Combining List Experiments and the Network Scale-Up Method

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Application: Criminal governance strategies in Uruguay (N = 2688)

List experiments

Baseline: Things experienced in the last six months.

List A	List B
Saw people doing sports	Saw people playing soccer
Visited friends	Chatted with friends
Activities by feminist groups	Activities by LGBTQ groups
Went to church	Went to charity events

Sensitive items: Seeing criminal groups...

Negative	Positive
Threathen Neighbors	Make donations to neighbors
Evict neighbors	Offer work to neighbors

Placebo: I did not drink mate

Network scale-up method (NSUM)

People who you know, who also know you, who are...

From *Las Piedras*	Public employees
Male 25-29	Welfare card holders
Police officers	Registered with party
University students	With kids in public school
Had a kid last year	Did not vote in the last election
Passed away last year	Currently in jail
Married last year	Recently unemployed
Female 45-49	**[Sensitive item]**

You can use network scale-up questions to improve the precision of list experiment estimates in the same way you can use direct questions.

This helps you make the most out of list experiments in contexts where direct questions are problematic.

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Combining responses

List experiment prevalence rate

$$\bar{V} = \underbrace{E[V_i(1)|Z_i = 1] - E[V_i(0)|Z_i = 0]}_{\text{Difference in means treatment vs. control}}$$

NSUM prevalence rate

Focus on observations with **high residuals** (Ventura, Ley, and Cantú 2023).

$$r_{ik} = \underbrace{\sqrt{y_{ik}} - \sqrt{e\alpha_i + \beta_k}}_{\text{Observed - expected sensitive network size}}$$

$$x_i = \begin{cases} 1, & \text{if } r_{ik} > E(r_{ik}) + SD(r_{ik}) \\ 0, & \text{otherwise} \end{cases}$$

Prevalence: $\bar{X} = E(x_i)$

Combined estimator (Aronow et al 2015)

$$\hat{\mu} = \underbrace{\bar{X} - (1 - \bar{X})(\bar{V}_{x_i=0})}_{\text{Weighted average of prevalence rates}}$$

Results