



More scrutiny, less vigour? How depolicing manifests differently following local rather than nationally prominent fatal use of force incidents

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ABSTRACT

Increased scrutiny of police departments and police officers can occur after high-profile events such as police use of force incidents. A Ferguson Effect is often hypothesized regarding claims of subsequent depolicing following such incidents. This study examines whether the proximity of the incident affects the behaviour of police officers in Philadelphia, Pennsylvania. The effects of scrutiny upon officer proactivity—measured in pedestrian and vehicle stops—are examined, differentiating between scrutiny derived from highly publicized fatal police use of force incidents that occurred within the local jurisdiction and scrutiny subsequent to similar incidents that occurred elsewhere in the nation. The results show that officer behaviour differs in terms of their vigour depending on whether the incident has national prominence or just local impact. The study also reveals temporal variation in the impact of incidents across subsequent months.

INTRODUCTION

The past decade has seen a marked increase in the scrutiny levied upon police officers by the public, and academics and police alike often point to the death of Michael Brown in Ferguson, MO in August 2014 as the catalyst that sparked much of that increased and ongoing scrutiny (Capellan *et al.*, 2020; Gross and Mann, 2017; Maguire *et al.*, 2016; Nix and Wolfe, 2016; Powell, 2023; Pyrooz *et al.*, 2016; Simonds, 2017; Wolfe and Nix, 2016). The incident prompted the loudest calls for police reform and accountability since the beating of Rodney King; however, the modern omnipresence of cell phone video and social media has increased the rate of questionable police actions available for public dissemination.

This considerable increase in public scrutiny—evidence of a ‘war on cops’ as Heather MacDonald famously opined (2016)—has been linked to changes in police behaviour, and specifically to decreases in police proactivity and vigour in a phenomenon now referred to in the literature as ‘depolicing’ (Nix *et al.*, 2017; Oliver, 2017, 2019; Powell, 2023; Pyrooz *et al.*, 2016). An extension of the depolicing contention—a ‘Ferguson Effect’—further argues that the widespread pullbacks from vigorous, proactive policing following the deaths of Michael Brown and then subsequently others at the hands of police are responsible for increases in crime (MacDonald, 2019; Rosenfeld, 2016; Rosenfeld and Wallman, 2019; Wolfe and Nix, 2016).

As the perception and concern that police were pumping the brakes on proactivity grew, researchers began to examine the depolicing and broader Ferguson Effect questions empirically. The extant research generally supports a depolicing hypothesis (Oliver, 2019; Powell, 2023); however, our understanding of the issue—including how, when, and where it might manifest—is still emerging. This study adds to the growing depolicing research as it marks the first, to our knowledge, to examine localized impacts of scrutiny-inducing use of deadly force events that occurred within the local jurisdiction separately from impacts within that same jurisdiction but emanating from non-local, nationally prominent incidents. Furthermore, the study explores the temporal structure underlying how depolicing impacts may evolve over time. In addition to theoretical implications surrounding this study’s contributions to our understanding of the depolicing hypothesis, practical implications for police leaders and decision-makers are discussed.

LITERATURE REVIEW

Vigour is defined by Klinger (1997, p. 297) in his ecological model of policing as ‘the degree to which police officers extend their formal legal authority in encounters with citizens by making arrests, taking reports, conducting investigations, and so on.’ Depolicing occurs when officers perform their duties with less

such vigour (Oliver, 2019; Shjarback *et al.*, 2017). The extant research generally corroborates that depolicing has become a far-reaching problem afflicting officers from police departments both large and small across the USA (Oliver, 2017, 2019). Officers' trepidations that they will be sanctioned for taking police action—driven by increased scrutiny—is fuelling the retreat from proactivity (Oliver, 2017, 2019). Proactive, vigorous policing has been associated with decreases in crime (Kubrin *et al.*, 2010; Sampson and Cohen, 1988; Weisburd and Majmundar, 2018); consequently, the reductions in proactive policing that result from depolicing make it an important contemporary concept for both policing researchers and practitioners because of the substantial implications that result from officers opting to perform their duties less than enthusiastically.

Along these lines, depolicing is also a significant concept in that it comprises the first half of the hypothesized two-part 'Ferguson Effect' phenomenon, whereas increased scrutiny results in decreased vigour, which in turn results in increased crime (Rosenfeld, 2016; Rosenfeld and Wallman, 2019; Wolfe and Nix, 2016). Although the depolicing hypothesis and the Ferguson Effect are thus inextricably linked concepts, they are not synonymous; depolicing must occur for any Ferguson Effect to exist, but depolicing might also theoretically occur without any resultant impact upon crime. In discussing the state of research surrounding the Ferguson Effect, John MacDonald cautioned that before any conclusions be drawn regarding depolicing and crime, 'we should first see whether de-policing is even occurring in a manner consistent with the theory of action' (2019).

The extant research generally has not supported the entirety of the Ferguson Effect (MacDonald, 2019; Pyrooz *et al.*, 2016; Rosenfeld, 2015; Rosenfeld and Wallman, 2019) as defined above, but there is empirical support for the depolicing hypothesis, as several studies have found reductions in proactivity related to depolicing. In one such study using monthly stop data from New York City, Capellan *et al.* (2020) revealed reductions in pedestrian (ped) stops that were related to increases in scrutiny. In another, Gau *et al.* (2022) found that officers they sampled were less likely to initiate stops in the face of increased scrutiny, while those surveyed by Torres and Reling (2020) similarly indicated that 'patrol officers who de-policed post-Ferguson were more likely to stop as few people as possible' (p. 298). Powell (2023) discovered 36% and 47% reductions in vehicle and ped stops, respectively, performed by police across 44 local police departments following the incident in Ferguson. Shjarback *et al.* (2017) determined that officers in Missouri were less likely to stop vehicles post-Ferguson, noting also 'that jurisdictions with higher percentages of minority residents are more prone to de-policing' (p. 50).

In Baltimore, Morgan and Pally (2016) found reductions in arrests, consistent with the depolicing hypothesis, following both a scrutiny-inducing incident that occurred in a distant city but had national prominence (the death of Michael Brown in Ferguson), and one that had occurred within the local city (the death of Freddie Gray). Reductions in arrests—particularly those for minor offenses over which officers might exercise greater discretion—were observed following the death of Michael Brown in Ferguson. Greater reductions yet in arrests—this time not only for minor crimes but also for more serious offenses such as murder and attempted murder—occurred following the death of

Freddie Gray and its ensuing aftermath in Baltimore (Morgan and Pally, 2016).

The effects of depolicing may have manifested in other ways as well. In one example, Deuchar *et al.* (2019) conducted a study consisting of several interviews of officers in one US state, finding not only '[less] emphasis on proactive law enforcement strategies' (p. 1054), but also that officer morale had suffered as well. In another study, it was shown that 'post-Ferguson psychological impacts continued to affect current levels of cynicism, motivation, and apprehensiveness' (Torres *et al.*, 2018, p. 358).

Although there is considerable support for the depolicing hypothesis, the results of some studies do run counter. In one such study, Marier and Fridell (2020) found only small effect sizes in their study of depolicing and suggested that the 'police institution is resilient to exogenous shocks' (p. 693). The authors found that reductions in proactivity were more related to officer cynicism than the events surrounding Ferguson (Marier and Fridell, 2020). In another study, Chanin and Sheats (2018) looked for depolicing in 10 cities following Department of Justice interventions, but found no such evidence using arrest data. They offered the possibility 'that officers are comfortable verbalizing discontent, but are less willing to engage in the kind of depolicing that a longitudinal analysis of arrest rates might detect' (Chanin and Sheats, 2018, pp. 118–119).

Increased scrutiny leads to officers perceiving an enhanced risk to their careers, a risk that may factor into officers' decision-making (Phillips, 2020), and potentially into how they exercise their authority in different spaces (Herbert, 1997). Many police functions are highly discretionary (Gottfredson and Gottfredson, 1988), and it is within discretionary matters that depolicing would become evident (MacDonald, 2019). One such discretionary matter is the decision to conduct stops. Most legal parameters and case law are written in a *thou shalt not* manner restricting when an officer may conduct a stop, but they fall short of saying when officers *should* conduct a stop. It is precisely in these specific types of 'high-discretion, low visibility' police enforcement activities—police stops—where Gau *et al.* (2022, p. 539) found depolicing to exist. A disinclination by officers to perform these types of proactive enforcement activities carries with it practical implications. In one recent and salient example, Kim (2023) found that depolicing—manifested as reductions in police stops—was associated with increases in several different types of homicides.

Much of the contemporary scrutiny directed at police can be traced to high-profile incidents in which they used deadly force. The deaths of Michael Brown in Ferguson, Freddie Gray in Baltimore, George Floyd in Minneapolis, and others each sparked protests demanding police accountability and revisions to existing policing policies (Campbell *et al.*, 2018; Shjarback *et al.*, 2017). Depolicing is often contemporaneous or nearly concurrent with these scrutiny-inducing incidents and several studies have measured proactivity changes in temporal proximity to these incidents to examine the depolicing hypothesis (Capellan *et al.*, 2020; Powell, 2023). At present, however, the extant depolicing research is limited in two meaningful ways. First, to the knowledge of these authors, there is currently no research that examines how scrutiny emanating from local incidents might vary in its impact upon vigour from that of non-local, yet nationally known incidents. Despite Tobler's assertion

that nearer things are more related than distant things (1970), the importance of an officer's geographic proximity to the source of the scrutiny has not yet been considered in the depolicing literature. Second, there is also no research that examines the temporal structure underlying the depolicing hypothesis, such as how and when any changes in scrutiny might impact vigour at different periods of time, or how those effects and that relationship may change over time. The current study addresses both research gaps.

METHODOLOGY

The current study comprised a negative binomial fixed effects regression analysis of monthly data aggregated to the city neighbourhood level. It examined how changes in the levels of scrutiny of police affected officer vigour (as indicated by two different dependent variables), differentiating between two different types of scrutiny; scrutiny which emanated from deadly force incidents that occurred within the local jurisdiction, and that from incidents which occurred elsewhere in the USA but nonetheless attracted substantial media and public interest in the local jurisdiction.

Study dates and place

The study spanned the 5 years 2014–18 and took place in Philadelphia, Pennsylvania, a large city in the northeastern USA with a population of over 1.5 million people (United States Census Bureau, 2021) spread across 158 diverse neighbourhoods (Element 84, 2013), and a police department with over 6,000 officers deployed across 21 patrol districts (Philadelphia Police Department, 2023).

Dependent variables

Police vigour was measured using two separate outcome variables—pedestrian (ped) and car stops recorded by police. Ped and car stops are each short detentions conducted by police based upon a reasonable suspicion that the person stopped is engaged in criminal activity. They differ, however—as their names eponymously suggest—in that ped stops are stops of pedestrians, and car stops are stops of people in cars. Philadelphia Police Department policy requires officers who conduct either of these types of stops to electronically document them (Philadelphia Police Department, 2017), and the stop data for this study are derived from that publicly available open data portal (Philadelphia Police Department, 2016). Aggregate counts of each type of stop were summed within neighbourhoods, by month, to achieve a total of 60 monthly counts for each of the 158 neighbourhoods. Extreme outliers were identified using box plots and histograms, and these values¹ were Winsorized using Stata's 'winsor' command (Cox, 2006).

Neighbourhoods

The levels of analysis for this longitudinal study are city neighbourhoods, and months within those neighbourhoods. The city of Philadelphia does not designate official neighbourhood boundaries, but a commercial company (Element 84), after

taking maps and other information from individual neighbourhood and community associations into consideration (2013), designed a GIS shapefile that determined the boundaries for each of the neighbourhoods in this study. This spatial neighbourhood file is commonly used in analyses of Philadelphia. A dummy variable for each neighbourhood was included to control for all time invariant between neighbourhood effects in the fixed effects analysis.

Scrutiny

We differentiate between scrutiny derived from police use of deadly force incidents that occurred locally from that of incidents that occurred outside of the local area but gained widespread, national attention. Accordingly, two separate variables were constructed measuring each type of scrutiny: a *local scrutiny* variable which measured scrutiny pertaining to local incidents—those that occurred within Philadelphia—and a *national scrutiny* variable which measured scrutiny in Philadelphia that related to external (non-Philadelphian) high profile events.

Scrutiny was measured in terms of news coverage and public interest using a methodology inspired by Capellan *et al.* (2020) in their study on depolicing and the Ferguson Effect.² In this study, names of victims of fatal police use of force incidents—as well as local police officers who had been identified and subsequently arrested in relation to a fatal use of force incident—were derived from assorted sources, including previous literature, the Washington Post police shooting database (Tate *et al.*, 2021), and local news articles. These names³ were then used as search terms to measure news coverage in the local Philadelphia newspaper—the *Philadelphia Inquirer*—and public search interest from within the city of Philadelphia using Google Trends.⁴ Search terms were categorized as either *local* or *national* based upon whether they referenced an incident that occurred within Philadelphia or elsewhere in the USA.

The counts of news articles and the total Google Trends search interest scores for the search terms were aggregated by calendar month (separately for local and national search terms), and these results were then standardized to generate separate z

²The method of construction of the scrutiny variables was inspired by, but not identical to, that of Capellan *et al.* (2020) with some key differences. Capellan *et al.* (2020) measured local news coverage in terms of the lengths of relevant articles in number of words, while this study used counts of articles. Additionally, Capellan *et al.* (2020) used the names of Black men killed by police as search terms, while this study used the names of both Black and White men, as well as the names of some police officers who were publicly identified and arrested as a result of lethal use of force incidents.

³The search terms used for local incidents included Brandon Tate Brown, Dennis Plowden, Kenneth Robledo, Christopher Sowell, Richard Ferretti, Devon Guisher, Quoron Williams, Nicholas Glenn, Darryl Chisholm, Tyrease Carlyle, Ricardo Giddings, Charles Meadows, Jeffrey Dennis, David Jones, Justin Smith, Eric Ruch, and Ryan Pownall. David Jones and Justin Smith were included in the news coverage queries but excluded from Google Trends results, as a preliminary inspection of those results revealed it was likely that some of the search interest may have been for other people with the same common names and not the victims of the fatal police use of force incidents. The search terms for national incidents included Michael Brown, Eric Garner, Alton Sterling, Freddie Gray, Walter Scott, Samuel DuBose, Philando Castile, Terence Crutcher, Jordan Edwards, Tamir Rice, and Laquan McDonald.

⁴Google Trends (2021) generates standardized scores on a 0–100 scale. Multiple search terms may be simultaneously queried generating results on the same linear scale. The individual search term with the highest search interest in one particular month among all search terms and months returns a value of 100 for that single month for that search term, and the values returned for all other months and search terms are then proportionate to that reference result.

¹The greatest 6 monthly neighbourhood values for each dependent variable, by chance, were identified as statistical outliers.

Table 1: Descriptive statistics for all key study variables

Variable	Mean	SD	Min.	Max.
Dependent variables				
Pedestrian stop monthly counts	67.85	118.40	0.00	1255.00
Car stop monthly counts	120.69	175.85	0.00	1441.00
Independent variables				
Local police scrutiny index	0.00	0.99	-0.77	3.65
National police scrutiny index	0.00	0.99	-0.62	4.82
Time-variant covariates				
Body-worn cameras (1 = yes)	0.04	0.19	0.00	1.00
Linear trend	0.00	17.32	-29.50	29.50
Curvilinear trend	299.92	268.16	0.25	870.25
Seasonal covariates				
Spring (1 = yes)	0.25	0.43	0.00	1.00
Summer (1 = yes)	0.25	0.43	0.00	1.00
Fall (1 = yes)	0.25	0.43	0.00	1.00

N = 9480. SD = standard deviation; Min. = minimum; Max. = maximum.

scores for news interest and search interest on a monthly scale. The monthly local news interest and local search interest values were arithmetically meaned and then standardized again to create a local scrutiny index (Cronbach's $\alpha = 0.69$), and the monthly national news interest and national search interest values were meaned to create a national scrutiny index (Cronbach's $\alpha = 0.88$).

Linear and curvilinear trends

The effect of gradual changes over time in police culture and training is controlled for in this study by the addition of two variables. A centred linear trend variable controls for linear change in vigour over time, while quadratic change is controlled for by the addition of a curvilinear variable, constructed by obtaining the squared value of the linear trend variable.⁵

Seasonality

Seasonal effects are known to impact crime, which in turn may impact police responses to crime. Accordingly, three seasons—spring (April to June), summer (July to September), and fall (October to December)—are included as separate dummy variables, with winter (January to March) as the reference category.

Body-worn cameras

The Philadelphia Police Department began implementing a body-worn camera (BWC) program during the course of

this study, and the presence of these devices has been shown to impact officer vigour (Groff *et al.*, 2020; Lum *et al.*, 2019). BWCs were implemented by police district at assorted points in time, and a dummy variable is included which indicates whether BWCs had been implemented in the neighbourhood during each particular month. If a neighbourhood is split into multiple districts, the value reflects the percentage of the neighbourhood's geographic area in which BWCs were deployed during that month.

Data management and statistical analyses were conducted using ArcMap 10.8 (Esri, 2020) and Stata/BE17 (Rabe-Hesketh and Skrondal, 2012; Taylor, *in press*), and descriptive statistics for all variables mentioned are shown in Table 1.

Analytical approach

Six fixed effects negative binomial regression models were employed. Each model examined a single dependent variable and included local and national scrutiny index variables lagged either one, two, or three calendar months behind the dependent variable and all other variables⁶. This analytic strategy was designed to examine the temporal structure of the scrutiny–vigour relationship (Taylor, 2015). A Bonferroni adjustment (Dunn, 1961) was applied to control for the experiment-wise error⁷.

Fixed effects models control for differences between neighbourhoods, essentially removing any concerns that neighbourhood-level variables excluded in this study—such as socioeconomic status (SES), race, or crime rate—might impact the statistical models (Allison, 2009; Taylor, *in press*). Fixed effects models permit a robust analysis focussed upon the key predictors (local and national scrutiny) while reducing the statistical noise. A negative binomial variety of the fixed effects model was preferred as the dependent variables are overdispersed count models (Rabe-Hesketh and Skrondal,

⁵In 2011, the Philadelphia Police Department entered into a settlement agreement—the 'Bailey Agreement'—following a lawsuit that alleged unconstitutionality in how its officers conduct ped stops. The agreement required that the department take steps to improve training, supervision, and discipline to correct deficiencies. As the agreement had already been in place and continued to be in force both prior to and throughout the entire duration of the study, it was not included as a separate covariate. Any effect that Bailey may have had upon vigour during that time would be captured within the linear and/or curvilinear trend variables, but any effects of Bailey specifically would not be discernible from the effect of any other change in police culture that occurred during that time.

⁶For example, in the models that included scrutiny at a 1-month lag as a predictor, the scrutiny index for the month of June would predict stops that occurred in July, while in the models that included scrutiny at a 2-month lag, the scrutiny index value in May would predict July, and so forth.

⁷ $0.05 \div 6 = 0.00833$.

2012). Stata's 'nbreg' command, followed by the 'noconstant' option with the inclusion of all neighbourhood dummies as separate variables performs such analyses in which all between-neighbourhood effects would be accounted for, and a coefficient value generated for each individual neighbourhood.

RESULTS

Table 2 shows a summary of the results of the six fixed effects negative binomial models, grouped by predictor. Coefficients, standard errors, and incidence rate ratios are reported for each variable.

Local scrutiny

The local scrutiny index generated varied results across the six models. A one standard deviation increase in local scrutiny resulted in a 2.8% increase in the expected count of ped stops performed in the calendar month immediately following the increase in scrutiny, followed by a 2.5% decrease in the expected count of ped stops in the 2nd month. There was no statistically significant effect upon the expected count of ped stops in the 3rd month following an increase in local scrutiny. A one standard deviation increase in the local scrutiny index resulted in a 3.7% decrease in the expected count of car stops performed in the 2nd month following the increase in scrutiny, but there were no statistically significant impacts in either the 1st or 3rd month.

National scrutiny

The effect of increases in national scrutiny upon vigour were more consistent across models. Although there was no statistically significant impact found in predicting ped stops in the

month immediately following an increase in national scrutiny, a one standard deviation increase in national scrutiny resulted in 2.9% and 4.2% increases in the expected counts of ped stops in the 2nd and 3rd months, respectively. In the models predicting expected counts of car stops, a one standard deviation increase in the national scrutiny index resulted in increased car stops in each of the 3 months that followed (1.9%, 2.5%, and 1.8%, consecutively).

Other results

The deployment of BWCs in a neighbourhood was shown to consistently impact the expected counts of car stops. At a 1-month lag, the expected count of car stops increased by 11.9% when and where BWCs were deployed, while they increased by 12.4% at a 2-month lag, and 11.8% at a 3-month lag. The deployment of BWCs in a neighbourhood did not affect the count of ped stops conducted in any model.

The linear trend variable showed that the expected count of both ped and car stops decreased over the course of the study, and the curvilinear variable showed that the rate at which ped stops decreased was slowly accelerating. The seasonal trend and neighbourhood dummy variables demonstrated myriad effects across models, which was anticipated given they were included as covariates to control for seasonal and between-neighbourhood effects, respectively.

DISCUSSION

Theoretical implications

The results show that scrutiny arising from deadly force incidents affects police proactivity for months; however, incidents that occurred in the same local jurisdiction had different impacts on proactivity to those that occurred elsewhere. The direction, size, and duration of the effects upon vigour varied by both types of scrutiny and vigour. The findings add to the expanding

Table 2: Summary of key results

Predictor	Lag	Ped stop models			Car stop models				
		Coef.	(SE)	IRR	Coef.	(SE)	IRR		
Local scrutiny	1 month	0.0274	*	0.0053	1.0278	-0.0070	0.0051	0.9930	
	2 months	-0.0250	*	0.0056	0.9753	-0.0376	*	0.0055	0.9631
	3 months	-0.0064		0.0055	0.9936	0.0093		0.0053	1.0094
National scrutiny	1 month	0.0086		0.0050	1.0086	0.0186	*	0.0049	1.0187
	2 months	0.0286	*	0.0051	1.0291	0.0247	*	0.0050	1.0251
	3 months	0.0410	*	0.0049	1.0419	0.0180	*	0.0049	1.0181
BWC	1 month	-0.0352		0.0297	0.9654	0.1124	*	0.0298	1.1189
	2 months	-0.0430		0.0294	0.9579	0.1167	*	0.0295	1.1238
	3 months	-0.0450		0.0295	0.9560	0.1119	*	0.0297	1.1184
Linear trend	1 month	-0.0280	*	0.0003	0.9724	-0.0021	*	0.0003	0.9979
	2 months	-0.0276	*	0.0003	0.9728	-0.0020	*	0.0003	0.9980
	3 months	-0.0282	*	0.0003	0.9722	-0.0030	*	0.0003	0.9970
Curvilinear trend	1 month	-0.0003	*	<0.0001	0.9997	<0.0001		<0.0001	1.0000
	2 months	-0.0003	*	<0.0001	0.9997	<0.0001		<0.0001	1.0000
	3 months	-0.0002	*	<0.0001	0.9998	<0.0001		<0.0001	1.0000

* $p < 0.00833$; IRR = incidence rate ratio; BWC = body-worn camera.

research on depolicing as well as its role within the ‘Ferguson Effect’, provide a first glance at the complicated temporal structure within the depolicing hypothesis, and open new avenues for future research.

Depolicing

The reductions in both measures of vigour two months after an increase in local scrutiny is consistent with the depolicing hypothesis; when scrutiny goes up then proactivity goes down. These findings are consistent with much of the existing depolicing research (Capellan *et al.*, 2020; Deuchar *et al.*, 2019; Gau *et al.*, 2022; Oliver, 2017; Powell, 2023). The temporary increase in ped stops experienced in the 1st month that preceded the depolicing observed in the 2nd month—a change in causal direction entirely—is, however, surprising. Also not expected are the consistent increases in vigour in each of the 3 months following increases in national scrutiny; these findings run contrary to the depolicing research, and there exist a few possibilities that may explain why our findings diverge.

Officers’ reluctance to conduct stops following periods of increased local scrutiny, but *not* following increased national scrutiny, may be the result of different risk assessments made by the officers because of the dissimilar types of scrutiny. The closer the officer is in proximity to the original basis for the scrutiny, the greater the likelihood that officer, or their co-workers or family, might know the officer involved in the fatal use of force incident. With that organizational proximity, an officer is more apt to become aware of any negative impact upon an officer involved in such an incident—either in terms of official sanctions such as discipline or an arrest, or other impacts such as becoming the subject of a viral social media video and the scorn and ridicule that likely accompany such infamy. The officer may even have a stronger opinion on such local matters, even if they do not know the officer(s) involved, simply by finding it easier to relate or empathize with another officer in the same agency. The progress of any investigations into a use of deadly force incident, and the evolution or spin of a news story over time, might impact how officers absorb, internalize, and ultimately make decisions regarding their proactivity as they adjust their assessments of the risk surrounding those decisions accordingly. Also, given that officers are often in the same social networks, the opinions and risk assessments of other officers might have a moderating impact on officer decision-making that changes over time.

De-depolicing?

The finding that officers increased their proactivity following periods of increased national scrutiny (and for ped stops briefly after increased local scrutiny) diverges from the consensus within the depolicing literature, but there are reasonable explanations for the departure. Police officers are no stranger to scrutiny; although the scrutiny since August 2014 has been far greater than it had been prior, anti-police sentiment was certainly not born in Ferguson. It is possible that some forms of scrutiny—perhaps when officers do not perceive an imposing risk emanating from it—may act as a driving force or even a challenge, stimulating officers to push back against or work through the scrutiny. Indeed, many of today’s police officers were recruited from the ranks of the American military, where such an ‘embrace the suck’ mentality to overcome difficult challenges is embraced (Bay, 2017).

Supervisory intervention may also have played a role in the increased proactivity, as supervisors—who are just as apt to experience scrutiny as their officers—may have undertaken efforts to pre-emptively mitigate depolicing impacts before they had a chance to take hold. This contention may be supported by the research of Nix and Wolfe (2016), who found that officers who believed their supervisors and departments treated them fairly were less affected by such negative scrutiny. The authors suggested that in order ‘to minimize the impact of negative publicity and the Ferguson Effect on officers, agencies must strive to use organizational justice as a guiding principle of their managerial philosophy’ (Nix and Wolfe, 2016, p. 18). Accordingly, supervisors who treated their employees with fairness and respect amidst the heightened scrutiny may have fared more positively in their efforts to keep them engaged and motivated.

A change in reporting behaviour by police might also explain the increases in vigour in each of the months in which such increases were observed. Following a period of increased scrutiny, officers may feel more inclined to exercise circumspection in their actions. This may result in improved reporting behaviour by officers of stops they conducted, with more true stops consequently being captured by the data. While this seems contradictory, the result may be reflective of a reduction in actual stops, but an overall increase in recorded stops. Another possibility is that officers are over-reporting interactions which do not strictly fall into the defined criteria of a ped stop. Officers may be recording and documenting citizen interactions as stops if they fear their assessment that a citizen was free to leave (which would render the interaction not an *investigatory stop* but rather a *mere encounter*) may not have been shared by the citizen or a supervisor reviewing the action.

BWC

The sizable effects of the presence of BWCs upon officers’ inclination to conduct more car stops—but not ped stops—is notable. Our ancillary finding aligns with the research of Braga *et al.* (2022), who recently found that BWCs increase officers’ likelihood of conducting stops, and diverges from that of Groff *et al.* (2020) who found the devices reduced reported ped stops by 46.4% and had no effect on vehicle stops. The research into the effects of BWCs upon officer behaviour is still growing and there exists little consensus as to the effect of the former upon the latter (Lum *et al.*, 2019), but this study adds to that discussion.

Practical implications

Police officers exercise discretion in their duties (Gottfredson and Gottfredson, 1988), but their supervisors and commanders—typically being veteran officers themselves—will likely have behavioural expectations of officers in certain situations. One of those expectations may be that officers will stop suspicious people when they believe criminal activity is afoot. This study shows that, in the face of increased scrutiny, the likelihood that an officer may conduct a stop changes: in some cases, the officer is more likely to conduct a stop, and in other cases, the officer is less likely. This varies by both type of scrutiny and the time that had elapsed since the incident that sparked additional scrutiny.

Although the general desirability of police proactively conducting ped stops has been questioned on the position that the potential harms to police legitimacy and the health of those stopped outweigh the gains (Weisburd *et al.*, 2023), it has also been argued that those metrics are not easily compared and there remain demonstrated public safety benefits in crime reduction (Ratcliffe, 2023). The effectiveness of many policing strategies is predicated—perhaps implicitly but grounded nonetheless—upon the belief that an officer will stop suspicious persons. The efficacy of an offender-focussed policing strategy will almost certainly be reduced if a gang or narcotics task force officer sees a known offender with an ‘L’ shaped bulge in their waistband but is now less likely to stop them. Similarly, a hot spots policing response that sees the deployment of officers to a business corridor riddled with overnight commercial burglaries may be less successful if officers are not as likely to engage a person with a brick in their hand looking into store windows at 3 am. Police agencies utilizing offender-focussed or hot spots strategies such as these may need to adjust in the aftermath of increased scrutiny if such a local event generates it. Conversely, however, these policing strategies may become more effective in the wake of non-local events that generate scrutiny nationally, as officer vigour and proactivity increased in this study following this type of scrutiny. Accordingly, police commanders making both strategic- and tactical-level decisions should be keenly aware of the current environment pertaining to the types and levels of scrutiny to which their officers are exposed, as this study suggests it may impact their performance and, consequently, that of their selected policing strategies and tactics.

Limitations

A few limitations should be noted. The study uses police stop data, and there are well-recognized limitations surrounding the accuracy and completeness of police data (Biderman and Reiss, 1967). Additionally, the measures for scrutiny are proxy measures. There is no simple and direct quantitative measure of scrutiny, so the study used proxies grounded in previous research (Capellan *et al.*, 2020; Gross and Mann, 2017). Limitations might also exist in the selection of the temporal unit of analysis, as there is no agreed-upon ideal such unit within the depolicing research. The lack of academic accord on the matter, however, implies that at present any depolicing study would suffer from this limitation. We also recognize that the inclusion of linear and curvilinear trend variables admittedly may have absorbed and subsequently masked what may be long-term impacts of depolicing; however, their inclusion permitted a more statistically robust analysis of the effects of the key scrutiny predictors upon vigour and their temporal relationship. Finally, BWCs were implemented at a different geographic level—the police district—than the neighbourhood level of analysis used in this study. Their presence in neighbourhoods was interpolated as discussed earlier.

Future research

The study presents several opportunities for future research. We found that geographic proximity to the deadly use of force incidents that become the basis for police scrutiny differentially affects how officers make discretionary decisions while facing that scrutiny. Future research might corroborate this finding

using scrutiny and proactivity data from other places or examine the effects at different geographic scales (such as the effect of scrutiny from within a metropolitan area, state or region). Additionally, this study examined the temporal structure of the depolicing hypothesis using months, but future research might use different temporal scales to determine if the changing impacts of scrutiny upon vigour might best be measured and observed in weeks, days, or perhaps hours. The effects of socioeconomic status, race, ethnicity, and crime rate upon depolicing might also be explored as potential moderators in this complicated relationship.

OTHER INFORMATION

Any views or opinions expressed in this article are those of the authors and do not necessarily represent the opinion or position of the Philadelphia Police Department or the city of Philadelphia.

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