

DEFANGED

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INTRODUCTION AND OBJECTIVES

- Study the effects of suspending a police K9 program
- Evaluate the impact on officer injury, suspect injury, and suspect resistance rates
- Employ Bayesian modeling and interrupted time series analysis for evaluation
- What do we know? What should we know?



HISTORIC ROLE OF K9S IN POLICING

- Dogs have been human guardians and partners for over 11,000 years
- Used for combat, personal protection, hunting, and detection historically and in modern times
- Late 19th century entry into policing in Europe



LENGTHY HISTORY

- Ghent, Belgium, 1899
- US – October(ish) 1907
 - NYPD
 - Orange, NJ
- Quickly adopted across the US
- Estimate: ~11,000 dogs in US policing



WHAT DOGS MAY DO AS NEW YORK DETECTIVES

Eight Years' Experience in Europe Shows Use of Sheep Dogs in Tracking Criminals of Great Value in Large Cities

WHEN it became known last week that the New York police were quietly investigating the practicability of adding a pack of dogs to the city's official force of thief-catchers and murder-trailers, "Big Bill" Devery—"the best Chief of Police New York ever had"—said:

"I guess they've got their joking clothes on in Mulberry Street. A lot of kids are running the department. Gen. Bingham's away on vacation, and the kids want to show they're on the job. Take my word for it, the boss will sit down on the bench when he gets back. Bloodhounds in this great metropolitan city? It is to laugh."

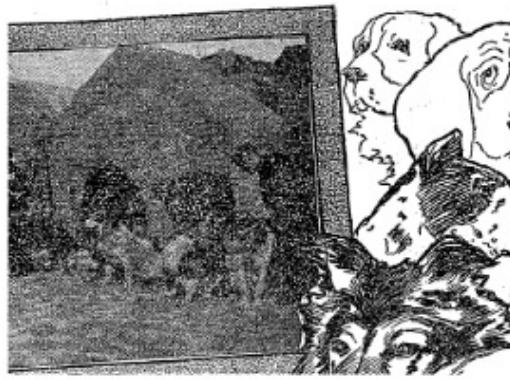
Inspector James McCafferty, now in charge of the Detective Bureau at Headquarters, also takes an unfavorable view of the dog as a metropolitan sleuth. According to the Inspector, even if a dog were able to follow a criminal's trail after it had been crossed and recrossed by the myriads of pedestrians that are constantly about in the city's streets, the ease with which a fleeing criminal could completely "break" his trail by boarding a trolley, elevated or subway car would make the dog absolutely useless as a criminal chaser.

But both Devery and McCafferty overlook the fact that, with the exception of Manhattan, all the boroughs include large stretches of territory that are as truly rural as though they were a suburb of Cornelia Corners. Ask the man who dwells in one of these unhandy nooks of the Greater New York. He will tell you the wearisome distances that have to be tramped before the trolley is reached. The trolley isn't nearly so ubiquitous as it seems.

And both Devery and McCafferty, in judging of the merits of the dog as a policeman, consider him only in the rôle of a detective; they entirely overlook his possible usefulness as a patrolman. And it is in this capacity that the dog is used by the police of Ghent, the city where the auxiliary canine police force originated.

In America the dog is rarely anything more than a pet. If he makes any pretense whatever at paying for his board and lodging, it is in the capacity of volunteer watchman. If he's a country dog he may enlarge his sphere of usefulness by herding the cattle or sheep.

Plenty of Work for Dogs in Belgium. But in Belgium the dog leads a far more strenuous life. In that diminutive kingdom the dog has been used for many generations as a beast of burden, hauling small carts laden with milk, bread, linen, and similar freight. Many of these dogs cost more than a donkey, travel faster and farther in a day, and are more economical to keep. And so it was that, when it became



DOG LEAVING HOUSE BY WINDOW AFTER CHASE FOR IMAGINARY BURGLAR

There is a special room at headquarters for the preparation of their food. Their uniforms are also kept in this room.

When riding on patrol each dog

wears a leather collar which bears a metal disk upon which is inscribed his name, birth date, and the word "Police." When stormy weather the dog policeman

also wears a leather-mounted waterproof cloak, which covers the body from neck to tail.

A muzzle is also worn while on patrol for a twofold purpose. This muzzle is a tiny cup-like arrangement, perforated with air-holes. It prevents the dog from eating any food he may find during his patrol, and it prevents him from attacking peaceable citizens, for the dog's early training makes him regard every civilian on a suspicious character. There is an elastic contrivance which permits the instant unfastening of the dog in case of need. The muzzle then swings from the collar, ready to be replaced when

the emergency has passed. The education of the dog recruits is in the hands of the officers in charge of the night patrol, known as brigadiers-controleurs. It takes from three to six months to thoroughly acquaint a dog with his official duties.

During the first fifteen days the recruit is kept in the kennel, and his one lesson is obedience. All orders are given with military brevity.

The next step in the recruit's education is to teach him to honor only a uniform, and to abhor all persons in civilian costume as suspicious and possibly dangerous characters. At no time during his police career is he al-

lowed to make the acquaintance of the ordinary public.

The brigadier-controleur, when acting as trainer, always dresses as a civilian. He will tease or irritate the dog, while a uniformed policeman will caress him and feed him bits of meat and other dainties of dogdom. It requires a deep and sympathetic knowledge of dog nature to know just how far to carry this process of irritation. A good dog can easily be spoiled by carrying it too far. But few mistakes of this kind are now made.

When the recruit has learned to trust only a police uniform, he is promoted to the class where thief-catching is taught. In the gardens at headquarters there are artificially arranged walls, water jumps, and other obstacles. This is the class room of the thief-catchers.

The brigadier-controleur, dressed in the hated garb of the civilian, appears in this garden and goes through the pantomime of assaulting a uniformed policeman. Needless to say, it doesn't require much training to make the dog savagely attack the man who has namespaces his friend.

Also needless to say, the dog recruit wears his patrol muzzle during this lesson with the brigadier-controleur. But the stance does not lack for strenuousness. The brigadier-controleur runs away from a policeman, the dog pupil follows, pounces upon him, and seizes a knockout. The brigadier-controleur shoves along with a suspicious-looking bundle; once more he is followed and attacked. He leaps into a ditch filled with deep water; he scales high walls; in short, he runs through the whole list of dodges employed by a criminal caught in the act. And the dog is taught, sometimes only after repeated experiments, to follow and capture.

The bend of the knee is the spot he is taught to attack when a man is fleeing from him. If, during his training, he jumps for the neck, a pull on the leash shows him his mistake. But when the brigadier-controleur feels the muzzle touch the back of his knee, he drops to the ground. By frequently repeating this operation a dog learns the object of the pursuit and how it may best be accomplished. After a time the leash is discarded, and the dog responding instantly to its master's whistle.

When the recruit begins to show that he is picking up his various duties, the policeman to whom he is to be afterward assigned comes to the kennel and leads him into the yard, where the policemen and veteran dogs are being assembled for patrol.

On Duty All Night. The dog police never leave the kennels in the daytime, except for a half-hour exercise in the paddock. They go on duty at 10 o'clock at night and are

CRIMINOLOGY: 115 YEARS BEHIND THE CURVE

New York Times,
Sept. 8, 1907

PREVIOUS RESEARCH

K9 research primarily:

- Medical research
- Olfactory studies
- Historical (Chapman 1990)
- Where is criminology!?
 - Charlie Mesloh – Northern Michigan Univ.



PUBLIC PERCEPTIONS OF K9S



“Perceptual Paradox”

- Sandrin, Simpson, & Gaub 2023

Officers with K9 perceived as:

- Less approachable
- Less friendly
- More aggressive
- More intimidating

Example of research *unsupportive* of police goals and claims?

WHY DOES IT MATTER?

K9 Bites: 2010-2020

Source: National Electronic Injury Surveillance System All Injury Program

Estimate: > 4000 bites/year

Robinette v. Barnes (1987)

Characteristic	N = 763 ^a
<i>Sex</i>	
Male	727 (95%)
Female	36 (4.7%)
<i>Age (years)</i>	27 (21, 36)
<i>Race/Ethnicity</i>	
Unknown	315 (41%)
White Nh	160 (21%)
Black	185 (24%)
Hispanic	89 (12%)
Asian Nh	1 (0.1%)
Am Ind Nh	6 (0.8%)
Other Nh	7 (0.9%)
<i>Disposition</i>	
Treated/released	689 (90%)
Transfer/released	18 (2.4%)
Hospitalized	52 (6.8%)
Observation	4 (0.5%)
<i>Bite Location</i>	
Unknown	5 (0.7%)
Head/neck	49 (6.4%)
Upper trunk	39 (5.1%)
Lower trunk	46 (6.0%)
Arm/hand	318 (42%)
Leg/foot	304 (40%)
Other	2 (0.3%)

^a: Representative sample; n (%); Median (IQR);

THE CONTEXT

1. Large agency
2. One of oldest police K9 programs in the country (~1950s)
3. Early state-level K9 certification & professionalization (1989)
4. Active, stellar reputation nationally



THE INCIDENT



Early 2020 bite

1. Adult black male subject, initial call of violation of a domestic protective order
2. Initially passed agency-level approvals
3. Several months later, media release of footage, mid-summer 2020
4. Next day, immediate suspension of all K9 apprehension teams

THE NATURAL EXPERIMENT

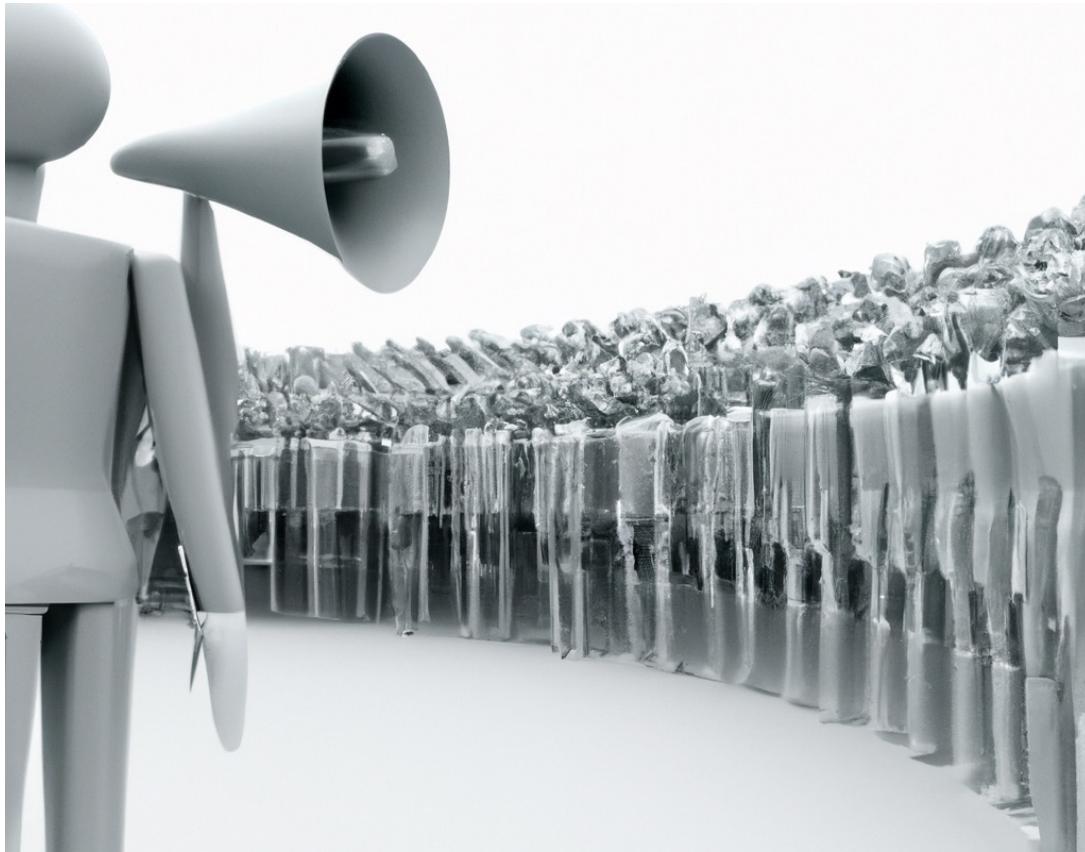
Sudden shock of suspending of K9 apprehension program?

1. No internal warning
2. No external warning
3. Anticipatory effects

Good time for a study...



LOUD POLICE CLAIMS



Police make five big claims (Chapman 1990)

1. Psychological intimidation to reduce disorderly behavior in crowd/protest situations
2. Deterring potential criminals and thereby reducing crime
3. Detecting suspects at night, and thereby assisting in arrest
4. Officer protection
5. Public relations

LOUD COMPETING CLAIMS



Critics make competing claims

1. Unnecessary injuries
2. Unavoidable injuries
(Schiavone 2018 – “The Impossible Dilemma”)
3. Racially disproportionate bites
(Wasilczuk 2023)

OBJECTIVES

- Our objective is to provide the first evaluation of the *claimed effects* of police K9 programs.
- These claims give way to three clearly competing hypotheses.



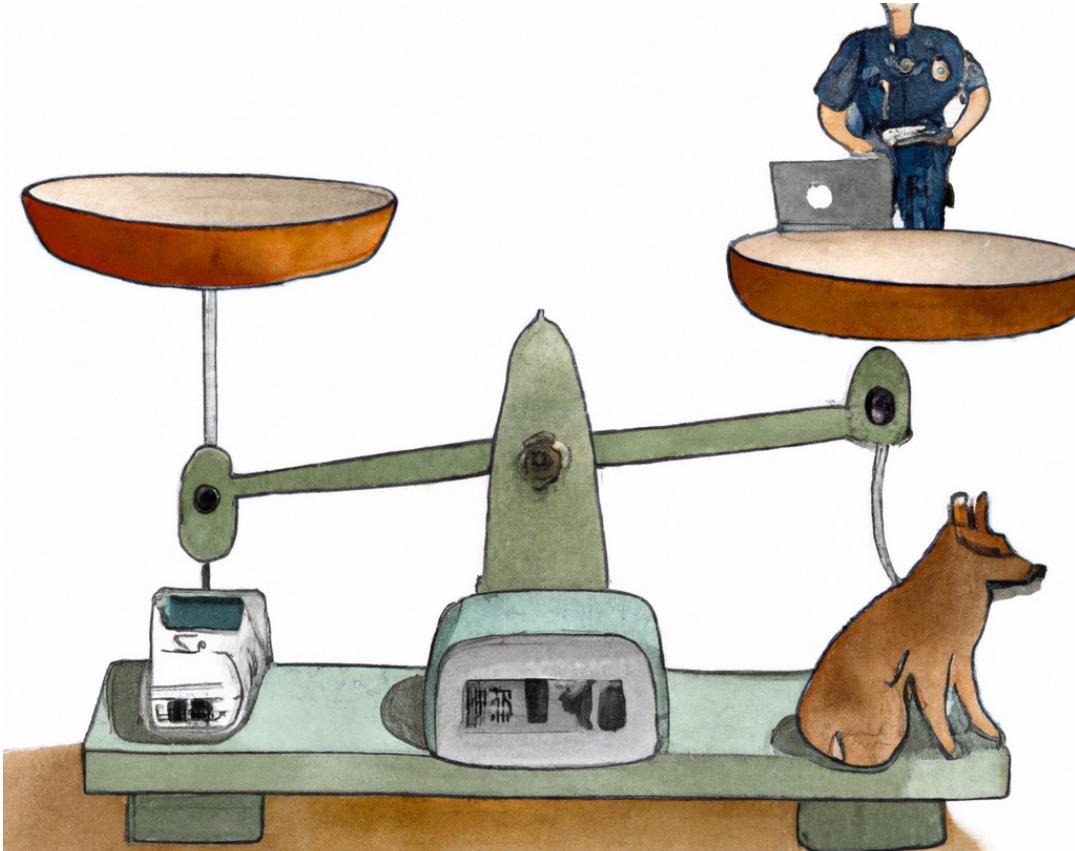
TESTING CLAIMS



1. Officer safety hypothesis
2. Suspect safety hypothesis
3. Resisting arrest hypothesis

Importantly – relevant court cases often rest on these three claims

TESTING CLAIMS: OFFICER SAFETY



- “While the police dog is of great utility in routine police work its **primary responsibility is to protect the handler** and other officers.” (Chapman 1990)
- Hart et al. (2000) – 91% of officers endorse this claim
- If police are right: officer injuries should **increase**
- No direct critic theory here – unaddressed

TESTING CLAIMS: SUSPECT SAFETY

Schiavone 2018: "In light of the human behavioral fear response" K9 bites are inevitable. Unnecessary and should decrease.

(Utah POST K9 Manual, 2012): "...Police K-9s can often help prevent officers from having to resort to, or be subjected to" higher force. Necessary, and should increase



TESTING CLAIMS: RESISTING ARREST

The “intimidation factor” is a consistent claim from police (Chapman 1990)

Critics say opposite – fear response to dogs *causes* more resistance.



MODELING DECISIONS

Measures

- Rates per felony arrests
- Why?

Specification

- Bayesian interrupted time series

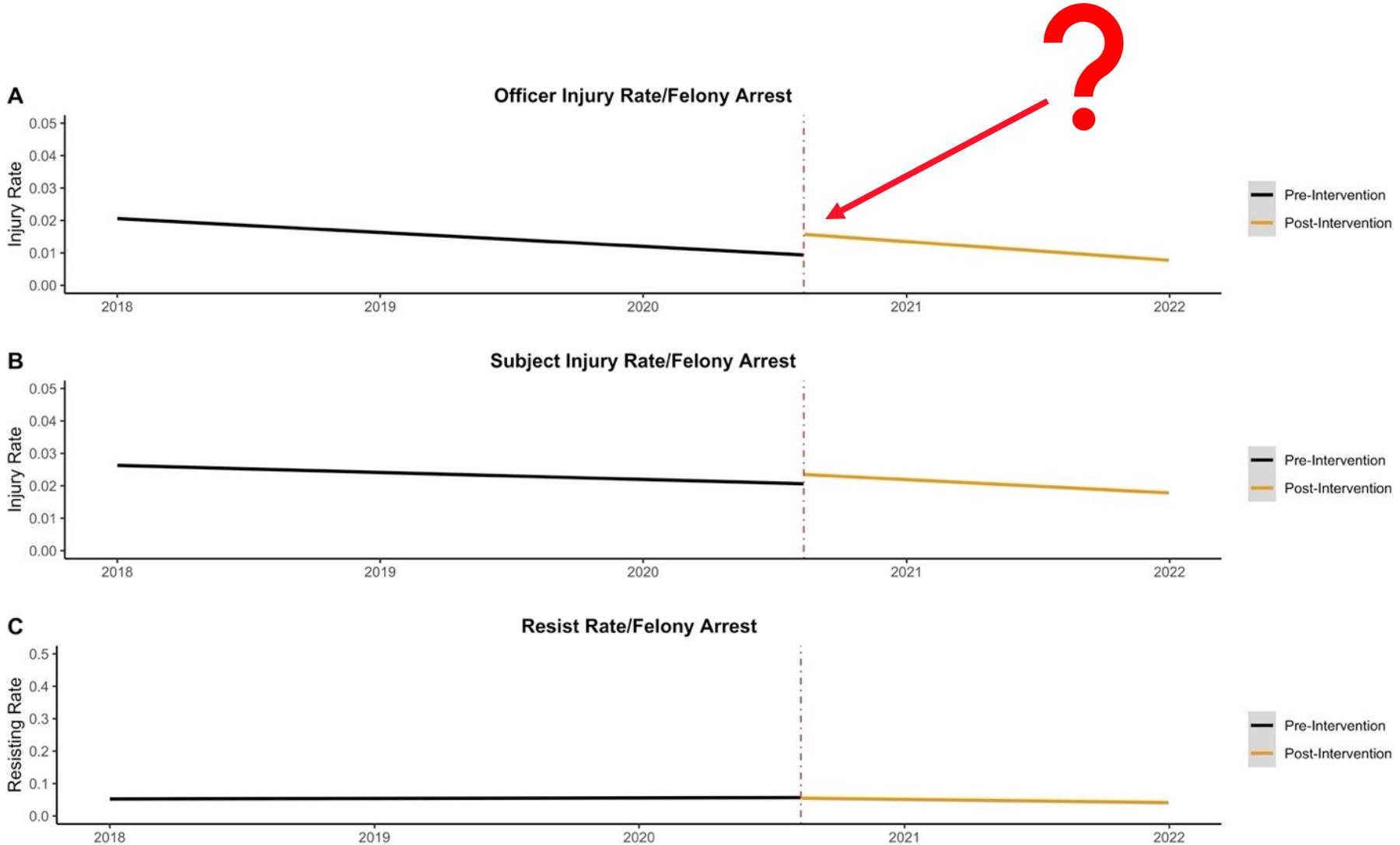
$$Y = \beta_0 + \beta_1 T + \beta_2 \gamma + \beta_3 \tau + \varepsilon$$

Where Y represents each outcome, T represents a time variable (daily observations), γ represents the intervention point, τ represents the post-intervention parameter, and errors are captured with ε .



RESULTS

Here's where we get to make people unhappy on every side of this issue



MAKING SENSE

For those keeping score:

- Police: o
- Critics: o
- Science: goal

How could we all be so wrong?!?

Two suggestions



MAKING SENSE: THE CASE OF THE MISSING K9 OFFICER



- Possible injury prevention for handlers only
- Higher risk due to dangerous situations
- Possible self-fulfilling effect
- Ultimately an unconvincing case for K9 team without additional outcomes

MAKING SENSE: A HYDRAULIC THEORY OF FORCE

- Absence of K9 met with alternate tools and tactics
- Patrol officers routinely find alternatives when K9 unit unavailable
- **Hydraulic theory of force:**
Absence of one weapon compensated by another
- Impact of losing K9 option:
Minimal, officers adapt to changes



HUMILITY & THE CRIMINOLOGISTS

Weisburd (2003) highlights the “moral imperative” to provide experimental evidence in criminological research

“Reckless policymaking” to overweight a single study compared to the combined bulk of the “local knowledge” and “craft” developed in a community of police practitioners over a century.



LIMITATIONS



- Single agency
- Agency-level observations – unable to speak to individual officer experiences (see “making sense”)
- Limited theory – hard to generalize
- Most importantly - Limited outcomes!
 - We need more evaluation

FUTURE RESEARCH

- **Diverse Outcomes:** Different outcomes may provide different insights.
- **Broader Impacts:** Consider K9s' effects on larger policing missions and outcomes, including observer perceptions and third-party incidents.
 - Chapman (1990) is a goldmine of RQs
- **Robust Research Designs:** Implement more robust designs for clearer causal inferences, potentially using (RCTs).



IMPLICATIONS



You know nothing, Jon Snow

- It is impossible to learn what we think we already know

Slow science, slower implementation

Personal experiences and concerns

Ethical considerations

THANK YOU

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PSD Pyro | 2009-2021

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