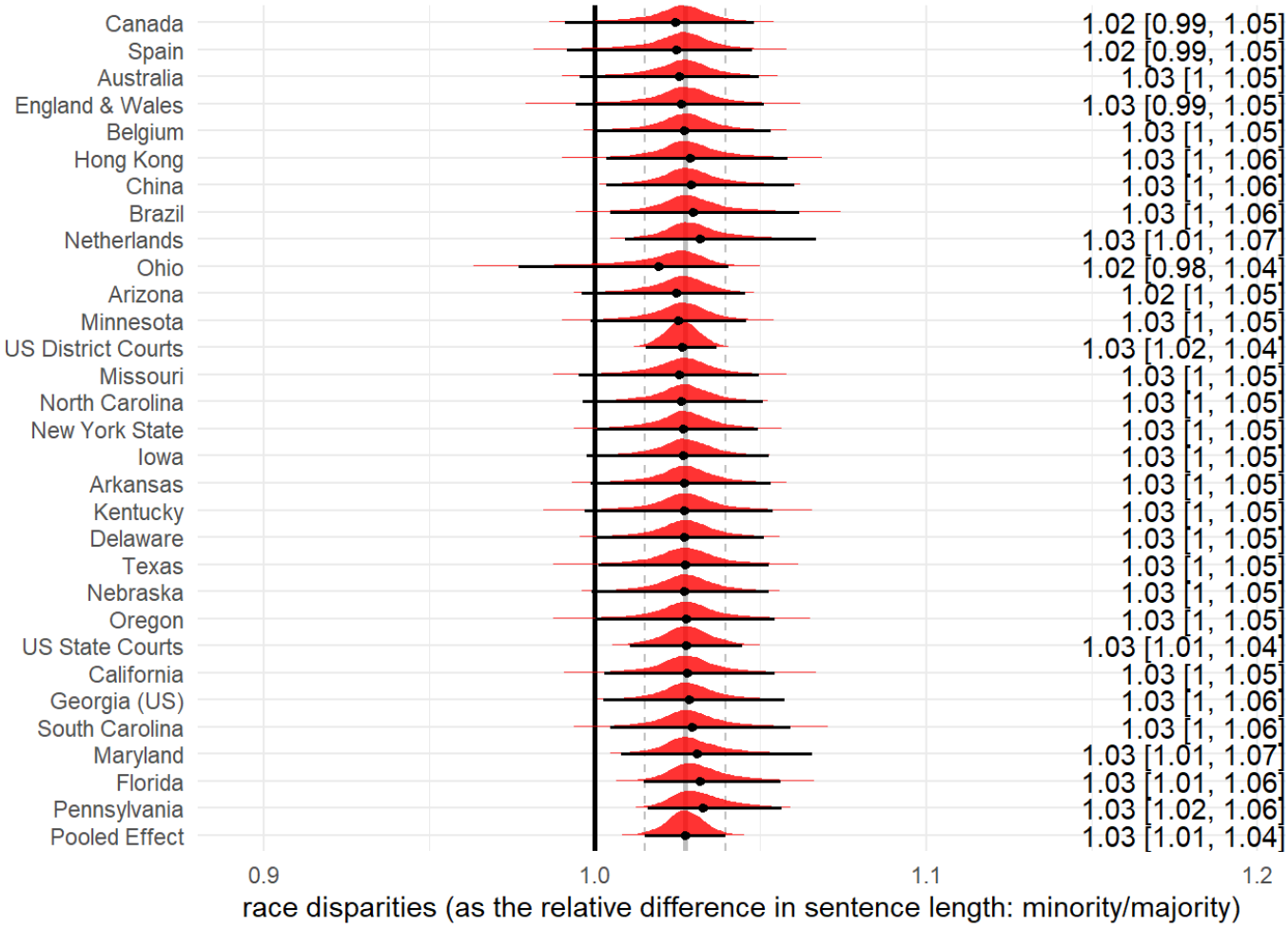

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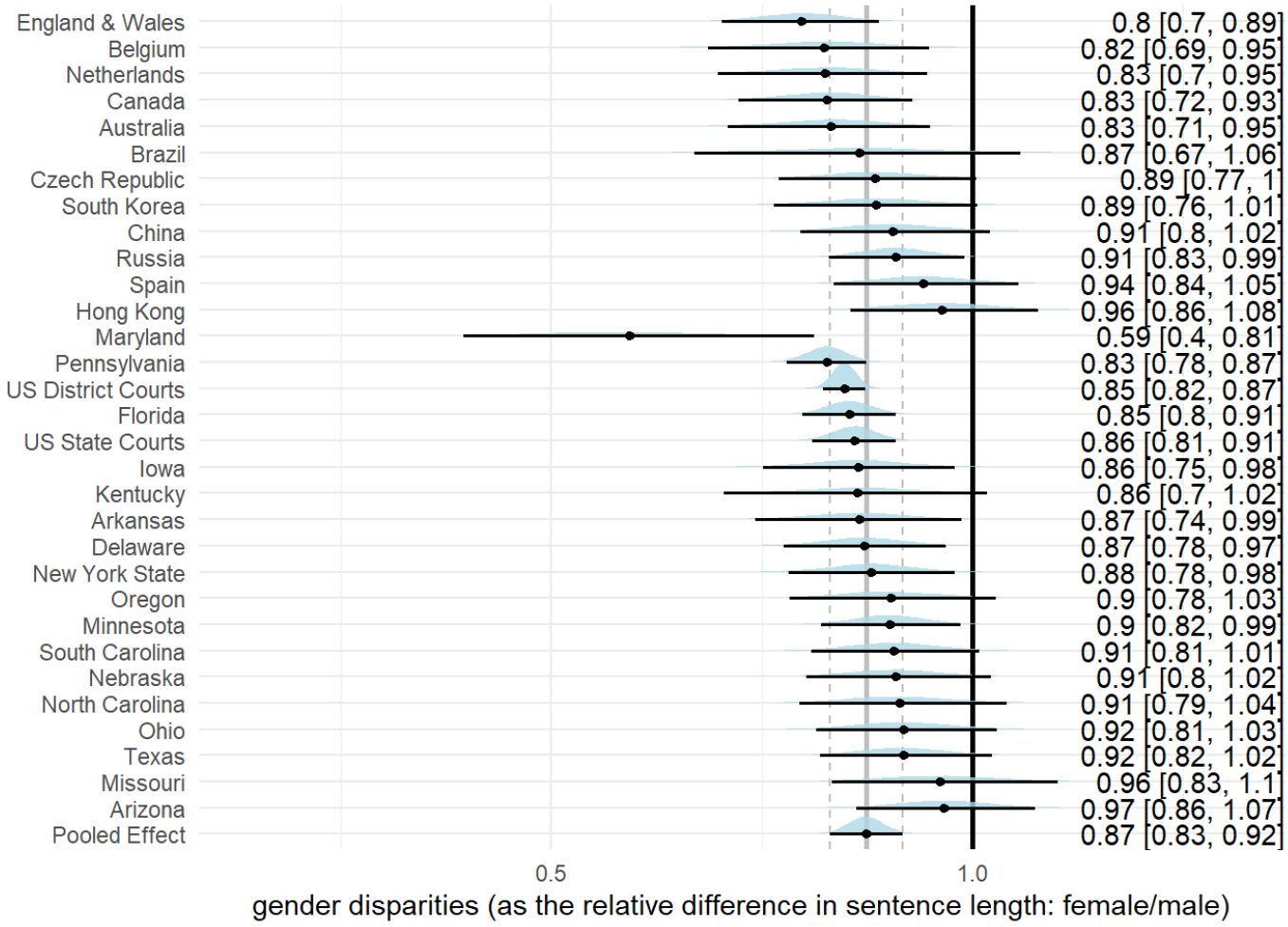

Moderating Effects: Race

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	estimate	ci.lb	ci.ub
intrcpt	1.06	1.03	1.10
offence:drugs	0.02	-0.01	0.05
offence:firearm	-0.06	-0.16	0.05
offence:homicide	0.00	-0.12	0.11
offence:immigration	-0.01	-0.07	0.04
offence:property	-0.06	-0.12	0.01
offence:sex	0.00	-0.05	0.05
offence:terrorism	0.11	-0.16	0.38
offence:violence	0.04	-0.01	0.09
specific offence	-0.02	-0.05	0.01
probation	0.02	0.00	0.04
criminal_history	-0.01	-0.04	0.02
guilty_agreement	-0.02	-0.04	0.02
pretiral detention	-0.01	-0.03	0.01
education	0.00	-0.02	0.02
unemployed	-0.02	-0.05	0.02
citizen	0.01	-0.01	0.03
dependents	-0.02	-0.05	0.01

Moderating Effects: Gender

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	estimate	ci.lb	ci.ub
intrcpt	0.84	0.77	0.92
offence:drugs	0.08	0.02	0.13
offence:firearm	0.23	-0.02	0.13
offence:homicide	0.06	-0.10	0.23
offence:immigration	0.13	0.03	0.24
offence:property	0.05	-0.01	0.11
offence:sex	0.03	-0.05	0.11
offence:terrorism	-0.23	-0.39	-0.06
offence:violence	-0.01	-0.07	0.05
specific offence	-0.02	-0.07	0.04
probation	-0.02	-0.06	0.02
criminal_history	-0.01	-0.06	0.05
guilty_agreement	0.05	-0.01	0.10
pretrial detention	-0.01	-0.05	0.03
education	0.00	-0.08	0.07
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dependents	-0.01	-0.06	0.04

Selective Reporting

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- Evidence of selective reporting in the race disparities literature
  - when race is mentioned in the title, effect sizes are larger (1.02 vs 1.04)
  - entirely driven by studies reporting Native American disparities (0.91 vs 1.18)
  - there is no evidence of selective reporting for gender disparities

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Selective Reporting

- Evidence of selective reporting in the race disparities literature
  - when race is mentioned in the title, effect sizes are larger (1.02 vs 1.04)
  - entirely driven by studies reporting Native American disparities (0.91 vs 1.18)
  - there is no evidence of selective reporting for gender disparities
- No evidence of selective citation

Conclusion

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- Sentencing research implications
  - minority and male offenders are treated more harshly
  - the former appears to be universal, the latter is not
  - the American literature is not different from the *rest of the world*

Conclusion

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- Sentencing research implications
  - minority and male offenders are treated more harshly
  - the former appears to be universal, the latter is not
  - the American literature is not different from the *rest of the world*
- Meta-science implications
  - there is a lot of model uncertainty
  - we should not generalise from a single estimate
  - systematic misinterpretation of the literature (publication bias?) due to selective reporting and citation

Going Forward

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1. Sentencing research needs to be cross-jurisdictional (even when focusing on a single country)

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1. Sentencing research needs to be cross-jurisdictional (even when focusing on a single country)
2. We need to publish via pre-registered reports

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Going Forward

1. Sentencing research needs to be cross-jurisdictional (even when focusing on a single country)
2. We need to publish via pre-registered reports
3. We should embrace model uncertainty