Third-Person Perceptions, Hostile Media Effects, and Policing: Developing a Theoretical Framework for Assessing the Ferguson Effect*

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Abstract

Objectives: Policing in the United States has come under intense scrutiny following numerous deadly force incidents involving unarmed black citizens, which dominated the news media. Some have argued that consequently, a "chill wind" has blown through law enforcement, such that officers have become more fearful of scandal and are de-policing. To date, however, scholars have given insufficient theoretical and empirical attention to why and how media coverage of policing may lead to such outcomes.

Methods: We addressed this literature gap using data from a survey of officers in a metropolitan police department in the southeast.

Results: We found that officers perceive that media coverage of policing has a large effect on civilians, so much so as to impact crime rates. In turn, hostile media perceptions increase officers' 1) likelihood of believing that civilians' attitudes and behaviors toward police have worsened in recent years—that is, that there is a legitimacy crisis—and 2) fear of having false allegations lodged against them. Additionally, hostile media perceptions indirectly increase officers' likelihood of believing that crime is rising, by increasing their perceptions of a police legitimacy crisis and fear of false allegations.

Conclusions: These findings have important implications for police-community relations moving forward.

Keywords: Ferguson effect; legitimacy crisis; policing; law enforcement; third-person perceptions; hostile media effect

Third-Person Perceptions, Hostile Media Effects, and Policing: Developing a Theoretical Framework for Assessing the Ferguson Effect

Policing in the United States has come under intense scrutiny from the public in recent years following numerous deadly force incidents involving unarmed black civilians in cities all across the United States (Weitzer, 2015). These incidents, along with subsequent Department of Justice investigations unveiling evidence of misconduct and racially biased policing in several agencies, have received a wealth of media coverage. Scholars have argued that the seemingly constant negative publicity in the news regarding questionable police practices has fueled a legitimacy crisis, such that a growing segment of the population has become less trusting of the police and less willing to accept their decisions (e.g., the results of internal investigations) (Rosenfeld, 2016). Many observers worry that, in response, officers have pulled back from proactive policing (i.e., they are "de-policing" – see Oliver, 2015; Shjarback, Pyrooz, Wolfe, & Decker, 2017), criminals have become more and more emboldened, and crime has started to rise (Canterbury, 2016; Mac Donald, 2016).

Various labels have been used to describe this de-policing process, including the "Ferguson effect," the "YouTube effect" and the "viral video effect" (Davis, 2015; Lichtblau, 2016).[1] The potential consequences of such a phenomenon, if in fact it is real, could be far-reaching. Most notably, crime could indeed rise (Morgan & Pally, 2016; Rosenfeld, 2016). Police-civilian interactions could also become more volatile, as trust between the two parties erodes. If so, it could result in more injuries and fatalities to both civilians and officers. However, there remains considerable debate among both scholars and policymakers about whether the

[1] Throughout this paper, we consider the potential consequences of public discontent with police, fueled by Ferguson *as well as* other highly publicized fatal encounters between police and black civilians (e.g., in North Charleston, Baltimore, Chicago, Tulsa, Baton Rouge, and Falcon Heights).

effects of the recent negative police publicity on crime are real (Pyrooz, Decker, Wolfe, & Shjarback, 2016; Rosenfeld, 2016; Towers & White, 2017). But crime is only part of the story.

Even if the actual crime rates in cities are unaffected by media coverage, negative police publicity may affect both civilians' and officers' perceptions and behaviors. Desmond, Papachristos, and Kirk (2016), for example, found that residents of black neighborhoods in Milwaukee were less likely to report crime to the police for over a year following a highly publicized use of force incident involving an unarmed black man. Should officers perceive civilians (or segments of the community) as less cooperative, they may become more cynical of these civilians (Sobol, 2010), may change how they interact with members of the public—perhaps withdrawing from police/civilian cooperative efforts—and may even patrol their communities with less vigor (Klinger, 1997).

With such far-reaching implications, additional research is necessary that examines how media coverage is perceived by and affects police officers. Preliminary evidence suggests that negative publicity can ultimately be harmful to officers' self-legitimacy (i.e., the confidence they have in their authority, see Nix & Wolfe, 2017), and that the media has played a key role in the legitimacy crisis (Wolfe & Nix, 2016a). Nix and Wolfe (2016) found that a sizeable portion of their sample of sheriff's deputies believed civilians' attitudes toward the police (both locally and nationally) had gotten worse in the six months following the shooting of Michael Brown in Ferguson. However, Nix and Wolfe (2016) did not measure deputies' perceptions of media coverage, and thus were unable to test whether officers' media perceptions explained their beliefs about civilians' worsening attitudes. Indeed, we are unaware of any research that has examined whether officers believe the overall tone of media coverage of the police has been unfavorable in recent years, whether this coverage has affected civilians' attitudes and behaviors,

or whether it has led to higher crime rates. For example, officers' perceptions of crime trends, even if inaccurate, may influence the urgency they place on different policing styles, as they often view themselves as the "last best hope" for reducing crime (Bayley, 1995).

The above research questions are critical, regardless of whether crime rates have in fact increased recently. As W.I. Thomas emphasized long ago, "if men define situations as real, they are real in their consequences" (cited in Merton, 1948, p. 193). Officers' perceptions of media, civilians, and crime may have a tremendous effect on their morale and policing style (Bradford & Quinton, 2014; Pickett & Ryon, 2017; Skolnick, 2011). Morin and colleagues (2017: 60), for example, found that more than 8 in 10 officers say that recent high profile events have made their job more difficult. Media coverage might furthermore affect officers in many ways that could influence their job performance—such as making them more fearful of being accused of misconduct, and thus potentially more hesitant to use force even when it is justified. These are important considerations in the post-Ferguson era of US policing.

In short, although there has been a sharp rise recently in the number of studies exploring officers' reactions to high profile incidents and perceptions of civilians (e.g., Nix & Wolfe, 2016, 2017), several fundamental research questions remain unexamined. As important, the research to date has proceeded without an organizing theoretical framework for understanding how media coverage may influence police officers. In this study, we draw on insights from the communication literature to outline such a framework, and we test several of its key predictions. We begin by first reviewing scholarship suggesting that recent high-profile events contributed to a contemporary crisis in American policing.

Negative Police Publicity and the Current Legitimacy Crisis

On August 9, 2014, Michael Brown – an unarmed black teenager – was fatally shot by a police officer in Ferguson, MO. This incident sparked weeks of civil unrest in Ferguson, a Department of Justice investigation into the police department's practices, protests throughout the United States, and received enormous coverage by news media. In the months that followed, similar incidents ensued in other cities across the nation – including Cleveland, North Charleston, Baltimore, and Baton Rouge – some of which were captured on video and rapidly disseminated on the Internet and by news outlets. Each incident added to growing public outrage over seemingly excessive force by police officers (Weitzer, 2015). In December 2014, outrage over Brown's death in Ferguson became deadly when two NYPD officers were fatally ambushed while sitting in their patrol car. Prior to the incident, the shooter posted on social media: "I'm putting wings on pigs today. They take 1 of ours…let's take 2 of theirs" (Mueller & Baker, 2014). Nineteen months later, five police officers were fatally ambushed in Dallas by a shooter who was angry about recent police shootings of black men in Falcon Heights, MN and Baton Rouge, LA. Ten days later, three officers were shot and killed in Louisiana.

Looking back, the death of Michael Brown in Ferguson undoubtedly was an environmental jolt to policing in the United States. An environmental jolt refers to "a sudden and unprecedented event" with an impact that is "disruptive and potentially inimical" (Meyer, 1982, p. 515; see also Campbell, Nix, & Maguire, 2017). Although allegations of excessive force against minorities are certainly nothing new, the quickness with which news of the Ferguson shooting spread through social media and mainstream media outlets was unprecedented. In the aftermath of Ferguson, Heather Mac Donald (2016) suggested that the increased scrutiny of law enforcement by the media and civilians would prove detrimental to US policing. Former FBI

Director James Comey (2015) later echoed her concern, stating: “Nobody says it on the record, nobody says it in public, but police and elected officials are quietly saying it to themselves … a chill wind [is] blowing through American law enforcement over the last year. And that wind is surely changing behavior.”

One of the potential consequences of this negative police publicity may be increased crime—officers may respond to added scrutiny by pulling back from proactive policing and criminals may be more encouraged to offend (Mac Donald, 2016; Rosenfeld, 2016). Of course, such an effect requires that officers are aware of the unfavorable media coverage, and, in turn, that it influences their perceptions of civilians and fear of scandal. As discussed in the next section, research in the field of communication lends theoretical credence to this possibility. However, preliminary evidence with respect to the effect of negative police publicity on actual crime rates is decidedly mixed. Pyrooz et al. (2016) concluded that crime did not significantly increase in the 12 months following Ferguson; however, Rosenfeld (2016, p. 2) suggested the contemporary police legitimacy crisis, spurred by negative police publicity, was a plausible explanation for a “real and nearly unprecedented” rise in homicides across 56 US cities.

Importantly, an increase in crime is just one possible outcome, and many different factors besides policing contribute to crime rates (Levitt, 2004; Rosenfeld, 2016). However, even if crime rates remained constant, negative police publicity might nevertheless affect officer morale (Nix & Wolfe, 2017), further exacerbate an “us versus them” culture within policing (Chan, 1999; Neiderhoffer, 1967), or influence the way officers carry out their day-to-day responsibilities. Morgan and Pally (2016), for example, found evidence of de-policing by Baltimore officers following the death of Michael Brown in Ferguson (an effect that was even more pronounced following the death of local resident Freddie Gray). Shjarback and colleagues

(2017) similarly found that police departments across the state of Missouri made fewer traffic stops, searches, and arrests in 2015 compared to 2014. A recent nationwide survey of nearly 8,000 police officers suggests de-policing might be a pervasive strategy in response to negative police publicity. Seventy-two percent of the sample indicated that officers in their department recently "have become less willing to stop and question people who seem suspicious as a result of high-profile incidents involving blacks and the police" (Morin et al., 2017).

Negative police publicity might furthermore lead officers to be more fearful of being accused of wrongdoing. Some reason that such fear might lead officers to hesitate during instances which require them to use coercive force (Reese, 2014). For example, in October 2016, a Chicago police officer was badly beaten by a suspect at the scene of a traffic accident. The Superintendent later told reporters that even though the officer feared for her life, she did not draw her firearm because "she didn't want her family or the department to go through the scrutiny the next day on the national news" (Gorner & Dardick, 2016). Others have gone as far as suggesting civilians are waging a "war on cops" whereby it is becoming more common for police officers to be feloniously assaulted in the line of duty (Hattem, 2015). However, a recent time-series analysis of fatal assaults against officers from 2010 through the first quarter of 2016 casts doubt on this claim (Maguire, Nix, & Campbell, 2016).

Negative police publicity may also have affected civilians' attitudes toward the police. For example, an experiment by Culhane, Boman, and Schweitzer (2016) demonstrated that civilians were less likely to view police shootings as justified post-Ferguson. A separate study by Kochel (2015) showed that Brown's death in Ferguson reduced St. Louis residents' perceptions of police legitimacy, procedural justice, and effectiveness, and increased their perceptions of

police misconduct. These effects were even more pronounced among African-American residents (see also Desmond et al., 2016; Kochel 2017).

Although still limited, evidence has also begun to accumulate supporting the notion that negative police publicity has reduced police morale. Although they did not measure police officers' perceptions of the overall tone of media coverage of policing, Nix and Wolfe (2017) asked officers how the negative publicity surrounding law enforcement in the six months after Ferguson had impacted them. They found that many officers reported being less motivated, less willing to be proactive, and more reluctant to use force (see also Nix & Wolfe, in press). They also showed that some of these sentiments were associated with a diminished sense of self-legitimacy among deputies—a troubling finding given that studies have highlighted a number of potential benefits of greater self-legitimacy (see Bradford & Quinton, 2014; Tankebe & Meško, 2015; Wolfe & Nix, 2016b). Wolfe and Nix (2016a) further demonstrated that police officers said that they were less willing to engage in community partnership—a form of de-policing. Unfortunately, Wolfe and Nix (2016a) did not investigate police perceptions of civilians' attitudes and behaviors, or officers' fear of scandal, and thus the psychological mechanisms underlying the effects they observed remain unclear.

Recent studies, by showing lower police morale and self-legitimacy in the months after highly publicized police scandals, have thus provided several important pieces to a broader puzzle of how negative police publicity may affect police-civilian relations. What remains unclear, however, is why or how media coverage of policing contributes to these outcomes (or others). Phrased differently, our discipline currently lacks an organizing theoretical framework for understanding the potential influence of media coverage on police officers. In the next section, we build on a number of important findings from the past three decades of

communication research to begin to develop such a theoretical framework, which we then test in the remainder of this paper.

Elements for a Theory of Media Effects on Policing: Third-Person Perceptions and Hostile Media Effects

Although largely overlooked in policing scholarship, several insights from the vast literature on communication and media effects are useful for understanding the potential influence of negative police publicity on policing. Beginning with Davison's (1983) seminal work on third-person media effects, communication researchers have investigated individuals' perceptions of the impact of media coverage on *other* people (Gunther & Storey, 2005; Mutz, 1989). This work has documented a widespread belief that media reports exert substantial effects on public attitudes and behaviors. Individuals tend to perceive that the media has much stronger effects on *others* than on themselves (Paul et al., 2000; Sun, Pan, & Shen, 2008). In turn, this presumed influence of the media on others (or third-person perception) exerts causal effects on the perceivers' own attitudes and behaviors (Rojas, 2010; Tal-or et al., 2010; Xu and Gonzenbach, 2008). Third-person media effects also appear to be larger when perceivers believe that the "others" receiving media messages are dissimilar from themselves, or are members of an outgroup (Cohen et al., 1988; Sun, Pan, & Shen, 2008). This finding is especially relevant for policing scholarship because, as Skogan (2008: 26) observes, "American policing is dominated by a 'we versus they,' or 'insider versus outsider' orientation," in which civilians are seen as an outgroup.

A related finding from the communication literature has been that individuals, particularly those who are deeply involved in an issue, often hold "hostile media perceptions," perceiving that media coverage is biased against their group and/or position on the issue (Hansen & Kim, 2011; Rojas, 2010; Vallone, Ross, & Leeper, 1985). Perhaps unsurprisingly, given the

prevalence of third-person perceptions (see above), hostile media perceptions influence individuals' beliefs about public opinion, leading them to believe that a larger proportion of the public opposes their group or position (Gunther & Christen, 2002). Evidence also suggests that hostile media perceptions increase individuals' felt social alienation from broader society (Tsfati, 2007). As Feldman et al. (2015: 3) put it, "once media coverage is deemed hostile, this likely reinforces one's initial social identity by strengthening feelings of affinity with members of one's own group and feelings of hostility toward the other group." As important, hostile media perceptions may cause withdrawal from public participation and disengagement from government-oriented duties, by undermining trust in social institutions (Feldman et al., 2015; Tsfati & Cohen, 2005). Notably, these well-documented hostile media effects are very similar to the processes described by commentators who have warned of the possibility of de-policing in the wake of negative police publicity (e.g., Mac Donald, 2016).

Scholarship on third-person perceptions and hostile media effects thus provides a strong theoretical foundation for anticipating how negative police publicity will influence police officers. First, we can reason that police officers will believe that media coverage of policing strongly impacts *civilians'* attitudes and behaviors. Indeed, we know that police officers are extremely attentive to, and regularly talk to each other about, media coverage of policing (Brown, 2016; Pacanowsky & Anderson, 1982; Rantatalo, 2016; Toch, 2012). As Klockars (1996, pp. 6-7) explained, there is a strong "fear of scandal" among police officers, and therefore they are highly "sensitive to their public image and normally seek to avoid incidents that might damage it." Additionally, a perception among police officers that media reports affect civilians' attitudes and behaviors would not be inaccurate (Callanan & Rosenberger, 2011; Roche, Pickett, & Gertz, 2015). Chermak, McGarrell, and Gruenewald (2006), for example, found that civilians

who were exposed to more media coverage of a police misconduct trial were more likely to believe the officers were guilty. Similarly, Weitzer (2002) found a decline in public approval of the police in New York and Los Angeles following highly publicized incidents of misconduct.

Second, if police officers presume an influence of the media on civilians, we can reason that they will also perceive that negative media coverage of policing causes greater public opposition toward the police. This is important because given their involvement in policing issues and access to accurate information, officers will likely perceive negative police publicity, such as that which erupted after Ferguson, as hostile and biased. Police officers have a more realistic understanding than civilians of the rarity of incidents like Ferguson. In the study by Morin et al. (2017), for example, 67 percent of police officers, but only 39 percent of the public, said that "highly publicized fatal encounters between police and blacks [in recent years] are isolated incidents" rather than "signs of a broader problem." According to the Bureau of Justice Statistics, police make contact with over 40 million people per year in the United States—and use force in less than 2% of these interactions (Eith & Durose, 2011). Fatal force, particularly against an unarmed black civilian, is even less frequent. A recent analysis indicated that out of 990 fatal shootings by police in 2015, 38 (3.8%) were of an unarmed black civilian (Nix, Campbell, Byers, & Alpert, 2017).

Officers are also aware that media portrayals of policing are often inaccurate (Huey & Broll, 2015; Perlmutter, 2000). And there is truth to this perception. According to Weitzer (2015, p. 478), media coverage of the police gives "the impression that police brutality and racism are pervasive throughout the country." The problem is that the media provides disproportionate coverage to stories they deem the most "newsworthy." Unfortunately, police officers are most newsworthy "when they suffer a personal fall from grace or are killed. That is, … when they

become criminals or victims" (Surette, 2011, p. 97). Rare events—such as the shooting of an unarmed civilian, like Michael Brown in Ferguson—are often deemed especially newsworthy and thus receive extreme media coverage. Yet as rare as these events are, they dominate the news cycle. For example, one study compared NYPD officers' TASER usage to articles covering these incidents in the *New York Times*. Ready and colleagues (2008) found that coverage was more pervasive when the suspects were unarmed, when officers deployed their TASER more than once, and when the suspect died as a result.

Theoretically, then, the above scholarship leads to the expectation that because officers will tend to believe that media reports heavily influence civilians' attitudes and behaviors, they will also perceive that hostile and biased coverage of policing worsens police-community relations specifically, and threatens public safety more generally. These social psychological processes are the primary mechanisms theorized to underlie the Ferguson effect. Yet, they have received little empirical attention. Regardless of whether media effects on civilians or crime are *objectively* real, officers might *perceive* them to be real and a self-fulfilling prophecy may ensue (Merton, 1948).

The Current Study

To date, policing scholarship has yet to give sufficient theoretical or empirical consideration to police officers' perceptions of the role of the media in the current legitimacy crisis. As discussed above, extant research on third-person perceptions leads us to anticipate that police officers will perceive that media reports about policing strongly affect civilians' attitudes and behaviors. In the post-Ferguson context, the existence of such third-person perceptions would be unmistakable if, when asked directly, police officers endorse the view that media coverage of policing has an impact on crime rates—that is, if they believe the Ferguson effect is

real. Thus the first hypothesis that we test is that: *When asked directly, police officers will say that unfavorable media coverage of policing increases crime.*

Assuming a presumed influence of media reports on civilians, prior studies of hostile media effects further lead us to expect that officers who perceive that the media's recent coverage of deadly force incidents has been hostile and biased will, in turn, perceive that civilians' opposition to and animus toward the police has increased. Accordingly, we test the following hypothesis: *Police officers' hostile media perceptions will be positively associated with their: 1) belief that civilians' attitudes and behaviors toward the police have worsened—that is, that there is a legitimacy crisis—and 2) fear of false allegations by civilians.* Theoretically, hostile media perceptions, by affecting officers' perceptions of civilians' orientations toward police, should also lead officers to perceive broader societal effects of negative police publicity. Therefore, the final hypothesis that we test is that: *Police officers' hostile media perceptions, by increasing their perceptions of a legitimacy crisis and fear of false allegations, will indirectly increase their endorsement of the belief that crime is rising.*

Methods

Data

Data for the present study were obtained from a survey of a large police department in a major city in the southeastern United States administered in the fall of 2016. The department is the primary law enforcement agency in its metropolitan area, which is home to roughly 615,000 residents according to 2015 US Census estimates. In 2015, there were 4,300 known violent crimes according to the FBI's Uniform Crime Report. The police department employs 1,247 sworn officers – roughly 86% of whom are male. Eighty-four percent of the officers are white, 12% are black, 2% are Hispanic, and 2% are Asian. All sworn officers were invited to

participate. Over the course of several weeks, we sent two follow-up reminders to the officers. A total of 251 officers returned completed surveys, representing a 20% response rate.[2] Although the low response rate is a limitation of the study, we believe the data are still useful. As Krosnick and colleagues (2015, p. 6) explain in their report on survey research to the National Science Foundation, "nonresponse bias is rarely notably related to [the] nonresponse rate." We elaborate on this issue in the conclusion.

Dependent Variables

Perceived media influence on crime. Before proceeding to our relational analysis, we first investigated whether police officers believe media coverage of the police has a large enough influence on civilians to impact crime rates. That is, we investigated the extent to which officers in our sample endorsed a belief in the Ferguson effect. Officers were asked: "How do you think negative media coverage of the police impacts crime rates?" The response options ranged from 1 = greatly decreases crime to 5 = greatly increases crime. If we find evidence that officers believe negative media coverage increases crime, it would strongly suggest third-person perceptions are common among officers. In turn, this would provide precedent for proceeding to test whether, when separately measured, officers' views about the favorability of media coverage of policing are associated with their perceptions both of civilians' attitudes and behaviors, and recent changes in the crime rate.

Perceived legitimacy crisis. Our second outcome of interest was the extent to which officers believed they have faced a growing legitimacy crisis in recent years. Legitimacy refers to the level of trust and confidence civilians have in the police, as well as the degree to which

[2] Prior to data collection, we performed a power analysis whereby we determined we would need a sample size of approximately N=200 in order to have 80% power to detect a medium-sized effect at the .05 alpha level (Cohen, 1992).

they feel obligated to obey the police (Tyler, 1990; Tyler & Jackson, 2014). When civilians question the legitimacy of the police, they are less inclined to be compliant and cooperative (Jackson, Bradford, Stanko, & Hohl, 2012; Murphy, Tyler, & Curtis, 2009). Therefore, we asked officers to indicate how much the following had increased or decreased (1 = greatly increased, 2 = increased, 3 = stayed about the same, 4 = decreased, 5 = greatly decreased) during the past three years: 1) public distrust of police, 2) disrespect toward the police by suspects in encounters, 3) hatred of the police, 4) civilians' allegations of police misconduct, 5) civilians' noncompliance with police orders, and 6) attacks on police by suspects. Principal factor analysis (PFA) indicated that the six items loaded onto one factor ($\lambda = 3.27$; loadings ≥ 0.63).[3] Furthermore, the mean Kaiser-Meyer-Olkin [KMO] index of factorial simplicity for the items was 0.87, indicating "meritorious" sampling adequacy (Kaiser & Rice, 1974). Finally, the communalities were all above 0.30, which serves as further evidence that each item shared common variance with the others. Accordingly, responses to the items were reverse coded and averaged to create a mean index that demonstrated strong internal consistency ($\alpha = 0.87$). Higher scores on the index indicate a belief that police have increasingly dealt with a legitimacy crisis in recent years.

Fear of false allegations. Our third dependent variable was concerned with officers' level of emotional fear about being falsely accused of misconduct – either by civilians or in the news. Officers were asked to indicate how fearful (1 = very unafraid to 5 = very afraid) they were of the following: 1) someone falsely claiming you illegally stopped or searched them, 2) someone falsely claiming you discriminated against them, 3) someone falsely claiming you committed misconduct, 4) someone falsely claiming you used excessive force, and 5) the media

[3] For each scale included in our analyses, we retained all items with factor loadings greater than 0.50 (see Nunnally, 1978; Hair et al., 2006).

negatively portraying you in a news story. PFA showed that these five items loaded onto a single factor ($\lambda = 3.77$; loadings ≥ 0.69) and the mean KMO value was 0.90. In addition, all communalities were greater than 0.30. Thus, responses to the items were reverse coded and averaged to form a mean index with strong internal consistency ($\alpha = 0.94$). Higher scores on the index represent a greater fear on the part of responding officers of having false allegations lodged against them and receiving negative publicity.

Perceived crime trend. The fourth dependent variable of this study was officers' perceptions of the crime trend in their city during the course of the past three years. We asked officers to indicate whether they believed it had *increased greatly*, *increased*, *stayed about the same*, *decreased*, or *decreased greatly*. Virtually all officers in the sample believed crime had increased: 46% believed crime had "increased greatly," 46% believed it had "increased," 7% felt crime had "stayed about the same," and only 1% believed it had "decreased." None of the officers believed crime had "decreased greatly." Officers were thus highly consistent in believing that crime had increased, and varied primarily in their perceptions of the magnitude of the increase.[4] Given this distribution of responses, we created a dichotomous variable that reflected a belief that crime in the city had *increased greatly* over the past three years (1 = yes).

Independent Variable

Our independent variable captured officers' perceptions of media coverage of the police during the past three years. Specifically, officers were asked whether media coverage had been: 1) positive or negative, 2) fair or unfair, 3) truthful or deceptive, and 4) reliable or unreliable. For each question, officers were asked to answer on a four-point item-specific response scale (e.g., 1 = very positive, 2 = positive, 3 = negative, 4 = very negative). PFA demonstrated that the four

[4] Note that our interest here is not with whether officers' perceptions of crime trends are accurate, but rather, if they are associated with other variables of interest.

items loaded onto a single factor ($\lambda = 2.27$; loadings ≥ 0.71) and the mean KMO value was 0.80. Finally, all communalities were greater than 0.30. As such, responses to the items were averaged to generate a mean index – *hostile media perceptions* – which demonstrated strong internal consistency ($\alpha = 0.85$). Higher scores on the index reflect a belief that media coverage of police during the course of the past three years has been more hostile. Table 1 presents descriptive statistics for all variables used in the analyses.

[Table 1 about here]

Control Variables

We also included six variables in the multivariate models as statistical controls in an effort to reduce the potential of producing biased estimates. Respondent gender (1 = male), race/ethnicity (1 = non-Hispanic white), education (1 = college degree), and rank (1 = officer) were measured with dummy variables. We measured respondents' career length continuously in years.[5]

Analytic Strategy

Our analysis proceeded in four steps. First, we assessed whether, when asked directly, officers reported believing that media coverage of policing impacts crime rates. Second, in order to consider whether officers' hostile media perceptions were associated with their beliefs regarding the legitimacy crisis or their fears of being falsely accused of misconduct net of individual characteristics, we estimated two ordinary least squares (OLS) regression models.[6] Next, we estimated a logistic regression model that examined the relationship between hostile

[5] In order to ease concerns about anonymity, we did not ask responding officers to report their current assignment. We furthermore did not inquire about their relationship status or whether they had children, as we are unaware of any studies that demonstrate a relationship between these variables and our outcomes.

[6] Each of the dependent variables approximated normality (*legitimacy crisis* skew = -0.13, kurt = 2.28; *fear of false allegations* skew = -0.20, kurt = 2.36).

media perceptions and the belief that crime had increased greatly in the city over the past three years, while controlling for individual demographic differences.[7] This portion of the analysis represents an alternative and subtler strategy than the direct questioning approach (see above) for testing the credibility of the Ferguson effect to officers. Finally, we ran a second logistic regression model that included our measures of *legitimacy crisis* and *fear of false allegations*, in order to determine whether these variables mediated any observed effect of hostile media perceptions on officers' belief that crime had increased greatly. We formally tested for mediation using the KHB method (Kohler, Karlson, & Holm, 2011). This method takes into account the fact that with logistic regression, even in the absence of mediation, the magnitude of coefficients can vary substantially across models simply due to coefficient rescaling resulting from changes in residual variances.[8] Note that collinearity did not appear to be a concern in any of our multivariate models. None of the bivariate correlations exceeded 0.50, all variance inflation factors fell below 3.0, and condition indices below 30 – well within acceptable ranges (Tabachnick & Fidell, 2013).

Results

The analysis began by first examining whether officers in our sample, when asked directly, reported that media coverage of policing influences civilians, as indicated by their belief in the Ferguson effect. Figure 1 presents the respective data. The overwhelming majority of the officers in our sample reported that unfavorable media coverage of policing greatly increases (27.2%) or increases (55.8%) the crime rate. None of the officers in our sample felt that the

[7] Although there is no consensus on the minimum number of events required per predictor variable in logistic models, the most common recommendation is ten events per variable (see Vittinghoff & McCulloch, 2006). The models presented below have more than ten events per variable.

[8] Although our data are cross-sectional, this does not preclude our ability to test for mediation. In his authoritative book on mediation, Hayes (2013, pp. 17-18) makes clear that it is completely appropriate to test for indirect relationships even with correlational data.

media decreases or greatly decreases crime. Overall, this finding represents strong evidence of third-person perceptions among officers and provides motivation for further exploring the relationships between officers' perceptions of media coverage of policing and beliefs about changes in civilians' attitudes and crime.

[Figure 1 about here]

Model 1 in Table 2 presents the results of an OLS model that regressed perceived legitimacy crisis onto hostile media perceptions and each of our six control variables. The model as a whole was statistically significant ($F = 8.47$, $p < .001$) and explained roughly 21% of the variation in the outcome. Hostile media perceptions were positively associated with perceptions of a legitimacy crisis ($b = .554$, $p < .001$). As expected, officers who believed media coverage of the police during the past three years had been more hostile were significantly more likely to indicate that the legitimacy crisis had worsened concurrently (e.g., civilians had become more distrustful, disrespectful, noncompliant, etc.). Model 2 displays the results of a second OLS model that regressed fear of false allegations onto hostile media perceptions and each of the controls. The model as a whole was statistically significant ($F = 2.39$, $p < .05$) and explained 7% of the variation in the dependent variable. Here again, officers' perceptions of hostile media coverage were positively associated with the outcome ($b = .526$, $p = .001$). That is, officers were significantly more likely to fear having false allegations lodged against them if they believed that media coverage of police had been more hostile over the past three years.

[Table 2 about here]

Model 1 in Table 3 shows the results of a logistic model that regressed the dependent variable *crime increased greatly* onto hostile media perceptions and each of our controls. This model was statistically significant (likelihood ratio $\chi^2 = 15.46$, $p < .05$). Hostile media

perceptions were positively associated with officers' belief that crime had increased greatly over the past three years (b = .921, p < .01). The relationship was sizable; specifically, a one-unit increase on the hostile media perceptions scale was associated with a 151% increase in the odds of believing crime had increased greatly. Consistent with officers' response to the direct question (see above), this relationship provides strong evidence that the officers in our sample perceive a powerful influence of the media on civilians, and, as a result, believe in the Ferguson effect. Importantly, however, this relationship should be mediated by officers' perceptions of the legitimacy crisis or fear of having false allegations lobbied against them. Theoretically, these mechanisms may impact both police and civilian behaviors in ways that increase crime.

Model 2 in Table 3 considered this possibility by including these variables in the logistic regression model. The model was statistically significant (likelihood ratio χ^2 = 30.95, p < .001). Hostile media perceptions did not retain statistical significance (b = .283, p = .46). Instead, both perceived legitimacy crisis (b = .912, p < .01) and fear of false allegations (b = .354, p < .05) were significantly and positively associated with the belief that crime had increased greatly over the last three years. These relationships were both sizable. On the legitimacy crisis and fear of false allegations scales, respectively, a one-unit increase was associated with a 149% and a 43% increase in the odds of believing crime had increased greatly. Using the KHB method, we estimated the total, direct, and indirect effects of hostile media perceptions on the belief that crime had increased greatly. Findings indicated that the indirect effect was statistically significant (z = 2.23, p < .05). Most (71%) of the total effect of hostile media perceptions was indirect through the two mediators. Roughly 27% of the indirect effect was channeled through fear of false allegations, and 73% was through perceived legitimacy crisis. That is, the primary reason that hostile media perceptions were associated with officers' assessments of crime rates is

because they influenced their beliefs about civilians' orientations (e.g., disrespect, hatred) toward the police. In short, perceived legitimacy crisis and to a lesser extent fear of false allegations appear to be the central mediators of the effect of officers' hostile media perceptions on their assessments of crime trends.

[Table 3 about here]

Discussion and Conclusion

Over the past few years, several highly publicized police shootings of civilians have contributed to a crisis in American policing, characterized by visible public outrage and distrust (Weitzer, 2015). Indeed, in 2015, public confidence in the police fell to a twenty-two-year low (Jones, 2015).[9] During this same time period many cities across the United States experienced increased crime (Rosenfeld, 2016). Several scholars and government officials have raised the possibility that lower levels of perceived police legitimacy among civilians along with police reluctance and fear contributed to the rise in crime—the Ferguson effect (Mac Donald, 2016; Pyrooz et al., 2016; Wolfe & Nix, 2016a). Former FBI director James Comey, for example, has argued that police officers across the country believe in the Ferguson effect and are more hesitant to carry out their policing duties, even if they will not say so publically.

In the current paper, we outlined a theoretical framework that illuminates how media coverage of policing may exert effects like those described by Mac Donald, Comey and others. Drawing on insights from communication research, we posited that third-person perceptions and hostile media effects would help explain police reactions to negative publicity. Our empirical analysis went beyond anecdotal accounts, and provided concrete evidence about whether police

[9] Despite this troublesome decline in public confidence, we do want to emphasize that police-community relations still appear to be in better shape than they were a half-century ago (President's Commission on Law Enforcement and Administration of Justice, 1967).

officers perceive civilians are impacted by negative police publicity and believe the Ferguson effect is real. As Merton (1948) emphasized, when individuals believe a situation is real it often triggers a range of consequences, regardless of whether the situation is in fact real. Additionally, the findings herein illuminate the mechanisms that, at least in police officers' views, connect media coverage of policing to crime rates.

First, the findings provide overwhelming evidence that when asked directly, police officers report a belief in the Ferguson effect. At a descriptive level, over 80% of the officers in our sample believed that unfavorable media coverage of the police greatly increases or increases crime. The implication is that third-person perceptions among officers lead them to believe that the way the media chooses to report on policing can be quite consequential for society. Further evidence that officers believed in the Ferguson effect emerged from the relational analysis, in which we regressed officers' perceptions of crime trends on their judgments of the hostility of media coverage. Here perceptions of crime and media were measured separately, and thus the relational analysis was a subtler and more indirect approach than direct questioning for testing whether officers find the Ferguson effect credible. We found that officers who perceived the overall tone of media coverage of policing as hostile in recent years were significantly more likely to believe that crime increased greatly during the same time period. In this sense, the descriptive findings for the direct question and the relational findings converged in showing a strong belief in the Ferguson effect among police officers.

Second, the results revealed that the relationship between officers' perceptions of hostile media and crime is primarily mediated by judgments of changes in civilians' attitudes toward police and, to a lesser extent, by fear of false accusations. Specifically, officers who believed media coverage of the police had been more hostile in recent years were significantly more likely

to believe that civilians had become more distrustful, resentful, and disrespectful of police. Such officers were also more likely to report greater fear of being falsely accused of wrongdoing by civilians. In turn, officers' perceptions of civilians' attitudes toward police and fear of false accusations were both significantly related to their perceptions of crime trends. These mechanisms are precisely those that have been argued to underlie the Ferguson effect; they have been hypothesized to reduce morale and increase reluctance and hesitation among police officers (Rosenfeld, 2016; Wolfe & Nix, 2016a). These mechanisms are also consistent with a theoretical framework that posits media reports influence policing by operating through third-person perceptions and hostile media effects. A handful of previous studies have shown that police officers report having lower morale and less self-legitimacy because of negative publicity (Nix & Wolfe, 2017; Wolfe & Nix, 2016a). Our results extend this work by shedding light on the theoretical explanations for why such effects likely occur. Collectively, then, the results herein advance our understanding of the social-psychological processes through which media coverage may affect police officers' perceptions and attitudes and, in turn, influence police-civilian interactions and other outcomes.

The present research represents an initial step toward expanding knowledge about the media's potential effects on police officers and society. Surprisingly, media effects on policing and crime, despite the salience of the issues, remain severely understudied. Many important research questions stand unaddressed. For instance, researchers might compare officers' perceptions of the media's influence on themselves, other officers and the public. Prior research suggests that such comparative assessments can help to explain individuals' behavioral reactions to news reports (Rojas, 2010; Sun, Pan, & Shen, 2008). Future studies are also needed that examine whether media effects on police attitudes vary by context, perhaps being larger among

officers working in urban areas than among those working in rural settings. Preliminary research on the Ferguson effect suggests that the recent increase in homicides was observed primarily in a few large cities (Rosenfeld, 2016). Research is also needed that examines how those attitudes and perceptions evaluated herein influence officers' behavior in encounters with civilians and support for different approaches to policing (e.g., aggressive vs. community-oriented). Equally valuable would be empirical investigations into whether officers' hostile media perceptions, and perceptions of civilians' attitudes, influence their willingness to use procedural justice when interacting with suspects (see Nix, Pickett, Wolfe, & Campbell, in press). Not least, research is needed that explores whether officers' hostile media perceptions and fear of false accusations in fact increase their reluctance to fully investigate crimes and hesitation to use necessary force with suspects.

From a policy standpoint, our findings have several implications. First, the findings suggest a need to take further steps to improve the attitudes that police officers and civilians hold toward each other. Intergroup contact theory (Allport, 1954) suggests that the most promising interventions would create greater opportunities (e.g., civilian-police sporting activities, BBQs, block parties) for positive interactions between police and civilians (Broaddus et al., 2013; Duda, Klofas, & Drake, 2011; Goodrich & Anderson, 2014; Watts & Washington, 2014). Theoretically, such interventions may create a reservoir of trust and understanding that, in turn, reduces the impact of negative publicity on both officers and civilians. Indeed, evidence suggests that positive intergroup interactions can improve attitudes even in protracted conflicts with widely publicized instances of violence and high initial levels of mutual distrust (Pickett et al., 2014).

Second, prior research suggests that organizational justice—that is, respectful and fair treatment of officers by their supervisors—may reduce the impact of officers' hostile media

perceptions (Nix & Wolfe, 2016; Wolfe & Nix, 2016c). Our results document the potentially broad effects of negative publicity on police officers' perceptions and fear. Therefore, the present findings give greater urgency to efforts to increase organizational justice within policing. Third, agencies might consider training programs aimed at reducing officers' reactions to media reports. Fourth, the evidence herein suggests that it is important for police departments to take steps to counter the negative publicity in the media, and ensure a more accurate depiction of policing. One approach may be for police departments to leverage different forms of media to increase both the frequency and quality of communications about policing available to the public. For example, some police departments are already beginning to use social media to build community ties, by identifying and addressing civilians' concerns (Mueller & Singer, 2015; O'Connor, 2015).

Our study was not without limitations, which provide opportunities for future research. First, our data come from a relatively small sample of police officers from one department. Second, the data are cross-sectional, limiting our ability to draw directional inferences. However, we relied on theory to make assumptions about the direction of observed relationships between variables (Hanson & Kim, 2011). Finally, the response rate to the survey was relatively low (20%). According to survey methodologists, however, "response rates are a poor indicator of nonresponse bias" (Peytchev, 2013, p. 90). In addition, recent research suggests that even when nonresponse bias is present in survey data, its influence on relationships between variables tends to be relatively small (i.e., correlation deviations less than .05; see Heggestad et al., 2015). Nonetheless, future research is needed that attempts to replicate our findings using samples from different police departments and surveys where additional steps are taken, such as offering monetary incentives, to increase participation among sampled officers.

We close by emphasizing that the visibility of police-civilian interactions in the media is only likely to increase in the future (Miller, 2016; Toch, 2012). New technologies along with the current climate of distrust will ensure that negative police-civilian interactions remain highly newsworthy, even if these interactions account for only a small portion of all encounters (Brown, 2015; Goldsmith, 2010). There has been much debate in recent years about the effects of media scrutiny on police attitudes and behaviors. Yet, up until now, this debate has not been informed by any theory of media effects. Here, we have sketched out the beginnings of a theoretical framework for how media coverage may influence policing. Namely, our findings suggest that because of third-person perceptions and hostile media effects, the portrayals of police in the media may have broad impacts on police officers, influencing their perceptions of civilians' orientations toward police, fear of false accusations, and understanding of crime. Our findings thus underscore the importance of the public image of police for policing in today's high-visibility environment. Essential for enhancing police effectiveness, then, are efforts to foster mutual trust and respect among both police officers and members of the public.

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Figure 1. Officers' perceptions of the impact of unfavorable media coverage on crime

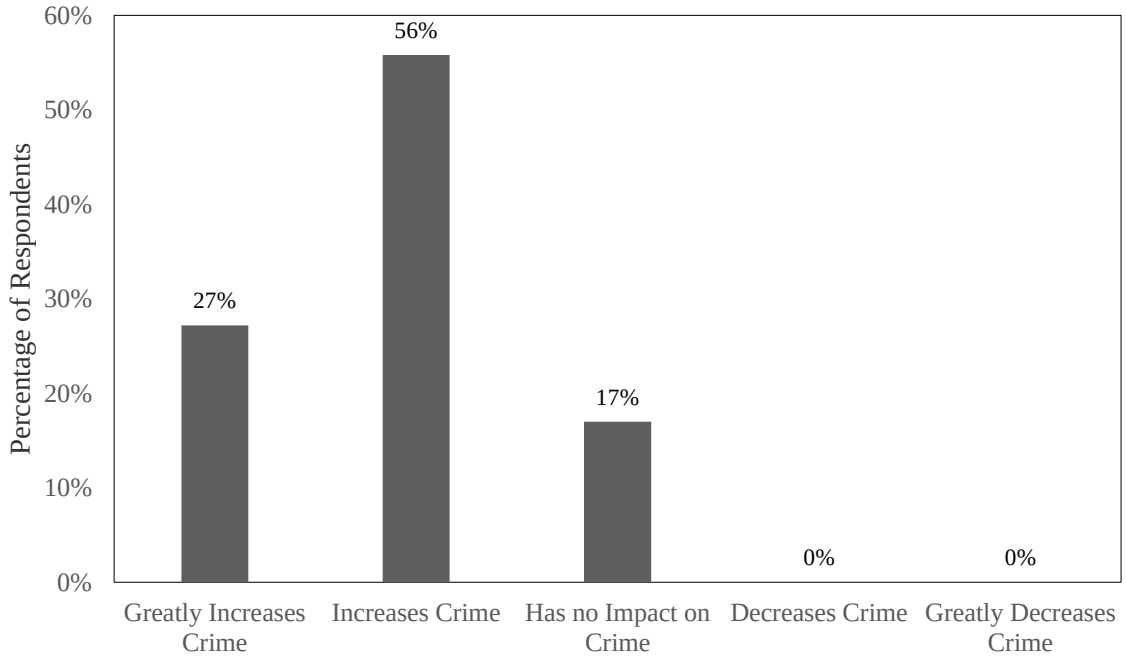

Table 1. Descriptive statistics.

Variables	Mean	SD	Minimum	Maximum
Crime increased greatly	.462	—	0	1
Hostile media perceptions	3.258	.487	2	4
Perceived legitimacy crisis	4.127	.598	2.333	5
Fear of false allegations	3.190	1.012	1	5
Male	.845	—	0	1
White	.815	—	0	1
College degree	.676	—	0	1
CJS career length	14.411	7.900	0	41
Officer	.617	—	0	1

ABBREVIATIONS: SD = standard deviation; CJS = criminal justice system.

Table 2. Effects of hostile media perceptions on perceived legitimacy crisis and fear of false allegations.

	Model 1: Perceived legitimacy crisis				Model 2: Fear of false allegations			
Variables	*b*	SE	95% CI	β	*b*	SE	95% CI	β
Independent Variable								
Hostile media perceptions	.554***	.082	.393, .715	.452	.526***	.157	216, .837	.242
Control Variables								
Male	.043	.110	-.172, .258	.026	.278	.210	-.137, .692	.095
White	-.064	.099	-.258, .131	-.043	.111	.190	-.264, .486	.042
College degree	.011	.086	-.158, .180	.009	.034	.165	-.291, .359	.015
CJS career length	.004	.006	-.007, .015	.055	-.004	.011	-.025, .017	-.030
Officer	.100	.088	-.074, .273	.082	-.051	.169	-.385, .284	-.024
F (6, 187)	8.47***				2.39*			
R^2	.214				.071			
N	194				194			

ABBREVIATIONS: b = unstandardized coefficient; SE = standard error; CI = confidence interval; β = standardized coefficient; CJS = criminal justice system.

*p < .05; **p < .01; ***p ≤ .001 (two–tailed).

Table 3. Effects of hostile media perceptions on the belief that crime has increased greatly.

	Model 1				Model 2			
Variables	*b*	SE	95% CI	OR	*b*	SE	95% CI	OR
Independent Variables								
Hostile media perceptions	.921**	.334	.266, 1.576	2.511	.283	.385	-.472, 1.039	1.328
Perceived legitimacy crisis	—	—	—	—	.912**	.313	.298, 1.526	2.489
Fear of false allegations	—	—	—	—	.354*	.160	.041, .667	1.425
Control Variables								
Male	-.399	.428	-1.238, .440	.671	-.565	.458	-1.461, .332	.569
White	-.558	.388	-1.318, .202	.572	-.584	.405	-1.378, .209	.557
College degree	-.436	.334	-1.090, .219	.647	-.500	.349	-1.183, .183	.606
CJS career length	.033	.022	-.011, .076	1.033	.034	.023	-.012, .079	1.034
Officer	.401	.347	-.280, 1.082	1.494	.364	.361	-.344, 1.072	1.439
Likelihood ratio λ^2	15.46*				30.95***			
Nagelkerke R^2	.102				.197			
N	194				194			

ABBREVIATIONS: b = unstandardized coefficient; SE = standard error; CI = confidence interval; OR = odds ratio; CJS = criminal justice system.

*p < .05; **p < .01; ***p < .001 (two–tailed).