

Quantifying Criminal Collaborations

A systematic review and Bayesian meta-analysis of co-offending characteristics

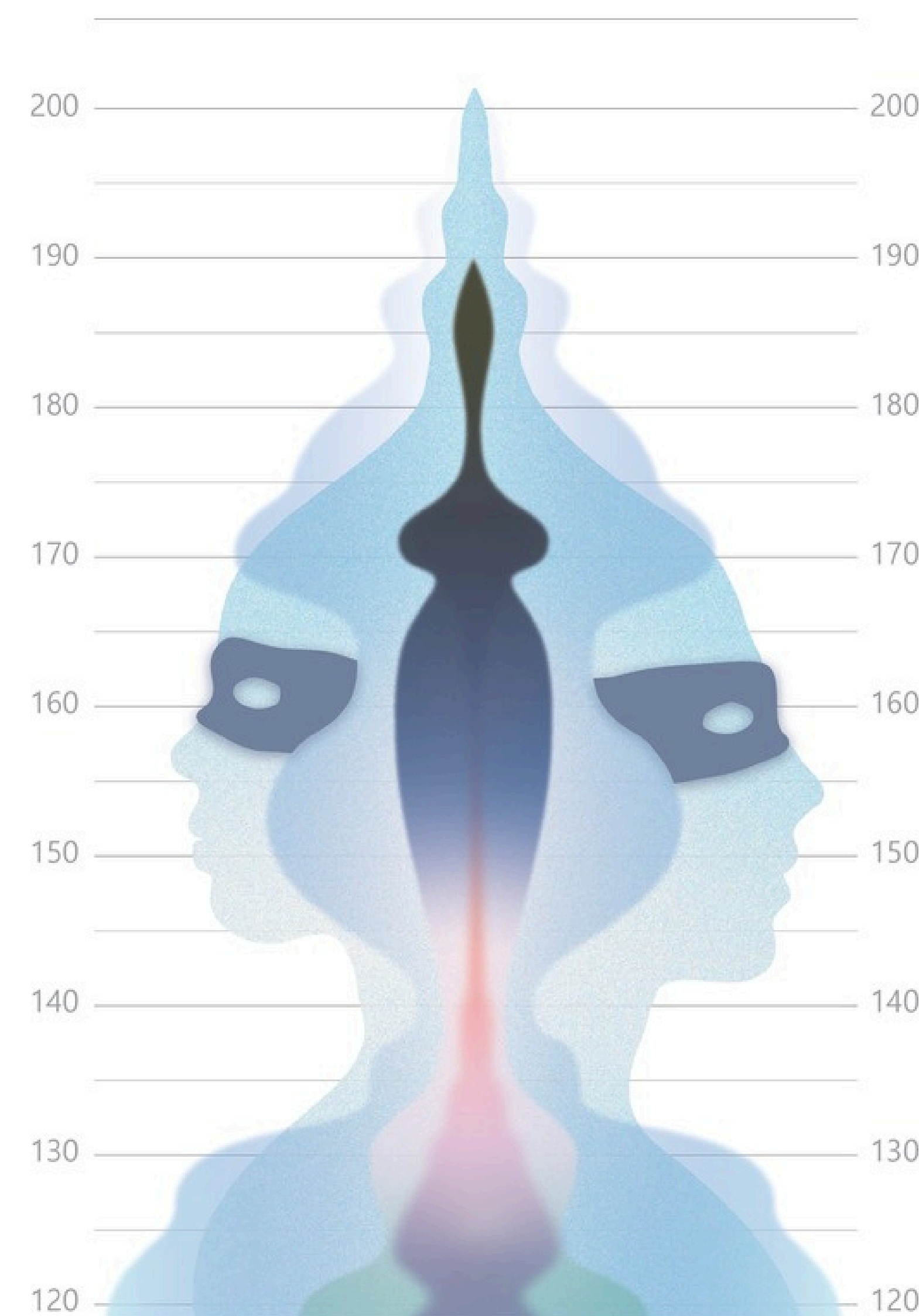
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BACKGROUND

“Co-offending is a key ingredient to high rates of criminality.”
(McCord and Conway, 2002, p.25)

- Co-offending is a term used to describe the act of two or more individuals collaborating to commit an offense (Weerman, 2003).
- Reiss (1988) argues that studying co-offending is vital for understanding the causes of crime and designing prevention policies, as arresting one offender may not reduce crime when others can continue offending, replace them, or recruit new partners.
- However, the full scale of co-offending remains unknown.



METHODOLOGY

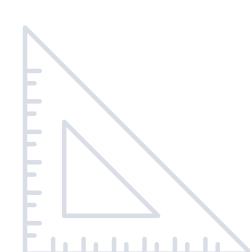
Inclusion criteria

- At least one descriptive measure
- Disorganized crimes
- "Co-offending" as co-presence at a crime event or co-arrest



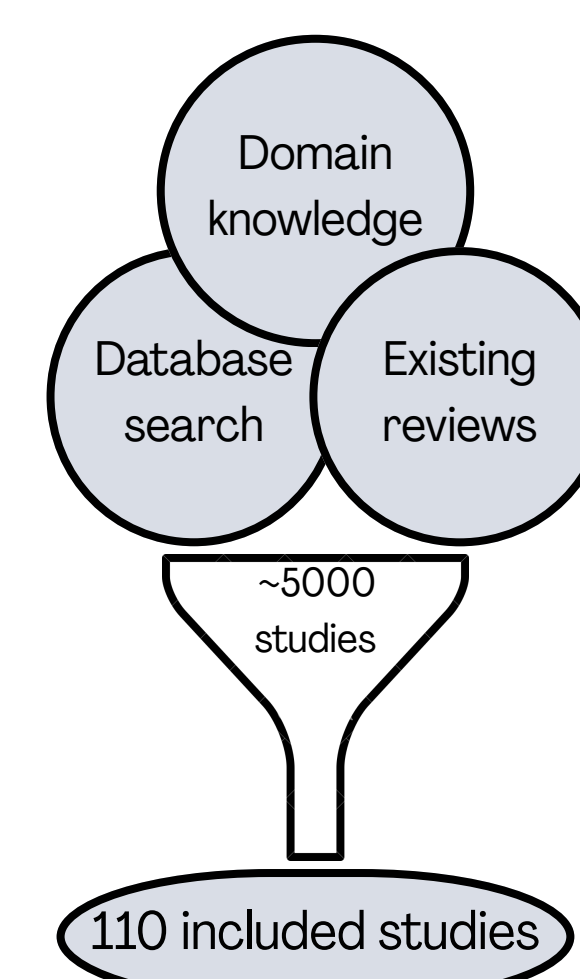
Measures of interest

- Prevalence of co-offenses
- Prevalence of co-offenders
- Average group size
- Longevity of co-offending groups
- Network analysis measures

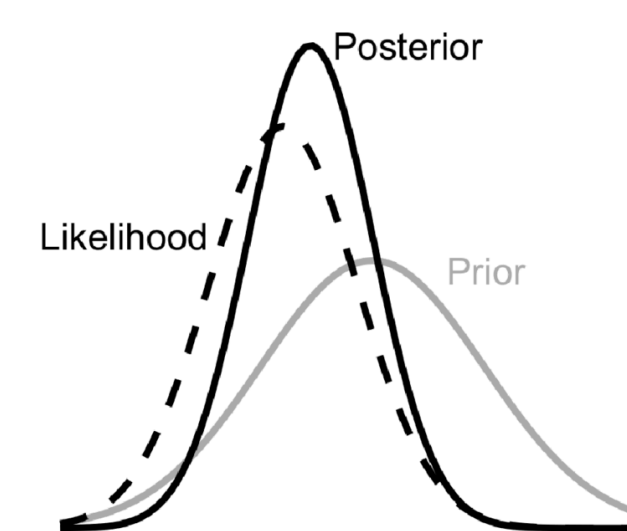


Additional variables

- Crime type (Property, Violent, Other, All)
- Sex (Male, Female, Both)
- Age group (Youth, Adults, All)

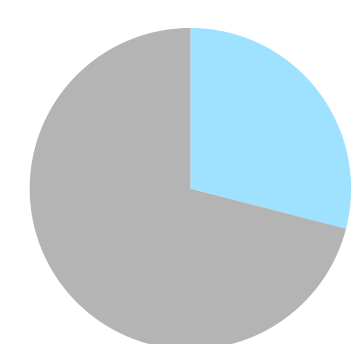


Bayesian analysis

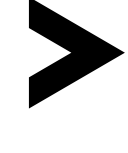
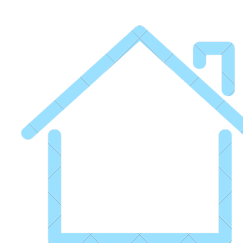


RESULTS

Co-offense prevalence

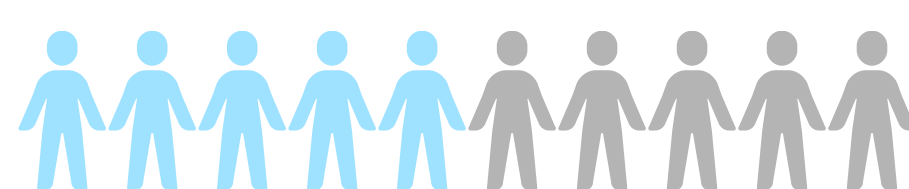


Pooled prevalence of co-offenses: 0.29, 95% CrI: (0.22–0.35) based on a total of 45,973,445 offenses

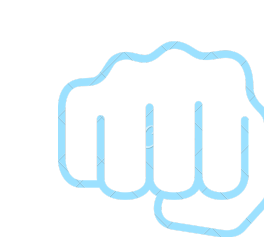
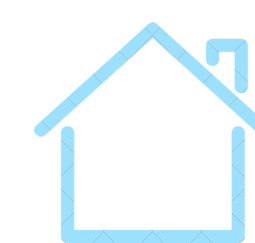


0.39, 95% CrI: (0.32–0.47) 0.27, 95% CrI: (0.21–0.34)

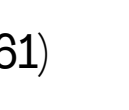
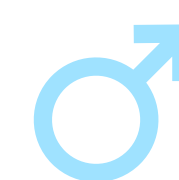
Co-offenders prevalence



Pooled prevalence of co-offenders: 0.50, 95% CrI: (0.43–0.56) based on a total of 3,459,133 offenders



0.56, 95% CrI: (0.49–0.63) 0.44, 95% CrI: (0.37–0.51)



0.53, 95% CrI: (0.45–0.61) 0.54, 95% CrI: (0.46–0.62)

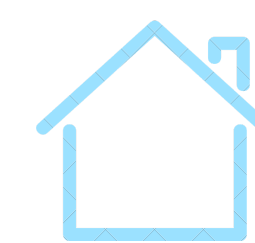


0.71, 95% CrI: (0.65–0.77) 0.41, 95% CrI: (0.34–0.48)

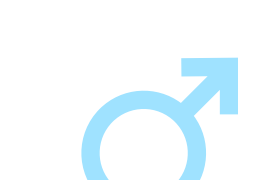
Average group size



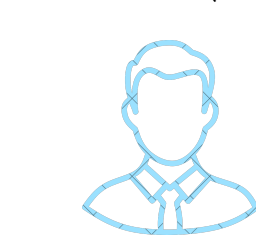
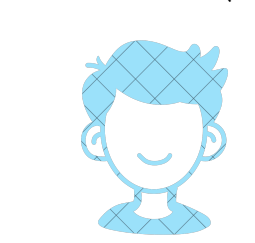
Pooled average group size: 2.73, 95% CrI: (2.63–2.84)



2.67, 95% CrI: (2.41–2.88) 2.79, 95% CrI: (2.66–2.93)



2.83, 95% CrI: (2.64–3.01) 2.54, 95% CrI: (2.08–2.90)



2.88, 95% CrI: (2.59–3.18) 2.66, 95% CrI: (2.38–2.91)

Legend

Crime type



Property



Violent

Sex



Male



Female

Age group



Youth



Adults

REFERENCES

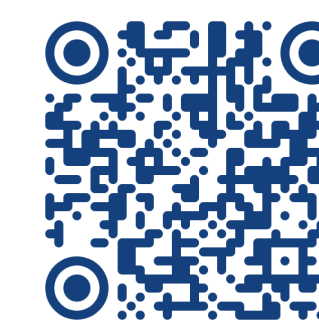
McCord, J., & Conway, K. P. (2002). *Patterns of juvenile delinquency and co-offending*. In E. Waring & D. Weisburd (Eds.), *Crime and Social Organization* (1st ed., pp. 15–30). Routledge.

Reiss, A. J. (1988). Co-offending and criminal careers. *Crime and Justice*, 10, 117–170. <https://doi.org/10.1086/449145>

Weerman, F. M. (2003). Co-offending as social exchange: Explaining characteristics of co-offending. *The British Journal of Criminology*, 43(2), 398–416.

CODE & DATA

All scripts and data used in this study are available via the Open Science Framework platform at <https://doi.org/10.17605/OSF.IO/RUF9K>

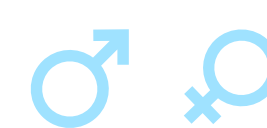


DISCUSSION

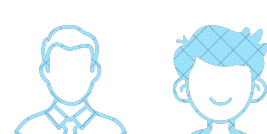
- Offenders perform most of their offenses alone but might be willing to participate in a co-offense.
- The majority of co-offenses involve two people.



- Property crimes: High co-offending rates, small group sizes
 - Often instrumental; involve physical help and information sharing
 - Larger groups reduce individual profit
- Violent crimes: Low co-offending rates, large group sizes
- Arise from social dynamics, diffusion of responsibility, and heightened group violence

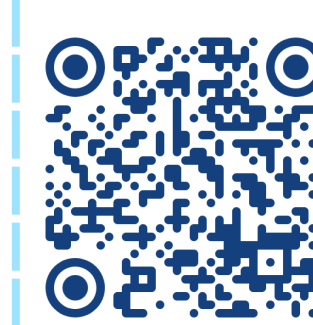


- Female offenders commit fewer crimes than males but rely equally on co-offending
 - Females may be coerced into co-offending by partners
 - Often learn about new crime opportunities from male co-offenders



- Young offenders are more likely to co-offend and in larger groups
 - Greater peer exposure during adolescence
 - Co-offending decreases with experience

CITATION



Klymentiev, R., Harvey, D., Rocha, L. E. C., & Vandeviver, C. (2025). A systematic review and Bayesian meta-analysis of co-offending characteristics. *Nature Human Behaviour*, 9(10), 2135–2152. <https://doi.org/10.1038/s41562-025-02244-z>

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Artwork credit: Natalia Hromanchuk

