Who Cares What Gender The Cops Are? The Impact of Policewomen on Public Safety

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Physical agility is but a small component of police work. Much of a police officer's day is spent mediating interpersonal conflicts. That's the reality of policing

- Ivonne Roman, former Chief of the New Jersey Police Department

This paper

Research Question

- What impact do female officers have on crime reporting and victimization?

Data and Empirical Strategy

- 911 calls, incident reports, and arrest records from Dallas, Texas
- I use staffing data to instrument for whether a call is assigned a female officer
- I leverage non-emergency calls to isolate crime reporting effects

Preview of results

Officer Behavior

a. Units with a female officer are more likely to take action on scene
b. Less likely to make arrests, especially for low-level offenses

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Caller Behavior

a. Households assigned a female officer are less likely to re-call 911
b. Declines concentrated in high-priority calls
c. Non-emergency data suggest no change in reporting behavior

Contribution

1. Officer composition and policing outcomes (Hoekstra & Sloan, 2022; Ba et al., 2021; Fryer, 2019; West, 2018)

- *Prior work:* Focuses on use of force and traffic stops
- **This paper:** Examines more discretionary behaviors (e.g., report writing, time on scene) and downstream outcomes (e.g., charges filed, repeat 911 calls)

2. Civilian cooperation and crime reporting (Ang et al., 2025; Mikdash & Zaiour, 2024; Gonçalves, Jácome & Weisburst, 2024; Amaral et al., 2023)

- *Prior work:* Uses surveys or gunshot detection to measure unreported crime
- **This paper:** Uses 311 data to isolate changes in reporting behavior

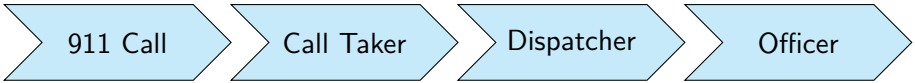
Data

Dallas Police Department (DPD)

- **Staffing**: Division, days of assignment, start/end time, agency
- **911 calls**: Call type, timestamp, address, time arrived/cleared
- **Incidents**: Reported problem, date, location type, victim info
- **Arrests**: Arrest type, arrestee name, date

Sample Size: $\sim$ 1,000,000 call level observations
Date Range: June 2014 to December 2018

911 call protocol



- *Call Takers* create a call report summarizing important information.
- *Dispatchers* assign police officers to call based on priority

Selection

"Depending on the call type and resources required, officers may respond directly or be assigned by dispatch." (DPD, 2025)

Empirical challenge: non-random sorting of officers to calls

- **Goal**: Compare outcomes from similar calls assigned to units with at least one female officer (treatment) vs. units with no female officers (control)

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- **Goal**: Compare outcomes from similar calls assigned to units with at least one female officer (treatment) vs. units with no female officers (control)
- **Empirical Challenge**: Officer assignment is endogenous—dispatchers may assign directly or wait for volunteers.
- **Strategy**: Use staffing assignments to calculate the share of on-duty female officers—an instrument for female officer assignment.

What are staffing assignments?

- Officers are assigned to a specific division, fixed days, and an eight-hour time slot
- Example: Monday to Friday in the South East Division from 4 PM to 12 AM
- Officers rarely respond to calls outside their assigned division

Staff assignments are inflexible

Officers are reassigned roughly every six months, limiting short-term responses to crime trends.

Map of DPD divisions and sectors

Instrument: Female Share of Officers on Duty (FSOD)

Female Share on Duty (FSOD) is defined as:

$$\text{FSOD}_{dt} = \frac{\sum_{i=1}^{N} \mathbf{1}\{\text{Female}_i = 1\}\mathbf{1}\{\text{On Duty}_{idt} = 1\}}{\sum_{i=1}^{N} \mathbf{1}\{\text{On Duty}_{idt} = 1\}}$$

where i = officer, d = division, and t = date $\times$ hour

Intuition: With more women on duty (higher FSOD), calls are more likely to be assigned to a female officer.

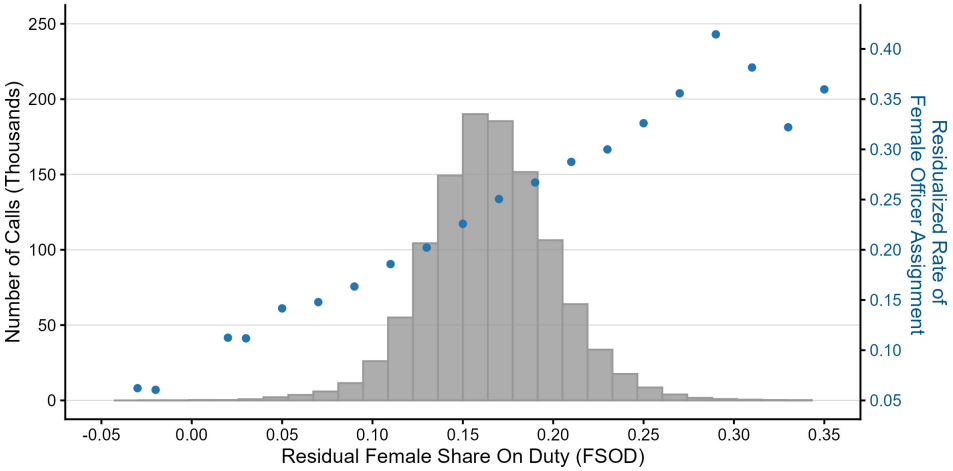
Instrument Assumptions

1. Relevance FSOD is strongly correlated with the likelihood a female officer is assigned to a 911 call.

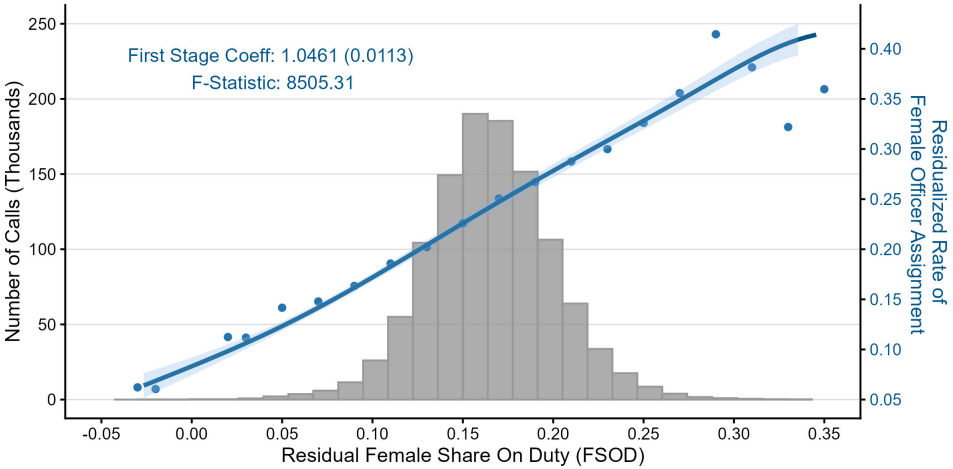
2. Exogeneity Conditional on fixed effects, FSOD varies due to staffing schedules—not in response to call-level characteristics or local crime conditions.

3. Monotonicity Higher FSOD weakly increases the probability of assignment to a female officer for all calls—no caller is less likely to be assigned a female officer as FSOD increases.

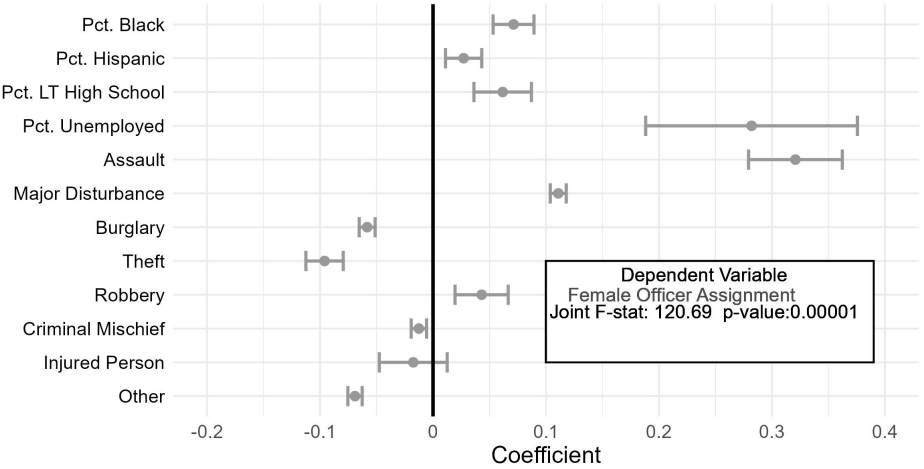
The instrument varies



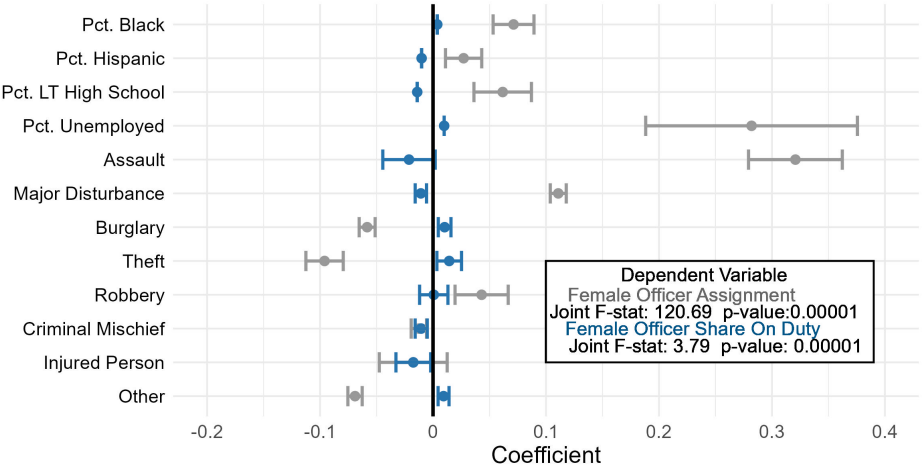
The instrument is predictive of the treatment



Observables are correlated with the treatment



Observables are *not* correlated with the treatment



Two Stage Least Squares (2SLS)

$$FO_{cst} = \pi_0 + \pi_1 FSOD_{st} + \psi_s + \psi_t + v_{cst} \quad \text{(First Stage)}$$
$$Y_{cst} = \pi_0 + \pi_1 FO_{cst} + \psi_s + \psi_t + \varepsilon_{cst} \quad \text{(Second Stage)}$$

Where:

- FO_{it} : Equal to 1 if call c is assigned to patrol unit with at least one woman
- $FSOD_{st}$: Share of officers in shift s and time t who are women
- ψ_s and ψ_t : Shift (division $\times$ DoW x 8-hour period) and time (year $\times$ month) fixed effects

Patrol units with female officers behave differently

	Time at Scene	No Action Taken	Incident Report	Arrest
Has Female Officer	8.20	-0.077*	0.104**	-0.015**
	(4.92)	(0.044)	(0.044)	(0.006)
t-value	1.67	-1.75	2.34	-2.42
Control Complier Mean	41.516	0.398	0.448	0.022
Percent Change	20%	-19%	23%	-67%

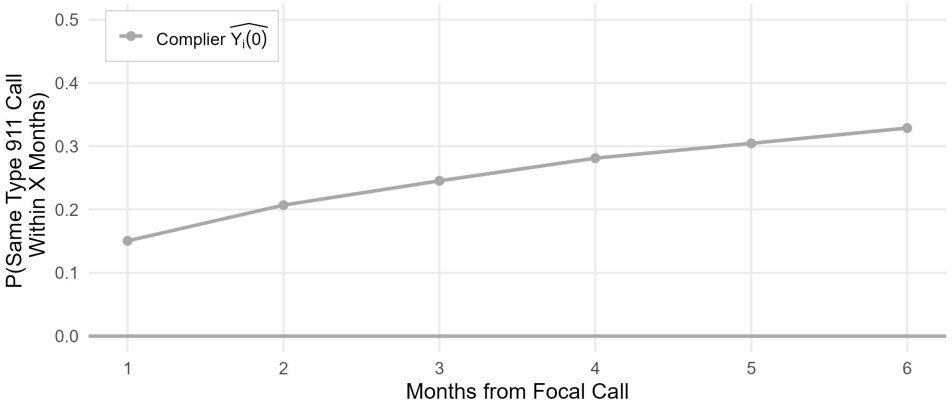
Note: Local average treatment effects (LATE) estimated on 1.02M call-level observations. Division $\times$ day-of-week $\times$ eight-hour and year $\times$ month fixed effects. Two way clustered standard errors.

Calls with female officers show different downstream outcomes

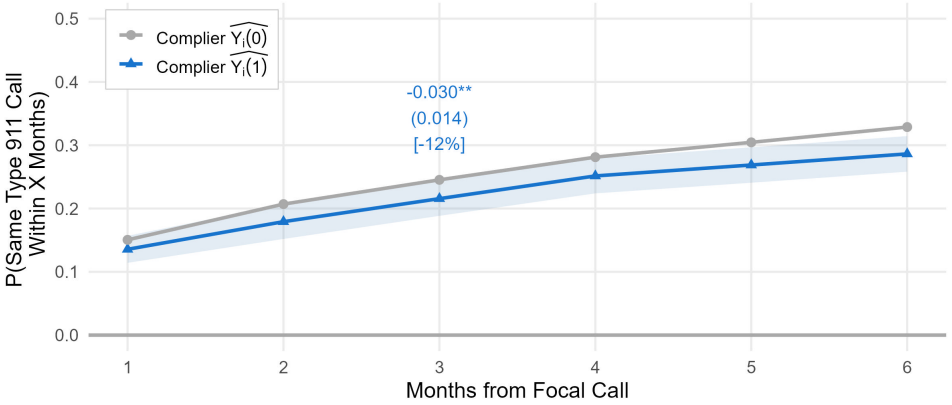
	Any Charge	Misd Charge	Felony Charge
Has Female Officer	-0.006*	-0.007**	-0.0002
	(0.004)	(0.003)	(0.002)
t-value	-1.73	-2.47	-0.13
Control Complier Mean	0.006	0.008	0
Percent Change	-95%	-83%	NA%

Note: Local average treatment effects (LATE) estimated on 1.02M call-level observations. Division × day-of-week × eight-hour and year × month fixed effects. Two way clustered standard errors.

1 in 3 compliers call 911 for the same problem $<$ 6 months



Dispatching female officers reduces the likelihood that households make repeat 911 calls



Robustness & Heterogeneity

Robustness

- Controls →
- Clustering →
- Non-recent callers →

Heterogeneity

- Call Type →
- Neighborhood Composition →

What's driving the decline in future 911 calls?

911 calls conflate victimization and reporting

- **Reporting Effect**: Victims may be less likely to call the police
- **Victimization Effect**: Offenders may be deterred from committing crimes

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I use two approaches to separate these mechanisms

1. Map Amaral et al. (2023) predictions onto my setting
2. Leverage non-emergency calls to isolate reporting effects

Backlash or Deterrence?

Amaral et al. (2023) model how an arrest shifts a domestic violence victim's threshold for contacting police in the future.

	Pr(High Priority Call)	Pr(Low Priority Call)
Chilling	< 0	< 0
Deterrence	< 0	≥ 0

- **Chilling:** Offenders undeterred, victims discouraged $\Rightarrow$ only high-priority calls remain $\Rightarrow$ **share of high-priority calls rises.**
- **Deterrence:** Offenders deterred, victims empowered $\Rightarrow$ fewer high-priority calls, possible rise in low-priority ones $\Rightarrow$ **share of high-priority calls falls.**

Change driven by a decrease in high priority calls

	Any Call	High Priority	Low Priority
Has Female Officer	-0.030**	-0.039**	0.006
	(0.014)	(0.017)	(0.018)
t-value	-2.15	-2.3	0.32
Control Complier Mean	0.245	0.154	0.133
Percent Change	-12%	-25%	5%

Note: Local average treatment effects (LATE) estimated on 1.02M call-level observations. Division $\times$ day-of-week $\times$ eight-hour and year $\times$ month fixed effects. Two way clustered standard errors.

What Are 311 Calls?

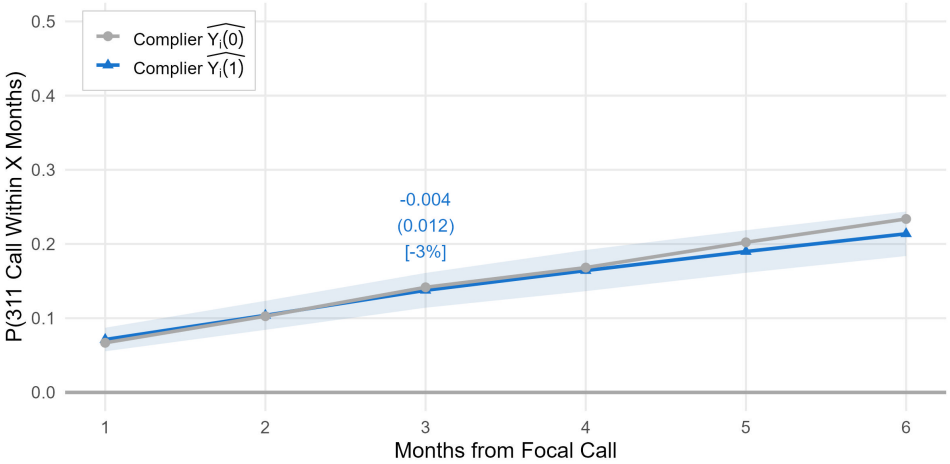
311 is a widely used non-emergency reporting system

- 1.4 million calls placed between 2015 and 2018
- 800,000 calls originated from addresses in my sample

Key Assumption

Changes in future 311 calls capture reporting behavior rather than changes in actual victimization.

Households are not more likely to call 311



Conclusion

Key findings

1. Female-officer units differ on scene (more engagement, fewer arrests).
2. Households assigned a female officer are less likely to re-call 911

Mechanisms

1. No change in 311 $\Rightarrow$ reporting unchanged.
2. Drops come from high-priority calls; low-priority unchanged $\Rightarrow$ deterrence.

$\Rightarrow$ **Reduced offending, not reduced reporting.**

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   $\Rightarrow$ **Reduced offending, not reduced reporting**

Interpretation

- Female officers excel at mediation/de-escalation $\Rightarrow$ fewer arrests, less repeat harm.

Thank you!

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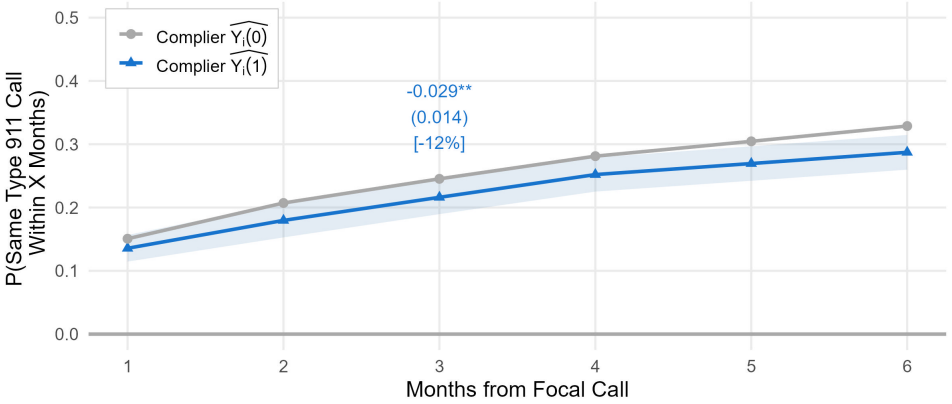
Robust when controlling for officer count and race



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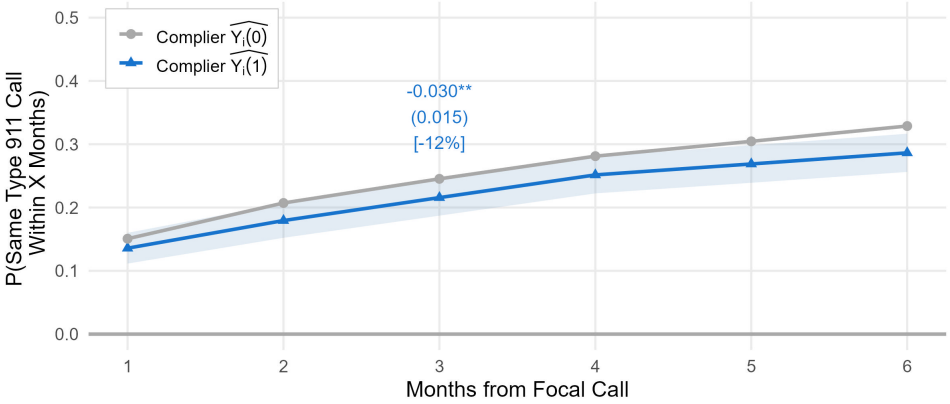
Robust to clustering by address



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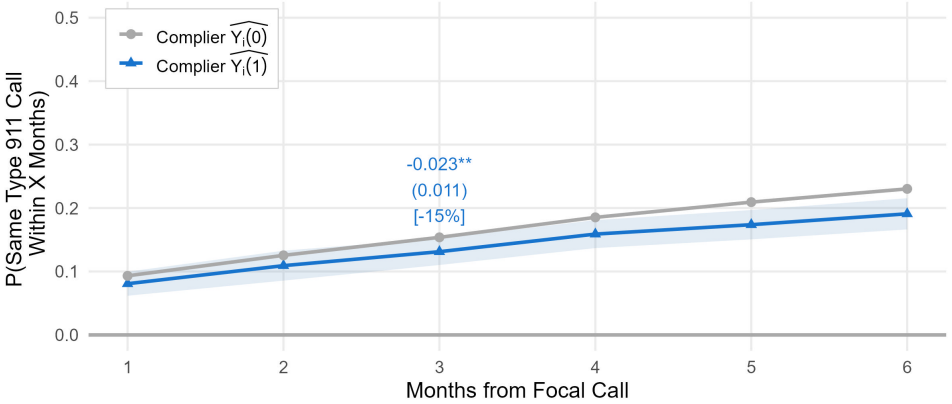
Robust to excluding recent 911 callers (<30 days)



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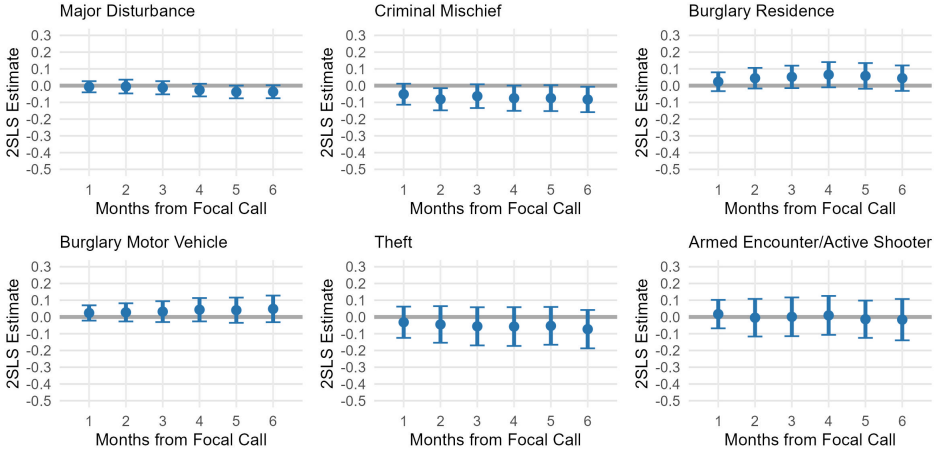
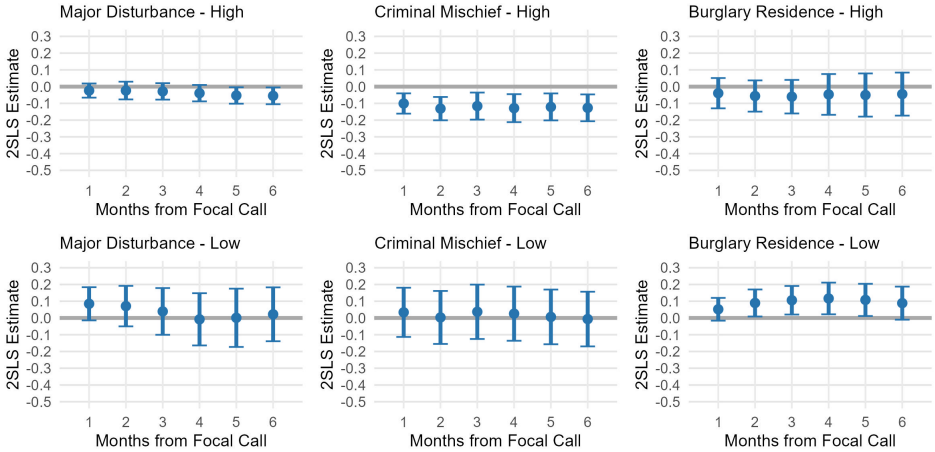
Heterogeneity by call type



Heterogeneity by call type and priority



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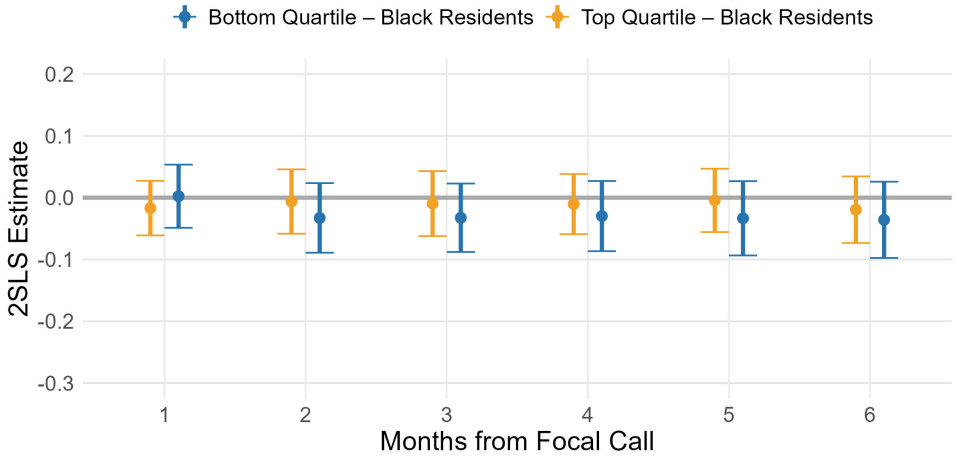
Heterogeneity by Neighborhood Composition



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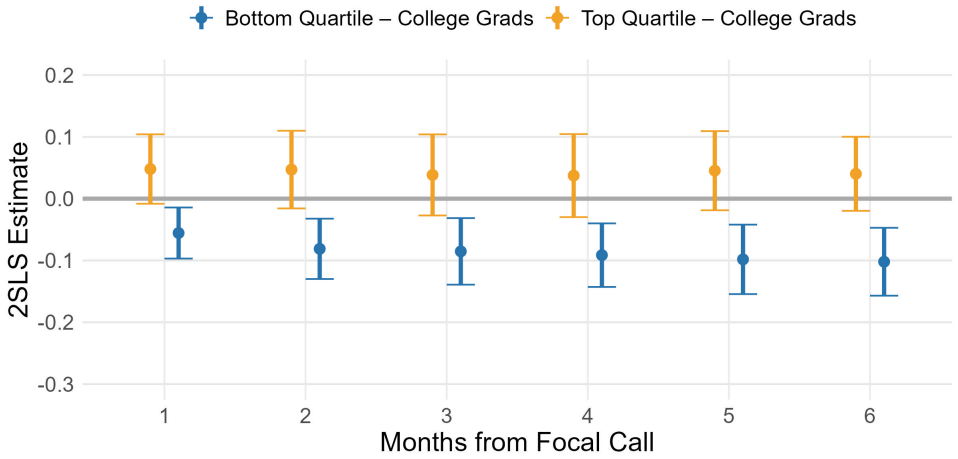

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