EXPLORING THE RELATIONSHIP BETWEEN POLICE PROACTIVITY, POLICE
LEGITIMACY, AND FEAR OF CRIME

by

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DEDICATION

This thesis is dedicated to my friends, family, and wife Jennifer who tirelessly supported me through this process.

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LIST OF ABBREVIATIONS

Baltimore Police Department..BPD
Computer Aided Dispatch..CAD
Calls for Service.. CFS
Geographic Information System .... GIS
National Institute on Drug Abuse ....NIDA
National Institutes of Health .... NIH
Ordinary Least Squares...OLS
Percent of Maximum Possible ....POMP
Problem Oriented Policing... POP
Spatial Point Pattern Test... SPPT
Stop Question & Frisk .... SQF
Uniform Crime Report.. UCR
Variance Inflation Factor .... VIF

ABSTRACT

EXPLORING THE RELATIONSHIP BETWEEN POLICE PROACTIVITY, POLICE LEGITIMACY, AND FEAR OF CRIME

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This study uses the results from a community survey project in Baltimore to assess the relationship between street-level police proactivity and community outcomes, namely perceptions of police legitimacy and fear of crime. Police proactivity has been the subject of widespread criticism, specifically as it tends to concentrates at hot spots of crime, where residents may feel targeted and lead to strain in the community. However, the evidence for these criticisms is sparse and inconsistent. I employ a method of assessing police proactivity at the street level to contribute to the discussion of whether increased police proactivity inevitable leads to negative community outcomes, and whether these effects differ across different street segment contexts. Overall, I observe no significant decrease in police legitimacy or increase in fear of crime in areas with higher levels of police proactivity. However, in the highest crime streets, increased police proactivity is associated with increased perceptions of police legitimacy.

CHAPTER 1: INTRODUCTION

Bordua and Reiss (1966) and Reiss and Bordua (1967) dichotomized the general approaches to policing, introducing proactive policing as the categorical opposite to the traditional reactive approach on which most departments at the time had relied. Whereas reactive policing is driven by citizens outside of the organization, and relies on the tactics of random preventative patrol, rapid emergency response, and follow-up investigation, proactive policing is organized around the individual officers acting as proactive agents of law enforcement without a citizen complainant. Reiss (1971) noted that this approach was most useful when crime was routine and organized (and thus known to officers), and in the case of "vice crimes" such as drugs, prostitution, or gambling. When the crimes were "victimless," the police were forced to act as the sole agents of intervention. Reiss (1971) found that the police, rather than a citizen complainant, initiated 14% of the recorded police encounters, typically taking the form of field interviews or drug busts.

As the priorities of police agencies shifted toward crime control, departments developed policies that increased the amount of proactive policing on the street. Indeed, Meyer and Taylor (1975) suggested that while reactive efforts are heavily service-oriented, the proactive policing approach is central to the law-enforcement orientation of police responsibilities. The expansion of proactive policing is evident in the use of order-maintenance policing (Wilson, 1968) and problem-oriented policing (Goldstein, 1979). Order-maintenance policing demands strict adherence to addressing minor violations and incivilities, in order to prevent more serious crime problems in the future. Problem-oriented

policing employs a more communal approach, which directs police attention to persistent problems in the neighborhood and encourages the use of partnerships to address them.

In both approaches however, the officers' primary tactic is proactive engagement within the community. As Reiss (1971) suggested, these tactics are most successfully used in areas known to police as predictably problematic. This allows officers to target areas for intervention and maximize the use of and effectiveness of proactive policing by individual officers. Skolnick and Bayley (1986) suggested that freeing personnel time from the 'reactive' duties, and proactively deploying officers to address chronic high crime situations in certain neighborhoods demonstrated a useful addition to the repertoire of police strategies.

As the 2018 National Academies of Sciences report (Weisburd & Majmundar, 2018) note, it is essential to differentiate between organizational implementation or proactive policing strategies, and proactivity on the part of the individual officer. The increased focus on proactivity is evident at this individual officer level. Famega (2009) found that around a third (34.8%) of officers' time is spent doing proactive enforcement rather than responding to calls for service. This is largely due to the increased departmental focus on directed preventative patrol, and proactive investigation of officer-identified crimes. Further, Wu and Lum (2016) found that officers initiated 43% of reported calls for service. While not a nationally representative sample, this is likely reflective of overall national trends in the reliance on police proactivity, and represents a large increase from the 14% of police-initiated incidents reported by Reiss (1971). As policing became more

focused on crime prevention, the employed strategies resulted in a shift toward increased proactivity on the part of the individual officer.

The expansion of proactive policing tactics, as both institutionalized strategies and the preferred approach of individual officers can be explained in part by the effectiveness of proactivity in reducing crime. While the strategies associated with proactive policing are not homogenous, and thus cannot be singularly evaluated, there is a good deal of supporting evidence for the many interpretations of police proactivity. Braga, Welsh and Schnell (2015) found evidence of disorder policing significantly reducing crime, with most gains coming from the use of problem-oriented policing. Likewise, in a systematic review, Weisburd et al. (2010) found that problem-oriented approaches yield significant crime control benefits. The benefits of proactive policing are compounded when combined with directed focus on crime hot spots. The National Research Council (2004) noted that the implementation of proactive strategies when used in the context of hot spots policing offer some of the best empirical evidence of effectiveness. More generally, Lum, Koper, and Telep (2011) found that proactive strategies were 47% more likely to reduce crime than non-proactive strategies. These findings are echoed in the conclusions drawn by the National Academies of Sciences report on proactive policing (Weisburd & Majmundar, 2018) on the effectiveness of proactive strategies in crime control outcomes.

Despite the evidence for the effectiveness of, and the increased reliance on proactive policing, this approach is the subject of widespread criticism. Much of the criticism is directed at institutionalized proactive policing strategies, indicting them as either inherently inequitable, or as having the potential for weakening the relationships

between the citizens and police. The systematic employment of stop, question and frisk is a salient demonstration of this point. Fagan and Davies (2000) detailed the racial disparities in the employment of this proactive strategy, in which officers would initiate pretext stops to investigate potential crimes. Further, Gau and Brunson (2010) found that invasive contact initiated by police strained perceptions of the police, especially among young and minority males.

There is however a more general criticism of proactivity itself: that without the consent or request of citizen complainants, proactivity is less legitimate. Reiss (1971) argued that when proactive crime prevention efforts are mobilized internally by the police, without citizens, there is a lack of transparency and a greater potential for corruption. Further, Reiss (1971) found that police were more likely to face resistance when in situations where a citizen did not request them (see also: Kavanagh, 1997). The more general argument here is that the legitimacy of police efforts are inextricable from the consent and requests of those being policed.

Tyler, Jackson and Mentovich (2015), and Kochel (2011) expanded on this legitimacy argument, indicting the general use of police proactivity, especially in hot spots of crime, as leading to "inevitable" negative outcomes, such as decreased perceptions of police legitimacy and increased fear of crime. The theoretical argument here is that proactive policing targets high crime (largely minority) areas and that unwanted targeting by police makes the residents of those places feel as objects of suspicion and introduces tension into their relationship with police. In this way, the use of directed patrol and hot spots policing, is central to the concerns about police proactivity. Weisburd (2016) notes

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the growing opposition to the "new proactive policing" including the use of proactivity at hot spots of crime. Specifically, Rosenbaum (2006) argued that the focus on minority and poor urban areas as part of hot spots policing is then responsible for the weakening of police community relations.

There is limited and somewhat inconclusive evidence about the impact of proactive policing on community outcomes. While Gau and Brunson (2010) observed the negative impact of aggressive order maintenance policing on perceptions of police, Weisburd et al. (2011) found no negative impacts of the same style of policing on police legitimacy or fear of crime. Importantly, current evaluations of the impact of police proactivity have examined proactive policing strategies and programs: how has order maintenance policing affected fear of crime; how do pretext stops by police impact resident perceptions of legitimacy, etc. There has been very little done to evaluate the impact of proactivity more generally (at the individual officer level).

The purpose of this study is to address this gap in the literature and contribute to knowledge of how officers' proactivity affects residents' perceptions of police legitimacy and fear of crime. This allows for a broader examination than does conceptualizing police proactivity as a single proactive strategy. Further, the inclusion of both high-crime and low-crime street segments in the study allows me to examine any differential impact of police proactivity that may exist between different types of places, and thus address the criticism of whether proactive policing at hot spots of crime inevitably leads to negative outcomes among community members. I aim to test the following research questions in the current study:

(1) How does the level of proactive policing affect citizen perceptions of police legitimacy?

    a. Is the relationship between proactivity and police legitimacy contingent on whether it is a high-crime or low-crime street?

(2) How does the level of proactive policing affect citizen perceptions of fear of crime?

    a. Is the relationship between proactivity and police fear of crime contingent on whether it is a high-crime or low-crime street?

This study relies on residential survey data from the ongoing National Institute on Drug Abuse study of community health and safety among residents of Baltimore City. The project examines a stratified random sample of 449 of the 21,834 street segments in the city: 125 drug hot spots, 124 violent crime hot spots, 50 combined drug and violent hot spots, and 150 comparison segments (cold and cool spots of crime). The resident survey information collected at these streets includes measures of police legitimacy and fear of crime, which function as the outcome measures in this study. I also use data on police proactivity, here measured as the proportion of calls for service initiated by the officer, which is measured at the street level, and is connected to the resident survey data. This allows me to employ multivariate regression to examine the effects of general proactive policing levels on police legitimacy and fear of crime at the street level, controlling for relevant variables as measured by the resident survey.

CHAPTER 2: LITERATURE ANALYSIS

<u>**Defining Proactive Policing.**</u>

Policing as a discipline has undergone several paradigm shifts through the decades, but two of these traditions remain ubiquitous in modern policing: reactive policing, and proactive policing. While these two paradigms of policing developed sequentially, both are a result of the shift toward police professionalism in the first half of the twentieth century. During the post-war period in the 1940s, the reform model of policing came to replace the previous decades of political corruption among police departments (Kelling & Moore, 1988). This movement involved a complete reorientation of the police force as crime fighters (Walker, 1992). Whereas police were previously responsible for emergency medical services, and community social work, The 1967 President's Commission on Law Enforcement and Administration of Justice conceptualized police as agents of law enforcement and criminal apprehension.

This newer model of policing focused heavily on reactive policing, which is to say a generalized response to reported crime. Police relied on random preventative patrol, rapid emergency response, and follow-up investigation to achieve their goal of crime reduction. Aided by advances in technology such as radio and the mass implementation of the patrol car, police were able to move further, faster and respond to crimes quickly. Trojanowicz and Bucqueroux (1998) notes that these strategies were primarily justified by the theory of

deterrence. The mere presence of a police car would serve as a reminder to potential criminals that the police were ready to intervene. Additionally, rapid response was thought to deter criminals by suggesting that they could not outrun the police after a crime was committed.

However, the evidence does not support the generalized and reactive approach of the standard model as effective in reducing or addressing crime. The Kansas City Preventative Patrol Experiment (Kelling et al., 1974) provides the most notable criticism of the tenets of the reactive policing model. They found no significant differences in victimization between beats with normal levels of patrol and those with no patrol, or double patrol dosage. This calls into question the effectiveness of the random patrol model on which the police rely heavily. Further, Spelman and Brown (1984) found that rapid response to crimes (the other primary tactic of the reactive model) did not lead to increased probability of arrest. The National Research Council (2004) concludes that "there is weak or, at best, mixed evidence regarding the effectiveness of what we have defined as the standard model of policing". Because of these criticisms about police effectiveness under the standard reactive model of policing, Bayley (1994) asserted in *Police for the Future* that police simply do not prevent crime.

The proactive policing approach was similarly borne out of the reorientation of police officers as agents of law enforcement. Bordua and Reiss (1966) and Reiss and Bordua (1967) recognize police proactivity as categorically different from the reactive approach of the time. Police proactivity refers to officer initiated service and law enforcement duties without a citizen complainant. In this way, proactivity is guided by the

priorities of the individual officer and the police agency, rather than the citizens they police. Reiss (1971) noted that this approach to policing was particularly useful for crime and disorder that was predictable and thus known to officers, and victimless crimes that may be visible to officers but not draw complaints from non-involved citizens.

Proactive policing is well aligned with the shift toward a greater police focus on law enforcement as opposed to service-oriented duties. Meyer and Taylor (1975) examined the content of police-initiated (proactive) encounters and found that 41% of proactive encounters were law enforcement oriented, while only 24% of reactive encounters were enforcement oriented. The alignment between proactive policing and the orientation toward law enforcement is mirrored by the recommendations of Skolnick and Bayley (1986). They suggested freeing officers from 'reactive' duties to operate proactively within high-crime neighborhoods would be a useful crime control strategy. The relationship between proactive patrol and the focus on crime control and enforcement is in many ways inextricable. As such, the increased focus on crime control in recent decades increased the frequency and reliance on police proactivity. This shift occurred through both the development of police strategies that demanded increased proactivity, and the gradual shift toward proactivity at the individual officer level.

The proactive model of policing, here referring to the gamut of codified proactive policies, developed partially in response to criticism of the standard model, as well as the political and popular demand for crime control (Jackson & Wade, 2005). This paradigm differs from the standard model of policing primarily in its level of focus and broader use of tactics aimed at preventing, rather than responding, to crime. Institutionalized proactive

policing does not utilize a set of central tactics, as does the standard model of policing. Instead, it encompasses a wide array of strategies focused on controlling and preventing crime through interventions directed at communities, individuals, and the environment.

Broken windows policing, prompted by Wilson and Kelling's (1982) influential article, is an early example of proactive policing policy. The authors argue that physical disorder and social incivilities in the community contribute to more serious later crimes. The process by which this occurs is through the signaling to individuals within the community that the area is high in crime or unsafe, resulting in the withdrawal of informal social control. The initial disorder, such as graffiti or broken windows increases fear in residents and simultaneously signals to potential offenders that crime is acceptable in the neighborhood. The withdrawal of fearful residents and the arrival of potential offenders leaves the neighborhood in a spiral of decay.

The police interrupt this process through proactive order maintenance policing, by which police make arrests for petty crimes and address causes of disorder in order to prevent further serious crime (Skogan, 1990). The focus on using officer initiated investigation and arrests in order to prevent future crime is a key component of proactive policing. Thacher (2004) notes that after the apparent successes of the zero-tolerance policing in New York City, broken windows style of proactive policing was adopted throughout the country.

Another common implementation of proactive policing is the use of Problem Oriented Policing (POP) strategies, whereby police identify problems, analyze potential responses, respond through the development of interventions, and assess the impact (Eck

& Spelman, 1987; Goldstein, 1990). This proactive policing strategy is one of the most widespread interpretations of proactive policing, with several government agencies adopting POP as a primary responsibility of the police.

Proactive policing can also focus on high-risk individuals. The 'pulling levers' focused deterrence strategies established in Boston, address high risk gang members in an attempt to prevent future violence (Kennedy, 1996). Police leverage assets in the community to address violent gang members through individualized "crackdowns," threatening stiff sanctions for continued non-compliance with the law, while simultaneously offering access to services to facilitate the transition from gang life (Braga, 2008). This strategy demonstrates the central tenets of proactive policing: highly specified interventions, police initiation, and a focus on future crime prevention.

Perhaps one of the more well known of the proactive policing strategies is the institutionalized use of stop, question and frisk (SQF) as a method of proactive arrest. SQF is the police ability to briefly detain individuals when there is reasonable suspicion to believe the suspect is involved in criminal activity, followed by the potential for a search if suspicion is maintained. This police tactic is constitutionally justified by the Supreme Court case *Terry v. Ohio* in order to ensure officer safety from potentially hidden weapons. Police departments have since codified these "Terry Stops", even instituting quantitative requirements for the number of SQFs officers should be performing (Eterno & Silverman, 2012). As a proactive policing method, SQF is used to prevent street violence, seize guns (Fagan & Davies, 2003), and reduce overall crime through deterrence (Smith and Purtell, 2008).

The commonality between these policies is the increased institutional reliance and mobilization of police in proactive ways. While proactivity on the part of the police had been part of the police for decades, as noted by Reiss (1971), the expansion of the aforementioned policies increased proactivity and made it more central to the police mission. In a narrative analysis of the future of police training, Birzer (1999) noted that as more and more police agencies move toward community and problem-oriented approaches, training must increasingly focus on fostering police proactivity.

Importantly, proactivity is also an officer-level process. Even in the absence of codified proactive policies, police officers frequently initiate encounters without a citizen complainant. The aforementioned changes to organizational strategy that accompanied the adoption of modern policing and the war on drugs compelled the individual officers themselves to become more proactive. Famega (2005) assessed the utilization of downtime by officers through 1977 and identified two studies that provided estimates of officer proactivity. The Reiss (1971) study put officer-initiated encounters at 14% and Ostrom et al. (1978) found that about 6% of shift time was dedicated to proactive work. More recently, Famega (2009) found that about a third (34.8%) of officers' time is spent doing proactive patrol and enforcement rather than responding to calls for service. This is largely due to increased departmental focus on directed preventative patrol, and proactive investigation of officer-identified crimes. Johnson (2015) explained this pattern, as supervisors modelling the priorities of the department, leading to an increased use of officer downtime for proactive enforcement. Objective indicators of increasing police proactivity also support this argument. The increased organizational focus on proactivity increased the

number of investigative stops (Fagan and Davies, 2000), drug sweeps (Hemmens and Levin, 2000), and citizen contact (Novak et al., 1999).

Because of the heterogeneity of the approaches to proactive policing, it is difficult to assess the paradigm as a whole; however, there is substantial evidence for the effectiveness of the individual components of proactive policing. Braga, Welsh and Schnell (2015) found that strategies focused on policing disorder had a modest, positive impact on crime reduction, however most of this effect was driven by the inclusion of community and problem oriented policing strategies utilized at high crime places. In contrast to how some departments operationalize broken-windows policing, aggressive order-maintenance policing did not produce significant effects on crime prevention. A systematic review of 'pulling lever' deterrence strategies (Braga & Weisburd, 2012) found that nine out of ten eligible evaluations of the focused deterrence strategy indicate significant positive crime reduction benefits. Weisburd et al. (2010) conducted a systematic review of problem-oriented policing strategies and found modest positive crime control benefits from these proactive strategies. Lum, Koper, and Telep (2011) compare traditional reactive policing interventions and proactive interventions and find that proactive interventions are 47% more likely to reduce crime between the two groups. The consensus on the efficacy of proactive policing strategies is put forward by the National Academies of Sciences report on proactive policing (Weisburd and Majmundar, 2018). They conclude that place-based, problem solving, and person-oriented proactive strategies all demonstrate significant crime control benefits.

Proactive Policing at Places.

Perhaps the most widely implemented and empirically supported of the proactive policing tactics is place-based or hot spot policing. Like proactive policing itself, hot spots policing is not a singular method, but a more general approach dictating where police can focus resources for the greatest reductions in crime. Importantly, these areas are contextualized at the micro-geographic level, which is smaller than the beats of patrols typically used by police. This allows for more effective directed patrol opportunities, problem-oriented policing, and place-based interventions.

Hot spots policing developed out of the growing interest in the criminology of place that came out of a theoretical paradigm shift in criminology during the 1980s, and improvements to data collection capabilities. Until this shift, most theories of crime examine the criminal motivations of the individual as the cause of crime. The introduction of routine activities theory changed this narrative and suggested that criminal motivation is only one part of the crime equation (Cohen & Felson, 1979). They argue that crime is the result of the convergence of motivated offenders, suitable targets, and the lack of capable guardians in time and space. This idea prompted research into the impact of situation, environment, and place on crime, allowing the criminology of place to develop. Brantingham and Brantingham (1984) expanded on this idea by examining the "backcloth of crime," how specific locations may generate crime. Their crime pattern theory argued that characteristics of small areas might contribute to both opportunities for crime and the occurrence of crime at those places.

The theoretical interest in the role of place on crime was facilitated by improvements to data collection systems (Weisburd & McEwen, 1997). Prior to this, the mapping of crime, and therefore the ability to examine its role on crime was an arduous if not impossible task. The development of geographic information systems (GIS) in the 1980s and improvements to police data collection allowed for growing momentum in the study of crime and place. The ability to easily define and collect information about micro-geographic units of analysis led to a new generation of crime and place studies.

Perhaps more directly, hot spots policing developed due to the discovery of crime concentrations at the micro-geographic level (addresses or street segments), which occurred in the late 1980s (Sherman, 1988; Sherman, Gartin, & Buerger, 1989; Pierce, Spaar, & Briggs, 1988). The most influential in establishing the concept of crime hot spots was Sherman, Gartin, and Buerger's (1989) study of crime calls to street addresses over a single year in Minneapolis, Minnesota. They reported that just over half of all crime calls to the police (50.4%) were generated by 3.3% of addresses within the city. Pierce, Spaar, and Briggs reported similar findings: 3.6% of addresses produce 50% of crime calls to police in Boston, Massachusetts.

The growing body of evidence that relatively few places within the city generate a disproportionate amount of crime calls was unified by Weisburd (2015), which defines a universal law of crime concentration at place. Using data from eight demographically diverse cities, Weisburd (2015) finds that half of crime is concentrated between 4.2% and 6% of street segments in large cities, and 2.1% and 3.5% in smaller cities. Weisburd et al.

(2004) notes that this consistency in concentration of crime at place is also stable through time.

The identification of crime being concentrated at few places and concentrated consistently through time offers valuable opportunities for intervention. Whereas individuals may resist intervention, places are stable and relatively easy to apply interventions. The developments of hot spots policing, which is a conscientious focus of police resources on these small high-crime areas, is an important outcome of this logic model.

The first formal implementation and evaluation of hot spots policing was the Minneapolis Hot Spots Experiment (Sherman & Weisburd, 1995). This experiment tested the degree to which directed patrol at hot spots of crime was more effective at crime reduction than random patrol under the standard model of policing. The researchers identified 110 hot spots throughout the city, which were randomly allocated to either experimental or control conditions. The control hot spots received the normal dosage of police activity, which is to say presence due to random patrol and reactions to reported crime. The experimental hot spots received two to three times the amount of police activity, with patrols purposely directed to those hot spots. The researchers found that directed patrol at hot spots reduced crime calls for service and observed disorder. This study provided support for the importance of crime interventions at the micro-geographic level, and demonstrated that police are able to impact and prevent crime using proactive place-based approaches.

It is important to note that the police officers who participated in the Minneapolis Hot Spots Experiment were not directed to take any specific action when they were at the crime hot spots. The crime reduction benefits were due primarily to presence at the hot spots, however subsequent evaluations of hot spots policing techniques indicate that the benefits of hot spots policing are further improved by guiding the actions officers take while there. Braga and Bond (2008) observed a reduction in crime and disorder calls for service in treatment hot spots where situational crime prevention strategies were employed (see also; Weisburd & Green, 1995). Additionally, Taylor, Koper and Woods (2011) found long-term benefits in hot spots where problem oriented policing strategies were used. Braga and colleagues (1999) examined the impact of aggressive order-maintenance policing and found significant reductions in crime calls to police and improvements to visible disorder. Weisburd et al. (2016) found that stop, question, and frisk practices employed as a form of hot spots policing have a significant but modest deterrent effect on crime.

The key narrative is that hot spots policing can take many forms, but is substantially improved when other proactive strategies are combined with the place-based approach. This offers a greater level of focus for the implementation of other strategies to maximize crime control benefits. The available empirical evidence supports this assertion on the effectiveness of hot spots policing strategies.

A recent Campbell Collaboration systematic review of hot spots policing evaluated nineteen evaluations and twenty-five total test of hot spots policing (Braga, Papachristos, & Hureau, 2014). They found that twenty of the twenty-five tests reported significant crime control benefits and concluded that the hot spots approach generates noteworthy reductions

in crime within the hot spots, as well as a diffusion of crime control benefits (see: Weisburd et al., 2006). Additionally, they differentiate between studies of increased police presence at hot spots and the use of problem-oriented approaches at hot spots. They conclude that problem-oriented policing interventions generate larger effects than traditional policing at crime hot spots. A narrative review of the hot spots policing literature by the National Research Council Committee to Review Research on Police Policy and Practice (2004) concluded "…a strong body of evidence suggests that taking a focused geographic approach to crime problems can increase policing effectiveness in reducing crime and disorder".

Criticism of Proactive Policing.

Unlike that of the standard model of policing, criticism of proactive policing is not aimed at its effectiveness. The sum of evidence indicates that proactive policing interventions, such as community, problem-oriented, and place-based policing strategies yield significant crime control benefits (National Research Council, 2004). The key criticism of proactive policing is on the unintended consequences it can have on the community: the potential for disproportionate targeting of minorities or the poor and the weakening of relationships between the residents and police (Fagan & Davies, 2000; Gau & Brunson, 2010; Tyler, Jackson & Mentovich, 2015). This argument is borne out of the idea that the legitimacy of police efforts is inextricable from the consent and requests of those being policed. Reiss (1971) first argued that when proactive crime prevention efforts are mobilized internally by the police, without citizens, there is a lack of transparency and

a greater potential for corruption. Further, Reiss (1971) found that police were more likely to face resistance when in situations where a citizen did not request them.

These criticisms are not without merit, especially in the case of more aggressive proactive policing strategies. Order maintenance policing has been indicted as counter to the ideals of procedural justice and police legitimacy (Gau & Brunson, 2010). They argue that the invasive contact by police is interpreted differently by the targeted population (usually young, minority males) and the police who view police initiatives directed at minor offenses as key to crime prevention efforts (Roberts, 1999; Duneier, 1999). This disconnect in perception of police goals and actions has the potential to undermine legitimacy and procedural justice, which is important to cooperation with police and long-term crime control benefits (Sunshine & Tyler, 2003). Roberts (1999) argued that the indefinite nature of disorder and misconduct infractions have the potential to be implemented arbitrarily, leading to mistrust among residents.

Gau and Brunson (2010) interviewed 45 young, urban men in St. Louis, MO who were subjected to aggressive policing, in order to qualify their experiences with and perceptions of police. A majority of respondents reported either direct harassment by police or vicarious experiences. The researchers concluded that individuals who were stopped by police for proactive order maintenance reasons were less likely to interact willingly with the police. Further, respondents reported that the police acted in procedurally unjust ways threatening the legitimacy of police.

More specifically, stop, question, and frisk as implemented in New York City has been widely criticized as a racially biased proactive approach that may serve to degrade

citizen-police relationships (Fagan & Davies, 2000; Gelman, Fagan, & Kiss, 2007). While there is no explicit directive to target minorities, this result in practice is the cause for much of the litigation against this practice. *Floyd vs. The City of New York* found that officers stopped African Americans based on a lesser degree of objectivity than whites, leading to reform of the use of stop, question and frisk.

Limited and inconclusive evidence supports the use of stop, question and frisk. Rosenfeld and Fornango (2014) indicate a positive relationship between high-crime areas and the use of stop and frisk, however theydo not find any significant crime reduction benefit. Weisburd et al. (2015) found that the place-based implementation of stop, question and frisk has a significant, modest impact on crime but included the caveat that aggressive use of SQF may lead to decreases in police legitimacy. Fagan and Davies (2000) report that the implementation of this approach, while justified in part by Broken Window Theory, often departs by focusing on people rather than disorder and contributes to concern about legitimacy of the law, and cooperation with the police (see also: Fagan et al., 2010). Brunson (2007) notes that instances of these frequent and unwelcome contacts with police can lead this population to feel targeted or disliked by police.

This line of criticism about proactive policing is not limited to aggressive tactics such as order maintenance policing, zero-tolerance policing, or SQF. More generally, proactive policing as a whole has been described as structurally less legitimate than the traditional reactive policing model (Reiss, 1971). This is because the citizen or victim has not formally initiated much of the contact between themselves and the police. Lum and Nagin (2015) argue that regardless of the legal legitimacy of a policing approach, it is

important to meet the public standards of legitimacy as well. Sherman (1986) notes that this balance is not impossible: "proactive strategies need not abuse minority rights or constitutional due process nor hinder community relations. But the difficulties of implementing such strategies are substantial." The challenges to maintaining police legitimacy inherent to the new proactive policing strategies is responsible for this more generalized criticism.

Weisburd (2016) details opposition to what he calls "new proactive policing", including hot spots policing. He notes that there is a growing narrative of doubt, in which proactive policing strategies inevitably lead to abuse and bias against certain groups (McLaughlin, 2006). The focus on minority and poor urban areas as part of hot spots policing is then responsible for the weakening of police community relations (Rosenbaum, 2006). The reasoning here is that hot spot policing approaches inevitably leads to aggressive police tactics and that proactive policing in general leads to decreases in police legitimacy, increased fear of crime, and weakened long-term relationships between police and the community (Kochel, 2011). Tyler et al. (2015) argues for a competing model of policing, in which a focus on long-term goals of police-community solidarity and cooperation replaces the current proactive, risk-management style focused on short-term crime control gains.

Kochel (2011) concludes, "Analysis of existing literature on police legitimacy has uncovered an absence of information about police legitimacy relative to various police strategies and by residents within geographic areas who most often interact with police". It is therefore an important goal of research to identify and explore the relationship between

proactive policing and the "inevitable" unintended negative consequences these tactics may yield. The most prominent possible backfire effects of proactive policing, and the ones on which the current study will focus are community perceptions of police, and fear of crime. The following sections detail what little we know about the relationship between proactive policing strategies and the measures of police perceptions and fear of crime. It is important to note that much of what we know from previous research has focused on the effects of proactive policing polices as opposed to officer-level proactivity. This reflects a gap in our understanding of proactivity more generally and forms the basis for the current study.

Relationship between Proactive Policing and Perceptions of Police.

Policing itself is a method of social control, motivating compliance with desired values through deterrence and threat of sanctions. Proactive policing tactics tap into this idea by focusing crime prevention efforts and maximizing the impact of deterrence, yielding the crime reduction benefits detailed earlier. Tyler (1990) supplements this argument by identifying another way in which police serve as a form of social control: police legitimacy. Rather than serving solely as agents of deterrence, Tyler (1990) argues that cooperation with police and the law more generally, is enhanced when citizens view the authority of the police as legitimate. In this way, legitimacy acts as an internal form of social control, in which citizens feel obligated to defer voluntarily to the law.

Police legitimacy is important as a strategy for long-term crime control. Tyler (2004) notes that improving the legitimacy of police is key to improving both compliance with the law and voluntary cooperation with the police. Both of these are theoretically

important for crime reduction. Compliance with the law, as fostered by the perception of the law as legitimate serves as a powerful social control mechanism in preventing crime even when the police are not present. Additionally, cooperation with police leads to better identification of offenders and increased communication between the community and the police (Tyler, 2004; Sampson, Raudenbush, & Earls, 1997). The relationship between police legitimacy and compliance and cooperation are not solely theoretical. Tyler and Huo (2002), and Sunshine and Tyler (2003) both find that increased perceptions of legitimacy equate to higher actual levels of compliance with the police and the law. Reisig, Tankebe, and Meško (2014) demonstrate a similar impact of police legitimacy on cooperation with the police, with trust in police and procedural fairness being the most important indicators.

The process model of police legitimacy posits that public perceptions of police legitimacy are mediated primarily by procedural justice, which is the belief in fairness of the processes that lead to an outcome, rather than the distributive outcome itself (Sunshine & Tyler, 2003). This claim is however, unsupported by the National Academies of Sciences (2018) report on proactive policing, which concludes that there, is insufficient evidence to draw causal inference that procedural justice influences perceptions of police legitimacy. Tyler and Blader (2013) attribute the perception of procedural fairness to citizen participation in the process, perceived neutrality of the police officer, treatment with dignity, and perception of trustworthy motives. Hinds and Murphy (2007) and Mazerolle et al. (2013) demonstrate the impact of procedural justice on perceptions of police legitimacy. In a randomized controlled trial, Mazerolle et al. (2013) found more positive evaluations of legitimacy when participants were subjected to a procedurally just stop,

compared to the control condition. Conversely, the violation of procedural justice may subsequently harm long-term community support for police and potentially lead to increases in crime (Fagan & Tyler, 2005; Paternoster et al., 1997; Sherman, 1993).

However, Tankebe (2013) argues that police legitimacy is not shaped primarily by procedural justice, but by a number of factors including: effectiveness, distributive fairness, procedural fairness and lawfulness (see also: Bottoms & Tankebe, 2012). This perspective emphasizes that what police substantively do is as important as how they do it in shaping perceptions of police legitimacy. Tankebe (2009) supports this argument by demonstrating the importance of utilitarian factors such as effectiveness in shaping perceptions in police legitimacy, more so than evaluations of procedural fairness. Reisig, Tankebe and Meško (2014) further support the idea that police legitimacy spans beyond perceptions of procedural justice. They found that trust in the police, improved by perceptions of effectiveness, account for increases in both legitimacy and cooperation with the police.

The aforementioned critics of proactive policing argue that the focused presence of police in high crime areas and the potential for abusive practices lead to reductions in citizen perceptions of procedural justice and thus police legitimacy. Tyler and colleagues (2015) suggested there is a dichotomy between enforcement oriented proactive policing, as it exists now and a 'newer proactive policing' explicitly focused on fostering relationships between communities and the police.

The argument is that proactive policing approaches as they are often operationalized in hot spots context make members of the community feel more like targets than partners (Tyler, Jackson & Mentovich, 2015). Overt presence and aggressive

strategies used at hot spots signals police as invaders and often communicates suspicion to residents. The use of more aggressive proactive strategies at high crime streets weakens citizen perceptions of procedural justice and thereby police legitimacy (Kochel, 2015; Rosenbaum, 1998). Further, Tyler (2015) makes specific note that this logic extends beyond the proactive stops as part of SQF. The pervasive risk-management style is responsible for citizens perceiving themselves as suspects in the eyes of police. Under the current theory of police legitimacy, this weakening may lead to reduced compliance with the law, aggression and non-cooperation with police officers, and long-term damage to crime control.

The evidence on the impact of general proactive policing on procedural justice, and police legitimacy is limited and mixed. The most consistent evidence on the negative impact of proactive policing on police legitimacy are the evaluations on aggressive order maintenance policing (Gau & Brunson, 2010) and SQF (Fagan & Davies, 2000). The connection between this evidence and more general proactive policing at hot spots is currently theoretical. Braga, Papachristos and Hureau (2014) and Koper (2014) indicate that hot spots policing approaches are primarily enforcement-oriented and may have similar impacts on perceptions of police but further studies are necessary. Current empirical studies do not support this logic, and Kochel (2015) notes that the lack of formal evaluations of this claim do not allow for definitive assessments.

Weisburd et al. (2011) conducted a block randomized trial evaluating the impact of 'broken-windows' policing on police legitimacy as compared to control blocks without intervention. They find no evidence that the enforcement-oriented approach significantly

affected residents' perceptions of police legitimacy. However, the treatment condition received only about three hours of the additional proactive policing, which may not have been enough to prompt true shifts in perceptions of the police over the course of the study. Similarly, Kochel, Burruss, and Weisburd (2016) found no lasting impact of hot spots policing on citizen perceptions of the police, though they did note initial adverse effects of mistrust of police and concerns about procedural justice. Neither of these resulted in long-term deficits and the two treatment groups (problem oriented policing; directed patrol) maintained increased cooperation with police after the study.

These studies help to counter the narrative that proactive approaches in hot spots inevitably lead to abusive practices and threaten police legitimacy. One alternate narrative is that residents simply were not aware of changes to policing tactics and therefore experienced no shift in their perceptions of police (Skogan, 1990; Shaw, 1995). Alternatively, residents may perceive high rates of crime to be a crisis in their neighborhood and welcome increased police attention (Chermak, McGarrell, & Weiss, 2001).

Police legitimacy, as engendered by procedural justice, is both intrinsically valuable in a democratic society as well as instrumental in facilitating long-term crime control goals. Thus, it is important to determine the impact, if any, that proactive policing generally has on these key measures of citizen perceptions of police. While there is some evidence that proactive policing enforcement at hot spots does not threaten police perceptions as theorized by Sunshine and Tyler (2003), more empirical evidence is needed

to assess the relationship between the general use of proactive strategies at hot spots and police legitimacy.

Relationship between Proactive Policing and Fear of Crime.

Fear of crime is commonly defined as "the negative emotional reaction generated by crime or symbols of crime" (Ferraro & LaGrange, 1987), however this ignores the cognitive and behavioral components of fear of crime. This construct is not only an affective measure of worry, but also a cognitive evaluation of likelihood of victimization, and an evaluation of actions taken in response to fear. Skogan (1986) aggregated these elements of fear of crime and argued that fear of crime can cause withdrawal form community life, weaken social control and collective efficacy of the neighborhood, and ultimately lead to a deterioration of neighborhood living.

The cause of fear of crime is not limited to objective evaluations of the current state of crime in the community, though these factors do play some role (Skogan & Maxfield, 1981). Media consumption (Dowler, 2003), socioeconomic demographics (Will & McGrath, 1995), victimization experiences (Liska, Sanchirico, & Reed, 1988), social cohesion / collective efficacy (Gibson et al., 2002) all affect individual reporting of fear of crime. Importantly, police play an important role in shaping residents' fear of crime. Weisburd and Eck (2004) argued that innovative policing strategies, such as community, place-based and problem oriented policing improve police effectiveness and result in reductions to fear of crime. Zhao, Schneider and Thurman (2002a) supports these claims: community-policing initiatives were successful at reducing citizens' reported fear. Ultimately, the police, through positive contact, presence, and effectiveness are

instrumental in shaping fear of crime. The ways in which police impact perceptions of fear of crime is currently an area of contention.

The argument that proactive policing can increase residents' fear of crime follows the same basic principles as the argument for public perceptions of the police (Kochel, 2011; Rosenbaum, 2006; Braga & Weisburd, 2010). The intense focus of police attention at high-crime areas may serve to signal both that the area is indeed high in crime, and that their fear of crime is justified (Wilson & Kelling, 1982). Additionally, proactive enforcement oriented approaches may erode the public's confidence in the police which is closely tied to fear of crime (Hawdon, Ryan, & Griffin, 2003). This is especially important, as residents' fear of crime is related to willingness to engage with the community and police (Skogan, 1990), which is important for sustaining long-term crime control benefits.

There is however, little evidence to support the argument that police proactivity leads to increased resident fear of crime. Hinkle and Weisburd (2008) found that broken-windows policing tactics increased the probability that residents felt unsafe, measured as whether they fear walking on their block at night. The increases in fear from increased police attention may offset any short-term gains made by addressing the causes of disorder on the block. In a similar, but more methodologically focused test, Weisburd, Hinkle, Famega and Ready (2011) found no significant backfire effect of disorder policing on fear of crime.

There is stronger empirical evidence that the antithesis to this argument may be true. The increased police presence and proactive policing approach may alleviate citizen's fear of crime. Hawdon, Ryan and Griffin (2003) found that police presence and visibility

might have a positive impact on trust in the police and reduce the magnitude of effects from negative interactions. They argued that when police were present, not only could they observe the citizens, but also it allowed the citizens to see what the police were doing. Basic police presence is a necessary antecedent to proactive policing, as police can only operate proactively where they already are. Thus, the impact of police presence on perceptions of police and fear of crime additionally support the argument that proactive policing decreases rather than increases fear of crime.

In a review of literature on policing styles and fear of crime, Zhao, Schneider and Thurman (2002b) found that police presence decreased fear of crime in 31 of the 50 studies they examined. Further, the reductions in fear of crime were strengthened when proactive community strategies were employed. The evidence on the impact of proactive policing on fear of crime is somewhat less ambiguous that that on police legitimacy. The current evidence suggests that the strategies employed at high crime areas that may increase residents' fear of crime rather than the presence and more general proactive activities of police.

Fear of crime is an important metric for managing long-term crime control benefits (Skogan, 1990) and for assessing the public's confidence in the police's ability to control crime (Hawdon, Ryan, & Griffin, 2003). Tyler, Jackson and Mentovich (2015) find that increased fear of crime is significantly related to reduced reporting of crime to the police. Aside from the utility of managing fear of crime, there is an intrinsic benefit to fostering feelings of safety within communities. While the available evidence does not support the

negative impact of proactive policing on fear of crime, it is important to further and more directly assess how proactive policing as a whole may impact residents' fear of crime.

Current Study.

The presented evidence on the relationship between proactive policing and community outcomes demonstrates a clear need to understand further whether proactivity can have negative consequences on public perceptions. However, much of the current research conceptualizes proactivity as institutionalized practice, and does not examine the impacts of officer-level proactivity. To date, I have identified only one study examining the impact of officer-initiated [proactive] contact on perceptions of the police. Rosenbaum et al. (2005) surveyed Chicago residents and identified respondents who had experienced an officer-initiated encounter, using this to explain a composite measure of attitudes towards police. They found that direct contact in an officer-initiated encounter did not predict attitudes toward police. The authors warn though that their measure of attitudes may reflect long-term beliefs formed by cumulative exposure to proactive encounters. In this study, I aim to supplement our understanding of the relationship between perceptions and proactivity by individual officers. Further, by focusing on overall levels of police proactivity, this study may address the cumulative effects of exposure to proactivity.

This study capitalizes on ongoing survey research at crime hot spots in Baltimore, Maryland (Weisburd, Lawton & Ready, 2012) and recent developments in the measurement of proactive policing (Wu & Lum, 2016). The National Institute on Drug Abuse (NIDA) Community Health and Safety Project in Baltimore[1] longitudinally assesses

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a range of health, crime, and resident perceptions at street segments throughout the city. The resident survey collects data on resident perceptions of police and crime on their street, providing dependent measures for an appropriate sample of residential hot spots throughout the city.

Wu and Lum (2016) note that while there is a great deal of evidence supporting the effectiveness of proactive policing interventions, researchers know less about how frequently and in what ways police actually conduct proactive policing. Measurement of police proactivity has been historically imperfect. Police agencies as a whole may report the use of proactive techniques more generally, but there is little information about how and how often officers implement proactive techniques. Koper (2014) found that police agencies differ in their reporting and classification of proactive policing activities, such that two similarly reported strategies might be operationalized so differently as to not be comparable. The lack of consensus on the use of proactive policing techniques is confounded by a lack of knowledge on their prevalence within the department. Famega (2005) found that between 37% and 86% of an officer's time is uncommitted, which is when officers would be able to carry out proactive efforts, though there has been no systematic evaluation of how this uncommitted time is actually spent.

Famega (2009) offers the closest approximation of officer use of time and involvement in proactive policing. Using systematic social observation of police officer shifts in Baltimore, Maryland, Famega (2009) examined the dedication of uncommitted time to both reactive and proactive policing tasks. She found that just over half (50.3%) of police, time was dedicated to proactive police activities. A majority of this time (34.8%)

was patrol, which was defined exclusively as a proactive approach, and only 1.25% of officer time was crime-related. While this offers an insightful cross-section of one police department at one time, it does not provide means to evaluate the level and nature of proactive policing more generally.

Wu and Lum (2016) suggest that police proactivity can be measured using calls for service (CFS) data. Using this measure, officer-initiated activities serve as a proxy for how often police initiate contact with the public where police spend their time. This allows researchers to estimate police proactivity at the micro-geographic level, and see past the variability between individual officers, beats, and shifts. This methodological innovation does not require social observation of officers, which is often time and cost prohibitive. Instead, a more general understanding of police proactivity is available within the CFS data, accessible to a wider range of police departments and researchers. Lum and colleagues (2018) conduct a similar study in four police departments and find proactivity levels between 39% and 48%. They note that little is known about the implementation of proactivity more globally, but that CAD data may provide insight into understanding the typs of proactive measures police take.

Using the 2013 Baltimore Police Department calls for service data as a proxy for proactive policing, and the 2013 NIDA community resident survey addressing citizen perceptions of crime and police, I address the following questions using a random-intercepts multilevel model:

(1) How does increased proactive policing affect citizen perceptions of police legitimacy, and is this relationship contingent on the level of actual crime on the street?

(2) How does increased proactive policing affect citizen fear of crime, and is this relationship contingent on the level of actual crime on the street?

The multilevel model accounts for the individual-level predictors of the respective dependent measure, and the cluster (street) level measure of police proactivity:

$$Y_{ij}^{(Dependent\ Measure)} = \gamma_{00} + \gamma_{01}^{(Proactivity)}{}_{j} + \gamma_{02}^{(Crime)}{}_{j} + \gamma_{10}^{(Sex)}{}_{ij} + \gamma_{20}^{(Age)}{}_{ij} + \gamma_{30}^{(Race)}{}_{ij} +$$
$$\gamma_{40}^{(Education)}{}_{ij} + \gamma_{50}^{(Employment)}{}_{ij} + \gamma_{60}^{(Social\ Disorder)}{}_{ij} + \gamma_{70}^{(Physical\ Disorder)}{}_{ij} + \gamma_{80}^{(Arrested)}{}_{ij} +$$
$$u_{1j}^{(Sex)}{}_{ij} + u_{2j}^{(Age)}{}_{ij} + u_{3j}^{(Race)}{}_{ij} + u_{4j}^{(Education)}{}_{ij} + u_{5j}^{(Employment)}{}_{ij} + u_{6j}^{(Social\ Disorder)}{}_{ij} +$$
$$u_{7j}^{(Physical\ Disorder)}{}_{ij} + u_{7j}^{(Arrested)}{}_{ij} + u_{0j} + e_{tj}$$

These research questions intend to contribute to an ongoing debate in the literature about the potential backfire effects of proactive policing at hot spots. While the current research offers no definitive answer to the nature of this relationship, there is enough to hypothesize that the "inevitable" harm to citizen perceptions of police and increases to fear of crime will not occur (Weisburd, Hinkle, Famega and Ready, 2011; Kochel, Burruss, and Weisburd, 2016). Given the previous research, I anticipate that the level of proactive policing in hot spots will not significantly predict a subsequent reduction in perceptions of police, or increase in the fear of crime. If there is correspondence between levels of proactive policing and low police legitimacy, low procedural justice, or high fear of crime, they will be explained by structural and individual factors beyond the presence of high police proactivity. While this design does not lend itself toward attributions of causality, a negligent relationship between police proactivity and the outcome measures of police

legitimacy, procedural justice, and fear of crime provides support for the argument against

the inevitable backfire effect of proactive hot spots policing.

CHAPTER 3: DATA AND METHODS

Data Collection.

The survey and corresponding police data was collected in Baltimore City, Maryland, a large city in the Mid-Atlantic United States. Baltimore City includes a population of approximately 620,000 residents within 80 square miles (US Census, 2010). The population is majority African American (67%) and 30% White. Compared to the national average of 13.5%, nearly one quarter (23.7%) of Baltimore residents live below the poverty line. While crime in Baltimore, like many US cities, has declined since the 1990s, in 2013 the violent crime rate was still more than four times the national average for U.S. cities with a population of 100,000 or greater. The Baltimore Police Department, which services this population, is the eight largest municipal force in the United States with nearly 3,100 civilian and sworn personnel.

I utilize resident survey data collected as part of the ongoing National Institute on Drug Abuse (NIDA) Community Health, Anti-social Behavior and Safety at Street Segments study. The focus of the study is to understand how living on drug and violent crime hot spots impacts health, drug use, victimization, and community perceptions. The survey's inclusion of measures of police legitimacy, procedural justice and fear of crime allows for relevant analyses in the current study.

This study examines a stratified random sample of 449 of the 21,834 street segments in the city: 125 drug hot spots, 124 violent crime hot spots, 50 combined drug and violent hot spots, and 150 comparison segments that reflected cool spots of crime (N=101) and cold spots of crime (N=49). Further, only street segments with 20 or more households were included in the sampling frame in order to ensure enough survey data was possible to develop reliable estimates at the street segment level. Once these sampling frame selection criteria were met, street segments were randomly selected within the strata, such that no contiguous street segments could be included to ensure spatial independence. Figure 1 shows the distribution of the 449 street segments selected for the study. The visible spatial heterogeneity of street segment type is consistent with the literature on crime concentrations at the micro-geographic level (Weisburd, Groff, & Yang, 2012; 2014; see also Weisburd, Morris and Groff, 2009).
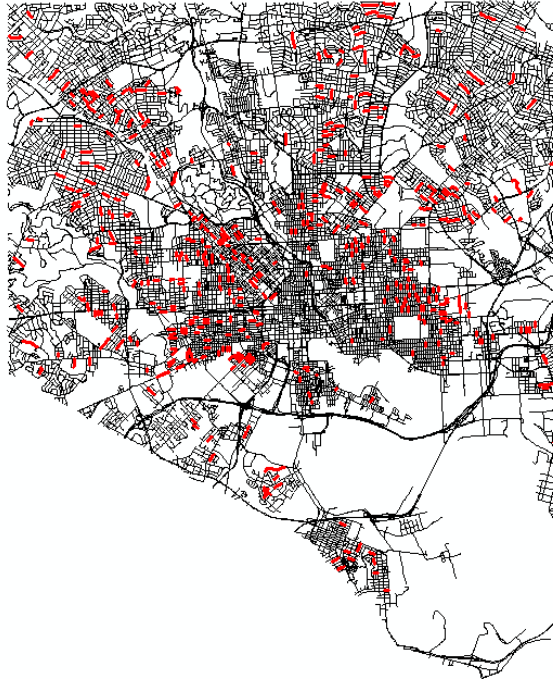
Figure 1. Distribution of sampled street segments throughout Baltimore, MD.

In-person surveys were conducted at residences on these street segments. Interviewers were directed to visit a random sample of 25 households on the street segment and speak to any available and willing party, with the goal of attaining seven to ten surveys per street segment. Segments were visited in random order throughout the data collection period, though when few surveys remained, researchers utilized a more directed data collection approach. Faced with non-response and non-compliance, interviewers returned to the household an average of four times and as many as twenty-five times for each completed survey. Accounting for invalid or vacant households, of which there are many throughout Baltimore, the contact rate was 56.1%, with a cooperation rate of 63.6%, above

average for door-to-door surveys. Surveys took an average of 20 minutes and respondents were compensated fifteen dollars for participation.

Viable survey data was collected from 3,742 residents on these 449 street segments between September of 2013 and May of 2014. Table 1 summarizes the demographic characteristics of our sample compared to the Census estimates of Baltimore as a whole. The sample is not representative of the city as a whole, due to the over-representation of lower-income, and primarily African American, street segments. Varied survey times reduce demographic differences within the sample's street segments, as interviewers were able to reach both working and non-working residents, though disparities still exist.

Table 1. Characteristics of Survey Respondents

	Baltimore City (a)	Survey Respondents (n=3,742)
White	29.6%	16.0%
Black	67.3%	75.5%
Asian/Pacific Islander	2.3%	1.0%
Other/Mixed/Native American	0.8%	7.5%
Hispanic	4.7%	4.7%
Female	52.9%	58.2%
Median Age	34.6	44.0
Less than High School	19.1%	19.2%
College Degree or Higher	27.7%	16.8%
Unemployment	11.8%	34.2%
Total HH Income < $10K	13.1%	19.7%
Total HH Income > $100K	20.8%	4.7%

The second primary data source for this study is official call data provided by the Baltimore Police Department. This dataset included all officer and citizen initiated CFS for

2013, though only violent, drug, and general crime and disorder calls were retained for analysis. All administrative calls were dropped. Table 2 details the call codes and types that constituted predatory violent crimes, drug crimes, and the other category of general crime and disorder, consistent with the UCR Type I and Type II offenses.

Table 2. CAD Code Classification

Violent Crime	Drug Crime	Other Calls	
Carjacking	Narcotics	Assist Officer	Purse Snatch
Rape (force)	Narcotics Outside	Unauthorized Use	Auto Larceny
Bank Hold Up	Narcotics On-View	Suicide Attempt	Bicycle Larceny
Robbery Armed		Other Sex Offense	Larceny
Robbery Unarmed		Cab Robbery	Illegal Dumping
Cutting		Involuntary Detention	False Pretense
Shooting		Family Disturbance	Street Obstruction
Aggravated Assault		Street Disturbance	Destruction of Property
Common Assault		Animal Disturbance	Child Abuse (Sexual)
Abduction - Other		Animal Cruelty	Gambling
Sniper		Vehicle Disturbance	Auto Theft
		Armed Person	Prowler
		Disorderly Person	Discharging Firearm
		Prostitution Complaint	Bomb Scare
		Missing Person	Mental Case
		Suspicious Person	Special Curfew
		Intoxicated Person	Barricade
		Burglary	Abduction (Parent)
		Wanted on Warrant	Stop and Frisk
		Drug Free Zone	Search & Seizure

		Child Abuse (Physical)	Child Neglect
		Loud Noise	Accident (Hit & Run)
		Investigate Auto	Accident (Pedestrian)
		Looting	DWI

The 2013 CFS data were geocoded to the address level with a match rate of 96%, which exceeds the minimum acceptable hit rate as defined by Ratcliffe (2004) in order to reduce the odds of a biased pattern in address matching. There were over one million calls geocoded to our map of Baltimore, of which 68,069 occurred on our chosen street segments. I omitted administrative calls and was left with under 55,717 crime calls on our sampled street segments. Of these crime calls, 14.6% are predatory violent calls, 19.2% are drug calls, and 66.2% are other crime and disorder calls. Contextual variables within the CFS data allowed for the street-level estimation of proactivity. Of the 55,717 included calls, officers initiated approximately 25.25%, which is consistent with the recent trend toward officer-level proactivity.

Units of Analysis.

The units of analysis for this study are the individual residents who completed the community survey (N=3738).[2] The perceptual dependent measures and control variables in the survey are collected from and attributed to the individual. The survey respondents are then nested to their street segment level, the level at which crime level, and the level of proactive policing is defined.

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[2] 4 cases were excluded due to insufficient survey data.

Dependent Measures.

This study employs three separate dependent measures. One outcome measure assesses perceptions of police legitimacy using procedural and distributive outcomes, and two more are used to operationalize the distinct components of fear of crime (feelings of safety, fear of victimization). All three dependent variables are scales made up of multiple Likert survey questions. I employ the 'POMP' (Percent of Maximum Possible) method of linear transformation in order to treat scale outcomes as ratio level variables for analysis. This is preferential to dichotomizing scale variables, which results in a loss of information, as well as standardizing the units for comprehension and comparison across studies. Refer to Cohen et al. (1999) for a detailed discussion on the 'POMP' method of scaling. The use of POMP has been recently used for measuring police legitimacy (Kochel, 2017), legitimacy and procedural justice (Sargeant & Kochel, 2016), and general community measures (Kochel, Burress, & Weisburd, 2015).

Police Legitimacy.

I operationalized police legitimacy accounting for both the Sunshine and Tyler (2003) model focused on procedural justice, and the Tankebe (2013) model focused on police effectiveness and trust. The scale is composed of eight items measured on a four-point Likert scale from 'strongly disagree' to strongly agree. The first question "If a person is doing something and a police officer tells them to stop, they should stop even if they think what they are doing is legal" measures police legitimacy itself, in a person's willingness to obey police. Three questions relate to the effectiveness outcomes of police: "In general, the police do a good job preventing crime", "The police do a good job

controlling drug activity", and "The police do a good job enforcing traffic laws". Three questions relate to procedural justice: "Police officers treat people fairly," "In general, police care about problems on your block," and "In general, police officers treat people with respect." The final included item, "I always try to follow the law even if I think it is wrong" corresponds to legitimacy of the law, or lawfulness under the Tankebe (2013) conceptualization of police legitimacy. The police legitimacy scale is highly reliable (α = .83) and includes 78% of cases after list-wise deletion.

Fear of Crime.

Fear of crime is operationalized as two separate constructs, as is mandated by the literature. The first measure examines perceptions of safety, which is a cognitive assessment of how safe one's block is. It is important to consider the cognitive elements to fear of crime, as Skogan (1986) argued that these aspects of fear might lead to a withdrawal from community life. Perception of safety is measured using a scale of four items measured on a four-point Likert scale from 'strongly disagree' to 'strongly agree' with the following statements. "It is safe for children to play outside on your block," "In general, it is safe to walk on your block at night," "It is safe to go outside alone during the day," and "Most people think your block is becoming more dangerous." The last question was reverse coded to ensure consistency in direction. These four questions are consistent with Ferraro and Grange's (1987) exposition on the measurement of fear of crime and safety. The reliability of the perception of safety scale is acceptable (α = .71), and includes 91% of cases after list-wise deletion.

The second measure examines an affective fear of crime, whether a respondent is worried that they will be victimized. Warr (2000) argued crime-specific measures of fear of crime may be more sensitive than an omnibus measure of crime. As such, I employ a four-item scale measuring the level of worry for "someone breaking into your home", "somebody threatening to take money or property from you", "somebody attacking you on your block", and "someone damaging or vandalizing your property". While included in the survey, the two questions about car theft and sexual assault were excluded as they applied to only a subset of the population. These items were measured on a three-point Likert scale from "not worried" to '"very worried". The affective fear of crime scale is highly reliable (α = .86) and includes 98.5% of cases after list-wise deletion.

Independent Measures.

This study includes ten independent variables. The primary explanatory variable is the level of police proactivity on the street segment, as it applies to the residents. Another main independent variable of interest is the level of crime on each street, serving as an important control for both perceptions of police, fear of crime, and the levels of police activity. Several socioeconomic and demographic variables are included as controls.

Police Proactivity.

The Baltimore CFS data contained a variable identifying the call as being either citizen or officer initiated, recorded as "On View" in the CAD system. Following the rationale of Wu and Lum (2016), I used the officer-initiated calls for service to identify instances of proactive policing. In 2013, 74.75% of the relevant CFS were initiated by

citizens and the remaining 25.25% were initiated by officers. The officer-initiated calls related to administrative duties were excluded from these analyses.

The individual instances of proactive policing were then aggregated to the street segment level as a measure of the general level of proactive policing on that particular street segment. I did this by creating a proportion, representing the percentage of CFS at the street segment level, which were initiated by the officer. In this way, streets with a greater focus on proactive policing would have higher values. As Wu and Lum (2016) found, these levels of proactive policing correlate highly to the actual levels of crime at the census tract, block group, and block level. They further hypothesize that this pattern would be observable at the micro-geographic level, though their data do not allow for that level of detail. This measure of police proactivity assigns a value to street segments at the micro-geographic level.

While the behaviors of the officers on proactive calls is not available, the CAD data does allow for characterizing the types of calls that are typically addressed proactively by the police. In line with Lum et al.'s (2018) assessment of the nature of proactivity, the largest share of proactive calls initiated by the police were auto stops (39.0%). Field interviews and searches accounted for 25.7% of proactive calls and on view narcotics accounted for 6.3%. The street-level and investigatory nature of these crime calls differ from the reactive calls for service which address reported violence and property crimes within the home.

Level of Crime.

This study measures crime using collapsed classifications of street segments into either control segments or high-crime segments (hot spots). These classifications were made using thresholds for crime counts on each street as measured by BPD emergency calls for service in 2012. The drug hot spot and violent hot spots sampling frame included all residential street segments in the top 2.75% for drug and violent crime calls respectively. The combined drug/violent street segments were in the top 2.25% for both drug and violent crime calls. The comparison street segments were all segments that did not meet the hot spots thresholds. The comparison sample was later divided to represent cold spots, which had three or fewer drug and violent crimes in the 2012 selection year.

For the purposes of controlling for levels of crime in the models, this operationalization is insufficient, as there is no inherent order to the categories, other than low crime control segments and high crime hot spot segments. There is variability in the number of crimes on each segment within the hot spot type classification. Thus, crime is also operationalized as a percentile score, allowing for additional variability within street-type classifications and limiting the role of outlier streets, such as those with crime counts in over 600.[3]

Control Variables.

The resident survey included several questions about key demographics related to both fear of crime and perceptions of the police. Among these are sex, race, age, education

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[3] As a sensitivity test of this variable, I also ran the models with a log transformation measurement of crime and the results remained consistent.

level, and employment status. For further information on the demographic and structural antecedents of fear of crime and police legitimacy see; LaGrange and Ferraro, (1989); Schafer, Huebner & Bynum, 2006; Box, Hale, and Andrew (1988); Hinds (2009); Skogan, 2005; and Cao, Frank, and Cullen (1996).

Sex is measured as a binary variable recorded by the interviewers after the survey as either male or female. *Race* is a categorical variable asked in the survey as "Would you best describe your race as". Because a majority of participants responded either Black (75.5%) or White (16%), other response options were collapsed into a third "Other" category. *Age* is measured in years old, converted from the original question of year born. *Education Level* is an ordinal variable of educational attainment ranging from "some middle or high school", "high school diploma", "some college", "Associate's degree", "Bachelor's degree" and "Master's, Graduate, or Professional degree". *Employment Status* is a categorical variable with values of working (either part or full time), unemployment, or retirement. Another important individual-level characteristic included for analysis is a binary measure of whether the respondent reports having been arrested or not in the past year, as this may significantly affect perceptions of police legitimacy.

The relationship between fear of crime and physical disorder and social disorder is well documented in the literature (see: LaGrange & Ferraro, 1992; Hunter, 1978; Ross & Jang, 2000; McGarrell, Giacomazzi, & Thurman, 1997; Perkins, Meeks, & Taylor, 1992; Franklin, Franklin, & Fearn, 2008). Thus, it is important to control for resident perceptions of both physical disorder and social disorder, in relation to fear of crime. I use a physical disorder scale composed of seven items measured on a three-point Likert scale from "none"

to "many" of the specific aspects of physical disorder including: broken windows, graffiti, vacant lots, abandoned buildings, abandoned cars, litter, and poor lighting. The scale is reliable ($\alpha =.75$) and retains 95% of cases after list-wise deletion. The social disorder scale consists of eight items measured on a four-point Likert scale indicating the frequency of different types of social disorder from "Less than once a month" to "Everyday". These incivilities include; people arguing, groups of youth, public alcohol use, drunkenness, panhandlers, noise at night, drug sales, and prostitution. The scale is highly reliable ($\alpha =.88$) and retains 84.3% of cases after list-wise deletion.

Data Analysis Plan.

The first step of the data analysis was to merge the data from the Baltimore CFS database, and the resident survey. This process was completed by geocoding the BPD calls to the address level using ArcGIS. The calls that were geocoded to the 449 street segments were aggregated up to the street segment level. At this point, administrative calls for service were removed from the dataset.[4] I then joined the police call data for each street segment to the survey data associated with that street segment in SPSS. The geocoding had a successful match rate of 96%, which is an acceptable level according to Ratcliffe (2004).

Wu and Lum (2016) observe that proactivity is most likely to occur in places where crime is most concentrated. In an effort to triangulate these results and situate the current data among similar data, the first model of interest is the degree to which level of crime predicts the use of proactive policing. I employ Ordinary Least Squares (OLS) Regression

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[4] Administrative CFS included: detail, follow-up calls, lunch break, repairs, towed vehicles, parking complaints, animal disturbance, vehicle disturbance, and noise complaints.

to estimate the impact of crime level in predicting the level of proactive policing on the street segment. Understanding the distribution of officer proactivity is important in its own right, but is necessary for understanding how levels of police proactivity relate to the three dependent variables of interest: police legitimacy, cognitive fear of crime, and affective fear of crime.

In order to assess whether proactivity predicts differences among the outcome variables, I employ random-intercept multilevel regression model. The first level consists of individual level characteristics obtained through the survey, and level two consisting of street-level data (crime rate, proactivity level). As necessitated by Enders and Tofighi (2007), the model is grand-mean centered, and the fixed-effects random intercept model allow for assessing the relative effect of police proactivity. The multilevel model is represented by the following equation, whereby the dependent variable of interest is varied:

$$
\begin{aligned}
Y_{ij}^{(Dependent\ Measure)} &= \gamma_{00} + \gamma_{01}^{(Proactivity)}{}_{j} + \gamma_{02}^{(Crime)}{}_{j} + \gamma_{10}^{(Sex)}{}_{ij} + \gamma_{20}^{(Age)}{}_{ij} + \gamma_{30}^{(Race)}{}_{ij} + \\
&\quad \gamma_{40}^{(Education)}{}_{ij} + \gamma_{50}^{(Employment)}{}_{ij} + \gamma_{60}^{(Social\ Disorder)}{}_{ij} + \gamma_{70}^{(Physical\ Disorder)}{}_{ij} + \gamma_{80}^{(Arrested)}{}_{ij} + \\
&\quad u_{1j}^{(Sex)}{}_{ij} + u_{2j}^{(Age)}{}_{ij} + u_{3j}^{(Race)}{}_{ij} + u_{4j}^{(Education)}{}_{ij} + u_{5j}^{(Employment)}{}_{ij} + u_{6j}^{(Social\ Disorder)}{}_{ij} + \\
&\quad u_{7j}^{(Physical\ Disorder)}{}_{ij} + u_{7j}^{(Arrested)}{}_{ij} + u_{0j} + e_{tj}
\end{aligned}
$$

After running the models for the overall relationship between police proactivity and the outcome variable, I complete similar sub-analyses separated by hot spot type. This allows me to assess variation in how proactivity may relate to perceptions of police and fear of crime in substantively different crime-type environments.

<u>Testing Assumptions of the Models.</u>

Sample Size.

A sufficient sample size for a regression model can be determined by the requirements that sample size exceed: 50 + 8(*N predictors*) (Tabachnick & Fidell, 2007). The use of 10 predictors necessitates a sample size of 130, which is more than exceeded by our current sample. Maas and Hox (2005) specifically outline the necessary sample size for multilevel modeling and suggest that fewer than fifty level-2 groups may lead to biased estimates. Our sample contains 449 level-2 groups with between seven and ten respondents per group, which satisfies this definition as well.

Multicollinearity.

In order to ensure that multicollinearity is not a problem in the models and that the variance of one predictor is not being eclipsed by its relation to another, I assess the strength of the correlations between the independent variables, as well as the Variance Inflation Factors (VIF) of the individual variables. Due to the sample size, many of the bivariate correlations were statistically significant, though only a few can be considered substantively significant with "weak to moderate" (Evans, 1996) Pearson's correlations between social disorder, physical disorder, and crime calls for service. These correlations are not prohibitively high, and the VIF for any variable in the model does not exceed 1.47. This is well below the threshold for a multicollinearity problem.

Normality.

Of the variables included in the model, seven of them (three dependent variables; three independent variables) are continuous and subject to the assumption of normality.

The Quartile-Quartile plots (Figure 2) indicate that the police legitimacy and cognitive fear measures approximate normal, however the affective fear measure is right skewed, with a high number of respondents reporting no affective fear of crime. For the predictor variables, police proactivity is slightly right skewed but maintains normality. The measures of physical disorder and social disorder are heavily right-skewed and violate the assumption of normality.
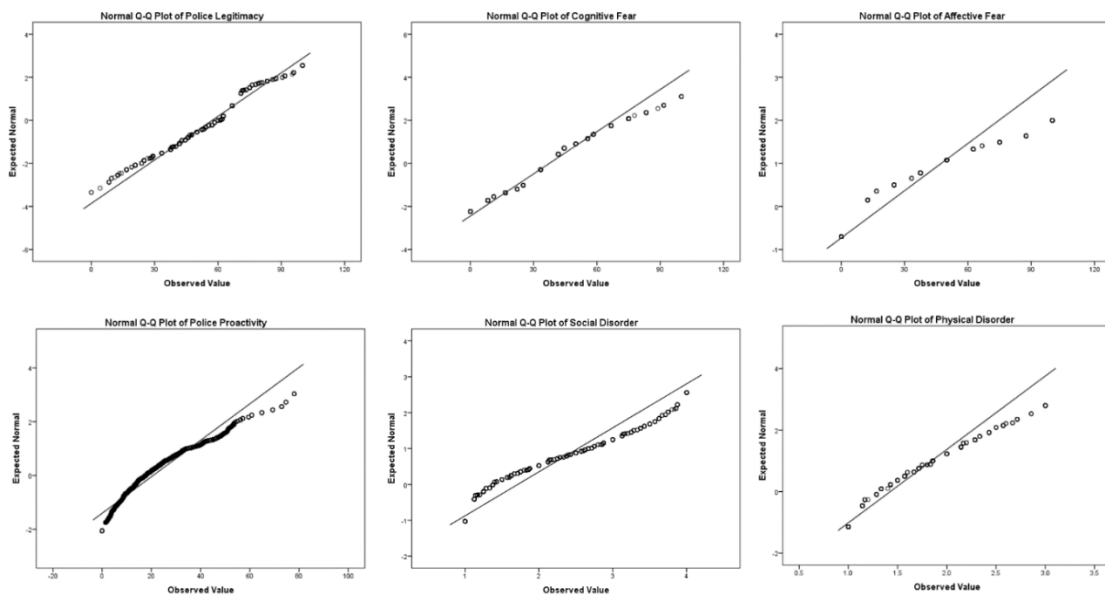

Figure 2. Q-Q Plot measures of normal distribution.

CHAPTER 4: RESULTS

Police Legitimacy in Baltimore.

Baltimore has long been a place of tense relationships between the community and police, with nearly $5.7 million in settlements for brutality and false arrests being awarded between 2011 and 2014 (Puente & Donovan, 2015). The aggressive order-maintenance policing style has disproportionately targeted minorities and the high levels of poverty have created deep distrust of law enforcement. The events surrounding the death of Freddie Gray in 2015 did not signal a departure from the norm, but a violent realization of longstanding tensions. These perceptions of police by the residents in Baltimore are reflected in our current measures.

The mean score for perceptions of police legitimacy among all survey respondents was 57.3, with 100 being the maximum possible. These levels are more comparable to underdeveloped countries like Ghana, Jamaica, and Slovenia than to other modern American cities (Reisig and Lloyd, 2009; Reisig et al., 2012). It is even about 7 points lower than Ferguson, MO following the shooting of Michael Brown and the associated protests (Kochel, 2017).

Our understanding of the general perceptions of police legitimacy can be improved by isolating specific elements of the scale and by disaggregating hot spot type. Table 3. details the distribution of the individual components of the police legitimacy scale. Overall,

for each component, a majority of the respondents 'agree' with the positive result of each question, but the distributions still indicate a lack of confidence in the police. The respondents overwhelmingly agree on measures of obeying the law (88.5% 'I always try to follow the law even if I think it is wrong') and compliance with police (88.5% 'stop when an officer tells them to), but have significantly less confidence in the measures of police ability to control crime, with between 24.8% and 40.8% disagreeing that police do a good job.

Table 3: Average perception of police legitimacy by item

Measure of Police Legitimacy	Mean	S.D.
If a person is doing something and a police officer tells them to stop, they should stop even if they think what they are doing is legal	3.05	0.51
In general, the police do a good job preventing crime	2.63	0.71
The police do a good job controlling drug activity	2.51	0.77
The police do a good job enforcing traffic laws	2.75	0.67
Police officers treat people fairly	2.52	0.72
In general, police care about problems on your block	2.60	0.71
In general, police officers treat people with respect	2.60	0.71
I always try to follow the law even if I think it is wrong	3.02	0.50

* Values closer to 1 indicate lower perceptions of police legitimacy, while values closer to 5 indicate higher police legitimacy.

Further, there are significant differences in the way police legitimacy is perceived on the different crime hot spots ($F(3,3728)=27.82$, $p<.001$; see Figure 3. As expected, low-crime control street segments have a higher overall perception of police legitimacy ($M=60.44$, $SD=13.33$), whereas all high crime segment types are below average and the most violent segments having the lowest perception of police ($M=54.90$, $SD=15.34$).
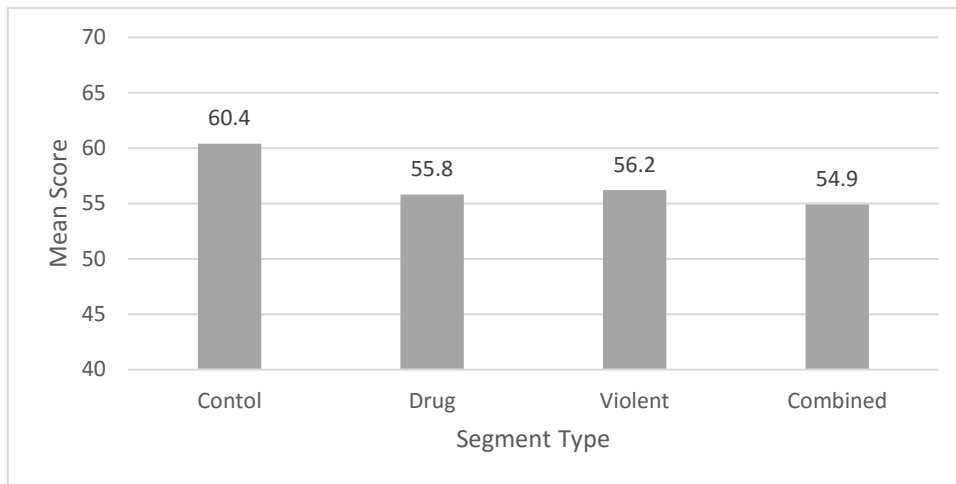
Figure 3: Police legitimacy by segment type

Fear of Crime in Baltimore.

Despite the high levels of crime throughout Baltimore, survey respondents report both low cognitive and affective fear of crime. Overall, the mean score for cognitive fear of crime, measured using perceptions of safety on street was 37.5 out of a maximum 100. While nearly one third of respondents (33.1%) of respondents reported that their block is becoming more dangerous, there was also large agreement that it is safe for children to play outside on the block (79.8%), that it is safe to walk on the block at night (72.9%), and that it is safe during the day (94.2%). Consistent with the literature, the reported perceptions of safety differ significantly between males (35.4) and females (38.9) ($F(1,3670)=48.1$, $p<.001$). The distribution of responses broken down by item is shown in Table 4.

Table 4: Average cognitive fear of crime by item

Measure of Cognitive Fear of Crime	Mean	S.D.
It is safe for children to play outside on your block	2.92	0.65
In general, it is safe to walk on your block at night	2.81	0.65
It is safe for you to go outside alone during the day	3.11	0.51
Most people think your block is becoming more dangerous	2.65	0.71

* Following reverse coding, all values closer to 1 indicate lower perceptions of fear, while values closer to 5 indicate higher fear of crime.

In accordance with the levels of crime on the street, cognitive fear of crime differs significantly between the hot spot types ($F(3,3729)=83.04$, $p<.001$); see Figure 4. The low-crime control streets have much lower levels of cognitive fear of crime ($M=32.2$, $SD=13.76$) than the segments with the highest frequency of both drug activity and violent crime ($M=42.5$, $SD=15.74$).
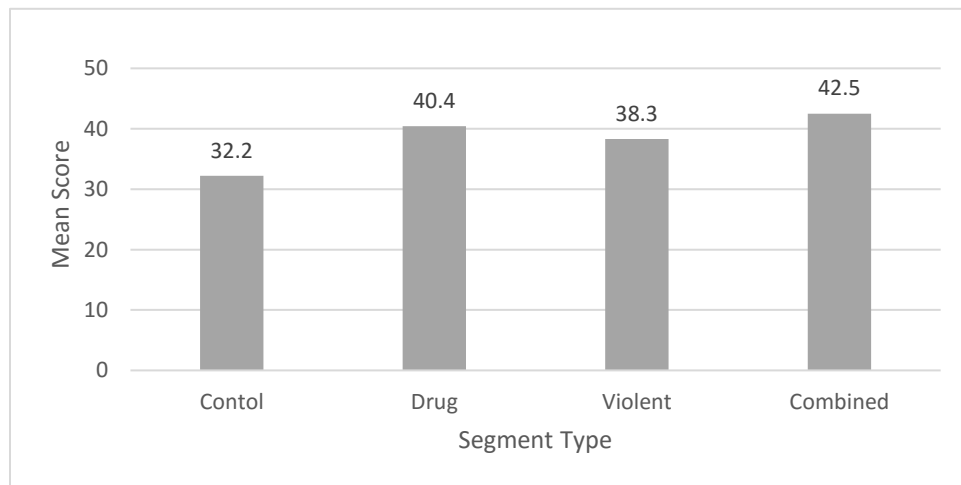

Figure 4: Cognitive fear of crime by segment type

An examination of the affective fear of crime measures convey a similar story. Overall, reported fear of victimization is low but non-negligible, given that some residents fear being the victim of serious crime. The mean score for all survey respondents was 20.0 out of the maximum 100, with variation contingent on the crime being assessed and the situational context of the street segment. Consistent with the actual distribution of crime types, respondents worried more about property crime than violent crime on their block. Respondents reported being worried about burglary (42.5%) and vandalization (33.0%) and were less worried about being attacked (20.2%) and robbery (23.4%). The distribution of responses broken down by item is shown in Table 5.

Table 5: Average affective fear of crime by item

Measure of Affective Fear of Crime	Mean	S.D.
Worried about someone breaking into your home	1.55	0.70
Worried about somebody threatening to take money or property from you	1.32	0.62
Worried about someone attacking you on your block	1.27	0.58
Worried about someone damaging or vandalizing your property	1.46	0.71

* Values closer to 1 indicate lower perceptions of fear, while values closer to 3 indicate higher fear of crime.

Like its cognitive counterpart, affective fear of crime also significantly differs by crime hot spot type, though to a lesser degree likely because responses are skewed toward not worried. ($F(3,3728)=2.77$, $p=0.04$); see Figure 5. Residents on low-crime control streets report a lesser affective fear of crime ($M=18.4$, $SD=25.00$) than those in places

where violence is more common (Violent Segment *M*=21.4; *SD*=28.87; Combined Segment *M*=21.4, SD=*30.22*).
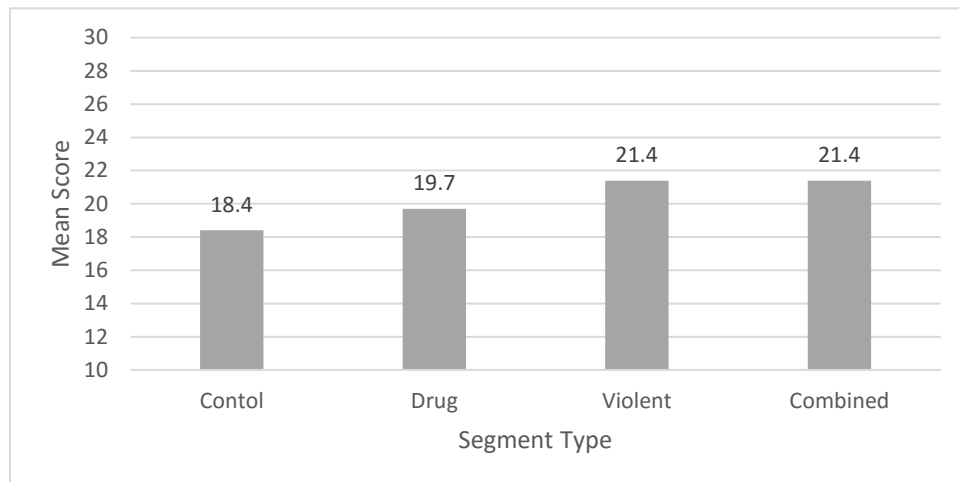
Figure 5: Affective fear of crime by segment type

Police Proactivity in Baltimore.

Wu and Lum (2016) report that over half of the 2013 calls for service in Jacksonville, FL were proactive in nature, though the operational definition of included calls varies slightly based on the department's call coding. Excluding follow-up calls from their analysis, as we did here, yields approximately 27.9% of calls being dedicated to proactive activities. Of the calls for service in our sample, 25.25% were proactive, situating officer-level proactivity similarly between the two samples. It is important to note that the level of proactivity by officers varies widely by street segment (see Figure 6). It is clear that most streets experience proactivity levels with some outlying streets experiencing high concentrations of proactivity, above 60%.
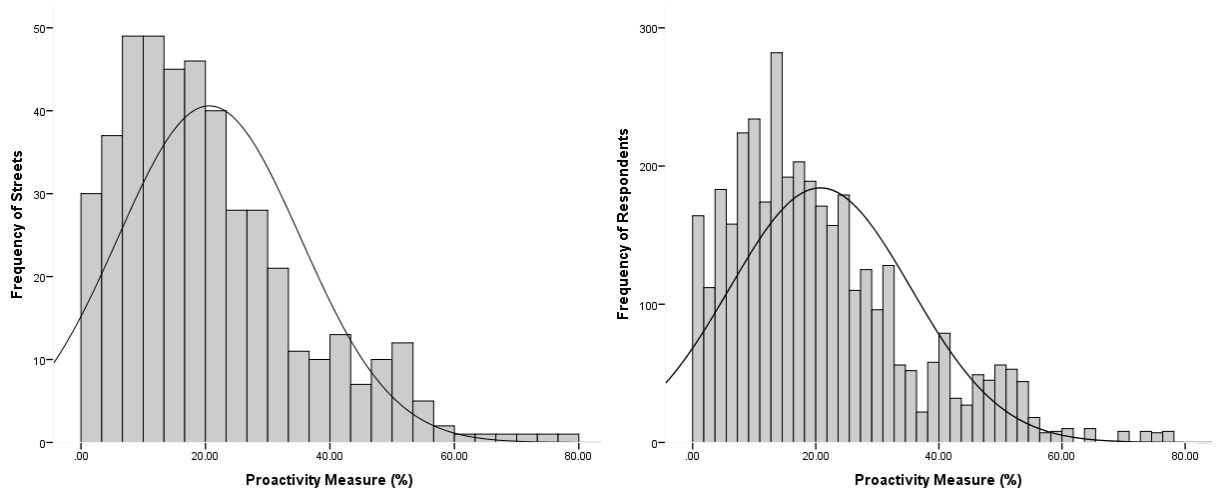
Figure 6: Distribution of proactivity levels among streets and survey respondents

Relationship between Police Proactivity and Crime.

In an effort to situate this data on officer-level proactivity among the findings of similar studies, I examine the relationship between levels of crime at the street segment level and the concentration of police proactivity. Wu and Lum (2016) use Andresen's SPPT to conclude that proactivity concentrates geographically around crime in about 45% of street segments. A descriptive assessment of proactivity levels at different hot spot types provide evidence to support these findings (See Figure 7). It is clear from the distributions that police proactivity is more highly concentrated at high crime hot spots than the low-crime comparison segments. Consistent with the crime control aims of proactivity, street segments with high levels of drug activity have consistently higher levels of officer proactivity (Drug Segment *M*=26.78, *SD*=15.3; Combined Segment *M*=27.72, *SD*=14.2).
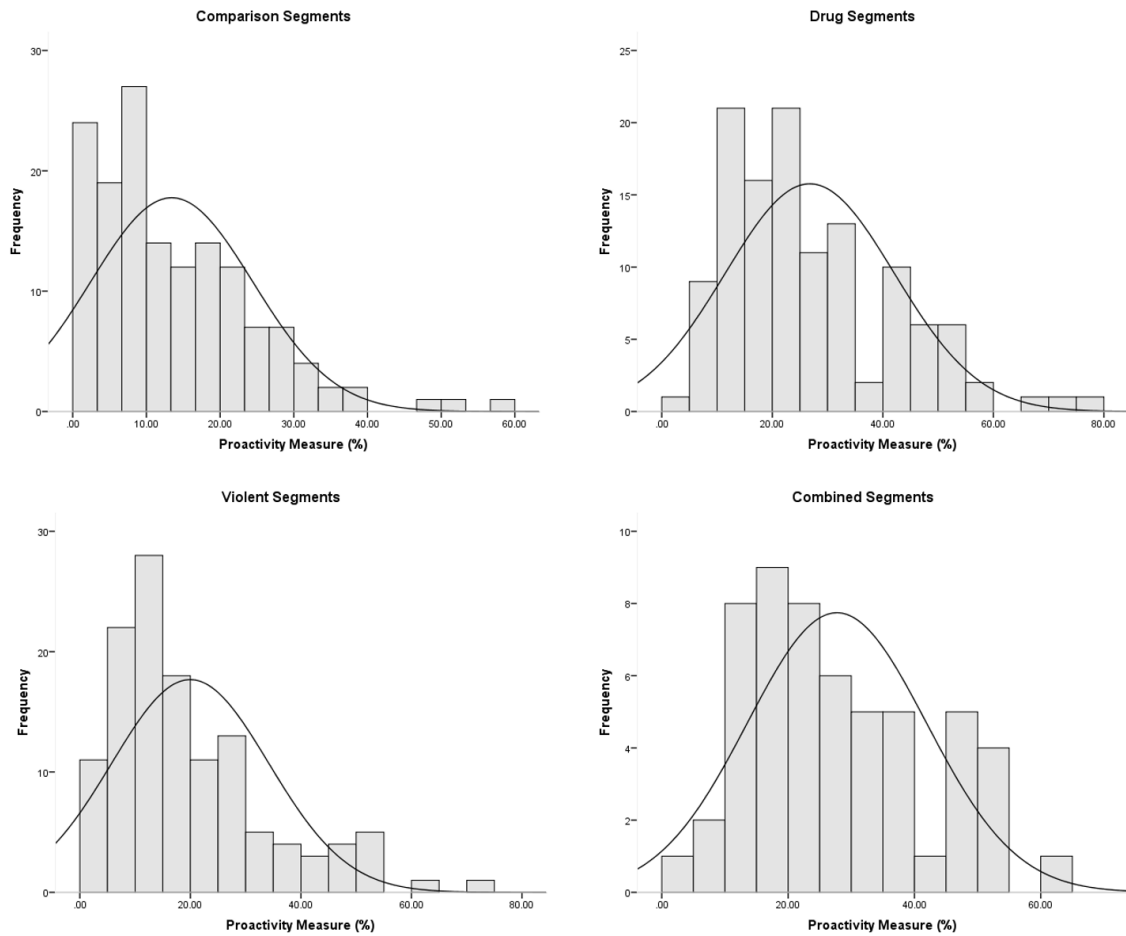
Figure 7: Distribution of police proactivity by segment type

The results of a bivariate OLS regression to further demonstrate the relationship between amount of crime on the sampled streets and police proactivity are presented in Table 6. While it was not possible, given the available data, to control for demographic and structural variables at the street segment level, it is clear that there is a strong bivariate relationship ($R=0.382$, $p<.001$).

Table 6: OLS results predicting proactivity level using crime level

Variable	*B*	S.E.
Constant	13.85***	1.01
Crime Calls for Service	0.055***	0.01

*** is significant at the 0.001 level.

Crime calls for service on a street is a significant predictor of police proactivity level (β =0.055, t(447) = 8.73, $p<$ .001), explaining about 14.5% of the variance in proactivity levels. Substantively, for every 18 additional calls for service, the percentage level of police proactivity is increased by 1%. Figure 8 illustrates this relationship using scatterplot of crime level and percentage of proactivity at each location, similar to the ones presented in Wu and Lum (2016).

Figure 8: Two-way graph of crime level and percentage of proactivity with fitted regression line

The primary analyses concern the relationship between street-level police proactivity and perceptions of police and fear of crime, with the 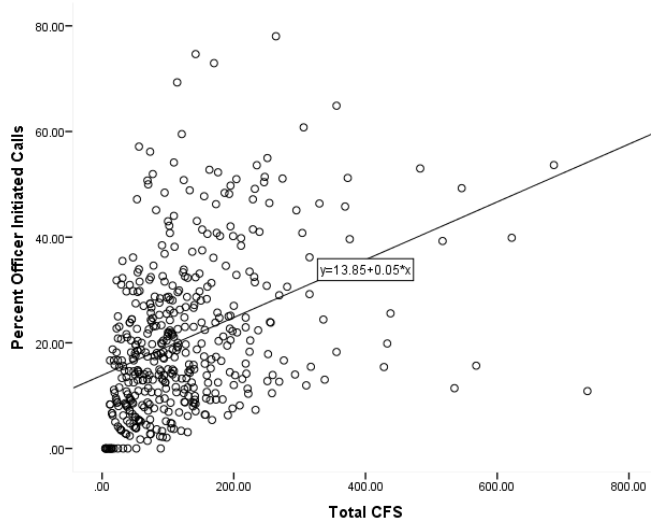potential for negative change serving as the catalyst for criticism over proactivity, and in crime hot spots specifically. For each of the outcome measures; police legitimacy, cognitive fear of crime, and affective fear of crime, I will examine the general bivariate relationship between the outcome and police proactivity, and in the context of the identified control variables. This analysis, while offering a generalized look at the relationship does not allow us to understand how proactivity may have differential effects on control, drug, violent, and combined hot spots of crime. As such, I disaggregate the relationship and employ fixed effects, random-intercept model to assess the relative impact of police proactivity for each of the hot spot types.

Police Proactivity and Police Legitimacy.

A bivariate OLS regression model reveals that proactivity level predicts a decrease in police legitimacy but this does not rise to the level of substantive or statistical significance (B=-.061, $t(3730)$ = -1.72, p=0.087). When proactivity is added to the full multilevel model (Table 7), it remained an insignificant predictor but changed directions, such that controlling for other variables, police legitimacy increases as proactivity increases (B=0.05, $t(434)$ = 1.27, p=0.20).

Table 7: General model predicting police legitimacy

Variable	Model 1 B (S.E.)	Model 2 B (S.E.)
Constant	61.25 (0.61)***	67.05(2.76)***
Respondent-Level Independent Variables		
Sex (Reference = Male)		-0.98 (0.79)
Age		0.07 (0.03)*
Race (Reference = White)		
Black		0.89 (1.05)
Other Race		-1.29 (1.57)
Education		0.26 (0.28)
Employment (Reference = Full Time)		
Not Working		-0.84 (1.01)
Part Time		0.66 (1.21)
Retired		1.42 (1.49)
Arrested		-3.62 (1.72)*
Social Disorder		-4.47 (0.84)***
Physical Disorder		-3.82 (1.55)*
Street-Level Independent Variables		
Crime Percentile		-0.07 (0.05)
Police Proactivity	-0.06 (0.04)	0.06 (0.04)

* denotes significance at the 0.05 level; ** denotes significance at the 0.01 level; *** denotes significance at the 0.001 level.

When the analysis is disaggregated into segment type, it becomes clear that the relationship to police proactivity is contingent on the crime context of the street. Figure 9 details the bivariate relationships between police legitimacy and proactivity for the defined hot spot types. It is evident that the general model obscured variability between the segments. While the relationship on control segments and violent segments is non-significant, a statistically significant decrease in police legitimacy is observed on drug street segments (r=-0.081, $p<0.01$), and a statistically significant increase on the combined segments where both crime and the percentage of proactive policing is greatest (r=0.096, $p<0.05$). This relationship is contrary to what critics of proactive policing identify as the inevitable decline in perceptions of police legitimacy.

Segment Type	Pearson's r
Control Segment	-0.05
Drug Segment	-0.081**
Violent Segment	-0.05
Combined Segment	0.096*
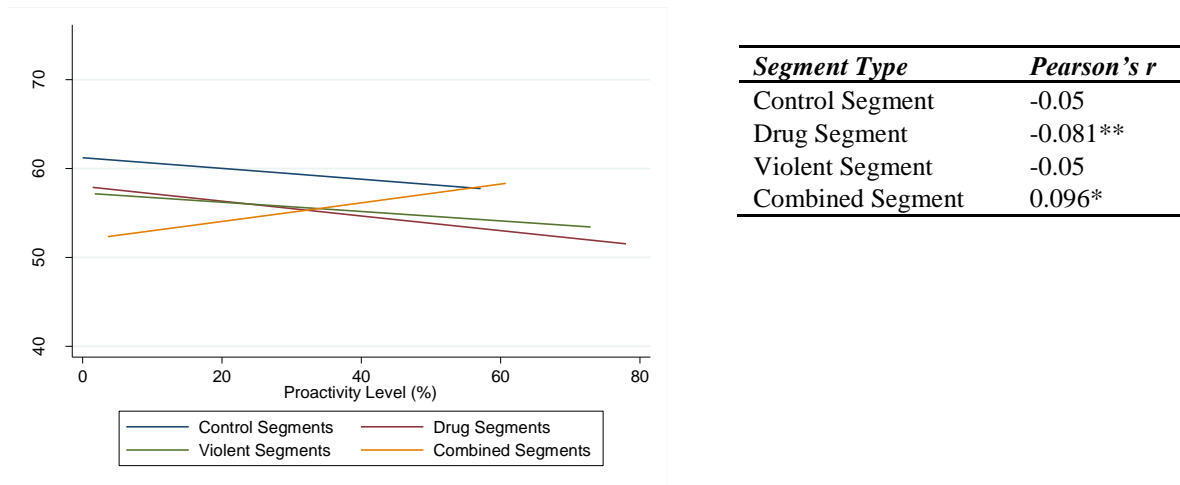
Figure 9: Bivariate relationships between police legitimacy and proactivity by segment type

The results of the full model of police legitimacy by segment type is shown in Table 8. As supported by previous literature, a number of Level-1 individual characteristics are important predictor of police legitimacy. Age is consistently significant such at that older respondents have more favorable perceptions of police across all segments. This is important as the data itself may be underrepresenting younger residents who have more interactions with a proactive police force. Additionally, race is an important demographic factor, whereby African Americans in areas with the highest levels of police enforcement hold more negative views of the police. Perceptions of one's own street are consistently important across segment types. High levels of social and physical disorder predict a lower rating of police legitimacy.

Importantly, the level of police proactivity does not predict significant declines in perceptions of legitimacy. Indeed, the relationship is only negative on violent-crime streets, but does not rise to the level of statistical significance (B=-0.02, t(434) = -0.58, p=.56).

Rather, there appears to be no clear relationship between police proactivity and police legitimacy on control and drug segments. To the contrary, on the streets with the highest combined level of drug and violent crime there is actually a statistically significant positive relationship such that an increase in level of proactivity predicts an increase in perceptions of police (B=0.15, $t(434) = 2.96$, p=0.003).

Table 8: Models predicting police legitimacy by segment type

Variable	Control Segment B (S.E.)	Drug Segment B (S.E.)	Violent Segment B (S.E.)	Combined Segment B (S.E.)
Constant	67.05 (2.76)***	69.50 (3.52)***	62.68 (3.39)***	63.09 (9.31)***
Respondent-Level Independent Variables				
Sex (Reference = Male)	0.98 (0.79)	-0.66 (0.90)	-0.30 (0.99)	-0.16 (1.48)
Age	0.07 (0.03)*	0.17 (0.03)***	0.16 (0.04)***	0.18 (0.06)***
Race (Reference = White)				
Black	0.89 (1.05)	-5.59 (1.70)***	-0.61 (1.37)	-5.94 (2.55)*
Other Race	-1.29 (1.57)	-2.14 (2.36)	-0.76 (1.95)	-4.25 (3.37)
Education	0.26 (0.28)	-0.10 (0.36)	0.02 (0.37)	-0.95 (0.58)
Employment (Reference = Full Time)				
Not Working	-0.84 (1.02)	0.81 (1.09)	1.49 (1.16)	2.87 (1.78)
Part Time	0.66 (1.21)	-0.08 (1.50)	0.86 (1.46)	0.12 (2.16)
Retired	1.42 (1.49)	-0.26 (1.73)	-1.17 (1.85)	-0.39 (2.79)
Arrested	-3.62 (1.72)*	-2.67 (1.54)	-3.73 (1.71)*	-6.72 (2.25)**
Social Disorder	-4.47 (0.84)***	-5.49 (0.61)***	-3.59 (0.66)***	-5.37 (0.85)***
Physical Disorder	-3.82 (1.55)*	-3.10 (1.21)**	-4.17 (1.27)**	-2.07 (1.58)
Street-Level Independent Variables				
Crime Percentile	-0.07 (0.05)	-0.01 (0.03)	-0.00 (0.03)	0.02 (0.09)
Police Proactivity	0.06 (0.04)	0.02 (0.03)	-0.02 (0.03)	0.15 (0.05)**

* denotes significance at the 0.05 level; ** denotes significance at the 0.01 level; *** denotes significance at the 0.001 level.

Police Proactivity and Cognitive Fear of Crime.

A bivariate OLS regression model reveals that proactivity level predicts a statistically significant increase in cognitive fear of crime (B=0.17, $t(3730) = 4.62$, p<0.001. However, these effects are washed out when added to the full model (Table 9),

and again the direction is changed such that the increase can be attributed to the actual level of crime on the street, and increased police proactivity increases perceptions of safety, though not to a statistically significant degree (B=-0.01, $t(434)$ = -0.31, p=0.76).

Table 9: General model predicting cognitive fear of crime

Variable	Model 1 B (S.E.)	Model 2 B (S.E.)
Constant	29.93 (0.63)***	13.29(2.66)***
Respondent-Level Independent Variables		
Sex (Reference = Male)		2.09 (0.78)**
Age		0.02 (0.03)
Race (Reference = White)		
Black		-0.68 (0.99)
Other Race		2.24 (1.54)
Education		-0.76 (0.27)**
Employment (Reference = Full Time)		
Not Working		-0.72 (1.00)
Part Time		-1.25 (1.19)
Retired		1.40 (1.46)
Arrested		0.86 (1.69)
Social Disorder		7.72 (0.81)***
Physical Disorder		4.87 (1.49)***
Street-Level Independent Variables		
Crime Percentile		0.19 (0.05)***
Police Proactivity	0.17 (0.04)***	0.06 (0.04)

* denotes significance at the 0.05 level; ** denotes significance at the 0.01 level; *** denotes significance at the 0.001 level.

When the analysis is disaggregated into segment type, it is evident that the main effect for cognitive fear of crime is contingent on the type of segment on which the respondent lives. As expected, fear of crime is lowest across all levels of proactivity on the low-crime control segments, and highest on combined violent / drug crime segments. While there is not a statistically significant increase in cognitive fear of crime on the combined segments (r=0.07, p>0.05), there is an upward trend in fear across all segment

types as proactivity increases (Figure 10). Because these are bivariate correlations, we cannot attribute change to police proactivity nor make any causal assessments.

Segment Type	Pearson's r
Control Segment	0.133***
Drug Segment	0.185***
Violent Segment	0.074*
Combined Segment	0.07
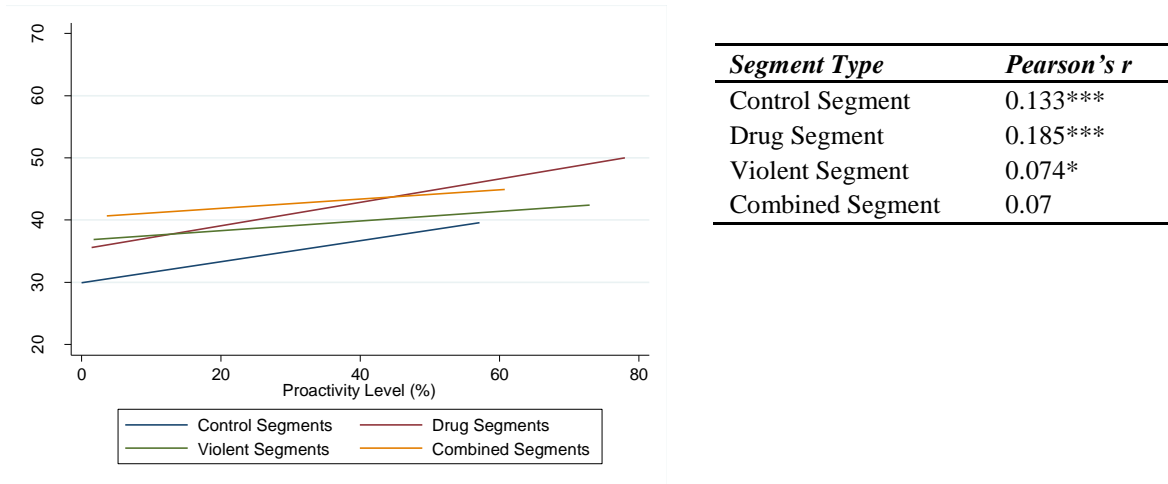
Figure 10: Bivariate relationships between cognitive fear of crime and proactivity by segment type

The bivariate relationships in Figure 10 demonstrated clearly that cognitive fear of crime increased for each segment as proactivity level increased. After controlling for the relevant individual and structural characteristics (see Table 10), police proactivity is no longer a key explanatory variable, except in the case of drug crime segments (B=0.09), t(434)=2.58, p=0.01). This is suggestive of a potential negative impact of proactive policing at drug spots, which are often the target of more aggressive policing. Rather, the most consistent significant predictor of high cognitive fear of crime is being female, and observing high levels of social disorder.

Table 10: Models predicting police legitimacy by segment type

Variable	Control Segment B (S.E.)	Drug Segment B (S.E.)	Violent Segment B (S.E.)	Combined Segment B (S.E.)
Constant	13.29 (2.66)***	15.88 (3.64)***	17.53 (3.17)***	10.73 (9.58)
Respondent-Level Independent Variables				
Sex (Reference = Male)	2.09 (0.77)**	1.67 (0.87)*	3.05 (0.86)***	5.72 (1.44)***
Age	0.02 (0.03)	0.03 (0.03)	0.03 (0.03)	0.07 (0.05)
Race (Reference = White)				
Black	-0.68 (0.99)	-0.80 (1.73)	-0.88 (1.24)	-3.18 (2.52)
Other Race	2.24 (1.54)	0.55 (2.33)	0.29 (1.73)	-1.48 (3.30)
Education	-0.76 (0.27)**	-0.04 (0.35)	-0.60 (0.33)	-0.00 (0.57)
Employment (Reference = Full Time)				
Not Working	-0.72 (1.00)	0.67 (1.05)	-0.53 (1.01)	-0.59 (1.72)
Part Time	-1.25 (1.19)	0.36 (1.44)	-0.14 (1.28)	1.79 (2.10)
Retired	1.40 (1.46)	2.37 (1.67)	3.22 (1.61)*	1.82 (2.72)
Arrested	0.86 (1.69)	-1.69 (1.48)	-2.51 (1.50)	1.07 (2.19)
Social Disorder	7.72 (0.81)***	8.04 (0.60)***	8.28 (0.59)***	7.56 (0.84)***
Physical Disorder	4.87 (1.49)***	1.83 (1.21)	2.24 (1.17)*	1.59 (1.56)
Street-Level Independent Variables				
Crime Percentile	0.19 (0.05)***	0.03 (0.03)	0.02 (0.03)	0.09 (0.10)
Police Proactivity	-0.01 (0.04)	0.09 (0.04)**	0.03 (0.03)	0.04 (0.05)

* denotes significance at the 0.05 level; ** denotes significance at the 0.01 level; *** denotes significance at the 0.001 level.

Police Proactivity and Affective Fear of Crime.

A bivariate OLS regression model reveals that proactivity level predicts a statistically significant increase in affective fear of crime (B=0.075, t(3730) = 2.45, p<0.05, however these effects are washed out when added to the full model (Table 11). Again the direction is changed such that increased police proactivity is associated with decreased fear of victimization, though not to a statistically significant degree (B=-0.06, t(434) = -1.62, p=0.11). For the third and final general model (including cases from all segment types), police proactivity predicts a change in the outcome directionally inconsistent with the purported negative effects of proactivity voiced by critics.

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Table 11: General model predicting affective fear of crime

Variable	Model 1 B (S.E.)	Model 2 B (S.E.)
Constant	18.44 (0.77)***	-2.77(2.84)
Respondent-Level Independent Variables		
Sex (Reference = Male)		3.15 (0.89)***
Age		-0.02 (0.03)
Race (Reference = White)		
Black		-4.25 (1.31)***
Other Race		-1.73 (1.91)
Education		-0.04 (0.33)
Employment (Reference = Full Time)		
Not Working		0.48 (1.09)
Part Time		0.57 (1.39)
Retired		0.15 (1.7)
Arrested		-2.10 (1.62)
Social Disorder		10.83 (0.66)***
Physical Disorder		8.64 (1.28)***
Street-Level Independent Variables		
Crime Percentile		-0.09 (0.02)***
Police Proactivity	0.08 (0.30)*	-0.06 (0.04)

* denotes significance at the 0.05 level; ** denotes significance at the 0.01 level; *** denotes significance at the 0.001 level.

When the analysis is disaggregated into segment type, very little of the relationship between proactivity and fear of victimization remains. Fear is relatively low, relatively stable, and similar between the segment types (see Figure 11). Only for combined crime segments is there a statistically significant increase in fear of victimization as proactivity level increases (r=0.101, p<0.05). Even without an apparent relationship here, it is important to examine the relative predictive power of proactivity controlling for the identified controls. Thus far, for all outcome measures, the presented bivariate relationship with officer proactivity has demonstrated substantively negative changes, such that increased proactivity has generally predicted lower police legitimacy, increased cognitive fear of crime and increased fear of victimization. When controlled for the relevant

sociodemographic and environmental factors, these relationships have been explained by gender differences, racial differences, crime rates on the street, and public disorder, such that proactivity no longer accounts for the difference in attitudes or serve to improve them.
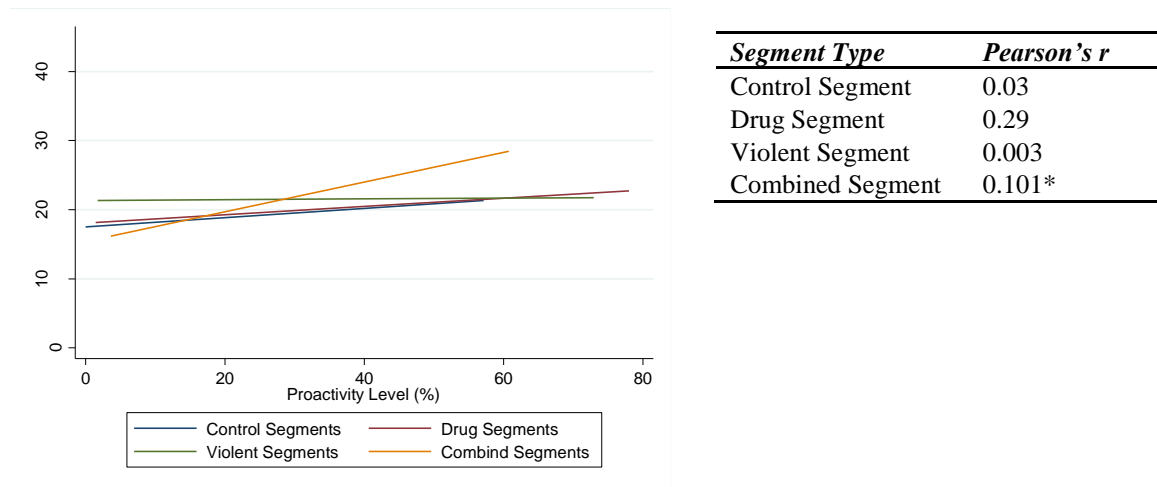

Segment Type	Pearson's r
Control Segment	0.03
Drug Segment	0.29
Violent Segment	0.003
Combined Segment	0.101*

Figure 11: Bivariate relationships between affective fear of crime and proactivity by segment type

Similar to the cognitive fear of crime, affective fear for all street segments was driven primarily by gender and exposure to both social and physical disorder. Though not rising to the level of statistical significance, affective fear of crime for residents of control, drug, and violent street segments decreases as police proactivity increases (Table 12). This deviation from what critics of proactive policing would expect may indicate that police serve as a reminder that crime is being addressed. On the high-crime street segments, there is a positive relationship between fear of victimization and police legitimacy, however this also fails to reach statistical significance (B=0.23, t(434) =1.84, p=0.073.

In sum, the models for each of the outcome measures disaggregated by street type convey a story in direct contrast to the critics of proactive policing, particularly as it tends to concentrate in disadvantaged and high-crime areas. There was little statistical evidence of police legitimacy or fear of crime varying in concert with police proactivity and the direction of the relationships contrasts with worsening community effects. In the rare circumstances where this was the case, we observe a significant increase in perceptions of the police in the highest crime areas when proactivity was engaged in more.

Table 12: Models predicting affective fear of crime by segment type

Variable	Control Segment B (S.E.)	Drug Segment B (S.E.)	Violent Segment B (S.E.)	Combined Segment B (S.E.)
Constant	-6.65 (4.99)*	-4.83 (6.98)	-6.11 (6.07)	-13.47 (22.38)
Respondent-Level Independent Variables				
Sex (Reference = Male)	4.54 (1.44)**	2.96 (1.69)	-0.35 (1.77)	6.23 (3.05)*
Age	-0.04 (0.06)	0.02 (0.07)	-0.05 (0.07)	0.03 (0.11)
Race (Reference = White)				
Black	-3.91 (1.87)*	-5.30 (3.33)	-4.19 (2.45)	-1.26 (5.43)
Other Race	-3.84 (2.86)	-6.19 (4.53)	1.50 (3.49)	2.86 (7.04)
Education	-0.73 (0.51)	-0.38 (0.68)	0.88 (0.67)	0.07 (1.19)
Employment (Reference = Full Time)				
Not Working	1.73 (1.86)	1.62 (2.05)	-1.71 (2.07)	2.62 (3.61)
Part Time	-1.94 (2.21)	0.11 (2.81)	0.11 (2.62)	5.79 (4.44)
Retired	-1.43 (2.73)	4.41 (3.24)	0.17 (3.32)	-6.74 (5.74)
Arrested	-2.95 (3.13)	4.47 (2.87)	-4.31 (3.07)	-9.62 (4.62)*
Social Disorder	14.08 (1.51)***	9.71 (1.17)***	12.74 (1.18)***	8.58 (1.79)***
Physical Disorder	12.81 (2.79)***	8.27 (2.33)***	8.41 (2.28)***	10.27 (3.39)**
Street-Level Independent Variables				
Crime Percentile	-0.23 (0.09)**	-0.02 (0.06)	-0.03 (0.06)	-0.12 (0.23)
Police Proactivity	-0.10 (0.07)	-0.12 (0.07)	-0.06 (0.06)	0.23 (0.12)

* denotes significance at the 0.05 level; ** denotes significance at the 0.01 level; *** denotes significance at the 0.001 level.

CHAPTER 5: DISCUSSION

The current analyses provide new evidence to situate police officer proactivity as being concentrated alongside crime, as well as support for the idea that its concentration does not yield negative community outcomes, as Tyler, Jackson and Mentovich (2015) and Rosenbaum (2006) have suggested. Among our sample of 450 street segments in Baltimore, most of which are crime hot spots, we observe that as the number of crime calls for service increases, so does police proactivity. This relationship is substantively significant and crime alone accounts for nearly 15% of the variance. This serves as both a confirmation that Baltimore is not abnormal in its frequency or distribution of proactivity (see Wu & Lum, 2016) and that high levels of proactivity in hot spots allows for an assessment of how this concentration may predict attitudes.

While it is statistically problematic to prove that something does not happen, the model results provide evidence to contrast the view that concentration of proactivity, especially in crime hot spots, has inevitable negative effects. Given the large sample size, the models should be able to detect even small effect sizes. Even so, police proactivity is not consistently a predictor of police legitimacy or fear of crime. Directionally, the relationships are not consistent with the anticipated negative outcomes (see Table 13 for summary of effect directions). For police legitimacy, the relationship on three of the segment types was positive. For cognitive fear of crime, the relationship on the high-crime

hot spots was such that fear increased. Finally, for affective fear of crime we see reduction in three of the four segment types.

Table 13: Summary of relationship direction for police proactivity by segment type.

	Control	Drug	Violent	Combined
Police Legitimacy	+	+	-	+
Cognitive Fear of Crime	-	+	+	+
Affective Fear of Crime	-	-	-	+

* Cells shaded in blue are significant.

Proactivity: Four Narratives.

As the primary question of this research concerns the differential impacts that proactivity may have on streets with qualitatively distinct crime levels and types, I organize the results here by the effect proactivity has on street segment type rather than on outcome variable.

Control Segments.

In the low-crime control segments, there was no observable effect of police officer proactivity predicting changes in either legitimacy or fear of crime, though directionally we see non-significant movement towards higher police legitimacy and lower fear of crime. It is likely that the effects of police legitimacy are not observed on low crime streets because of a dosage issue, and because the types of police proactivity likely experienced on these streets are community oriented in nature as opposed to order-maintenance of drug interdiction tactics. Weisburd et al. (2011) observed a dosage issue, such that three additional hours of proactive policing was not salient enough to affect perceptions of

police. Control segments may have a similar dosage issue, whereby police spend significantly less time on the block and even less of that time proportionally is proactive policing. This is further compounded by the fact that nearly half (46%) of sampled residents on these streets work full time and have fewer opportunities to observe officer proactivity.

While this study was unable to differentiate the types of proactive activities undertaken by police, the literature suggests that enforcement oriented proactive strategies, such as stop and frisk (Fagan & Davies, 2000) and order-maintenance policing (Gau & Brunson, 2010) are concentrated in the higher crime and more disadvantages areas. Community policing and problem solving experienced by the control segments is unlikely to invoke negative perceptions by these residents.

Drug Segments.

In the drug-crime segments there is no effect of proactivity on police legitimacy but there is a statistically significant increase in cognitive fear of crime, measured as perception of whether the street is safe or not. Hinkle and Weisburd's (2008) assessment on the paradoxical nature of broken-windows enforcement may explain this effect. They observed that as efforts to reduce social and physical disorder in order to reduce fear of crime, the presence of police and the intervention itself had the opposite effect of increasing fear of crime. While we do not observe an increase in the fear of victimization, the proactive efforts on drug segments, likely targeting drug crime itself, has the effect of perceiving the street as less safe by its residents. This may occur because heightened police presence may serve as a reminder that crime is prevalent and feedback into residents' assessments of the safety of their street. Simultaneously, affective fear of crime does not increase because the

heightened police proactivity serves as a protective factor, such that their street may be more unsafe but residents are confident the police will prevent victimization.

Violent Segments.

The impacts of police proactivity on violent-crime street segments are not statistically significant. This non-effect however serves to reinforce the argument that even in high crime areas where proactivity is more common, and likely more intensive, we do not observe a negative change in attitudes on the legitimacy of police, or an increase in fear of crime.

Combined Drug and Violent Segments.

Contrary to the criticisms of proactive policing at hot spots, we do not see harm to police perceptions or fear of crime as levels of proactivity increase. In the highest crime combined segments, there is a significant increase in perceptions of police legitimacy. Following Tankebe's (2009) contribution to the understanding of police legitimacy, this may be a function of police effectiveness. The increase in police legitimacy in high crime areas as police proactivity increases may be driven by confidence in the ability of police to reduce crime. These results echo the findings of Chermak, McGarrell, and Weiss (2001) who suggest that high crime rates may be perceived as a crisis in their neighborhood and residents would subsequently welcome police efforts.

The results of this study do not warrant causal conclusions due to their observational research design; however, they do provide sufficient evidence to conclude that an increase in proactivity does not necessarily yield declining citizen attitudes. As such, this work can help signal a narrative shift on the merits of proactivity in relation to

community impacts. While it remains clear from the existing literature that certain institutionalized proactive policies can have disproportionate impacts on minorities, and harm community relations, more needs to be understood about proactivity itself and the differential impacts of the different manifestations of proactivity. Ambiguity in the direction of these relationships begs the question of how proactive policing can be effectively targeted to have the maximum impact on crime control while also demonstrating the efficacy and legitimacy of the police and preventing increases to fear of crime.

The presented results have implications for the nature of the criticisms of proactive policing as well as the ability of research to investigate these claims. The current argument that proactive policing will inevitably lead to negative community outcomes may be too parsimonious. It makes assumptions about what the residents of the community want, as well as assumptions about what proactive behaviors are undertaken, both of which are relatively unknown. The causal thinking behind these criticisms are such that proactivity, as it arises without a citizen complainant, is less structurally legitimate and grants less authority to the police. The police being identified as an illegitimate presence on the street ignores the possibility that the community may be welcoming of additional police presence, as my results in combined hot spot streets would suggest. Those residents that face the biggest threat might be the most willing to accept police intervention. The criticisms revolve around the experiences of young men on the street, who may have more negative interactions with police proactivity, but subsequently ignore the needs and experiences of the community more generally.

Further, it is important to acknowledge both the difficulty in accurately measuring proactivity and recognizing that a great many police behaviors fall under the purview of proactivity, and yet cannot be anticipated to harm community relations. While my findings cannot address this issue more clearly than the critics can, the distinction in types of proactivity is important nonetheless. There is complexity in the measurement of proactivity, police legitimacy and in defining the community population, such that the conversation about the potential effects of police proactivity must carefully specify the type of proactivity in question, the specific anticipated outcomes and by whom these effects might be experienced.

Limitations.

While this study did demonstrate the concentration of police proactivity at crime hot spots and provide evidence to counter the narrative that proactive policing inevitably leads to negative effects in the community, several limitations attenuate the findings and require consideration in interpreting the research and policy implications of the study.

First, it is important to consider the generalizability of the sample. The NIH / NIDA study specifically targeted crime hot spots (along with low-crime controls), which proved useful in comparing the experiences of different crime environments, but warrants caution with general interpretations of proactivity throughout Baltimore and its impacts among the general populations. The purposeful oversampling of disadvantaged high-crime streets in the study may mitigate the role of experiences of residents in low-crime environments with proactive policing. Because we observe that proactivity tends to concentrate in high-crime

areas, the exclusion of the vast majority of low-crime streets may serve to overestimate the true prevalence of police proactivity throughout Baltimore.

There are also important differences among the sample population included in the community survey. Respondents in our survey tended to be older than the general population of Baltimore (Mean age = 44), which may limit the number of and type of experiences with proactive enforcement that are more commonly experienced by juveniles (Gau & Brunson, 2010). The sample populations does reflect the community of homeowners, the working class, and stay-at-home mothers, but is less representative of the vulnerable population that may experience the more negative manifestations of police proactivity. Further, there is a growing body of evidence that suggests perceptions of police represent the accumulation of experiences and the long-term socialization of views rather than an immediate response to the current situation (White, Weisburd & Wire, 2018). It is possible that the cross-sectional examination of police proactivity on the street cannot be expected to influence more global attitudes about the community and police. While this possibility serves to limit the expectations of what this research can accomplish, it also tempers the criticisms that a relatively short-term increase in proactivity would also harm police community relationships.

Second, the operationalization of police proactivity is somewhat limited in its contextual detail. While the measure provides useful insight into the quantitative level of proactivity, it offers little in substantive detail about what proactive behaviors are experienced on the street. Indeed, proactive problem solving in the community is sure to have a different effect on perceptions of the police than a series of stops and frisks on a

drug-crime street. While I was able to perform a brief assessment of the types of calls addressed proactively and reactively, I am not able to assess what behaviors or actions were taken during the resolution of those calls.

This also begs the questions of what forms of police proactivity may go unreported. While Lum et al., (2018) note the usefulness of CAD data as an estimate of police activities and proactivity, it is not without its limitations. CFS data, as I use here, relies on either a call being made to police (and this reported in the CAD data), or the police willingly reporting what proactive behaviors they engage in when not responding to a call. This unknown figure of unreported proactivity may include additional field investigatory stops, or casual conversation that addresses a community concern. Both have different impacts on the community and its residents and the true prevalence may not be known from the data. A breakdown of contextual detail, which I was unable to achieve here, would provide a more useful understanding of the impacts of specific police behaviors.

Additionally, while nesting the data at the street level avoids the statistical pitfalls of the ecological fallacy, the fact remains that the level of police proactivity assigned to the street-level is experienced differently by the residents who live there. It is possible that working residents do not notice heavy proactive policing during the workday, or that those who are home during the day or spend time outside are disproportionately aware of proactive policing efforts. As such, the currently available measure ore proactivity is objective, rather than reflecting the subjective experiences of the respondents.

Future Research.

As Koper (2014) notes, the activities undertaken by police at hotspots varies widely and Groff and colleagues (2015) further suggest that the tactics chosen are important for their differing ability to reduce crime at these hotspots. I contend that the contextual understanding of what police are doing while on patrol or in a crime hot spot must also affect the degree to which perceptions of the police change. While this study was unable to assess the different implementations of police proactivity, this is an important area for future research. It is not enough to conclude, as we do here, that general proactivity does not inevitably or significantly harm the community. It is necessary to explore what if any tactics undertaken at hot spots may have these negative effects, as well as further understand tactics that can improve these relationships.

This work would also benefit from a qualitative approach to understanding how proactive policing efforts are differentially interpreted by people on streets with different levels of and types of crime. As stated earlier, it was not possible to identify individual experiences or awareness of police proactivity on their block, only the experience of the street itself. Narrative accounts of residents may provide insight into understanding why police proactivity may be more appreciated on high crime streets (see: Chermak, McGarrell, & Weiss, 2001), or whether heavy police activity serves as a signal that the street is not safe in drug hot spots.

These suggestions for future research rest on the assumption that there is a causal mechanism by which police proactivity affects perceptions of police legitimacy and fear of crime, however further experimental work needs to be done to test this assumptions.

Whereas previous work has directly tested the effects of proactive policies and programs of the police (see: Weisburd et al., 2011; Kochel, Burruss, & Weisburd, 2016), there is only observational data available to examine proactivity more generally. Future work should consider a block-randomized experimental approach to randomizing levels and types of proactivity and directly testing impacts on police perceptions and fear of crime.

One notable artifact of the data analysis process was the observation that social disorder was a significant and consistent predictor of lower police legitimacy and higher fear of crime. This inadvertently supports LaGrange and Ferraro's (1992) conclusion that fear of crime is informed more from experience with local incivilities than from direct experience with crime. These findings echo the importance of reducing the presence of public intoxication, loitering juveniles, and disruptive panhandling. While zero-tolerance broken windows style policing may be the very approach that aggravates perceptions of police legitimacy, police may be proactive in employing reassurance policing, and community problem solving to eliminate signals of social disorder, to reduce fear of crime.

Conclusion.

This study sought to extend the existing literature by contributing to the evidence base on the degree to which police proactivity predicts attitudes about police legitimacy and fear of crime. The framing for the research question was heavily influenced by the recent arguments that hot spots policing and proactivity inevitably leads to negative outcomes within the community, especially on vulnerable high-crime streets. While this question has been addressed for organizational iterations of proactive policing, such as stop, question, frisk, order-maintenance policing, and proble- solving policing, there has

not been an examination of officer-level proactivity and its potential attitudinal outcomes. This study employs multilevel regression modeling using community survey data and Baltimore CFS data to estimate these impacts.

Overall, the results may be more significant in what they do not say. For the different substantive classifications of hot spots, increasing levels of police proactivity do not predict decreases in perceptions of police legitimacy or significant increases in fear of crime, except in the case of drug-crime streets perceiving their street as more dangerous. In fact, on the highest-crime streets, an increased concentration of police legitimacy was associated with increased perceptions of police legitimacy. These preliminary results contrast with the criticisms leveled against proactivity and provide support for the idea that proactivity can serve as both an effective means of crime control, while minimizing negative effects on the community.

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