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From the Inside Looking Out: The Role of Friendships in Shaping Officer Perceptions of Police Legitimacy

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ABSTRACT

FROM THE INSIDE LOOKING OUT: THE ROLE OF FRIENDSHIPS IN SHAPING OFFICER PERCEPTIONS OF POLICE LEGITIMACY

By

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Over the past decade, policing has come under increased scrutiny—with an added focus on the implications of waning police legitimacy among the public. A recent examination of police legitimacy spawned the term perceived audience legitimacy (PAL), which essentially concerns how police believe they are viewed by the public. PAL may influence a host of outcomes, including adherence to procedural justice, self-legitimacy, and preferences for the use of force. One factor that has emerged across officer legitimacy studies as influential is the relationships an officer has with their peers. However, most studies focus on formal colleagues in the assessment of peers, neglecting potentially stronger bonds like those that exist between officer friends. That is, informal relationships between officers may be overlooked when focusing on formal colleagues, including both within assignment (i.e., not all officers on an assignment may like one another), and in past stages of an officer's career (e.g., former assignment, academy mate, etc.).

This mixed-method dissertation uses network analysis and qualitative interviews to examine the antecedents of PAL, with a particular emphasis on examining whether officer relationships (both formal and informal) are associated with PAL. With a combined sample size

of (n = 2,355), the quantitative component of this project relies on data collected from three police departments—Southeast (SE), Northeast (NE), and Southwest (SW)—as a part of the Police Network Project (PoNET). The qualitative component relies on interviews from a convenience sample of (n = 100) police officers across each of the aforementioned departments. Quantitative results indicate evidence for only informal peer influence (i.e., friends) in the two largest of the three departments (NE, SE), though not necessarily among formal colleagues (i.e., same assignment). The qualitative component reveals the relative unimportance of individual interactions, with officers basing their perceptions of legitimacy primarily on events that received wider-spread media coverage (e.g., George Floyd). The study's findings shed insight on the role of informal networks in structuring the dependence of officer attitudes. Pragmatically, the study provides evidence that 'bad apple' arguments may not be as convincing, and that traditional courses of action for problematic officers like reassignment may not be as effective.

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BY

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ACCEPTANCE

This dissertation was prepared under the direction of the candidate's Dissertation Committee. It has been approved and accepted by all members of that committee, and it has been accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Criminal Justice and Criminology in the Andrew Young School of Policy Studies of Georgia State University.

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Dedication

This dissertation is dedicated in loving memory to Uncle Buddy and Uncle Jim, both of whom were instrumental in motivating my pursuit of higher education.

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Chapter I: Introduction

Almost a decade ago the President's Task Force on 21st Century Policing (2015) recommended six major changes for police departments across the United States. Critically, the Task Force (2015) contended, "Building trust and legitimacy on both sides of the police-citizen divide is not only the first pillar of this task force's report but also the foundational principal underlying this inquiry…" (p. 9). However, subsequent high-profile police-citizen encounters--like the unjustified killings of George Floyd or Tyre Nichols—continue to undermine "…the citizenry's acceptance of police authority," or police legitimacy (Terrill et al., 2016, p. 61). Public opinion polls support this notion, with over two-thirds of respondents indicating a need for policies which bolster police-community relationships, address abuses of power, and provide recourse when subjected to such abuses (Crabtree, 2020; McCarthy, 2022). This sentiment is problematic as decades of research on police legitimacy suggest police-citizen partnerships are imperative for improving crime control efforts (Mazerolle et al., 2013; Tyler, 1990; 2006; Worden & McLean, 2017), and ensuring compliance from citizens (Murphy & Tyler, 2008; Nagin & Telep, 2017).

To date, much of the research on police legitimacy has exclusively focused on the public's view of police (e.g., Bolger & Walters, 2019; Sunshine & Tyler, 2003; Tyler, 1990), neglecting the viewpoint of officers. As the Task Force (2015) stipulates, however, legitimacy building is a two-sided venture: it requires both police and public cooperation. In line with this notion, Bottoms and Tankebe (2012) proposed a model of legitimacy built and maintained through an on-going dialogue between the police and public: police make a claim to power (e.g., through making demands, arrests, crackdowns on certain crimes) and the public either accept or reject it via their compliance with such demands or initiatives. If citizens reject law

enforcement's claims to power (e.g., non-compliance, protest), police *should* re-evaluate their approach to better align with normative values and expectations. This is not to say that police should capitulate to every public demand, but that police presence and operational tactics should generally remain in line with public sentiment to the extent possible (see also, Herbert, 2006).

Bottoms and Tankebe (2012) contend that a key missing piece of the legitimacy equation is that power holders themselves must be convinced the claim they make is legitimate before convincing those over whom they claim power they are a legitimate authority. More specifically, they argue that officers gradually develop *self-legitimacy*, which refers to an officer's overall confidence that their authority is aligned with society's broader normative expectations of police (see also, Trinkner et al., 2019). Empirical works since Bottoms and Tankebe (2012) suggest self-legitimacy explains variation in officer behaviors key to curbing the deterioration of police legitimacy, like adherence to procedurally just tactics, a lower propensity to use force, and mitigating involvement in misconduct (Bradford & Quinton, 2014; Ivković et al., 2022; Jonathan-Zamir & Harpaz, 2018; Tankebe & Meško, 2015). Officers who successfully navigate this process should ideally have higher quality interactions with citizens, as well as exhibit a demeanor conducive to establishing and maintaining a sense of professionalism and fairness to the public. Further, officers exhibiting such behaviors are said to have high levels of '*self-legitimacy*.'

While self-legitimacy refers to an officer's belief their authority is morally and legally grounded in broader normative societal expectations, another key component—and the main focus of the current inquiry—of the dialogic model is 'perceived audience legitimacy.' More specifically, perceived audience legitimacy (PAL) refers to "how the police believe they are viewed by the public" (Nix et al., 2020, p. 218), and pertains to citizen reactions and officer

interpretations of those reactions when making a claim (e.g., issuing a lawful command, making an arrest, etc.) to being a legitimate authority (e.g., Gau & Paoline III, 2021; Mesko, 2022; Tankebe & Mesko, 2015). Nix and colleagues (2020) contend PAL's role in the dialogic model is crucial, cuing officers to make "the decision [of] whether to adjust their claim to legitimacy" based on public response to police actions (p. 222). In addition, because PAL ideally should cue officers to question their legitimacy claims, this will ultimately contribute to their self-legitimacy (see e.g., Hacin & Mesko, 2022; Tankebe, 2019). That is, if officers perceive public backlash to be severe (i.e., PAL), it follows an officer's confidence that their authority is both morally and legally grounded (i.e., self-legitimacy) would also be affected (see e.g., Mesko, 2022).

Much like works on self-legitimacy, prior research indicates PAL to also be associated with more positive attitudes about the use of procedurally just tactics (Bradford & Quinton, 2014; Jonathan-Zamir & Harpaz, 2018). Critically, officers adhering to the principles of procedural justice is key to building legitimacy among the public (Tyler 1990; 2006; Wood et al., 2020). Further, as identified by Jonathan-Zamir & Harpaz (2014), PAL also informs "strategic choices, day-to-day behavior and the nature of future claims to legitimacy" (p. 474). In other words, if officers perceive that their legitimacy is built and maintained by, for example, effective crime control—they may ignore components of procedural justice in pursuit of those crime control efforts. Given prior works find procedural justice to be the key legitimacy builder in the eyes of the public, such a discrepancy would ultimately undermine police legitimacy in the eyes of the public—even if police think they are doing what matters (e.g., aggressive crime control).

Despite the possible consequential outcomes related to PAL, its antecedents have received much less attention. We know very little about how officers' form their perceptions of how the public view them. However, given the relationship between self-legitimacy and PAL

(e.g., Jonathan-Zamir & Harpaz, 2014; Mesko et al., 2017; Tankebe, 2019; Tankebe & Mesko, 2015), self-legitimacy research offers some insight. One source of influence found consistently across the self-legitimacy literature is peer recognition (Bottoms & Tankebe, 2012; Debbaut & De Kimpe, 2023; Mesko, 2022; Tankebe, 2019; Tankebe & Mesko, 2015). That is, better relationships between an officer and their peers is associated with higher self-legitimacy—though this not necessarily the case for other commonly examined relationships like supervisor recognition (e.g., Gau & Paoline III, 2020; Tankebe, 2019). First, this notion dates back to the seminal works of Muir (1977), who argues peer recognition and support is a core element in the moral development of an officer over their career. Peers being an integral part of the self-legitimation process is also largely tied to the role of social affirmation in the development of confidence generally (e.g., Barbalet, 2001), and that through shared experiences officers develop social capital (i.e., strong relationships) that breeds trust among peers (Coleman, 1988; Tankebe, 2014; 2019; Tankebe & Mesko, 2015). Further, as Nix and Wolfe (2017) contend, trust between peers is likely important when officers are being criticized by the public and their superiors—as peers can offer another avenue of support and recognition.

Nix et al.'s (2020) findings suggest the possibility of a peer influence on officer PAL. More specifically, they include a measure of global perceptions of citizen animus, which refers to an officer's general belief—based on *direct and vicarious* experiences—of how citizens treat police. Importantly, they find these global perceptions to be a significant predictor of PAL. As they argue in their conception of the measure, included in the development of 'global beliefs' are likely formal and informal discussions with colleagues about citizen views (e.g., media reports) and citizen interactions, perhaps as a way to offer support and deal with the stress inherent to the policing job (Waddington, 1999).

Debbaut and DeKimpe (2023) provide further evidence that officer legitimacy—including PAL—is likely driven by endogenous processes like affirmation and support from peers. For example, empirical evidence suggests crime control is what officers believe builds their legitimacy in the eyes of the public (e.g., Jonathan-Zamir & Harpaz, 2014; Gau & Paoline III, 2021), yet decades of research on police legitimacy from the viewpoint of citizens find procedural justice (i.e., treatment during police-citizen interactions) to be what the public cares about most (Tyler, 1990; 2006). Debbaut and DeKimpe (2023) theorize, then, that self-legitimation tied to beliefs about crime control is likely generated endogenously—and likely flows along the same informal channels that facilitate the transmission of attitudes tied to police culture. This would suggest, for example, that even when officers receive a citizen complaint, endogenous processes—and here it is argued peer recognition/support—may justify the officers' actions by rationalizing they were in pursuit of a greater mission such as crime control.

That peers in the policing context influence one another's behavioral and attitudinal outcomes generally is not a new phenomenon (e.g., Barker, 1977; Chappell & Piquero, 2004), with many studies finding links between an officers' peers and misconduct-related outcomes (e.g., Chappell & Piquero, 2004; Holz et al., 2023; Ivkovic et al., 2018; Ouellet et al., 2019). In fact, a recent avenue of research on informal networks within police departments indicate behavioral outcomes—many of which are tied to officer legitimacy (e.g., use of force, citizen complaints)—may be a product of an officer's social environment (see also, Roithmayr, 2016). In general, if misconduct or other negative outcomes are influenced by one's peers, and the evidence for self-legitimacy research indicates peers are a valuable resource in its development, it is plausible that other attitudes may be influenced by similar processes. That said, although preliminary works provide a foundation from which to build, assessments of peer influence on

the self-legitimation process—especially for PAL—are ultimately incomplete. As discussed earlier, uncovering the mechanisms driving officer PAL may be consequential—especially if PAL is a product of endogenous legitimation that largely eschews public input in rebuilding police legitimacy (Debbaut & DeKimpe, 2023; Jonathan-Zamir & Harpaz, 2014).

1.1 Current Study

This primary goal of the current work is to make a broader contribution to the policing literature by exploring the following question: Is an officer's social environment (e.g., friendships, work colleagues) associated with their PAL? To answer this question, the quantitative component will rely on data collected from three police departments—SE, NE, and SW—as a part of PoNet. Combined, survey and network data from (n = 2,355) officers will be used to assess whether an officer's friend group may be influencing their PAL levels. Conducting a multi-site examination will help determine the consistency with which peer influence exists across policing contexts, and a reliance on two different quantitative modeling strategies will shed light on potential peer influence mechanisms at play (i.e., selection v. influence). Primarily, it could be that an officer selects friends who share similar viewpoints on policing, or they may become friends with an officer for a different reason (e.g., they watch similar shows, fans of similar sports teams, cultural similarities, etc.) but then the focal officer and their friends develop similar attitudes over time.

Deviating from prior studies that rely on a general perception of one's peers (often in a more formal sense, like colleague), the second major contribution of this work is directly capturing informal peer relationships by asking officers to identify up to 10 close friends in the department. Examining only the formal organization and within assignment relationships may obfuscate other informal relationships between officers that may similarly influence attitudes

(see for example, Ingram et al., 2013). This effectively will allow for examining peer influence that spans the formal boundaries of assignment and capture the dynamics between officers who, for example, may have once worked or attended the academy together, and who still regularly discuss aspects of the job. Not only that, but operationalizing peers in this manner may also reveal within-assignment relationships (i.e., friends) that move beyond simply a work colleague (i.e., all officers who work together may not like, speak to, or have similar orientations with all workgroup members; see e.g., Ingram et al., 2013).

Given the attention on peers throughout the legitimacy and police socialization literature (e.g., Muir 1977, Nix et al., 2020; Nix & Wolfe, 2017; Tankebe, 2014; White et al., 2021), investigating the nuances of peer influence are relevant for elucidating the mechanisms of any peer influence observed. This is particularly consequential because no prior works on police attitudes quantitatively distinguish between formal (e.g., colleagues) and informal peers (e.g., friends). In fact, this study will be the first to directly assess peer influence on officer attitudes of any kind using a network approach, potentially lending credence to using network analysis for examining the distribution of officer attitudes and informal department dynamics.

Second, since this study overcomes prior works by mapping and assessing *who* an officer views as a friend, I am able to directly assess each officer's respective responses rather than rely on an officer's perceptions of their colleagues. That is, prior works primarily rely on how respondents perceive relationships with their peers, which may overlook lower-level dependencies in the development of officer attitudes. For example, psychological research recognizes a 'false-consensus' effect which may prompt individuals to believe others are much more similar to them than they actually are (e.g., Ross et al., 1977). Accordingly, this study

overcomes that limitation by using the actual responses of one's friends, and assessing whether those friends influence a given officer's PAL.

Finally, this work will also answer the broader research question by qualitatively assessing officers' conceptions of PAL. To do this, I plan to make more general queries about how officers believe they are perceived by the public, what informs their answers, and the role of peers (if any) in the development of PAL attitudes. Despite an increasing amount of quantitative studies, there is still relatively little qualitative work that examines police legitimacy from the perspective of officers. This step is also critical given that PAL research is a relatively nascent area of exploration—and may provide insight into its antecedents and direction for future research on how best to operationalize it in future quantitative studies. I will achieve this step through analyzing the content of (n ~ 100) semi-structed interviews with police officers across (n = 3) departments in the United States, who are exposed to different work environments and social conditions. Ideally, this will allow for extracting commonalities across study venues to determine if such different contexts condition officers' legitimacy orientations.

Chapter II: Literature Review

2.1 Process-Based Model of Legitimacy

Research on police legitimacy has traditionally focused on what Bottoms and Tankebe (2012) term *audience legitimacy*, which refers to how citizens view police. Beginning with Tyler's (1990, 2006) initial conception and later expansion by others (e.g., Bolger & Walters, 2019; Jackson et al., 2012), this line of research largely argues that procedural justice is the *sine qua non* of establishing police legitimacy among the public. Procedural justice contains two major components: (1) quality of decision-making and (2) quality of treatment by officers towards citizens, and more generally concerns the *process* by which criminal justice actors make decisions (e.g., police, courts).

More than instrumental concern (e.g., arrest, citation), Tyler (1990, 2006) finds that when citizens feel respected by the officer, and that they have a voice in the decision-making process, they are more likely to comply and subsequently view the interaction (and justice system generally) as fair. Importantly, treatment during police-citizen encounters ultimately contributes to the ability of law enforcement to 'police by consent,' given citizens believe they ought to obey the law because it is their duty, rather than due to coercion or force (Trinkner & Tyler, 2016). Conveying to police the importance of every interaction is imperative, as negative interactions are found to fundamentally alter the legal socialization process—and provide reason to view the law as illegitimate (Trinkner & Tyler, 2016; Tyler et al., 2014)

More recent examinations of the link between procedural justice and legitimacy have defined a third component, arguing that even when the two aforementioned criteria (i.e., quality of decision-making and treatment) are met—they may not be enough to maintain a legitimate presence (Trinkner & Tyler, 2016; Trinkner et al., 2018). Instead, citizens establish views about

the boundaries of legal authority, including when, where, and at what times it is appropriate for such authorities to enforce the law. For example, even if law enforcement can legally make arrests for marijuana possession—the liberalization of such policies nationwide may elicit unfavorable responses from the public who believe their focus should be elsewhere. This is because, "People do not cede complete control to authorities—legal or otherwise…", meaning citizens effectively determine—situationally—the appropriateness of when legal authority is exercised (Tyler & Trinkner, 2016, p. 428). Here again, this third component that identifies boundaries on authority as determined by the public writ large further emphasize understanding the extent to which public and police views align on what builds legitimacy—including the primary focus of their policing efforts.

Police have a vested interest in establishing a legitimate presence among the public, primarily because their success relies heavily on public compliance. That is, policing resources are limited and the public must be willing to aid police through reporting crimes and providing information, which citizens are more willing to do when police are viewed as legitimate (e.g., Desmond et al., 2016). This not only concerns public compliance through aiding public safety efforts, but also in their deference to officers when in direct contact with the police. In other words, the status quo of police-citizen interactions should be public compliance with officers—though this becomes more difficult when the public do not believe the police are fairly exercising their power (Bottoms & Tankebe, 2012).

2.2 Self-Legitimation of Power-Holders

Despite the process-based model focusing on *why* citizens believe they ought to obey the law, Bottoms and Tankebe (2012) argue, however, it is ultimately one-sided. Instead, citizen views of police are but only one part of the police-citizen interaction equation. As the third

component of the process-based model suggests, law enforcement must be aware of changing societal expectations about the boundaries of their authority, even when they treat citizens fairly during interactions. As Bottoms and Tankebe (2012) argue, in concert with audience legitimacy (i.e., how the public view police legitimacy), researchers should similarly consider the role of *self-legitimacy* (i.e. how the police view police legitimacy), which they define as, "…the cultivation of self-confidence in the moral rightness of power-holders' authority, within a framework of both official laws and regulations, and societal normative expectations" (p. 154). In other words, a complete assessment of police-citizen interactions involves both the orientation and demeanor of the citizen *and* police, given that both are integral components of building and maintaining legitimacy. Implicit in this process is the notion that officers understand from where their authority is derived—given their prescribed roles and expectations to maintain a functioning society.

The role of police was explored by early ethnographic works who found police largely function as a manifestation of the state's ability to use legitimate coercion to achieve a just means (Bittner, 1970; Crank, 1990; Manning, 1977; Muir, 1977). As Weber (1978) argues, use of coercion in this way is a hallmark of a successful human community. However, Muir (1977) highlights several moral and intellectual challenges concomitant with this unique position in society, which must ultimately be overcome. More specifically, Muir (1977) stated, "Morally, [a police officer] has to resolve the contradiction of achieving just ends with coercive means" (p. 3). Muir (1977) warns that an inability to reconcile this dilemma ultimately leads to maladaptive coping, and potentially the abuse of power. To successfully achieve this requires that a power-holder fundamentally understand from where their authority is derived or, as Kronman (1983, p. 41, as cited in Bottoms and Tankebe, 2012) puts it, "…to the extent that he anticipates and

understands the criticism of those who are less fortunate, the man of good fortune must already be a critic himself."

Raz (2009) provides some guidance on what makes an authority legitimate, presenting a three-fold typology: those who exert naked power, de-facto authorities, and legitimate authorities. Those who exert naked power make no claim to be legitimate, such as a terrorist organization who seize a town. De-facto authorities differ considerably from the last group, as they do make a claim to be legitimate but are not recognized (by citizens) as having a right to govern (e.g., controversial dictatorships). Finally, legitimate authorities—like police—make similar assertions as de facto authorities, though the audience *does* accept the claim of a legitimate authority. The acceptance of this claim to power is often grounded in a tradeoff, whereby authorities—like police—justify their claim to power (i.e., legitimate themselves) through upholding mutually agreed upon societal values (see also, Beetham, 2013), and operating congruent with normative expectations.

Barker (2001) posits that power-holder self-legitimation hinges on two key components: identification and ability to command. Legitimation is linked to identification in that rulers aim to set themselves apart by being identified as possessing "particular qualities" through the use of images or even ceremonial actions/practices (Barker, 2001; for police specifically, see e.g., Sierra Arevalo, 2021). Second, legitimations provide a basis for rulers to issue commands as they should be derived from the broader laws and normative expectations on which the ruler bases their authority. As such, the commands should fulfill part of a larger goal (e.g., public safety) that benefits both ruler and ruled. Barker (2001) subsequently provides clarification on who is most influential in the self-legitimation process, arguing one's immediate social circle serves as

the strongest reference point. That is, those claiming power look to their within group (see also, Muir, 1977) for justifying their authority before looking between groups, such as to the citizenry.

Herbert's (2006) three-pronged examination of police legitimacy would align with Barker (2001) that separation between power-holder and citizen is necessary. Herbert (2006) posits that separation allows police to command authority when necessary (i.e., controlling a crime scene) and maintains *esprit de corps*. Herbert (2006) would disagree with Barker (2001) for the second two ways he argues police legitimate themselves, which concern accountability to the public. Specifically, police make legitimacy claims by actively serving the needs of the public (i.e., response to calls for service), and being proactive in resolving crime issues. In doing so, police establish and maintain their elevated status by a willingness to face danger on behalf of the public, while ensuring to keep some degree of separation via constraints of the law.

Bottoms and Tankebe (2012) argue that this multifaceted legitimation process particularly affects criminal justice actors like police who encounter the public on a daily basis. They situate the cultivation of police legitimacy within a dialogic framework which considers the behavior and responses of both citizens and power-holders. In general, the framework proceeds as follows: Police make a claim to power (e.g., issuing a command to a citizen), assess citizen response (e.g., resist arrest, become combative), and revise the claim (to a certain extent, remembering Herbert's (2006) separation) to better align with shared societal values and normative expectations. However, as Bottoms and Tankebe (2012) argue, a critical pre-condition for claiming power over others is that power-holders must convince themselves their authority is both morally and legally grounded, which manifests in officers as self-legitimacy. Since their theorization about the implications of self-legitimacy and its link to officer behavior and disposition, some works have begun assessing those arguments.

2.3 The Empirical Status of Self-Legitimacy and PAL

Bottoms and Tankebe (2012) provided impetus for a line of empirical works to examine the dialogic model of police legitimacy, encouraging researchers to include the perspective of power-holders like police officers. Perhaps one of the most critical findings is that officers with higher levels of self-legitimacy are more willing to adhere to procedurally just tactics during citizen encounters (Bradford & Quinton, 2014; Tankebe, 2019; Tankebe & Mesko, 2015; Trinkner et al., 2019). For example, Tankebe and Mesko (2015) found that officers with higher levels of self-legitimacy were less likely to rely on force as a mechanism to resolve issues. Bradford and Quinton (2014) concluded that officers who have higher levels of self-legitimacy supported procedurally just policing tactics across the spectrum, including less support for the use of force in policing, as well as increased support of suspects' rights during a police-citizen interaction. In other words, officers who believe their claim to power is justified within society's broader normative expectations of authority figures approach policing in a procedurally just manner, a critical component of Tyler's (1990, 2006) conception of how police build legitimacy in the eyes of the public.

Of most salience to the current inquiry, however, are the mechanisms that influence officers' development of self-legitimacy. In general, research has examined the influence of external factors like citizen views and media (e.g., Bradford & Quinton, 2014; Nix & Wolfe, 2017), as well as organizational factors (e.g., Bradford & Quinton, 2014; Gau & Paoline III, 2021; Tankebe & Mesko, 2015). Regarding the former, works in general have found that officers' perceptions of public support share a relationship with self-legitimacy, and that negative media may lower morale and levels of self-legitimacy among officers (Nix & Wolfe, 2017). Turchan (2020) further indicates that such perceptions of hostile media are also projected onto

citizens—meaning the quality of officers' interactions may decrease if they believe the public are represented by negative media accounts of police (e.g., expecting criticism during interactions).

Several studies focus on the role of organizational influences, such as perceived supervisory fairness increasing an officer's self-legitimacy (Bradford & Quinton, 2014; Gau & Paoline III, 2021; Nix & Wolfe, 2017; Tankebe & Mesko, 2015). For example, Bradford and Quinton (2014) find that identification with one's organization—operationalized as loyalty and dedication to one's department—was significantly and positively related to developments of self-legitimacy. In addition, supervisors themselves had a positive and significant influence on officer self-legitimacy, with perceived supervisor fairness (i.e., supervisor procedural justice) playing an important role in the process (Gau & Paoline III, 2021; Nix & Wolfe, 2017; Tankebe & Mesko, 2015). In addition, Wolfe & Nix (2017) further find perceived organizational justice to be associated with self-legitimacy, meaning officers feel more confident when they can expect support from their superiors (i.e., supervisors) and organization. Here again, this points to the potential for the formal environment to be potentially influential—with supervisors tied to an officer's assignment.

Across most of the aforementioned examinations of self-legitimacy, they include individual officer characteristics which are found to play a mostly insignificant role in predicting variation in self-legitimacy outcomes. The exception is that some find an officer's experience, or their age, has a positive linear relationship with self-legitimacy (Bradford & Quinton, 2014; Gau & Paoline III, 2021; Hacin & Mesko, 2022). However, others do not find a link between experience and self-legitimacy (e.g., Tankebe, 2019). Theoretically, officers with more experience will have had more time to develop their professional identity and gain confidence in their authority. As psychological research suggests, this is largely tied to gradually integrating

one's social and professional identities, with professional groups (e.g., police) within which one is embedded providing social affirmations and boosting confidence in one's capabilities (e.g., Barbalet, 2001).

A final avenue of research focuses on the quality of relationships between an officer and their peers, which is the mechanism of most relevance here. In general, past research suggests that an officers' peers play one of the most important roles in the self-legitimation of power (e.g., Barker, 2001; Bottoms & Tankebe, 2012; Muir, 1977). For example, Muir (1977, p. 198) would argue, "I know of no relationship which would demand an equal degree of mutual forbearance and trust than a police patrol partnership. Without respect between partners, the work was unbearable." In other words, an officer's attachment to their peers (i.e., acceptance by others) helped them develop a stronger sense of personal legitimacy. Barker (2001) makes a similar observation about power-holders generally, whereby power-holders are inclined to look inward to one another in the legitimation of their own power to determine whether their claims are in line with similar others (i.e., setting themselves apart).

Extant research on self-legitimacy largely affirms the contentions of prior theoretical works, with one of the most robust empirical findings being that better relationships with work colleagues is associated with higher self-legitimacy (Hacin et al., 2019; Hacin & Mesko, 2022; Tankebe, 2019; Tankebe & Mesko, 2015; White et al., 2021). That is, officers who self-reported better working relationships with colleagues had higher levels of self-legitimacy. To discern whether other types of relationships (e.g., supervisor) play a similar role, White and colleagues (2021) compared attitude similarity between supervisors and peer officers. They find that officers' perceived their attitudes aligned mostly with their coworkers and frontline supervisors (~82% and 76%, respectively), and least with top managers in the organization (~ 50%). In

addition, when officers' perceived that their attitudes aligned with coworkers and supervisors—this was associated with a higher levels of self-legitimacy. In other words, colleagues seemingly provide social affirmations needed for an officer to be confident in their authority, providing further evidence that an officers' peers are integral to their professional development.

2.4 The Empirical Status of PAL

The main aspect of the dialogic model of policing being examined here, which is related to an officer's overall self-legitimacy (e.g., Tankebe & Mesko, 2015; Hacin & Mesko, 2022), is perceived audience legitimacy (PAL). As part of the dialogic model, PAL has been theorized to cue officers about how receptive the public is towards police based on their interactions with citizens (Nix et al., 2020). These perceptions will ultimately influence how an officer interacts with members of the public given higher levels of PAL are associated with a preference to use procedural justice during interactions with citizens (e.g., Bradford & Quinton, 2014; Jonathan-Zamir & Harpaz, 2018), which is the bedrock of building legitimacy in the eyes of the public (Tyler, 1990; 2006). Although not explicitly termed 'PAL,' other avenues of research examining the implications of officers' perceptions of the public demonstrate that perceived negative or hostile views translate to greater social isolation, overall cynicism towards the public generally, and a preference towards using coercive means to resolve situations (Marier & Moule Jr., 2019). Holding such negative attitudes towards the public may influence an officer's preferences towards using more force (Silver et al., 2017), and may contribute to actual use of force outcomes and generate more citizen complaints (Ingram et al., 2018). In general, such findings would be theoretically congruent with officers having lower PAL.

Compared to self-legitimacy, there are much fewer studies examining PAL (Gau & Paoline III, 2021; Jonathan-Zamir & Harpaz, 2014; Nix et al., 2020), and individual officer

variation in PAL development (Gau & Paoline III, 2021; Nix et al., 2020). Of the limited works, one line of research focuses on what officers believe builds their legitimacy in the eyes of the public (Gau & Paoline III, 2021; Jonathan-Zamir & Harpaz, 2014; 2018). In general, officers consistently report that their PAL is tied to how effective police are at 'crime fighting' (Gau & Paoline III, 2021; Jonathan-Zamir & Harpaz, 2014), which may be problematic since legitimacy research suggests the public care most about procedural justice (e.g., Tyler, 2006). That said, Nix (2017) argues the 'public' may not be grouped together, finding that what drives PAL may fluctuate in higher and lower crime areas. In higher crime areas, officers believe procedural justice is likely more important for appearing legitimate, whereas officers state lower-crime areas view police as legitimate when they resolve crime issues efficiently and effectively (Nix, 2017).

Alongside contextual factors that may influence how officers believe they cultivate PAL, other officer perceptions may similarly impact PAL. In fact, Nix and colleagues (2020) have conducted the only other study to date on the antecedents of PAL (see also Gau & Paoline III, 2021). Their study examines a sample of (n = 546) in a single US police department, using traditional methods (i.e., OLS) to examine associations between officer characteristics, other perceptions (e.g., perceived crime trends), and PAL. Their findings reveal two significant associations: officers' global perceptions of how citizens treat police and how they perceive current crime trends are associated with individual PAL (Nix et al., 2020). Of the two significant measures, citizen animus was the most robust, even attenuating the association between perceived crime trend and PAL.

The citizen animus perception is of importance here largely due to how it was conceptualized: They define a global perception of citizen animus measure as a combination of direct and vicarious sources of influence that affect an officer's perceptions of the public. In

other words, this measure broadly captures non-direct influences on whether an officer believes the citizenry are hostile to police—of which one source of this influence is discussions with other officers. The notion that vicarious sources of influence play an important role is undergirded by the fact that a parameter capturing recent instances of disrespect by citizens was *not* significant, suggesting direct legitimacy challenges may play a lesser role in the development of PAL. Much like self-legitimacy, it is plausible peer relationships are integral to the development of an officer's global perceptions about citizen animus, and thus PAL. Further, given PAL is a relatively consistent predictor of self-legitimacy (Hacin & Mesko, 2022; Tankebe & Mesko, 2015), and peers may play a role in the development of self-legitimacy (Hacin & Mesko, 2022; Tankebe, 2019; White et al., 2021), this reinforces the potential for a peer influence on officer PAL.

Outside of works on legitimacy, socialization research offers some additional insight, and in particular the existence of a 'canteen' sub-culture that revolves around discussions of citizen interactions (Waddington, 1999). Although not all interactions officers discuss are negative, other socialization works suggest the discussion of such encounters often resemble 'war stories' that serve to reinforce a more cohesive police subculture (e.g., Sierra-Arevalo, 2021; Sierra-Arevalo, 2024), and provide a sense of professional identity with the occupation. Social-psychological research demonstrates that professional and social identities (i.e., self-concept tied to belonging) are inextricably linked (e.g., Ibarra, 1999; Tajfel, 2010), meaning confidence in one's actions and disposition are often tied to social affirmations from similar others (i.e., peers) (Barbalet, 2001). In particular to PAL, it could be that officers receive legitimacy challenges in individual interactions (e.g., non-compliance), but affirmations from peers about their pursuit of an overarching goal (i.e., crime-control) supersedes the citizen disrespect.

One possible reason for this within-group affirmation among police specifically may be rooted in the history of police opposition to citizen oversight (Finn, 2001; Wells & Schaefer, 2007), which are sentiments that have extended into the era of the internet and citizen videos of police encounters (e.g., Brewer, 2022). In general, police do not believe citizens are sufficiently qualified or trained to make judgements about police actions (e.g., Finn, 2001; Wells & Schaefer, 2007), and believe citizens are misinformed on what behaviors actually constitute misconduct (see e.g., Brewer, 2022). This suggests police may not trust the input of citizens because they perceive citizens as inadequately trained or qualified to understand the reality of policing, providing some impetus to *first* look at other officers to judge the appropriateness of their conduct. Accordingly, if police believe they already know what the public wants from them (i.e., crime-fighting), this may result in their ignoring public challenges to police actions/tactics and allow real (e.g., constitutional violations) or perceived injustices (e.g., legal but contentious uses of force, aggressive policing styles) to persist and be reaffirmed by peers in pursuit of the broader crime-fighting mission.

2.5 Limitations of Past Work on Officer Legitimacy

In general, current works on mechanisms which influence self-legitimacy and/or PAL, provide a solid foundation from which to build, but are ultimately incomplete. More specifically, there is a preoccupation with focusing on indirect perceptions of the relationships an officer has with—seemingly—their formal peers generally. For example, most studies examining peer relationships and self-legitimacy ask officers to respond to a statement like, "I have good relationships with my colleagues" or "I feel supported by my colleagues," (e.g., Hacin & Mesko, 2022; Tankebe, 2019). Ultimately, this may obfuscate *which* peers an officer refers to when thinking about who their colleagues are and may only tap into formal relationships. In fact,

despite peer recognition being a mostly consistent finding in self-legitimacy studies where it is included, the preoccupation with the formal organization (and its constraints, like assignment) and other community-based factors largely overlook another meso-level piece of a police department: the informal relationships that exist between officers. In other words, the perennial question of *which* peers' recognition may be most important still remains, and focusing solely on formal colleagues may overlook other dynamics that influence officer outcomes (see e.g., Roithmayr, 2016).

This is not to say that formal prescriptions of duty and assignment play no role in the legitimacy development process, but that failing to capture informal social dynamics may be problematic given friendships are known to influence behaviors and attitudes across many domains (e.g., Simpkins et al., 2013; Schaefer et al., 2021; Weerman, 2011). Further, decades of research highlighting the phenomenon of police culture have implicitly noted the existence of an 'informal' transmission of values and behaviors among officers through a process of informal socialization (e.g., Paoline III, 2020; Van Maanen, 1975; Savitz, 1970). Although formal peers (i.e., same assignment) are likely important in this process, recent advancements acknowledge that not all formal colleagues are likely to agree on all aspects of the job (e.g., Ingram et al., 2013), and that it is equally plausible officers maintain informal relationships after no longer working in the same assignment (see e.g., Ouellet et al., 2020). Better understanding the process of socialization, and the potential for officers to develop a stronger bond with some officers more than others may help elucidate the peer recognition that is *most* important in the self-legitimation process—whether formal colleagues, informal relationships, or even both. Therefore, given the rich literature on, and relationship between, culture and informal socialization into it, examining

such works will help provide a deeper understanding of how groups of officers may come to develop similar attitudes.

2.6 Police Culture and Socialization

Police culture permeates nearly all aspects of the occupation, which largely dictates how to be a successful police officer, and how to cope with the demands of the job (Chan, 1996; Paoline III, 2003, 2020; Paoline & Terrill, 2014). Speaking about its causes and consequences, Paoline III (2003, p. 200) contends police culture is the product of when "…officers collectively confront situations that arise in the environments of policing [and] attitudes, values, and norms are the result of responses to those environments." As Paoline III (2020) goes on to detail, this includes situations that arise in the organizational environment (e.g., oversight, internal affairs), as well as the occupational environment (e.g., looming danger). In either case, this seemingly elusive and informal organizing force may influence the development of an officer over their career.

Research on police culture and its presence in a police organization primarily fall into two domains, those who view it as "monolithic," whereby common experiences police face—both from the job and organizational—result in similar responses or coping strategies to mitigate the stress caused by those demands (e.g., Manning, 1977; Westley, 1970). In other words, a monolithic police culture suggest its cultural prescriptions (e.g., attitudes, behavior) are ubiquitous across a given department (Paoline & Gau, 2018).

Noticing intradepartmental differences, an alternative perspective argues officers can be delineated by their policing style, resulting in "typologies" that characterize how officers navigate the organizational and occupational demands of police work (e.g., Cochran & Bromley, 2003; Jermier et al., 1991; Paoline, 2004). This perspective was extended by Klinger (1997) and

Hassell (2007) who, instead of presenting typologies of officers, argue that culture instead is produced by the differences across spatial boundaries within a police department. More specifically, precincts and other geographic sub-units develop an informal consensus on how to manage the fluctuating demands of police work, creating heterogeneous sub-cultures and informal working rules within a department.

Ingram and colleagues (2013; 2018) further demonstrate that police culture may be an emergent property that manifests at microunits like the patrol workgroup, explaining heterogenous attitudes and behaviors within a department. More specifically, using data from five different police departments, Ingram et al (2013; 2018) find that patrol officer workgroups exhibit more within-similarity in attitudes regarding orientation towards citizens, and behaviors, like use of force, as opposed to between workgroup similarities. They argue cultural attitudes 'converge' at these micro-levels because of repeated shared interactions between officers—producing similar conditions that affect their development as an officer. Of salience to the current inquiry, Ingram and colleagues (2013; 2018) are the first to demonstrate the confluence of the social and geographical context in developing attitude and behavioral similarities, with culture as an emergent property of meso-level organizational structures (i.e., workgroups).

A related line of research seeks to explain how such attitudes persist across cohorts of officers, which highlights a process of socialization of newer officers by more seasoned officers into the profession (e.g., Savitz, 1970; Van Maanen, 1975). Socialization into police culture often begins before an officer enters the workforce: in the academy. More specifically, socialization in the academy serves to bond officers through collectively stripping their civilian identities and reinforcing departmental standards, including cultural norms and values (Conti, 2009; Doreian & Conti, 2017; Van Maanen, 1975; Willis & Mastrofski, 2017). Socialization

within the academy can lead to the development of attitudes that may affect how officers come to view citizens and instead rely on their peers, even before beginning police work. Such broader cultural themes include instilling in officers they are different from civilians; emphasizing a responsibility to be loyal to one's peers; that rule-breaking behavior may be justifiable in pursuit of the common good; and idealize the 'successful' officer as an aggressive hard-charger who's main focus is crime fighting (Alain & Baril, 2005; Chappell & Lanza-Kaduce, 2010; Schuck & Rabe-Hemp, 2021; Sierra-Arevalo, 2024).

After the academy, officer socialization aims to help new recruits navigate the demands of 'real police work' within their formal prescriptions of duty (e.g., assignment, Field Training Officer, workgroup). Once a recruit is conferred the title of 'police officer,' Van Maanen (1975) characterizes their next phase as the continuance, or metamorphosis, phase in which they are introduced to the intricacies of policing by seasoned officers, including stories and collective experiences shared with their occupational workgroup (e.g., Ingram et al., 2013, 2018). More broadly this repository of collective responses effectively ensures the furtherance of policing generally, though also the safety of individual officers (Paoline III, 2003, 2020; Sierra-Arevalo, 2021). For example, in response to organizational oversight, officers may learn that 'laying low' reduces managerial criticism (Campeau, 2015; Myhill & Bradford, 2013).

Of salience to the current inquiry, the consequences of socialization and adherence to the values and norms of police culture are related to how officers come to view the public they serve (e.g., Bradford & Quinton, 2014; Marier & Moule Jr., 2019; see also, Fielding, 1988). Notably, Sierra-Arevalo (2021) recently identified the 'danger imperative,' a cultural frame through which officers view their occupation. More specifically, the 'danger imperative' suggests police ostensibly face a perpetual danger inherent to their position as an officer—and so constant

vigilance is necessary to ensure one's survival. However infrequent, reminders of the danger imperative—like officer deaths, funerals, and injuries—reinforce the notion that police maintain a level of prestige and status implicit in their willingness to face danger that normal citizens would not (Herbert, 2006; Manning, 1977).

The danger imperative therefore conveys that successful officers should maintain a level of suspiciousness and cynicism towards the public (see also, Westley, 1970), attitudes antithetical to developing a legitimate presence in the eyes of the public. Other works reveal associations between officer adherence to components of culture (e.g., coercion, cynicism, social isolation) and a greater level of antipathy towards the public (Marier & Moule Jr., 2019), as well as a preference towards using force during interactions (Silver et al., 2017).

Recent work by Debbaut and Dekempe (2023) argues that core aspects of police culture (e.g., crime-fighter image, danger, public cynicism) may function to endogenously legitimate the function and role of a police officer. Specific to PAL, they argue that officers may believe the public view themselves as legitimate if such beliefs are reinforced by what they believe makes them legitimate to the public, which prior works suggest is directly related to how well the police are able to address crime problems (e.g., Jonathan-Zamir & Harpaz, 2014; & Gau & Paoline III, 2021). However, it is well-known from decades of police legitimacy research that the public value the quality and perceived fairness of their interactions with police, and there are limitations on when, where, and at what times police should exercise their authority (Tyler, 1990; 2006; Trinkner & Tyler, 2016). However, as Debbaut and De Kimpe (2023) contend, officers may turn to one another to first (i.e., endogenous legitimation) determine if they are line with the expectations of their organization, and for example their broader 'crime-fighting' mission that is a by-product of police culture, to assess the appropriateness of their conduct during interactions

with citizens (Debbaut & De Kimpe, 2023). Additionally, harmful cultural frames like the danger imperative enable officers to further distance themselves from the opinions of the citizens, and may provide further justification for actions likely deemed unnecessary by the public writ large (Sierra Arevalo, 2024), but which may be justifiable as necessary for fighting crime.

Implicit in the endogenous legitimation of officer authority, alongside police culture and socialization works, is an informal learning process through observing and conversing about how to appropriately navigate the policing environment. However, police works in general that focus on the transmission of attitudes and behaviors are largely incomplete given they mainly focus on the role of the formal environment to which an officer is subjected (e.g., Ingram et al., 2013; Silver et al., 2017). That is, the potential for peers outside of a formal context (e.g., assignment, workgroup) to be equally influential in the transmission of attitudes has been overlooked. This assertion similarly includes PAL research as well, which often focus on similarities referring to 'colleagues,' and which may obfuscate deeper bonds (e.g., friendships) cultivated between some officers who continue to hang out, talk, and shape one another's career despite possibly no longer formally working with one another.

That the scope of influence for a given officer is likely not bounded by the formal constraints and chain of command in a department is a limitation acknowledged by Ingram et al. (2013; 2018) in their conception of cultural emergence. More specifically, they were unable to control or account for underlying informal social structures that exist both within and across formal boundaries. More specifically, they state "…officers may not be comfortable with some of the views of workgroup members, so they may turn to colleagues or leaders in other units with whom they socialize (both on- and off-duty) or have worked previously, or with those whose values with which they align as cultural referents." (p. 804). In other words, it is unlikely that the

spectrum of cultural referents (i.e., informal influences), or those who influence an officer's attitude and behavioral outcomes, is constrained to the formal boundaries prescribed by a police organization.

This limitation is also compounded in PAL and culture research by studies often failing to specify *which* colleagues serve as a frame of reference, and whether such relationships are stronger than formal work peers. Here again, understanding the true scope of influence on an officer's attitudes—especially one like PAL which influences how officers interact with the public—may be consequential for, as an example, dispelling the 'bad apple' argument, as it is unlikely any given officer's attitudes are developed in isolation (e.g., Debbaut & De Kimpe, 2023; Ingram et al., 2013; Savitz, 1970; Sierra-Arevalo & Papachristos, 2021), or are constrained to the formal boundaries of their assignment. This is not to say that all officers will act in ways that are harmful to the public, but instead highlights that attitudes and behaviors are likely not evenly distributed and d cluster among groups of officers, which may span beyond formal organizational boundaries. In fact, a recent line of research that have begun focusing on peer influence in policing, with a particular emphasis on how informal networks facilitate the transfer of behaviors like misconduct and use of force, which are theoretically linked to attitudes like PAL and officer legitimacy more generally (e.g., Bottoms and Tankebe, 2012).

2.7 Networks and Police

A recent line of scholarship provides evidence that analyzing the broader informal social structures within a department may be necessary for assessing the transmission of behaviors and, by extension, attitudes (Cubitt, 2021; Ouellet et al., 2019, 2022; Quispe-Torreblanca & Stewart, 2019; Roithmayr, 2016; Wood et al., 2019; Zhao & Papachristos, 2020; see although, Simpson & Kirk, 2023). Leading the charge, Roithmayr (2016) theorized that network processes (e.g.,

contagion) are the likely mechanisms which explain why officers influence their peers. More specifically, direct connections between officers (i.e., being, or having been, on the same unit) provide opportunities to socially transmit behaviors and attitudes, including damaging attitudes like a preference for using force.

Adger and colleagues (2022) provide quantitative evidence that the transmission of behaviors and attitudes post-academy begins as early as the field training phase of an officer's career, prior to their more permanent assignment. That is, they find that more aggressive FTOs produce more aggressive trainees--an effect which persists for over two years after the officer completes training. More aggressive FTOs also transmit other undesirable behaviors, like recruits who make more 'unfiled' arrests that generally never result in filed charges due to a lack of evidence, but which still negatively impact the life of the citizen arrested.

Other empirical works examine how misconduct-prone officers may transmit those behaviors as they move assignments in the department (Ouellet et al., 2019; 2022; Quispe-Torreblanca & Stewart, 2019). More specifically, officers who use more force and change assignments increase the likelihood that officers in their new assignment also use force (Ouellet et al., 2019). Not only that, but Quispe-Torreblanca and Stewart (2019) estimate that when an officer's peers' misconduct increases by around 10%, the officer's level of misconduct subsequently increases by 8%, net of other factors like formal assignment and officer characteristics (e.g., gender).

Perhaps most consequential for the current study, Holz and colleagues (2023) may provide causal evidence of a link between the danger-imperative, PAL, and negative outcomes (e.g., procedural injustice) among one's peers. An important distinction, however, is that Holz et al (2023) focus primarily on peers that were academy mates who went on to work in different

assignments, and whether the injury of those peers influenced one another's behavioral (and likely attitudinal) outcomes. In other words, they examine whether underlying informal social structures that exist within a department impact officer interactions with civilians. They reveal that the injury of former peers increases the probability of an officer using force by 7% in the weeks following (i.e., not a permanent effect), and increases the probability of a civilian being injured by 10%. Further, such injuries also cause behaviors tantamount to procedural injustice: 1) civilian complaints about false arrest and improper searches increase, and 2) there is an increase in civilian complaints about officer failure to provide help.

The authors rule out 'mimicking' the behavior of their former peers by comparing force use among former peers who had previously used force despite no injury occurring—finding that other factors (e.g., district and time) washed out effects. In addition, based on arrest records they find the effect of former peer injury is not driven by any increase in effort—or the idea that they substantially increased arrestive activity which would expose them to more instances where force may be necessary. They argue emotive responses likely drive the findings, especially given officer tenure (which could be a proxy for increased emotional maturity) reduced the influence of peer effects. For the current study, such findings are more relevant when viewed through the lens of social psychological research, which find emotive responses are linked to preexisting attitudes across a number of domains (e.g., Tolbert et al., 2018; Harmon-Jones et al., 2011), including in policing (e.g., Bishopp et al., 2019; Litzcke, 2006). Not only that, but these results further justify the need to move beyond formal organizational constraints and examine how informal social structures in departments may condition the potential for peer influence.

In general, despite focusing mainly on negative outcomes like misconduct, this line of research indicates informal channels of influence may be consequential to a number of

legitimacy-tied outcomes (e.g., use of force). This line of reasoning is also supported by broader conceptualizations of relational social capital (e.g., Coleman, 1988), where Tankebe (2014, p. 9) argues, "…the presence of relational social capital among officers [is] a resource for getting police work done as much as it can facilitate misconduct…" (see also, Klinger, 1997; Muir, 1977). That said, if informal social structures serve as conduits through which misconduct may be transmitted, then it is just as likely other attitudes and behaviors may flow along similar channels. Given that current assessments of officer legitimacy may be missing prior and non-assignment social connections, it is imperative to better understand who officers truly view as social referents by examining their interdepartmental social circle.

2.8 From Colleagues to Friends in the Workplace

Despite many of the core theoretical frameworks developed by criminologists having a social influence component (e.g., Burgess & Akers, 1966; Gottfredson & Hirschi, 1990), network analysis is a relatively nascent methodological framework used in criminal justice research. As discussed in the previous section, using network methods to study police behavior is especially limited considering only a few studies cover the subject. However, researchers use network analysis extensively in other fields of research, and in particular explore the intersection between formal constraints and informal interactions on employee outcomes (McEvily et al., 2014). Envisioning police organizations like others in the private and public sector, the formal nature of organizations prescribe roles (e.g., beat cop, detective) and related tasks for its members (e.g., responding to calls; team meetings), which ultimately compel some level of socialization (Brass et al., 2004; Kilduff & Brass, 2010). These compelled interactions serve as the basis for patterning informal structure (i.e., forming informal ties within formal constraints).

Research on the organization of social ties provides some insight into why friendships may have a higher propensity to form within the formal constraints of an organization. Most notably, pioneering work on the social organization of relationships by Feld (1981) suggests that social foci, or in this case shared experiences (e.g., responding to calls, traumatic situations), produce an environment more conducive to developing stronger bonds. Drawing a parallel to Ingram and colleagues (2013), this may be why cultural emergence was observed at the workgroup level among patrol officers: these officers share repeated experiences with one another—creating a suitable environment for developing deeper bonds between one another. Although shared foci are a powerful organizing force, there are other factors that play a role in the development of stronger relationships (e.g., McPherson et al., 2021), such as perceived social similarity (e.g., same sex, race, etc.). Coupling these arguments together, this may also explain the effects observed by Holz et al. (2023) found nearly double the emotive response from same race former peers when one of their peers were injured.

Sias and Chaill (1998) largely reaffirm Feld's (1981) observation that social foci—and in this case working together—are the seedbed for friendships in an organization, which may progress into stronger friendships. More specifically, their qualitative examination that charts the progression of work colleagues' relationships into friendships, whereby they identify three primary transitions: from acquaintance/coworker to friend, from friend to close friend, and then from close friend to almost best friend. Respondents contended that the first transitionary period was largely caused by, "working together in close proximity, sharing common ground, and extra-organizational socializing" (Sias & Cahill, 1998, p. 273). Further, perceived social similarity and spending time together also played a role in the beginning of workplace friendships. The transition from friend to close friend often involved gradually loosening constraints on the

content of conversations and beginning to discuss more sensitive topics like work-related problems or life events. And finally, as a mutual trust develops—the relationship slowly transitions into more of a 'work best friend' categorization, whereby the friends felt they could share even more personal anecdotes, opinions, and extra-organizational problems.

That friendships begin due to shared tasks is demonstrated in the policing context in Conti and Dorien's (2010) work on informal dynamics in the police academy. More specifically, they demonstrate that friendship creation begins in the academy. That is, during the academy, socialization is directed by formal arrangements (e.g., seating, partner), which work to generate social knowledge about and friendships between officers (Conti & Doreian, 2010; 2014; Doreian & Conti, 2017). For example, Conti and Dorien (2010) find that as officers progress through the academy, increasing social knowledge about those in close proximity (i.e., similar seating arrangements) led to the development of friendship ties between officers. This was likely attributable to the officers sharing similar experiences (i.e., social foci) and serving to create a mutual bond.

Although no studies examine the creation or maintenance of friendships beyond the academy setting, Ouellet and colleagues (2020) provide some descriptive evidence that officer friendships likely do not cease following assignment changes. More specifically, they captured network data from a sample of (n = 74) street-level investigators across 8 formal units, which pertained to officers they worked with whom they would consider friends. The 74 officers nominated 317 unique others they consider friend, which enabled Ouellet and colleagues (2020) to examine informal connectivity within the sample. Of salience, they find not only friendships existing within assignment, but also many friendships between officers working in different assignments. Although the study is cross-sectional, this could imply either the officers met

outside of work via mutual friends and developed a friendship, or once worked together and maintained those friendships after changing assignments. Based on Feld (1981) and other workplace network studies of friends (e.g., Kilduff & Brass, 2010; Sias & Cahill, 1998), it is likely their once formal assignment may have engendered the friendship, which sustained once moving assignments.

As Sias and colleagues (2012) point out, the role of proximity (i.e., same assignment) in the maintenance of workplace friendships has diminished concomitant with the advent of internet-based communication and smart phones. Traditionally, communication with a former colleague was much more difficult—though now communicating by phone, text, sending videos, and through other means make it much easier to maintain friendships. In the policing context, it is unlikely to presume that officers who develop friendships and then switch assignments simply cease communication—making it likely they still communicate about the job, coordinate outings outside of work, and possibly influence one another's attitudes and behaviors. Here again, although Holz et al (2023) do not explicitly capture the type of informal relationship between 'former peers,' they find that 'former peers' are somehow aware of one another based on behavioral outcomes, making it is plausible those 'former peers' consider one another friends and still communicate.

The continual communication and development of friendships may result in sub-groups existing within and between formally organizational boundaries (see e.g., Ouellet et al., 2020), creating elaborate social structures that differentially impact the flow of information and resources (e.g., Burt, 1992; Granovetter, 1973). Within these groups is where one might expect similar behaviors and attitudes, though exactly *how* that similarity arises is of much debate. In the criminal justice field, for example, members of a juvenile delinquent group often exhibit

similar behaviors and attitudes towards engaging in delinquent behaviors (e.g., Schaefer et al., 2012; Weerman, 2011; Weerman et al., 2018), though the perennial question remains as to whether this is a result of selection or influence? That is, the question refers to whether individuals create bonds based on some ascribed characteristics or similarities (i.e., selection), or whether they create bonds for some other reason and then influence one another's behaviors and attitudes (i.e., influence).

Perhaps one of the most commonly referenced selection mechanisms is homophily, which is the idea that individuals who have ascribed (e.g., race, sex) or value-based similarities (e.g., job satisfaction) become connected with one another because of those similarities (e.g., McPherson et al., 2021). For example, homophilic processes would predict a higher propensity for two black officers (i.e., same race) in the same workgroup (i.e., propinquity) to establish a relationship as compared to a white and black officer in the same workgroup, or officers in different workgroups. Further, officers who have similar levels of job satisfaction, views towards force, or other attitudes may be more likely to become friends than those who hold different views. However, the key distinction is that they held the beliefs or values *prior* to establishing the friendship/relationship, *and* those views—at least in part—are what drove the relationship's creation. Holz et al. (2023) provide some insight here as well, whereby injury of former peers of the same race caused increases in the focal officer's force and complaints at almost double the magnitude of peers in general—suggesting those more socially similar peers likely had developed stronger bonds than other types of officers.

Although homophily is a key mechanism that explains social relationships, it is argued here that the primary mechanism driving peer similarities of PAL is peer influence from direct contagion (e.g., Roithmayr, 2016). That is, in an officer's conception of how the public view

them, they likely adopt similar orientations as those they are directly connected to (i.e., friends) in their informal social group, through a series of social affirmations by their peers. Although Oberfield (2012) suggests individuals may have certain predispositions about policing prior to becoming an officer, research on legitimacy (e.g., Bottoms & Tankebe, 2012; Muir, 1977) contends that the moral and intellectual challenges that precipitate variation in officer legitimacy arise from on-the-job experiences, and function like a pendulum in response to societal changes.

Specific to PAL, this includes direct challenges to an officer's legitimacy—such as citizen non-compliance, threats, or other indications the public may hold negative views of police (Nix et al., 2020). In other words, perceptions of legitimacy are likely not an attitude developed prior to beginning one's work as an officer, nor one that remains stagnant among changing social climates. Instead, as Bottoms and Tankebe (2012) characterize officer legitimacy—it is a characteristic that is cultivated and constantly in flux (i.e., the conversational aspect of the dialogic model). Further, as Ingram and colleagues (2013, 2018) demonstrate, attitude similarity between formal peers (i.e., the workgroup) may be based on exposure to similar working conditions, suggesting other explanations for attitude similarity apart from preexisting beliefs or attitudes. If selection were the primary driving force, one might expect workgroups to have much less solidarity on work attitudes and behaviors than Ingram et al. (2013, 2018) find, especially given the constraints of formal assignment on suitable selectees. This is not to say that selection can plays no role (e.g., black officers becoming friends); rather, what is argued is that selection based on similarities in PAL are unlikely given such attitudes are constantly in flux.

2.9 The Current Study

Improving police-citizen relations has been at the forefront of public discourse, especially in the wake of high-profile police killings of citizens, like George Floyd. Often central to this discourse is the notion of improving the legitimacy of police in the eyes of the public, especially given citizen cooperation is necessary for crime control efforts. Traditional works on police legitimacy focus on the views of citizens—or audience legitimacy—finding that the quality of interactions, perceived fairness, and exercising authority within broader normative expectations heavily influence police legitimacy. Bottoms and Tankebe (2012) contend police are also central to the legitimacy building equation—and it is equally important to consider their own perceptions of legitimacy to ensure police-citizen values and norms align. A recent extension of this theoretical framework by Nix and colleagues (2020) conceptualizes *perceived audience legitimacy*, which pertains to how police believe they are perceived by police. Of salience, PAL ultimately influences the quality of interactions between the police and public, a central component of building legitimacy in the eyes of the public (e.g., Bottoms and Tankebe, 2012; Bradford et al., 2014; Nix et al. 2020).

Although an officer's perceptions of their peers' legitimacy attitudes may be associated with their own, this avenue of research is ultimately incomplete. An important influence that has yet to be fully examined is the role of *informal* peers in the process of endogenous legitimation (e.g., Debbaut & De Kimpe, 2023), which may occur through similar channels of socialization that enable the reproduction of police culture and resultant attitudes and behaviors (e.g., Ingram et al., 2013; 2018; Paoline III, 2020; Savitz, 1970). More specifically, the current study examines the formation of friendships within three departments across the United States, and aims to determine whether informal relationships (i.e., friends) that span formal boundaries are associated with an officer's PAL outcomes, and further attempts to elucidate potential

mechanisms that may explain those similarities. The current study builds on prior works by being the first to examine whether informal relationships in a police department influence attitudes generally, with a specific contribution to the literature on police legitimacy. Finally, this research is imperative given the importance of every police-citizen interaction (Tyler et al., 2014); to dispel and further contribute to criticisms of the 'bad apple,' argument (e.g., Sierra-Arevalo & Papachristos, 2021) via examining the underlying social structure of a police department; and finally may have implications for the relative effectiveness of certain disciplinary actions (e.g., re-assignment), versus re-training, suspension, or other options for officer reform.

2.10 Research Questions and Hypotheses

Given the above justification and review of the literature, the following research questions are explored:

1) *Is an officer's perception of their legitimacy in the eyes of the public (i.e., perceived audience legitimacy) influenced by their intradepartmental relationships?*

As highlighted throughout, officers' self-assessed legitimacy outcomes, including perceived audience legitimacy (see e.g., Nix et al., 2021), may be associated with peer relationships (e.g., Tankebe, 2019; White et al., 2021). In addition, a rich history of works documenting the role of police culture (e.g., Paoline III, 2003; 2020), the influence of the formal organization (e.g. Ingram et al., 2013; Klinger, 1997), and the implicit recognition of an informal socialization process (e.g., Conti & Dorien, 2010; 2014; Muir, 1977; Savitz, 1970; Van Maanen, 1995)—all further reinforce the possibility that both formal and informal relationships may affect officer attitudes in general. Not only that, but a recent avenue of research highlights the impact of informal networks on officer outcomes (e.g., Jain et al., 2022; Ouellet et al., 2019; 2022; Quispe-

Torreblanca & Stewart, 2019), including behavioral outcomes tied to officer perceptions of legitimacy (Holz et al., 2023). In the latter study, they also establish that former peers (i.e., who no longer work together) are still attuned to the well-being of one another, and their outcomes may be tied beyond their once-formal working relationship (e.g., academy). Not only that, but as works on officer friendships find relationships outside of formal assignment (Ouellet et al., 2020), and electronic devices facilitate maintaining relationships (Sias et al., 2012), it is plausible that an officer's informal relationships exert some degree of influence on their development. Of course, as Ingram and colleagues (2013) find, exposure to similar working conditions are also likely to produce attitude similarities.a Based on the findings of these prior works, the following is hypothesized:

   a. H_1: Officers who are formal work colleagues will share similar perceived audience legitimacy (PAL) levels (i.e., similar work conditions).
   b. H_2: An officer's friend group will influence their PAL level (i.e., social influence).

2) *If so, are those perceptions associated with the development of intradepartmental friendships?*

As argued in the final section of the literature review, the formal constraints of a workplace are the seedbed for developing friendships (e.g., Brass & Kilduff, 2012; Feld, 1981). However, as Sias et al (1998; 2012) point out, the gradation of developing friendships with work colleagues often begins with more superfluous conversations—gradually increasing in intimacy towards more personal issues or viewpoints. This, coupled with the fundamental principal of Bottoms and Tankebe's (2012) dialogic model of police legitimacy suggest PAL is an attitude cultivated over time, and one which is in flux alongside societal changes regarding the expectations of law enforcement, might suggest legitimacy attitudes (including views of the public) do not play a role in friendship development among officers. Accordingly, the following is hypothesized:

a. H_3: PAL homophily will share no association with friendship formation (i.e., social selection) between officers.

Chapter III: Network Surveys

3.1 Data Collection

3.1.1 Sampling Design

The data that will be used to answer my research questions comes from PoNet. PoNET is a mixed methods data collection effort that uses longitudinal network surveys and qualitative interviews to explore the informal relationships officers share with one another. Departments included in PoNET were based on a convenience sample derived from pre-existing relationships with members of the research team, while also attempting to maximize geographic diversity in responses. Specifically for each of the three sites, for two years a team of researchers attended every in-service training to gather a near census of sworn officers (i.e., a complete network).

In each training session, researchers provided a brief introduction to the survey and its contents, after which officers were then invited to participate. Alongside the invitation to participate, officers' were first provided with an informed consent form to acknowledge their willingness to participate (see Appendix A below). If the officer chose to participate, they then took the survey on an Apple iPad in a popular survey software, Qualtrics. Doing so helped overcome logistical concerns concomitant with using paper surveys, and facilitated the entry of responses into an electronic spreadsheet. Officers in SE were offered $10 incentives for their participation, whereas in NE and SW officers were offered no incentive for participation. Finally, at the end of the survey officers were asked to indicate whether they would participate in a voluntary follow-up interview.

3.1.2 Instrument Design

The survey instrument (see Appendix B below) used was the same across each of the sites (see below for an example) and was developed from a number of prior iterations and test-

cases that the pilot study (Ouellet et al., 2020) and a truncated 2020 survey year (due to COVID-19) provided. Both officers and prior research were consulted in fine-tuning the various sections of the instrument which proceed as follows: 1) Professional Background, 2) Informal Network, 3) Police Safety and Weapon Use, 4) Internal Investigations, 5) Demographics. Common questions from prior police research were used in the professional background and demographics sections, which aimed to gauge relatively straightforward demographic and other individual information about each of the officers taking the survey (e.g., rank, academy class).

Specific to this study, to capture officer friendships the informal network section was derived from prior network analysis research (e.g., Ouellet et al., 2020; Weerman, 2011), and prior notable surveys (e.g., Add Health) which follow the same approach. Specifically, respondents were presented with the following statement: "List up to 10 XXPD officers you consider close friends." The benefit of facilitating the survey on an iPad allowed for the department's roster to be input--making the selection of friends more accurate through reducing spelling errors, abbreviations, and other mistakes that may hinder identifying which officer was actually being selected. Deriving friendships in this way also allowed for the research team to later connect officers based on their responses (i.e., determining who selected who as a friend), creating the department's friendship network.

The Police safety and Weapon Use asked a number of Likert-type items to ascertain officer attitudes related to satisfaction and retention, as well as the focus of the current research: questions about PAL. The other questions in the Police Safety and Weapon Use section required officers to simply state the number of times they have engaged in certain actions, like TASER or firearm usage, or even the number of times they had been threatened by a citizen in the field. In addition, their job satisfaction and perceptions of safety on the job were also assessed. The

Internal Investigations section asks officers to detail any situations or conduct that resulted in an IA investigation. Finally, the last section asks demographic information such as the officer's gender, marital status, and other relatively common demographic questions.

3.2 Sample

The current study focuses on three departments: SE (n = 1,239), NE (n = 837), and SW (n = 279). Response rates for each city were 91%, 65%, and 87%, respectively. These departments represent the largest agencies in the sample, which excludes two smaller agencies where missing data represents a much larger proportion of the overall responses, as well as who have near homogenous responses for the outcome of interest (i.e., PAL). That said, the geographic diversity of the departments provide a unique opportunity to examine networks and PAL across three different social contexts.

Although most police departments in the U.S. have fewer than 100 sworn officers, the above departments represent the agencies that employ *most* of the police officers across the U.S. That is, each of the departments employs more than 250 officers, (with NE and SE over 1,000), of which such departments across the U.S. employ nearly 48% of sworn officers (BJS, 2022). That said, this may bias the findings to some degree towards only representing larger departments—and so replicating the findings in smaller departments is imperative in future works. However, given that no study to date has explored police attitudes through the lens of network analysis, the current study provides an adequate starting point from which to build.

3.2.1 Missing Data

To handle missing data in each city, the primary method used was listwise deletion, and for a sensitivity analysis multiple imputation. In this case, listwise deletion may be the most appropriate option given I argue the outcome is autocorrelated (e.g., Boehmke et al., 2015;

LeSage & Pace, 2004), or driven by within-friendship similarities. The underlying assumption is that the outcome variable's value for a given officer is dependent on other officers, and so imputing values (which presume independence and normally distributed errors) can result in a biased autocorrelation parameter—potentially masking social influence effects observed net of other model covariates. Listwise deletion resulted in the following: ~ 15% sample loss in NE, ~9% loss in SE, and ~ 5% loss in SW.

Although there is no test for determining missing at random (MAR), a series of t-tests were conducted on both the outcome and controls that confirmed the removal of missing cases in each city did not cause the sample to differ significantly following listwise deletion, across all variables included in the analysis. In addition to this, given the unique situation of having autocorrelated data, I opt to report the listwise deletion results. However, as a sensitivity analysis for NE and SE I also report pooled results from imputed data. It should be noted that SW is not included because, as explained below, I am not imputing the outcome or missing assignment data, (because I presume there is autocorrelation) and so I only gain back a small portion of SW data (i.e., 7 cases). However, imputation for SE and NE yields a greater number of cases that are usable so those are imputed. Some argue as well that 5% missing *for each item* is also acceptable to produce unbiased results (e.g., Graham et al., 2020; Walters, 2024; Welsh, 2001), and SW contains 5% missing for the entire sample (and much less than 5% across each item).

To impute missing values, I will use multiple-imputation chained equations (MICE) for predictive mean matching, which effectively regresses each variable on the others to determine the appropriate value to impute in each respective case (van Buren, 2000). Importantly, this method is relatively robust because it preserves the relationships between variables—especially compared to mean or modal replacement. Because there is some uncertainty in this process, and

because my methodology relies on a Bayesian framework, (n = 100) imputed datasets will be created, used for modelling, and the results pooled to create an aggregate posterior distribution (see Gelman et al, 2004; Zhou & Reiter, 2010). To attempt to preserve any social influence between officers on the outcome I generated (n = 100) imputed datasets with *complete node-level covariates* (see below), and listwise deleting cases with missing PAL information (see Appendix C for a breakdown of missing information by variable before imputation). It should be noted that formal assignment could not be imputed using the MICE method, though I was able to bring forward officers' last reported assignment who participated in both survey waves (i.e., 2021 and 2022). Unfortunately, those with missing assignment data in both 2021 and 2022 had to be removed from the sample, given formal assignment is a key variable used in the study.

3.3 Analytic Method

Linear network autocorrelation models (LNAM) are one of the most popular network methods used to examine social influence. Although they are unable to disentangle social influence mechanisms like longitudinal models, they can be used to examine the presence of autocorrelation in an outcome measure—like perceived audience legitimacy—which may indicate the presence of social influence. More specifically, LNAMs are similar to more well-known linear regression models, though they allow for the specification of a weight matrix which can signify physical contiguity, friendships, and other types of relationships. They are a derivative of models typically used to analyze spatial dependence, though spatial contiguity matrices are often exchanged for social contiguity (e.g., friendships) to determine how those social relations structure dependence in an outcome (e.g., Ord, 1975; Dorien, 1980).

Unlike traditional regression methods, LNAMs permit answering questions when exogenous factors (e.g., race, sex, income, etc.) may not fully explain the outcome of interest.

That is, dependence in the outcome is allowed and, in the social network context, may help account for when an individual's opinion or behavior may be influence by their friends, coworkers, or other social relationships (e.g., boss, social groups, family etc.). Accordingly, the LNAM's flexibility allows for assessing—and in this case PAL—how an individual's attitude may be the product of a combination of exogenous factors and their social interactions. It does this by parameterizing a variable that is the equivalent of a spatial lag, which is effectively the average of an individual's social connections' values for the outcome of interest (e.g., Anselin, Dorien, 1980). In other words, applied to the current study, the network autocorrelation parameter indicates whether there is an association between the focal officer's PAL level and their friend group's combined average PAL level.

Notwithstanding the LNAM's utility for modelling peer influence, issues with negative bias in observed network effects have been reported in a number of simulation-based studies. This is largely because LNAM's typically use maximum likelihood to estimate the network effects parameter, though this method routinely underestimates such effects especially in denser networks, and despite network size or structure (e.g., Dittrich, 2017; Neuman & Mizruchi, 2010; Smith, 2009). In light of this, the current study uses a newly developed derivative of the LNAM, which uses a bayesian approach in the estimation of network effects. Importantly, as Dittrich and colleagues (2017) demonstrate via a series of simulated network conditions, the Bayesian approach results in less bias than maximum likelihood across networks of various sizes, densities, and with network effects of different intensities.

To mitigate the potential issue of negative bias in estimating the network autocorrelation parameter, the BANAM also permits the use of prior knowledge (i.e., prior empirical evidence) to provide less biased estimations. Specifically, Dittrich et al. (2017) conduct a series of

simulation studies where they incorporate average peer influence estimates from prior research—developing an empirically-backed prior ($.36, .19^2$) that yielded the least biased estimation for simulated network autocorrelation parameters. Accordingly, for both the assignment and friendship networks, the multivariate normal prior established by Dittrich et al (2017) is incorporated here to reduce the potential for committing both type I and type II error. This is largely because almost all studies that observe peer influence report a positive estimate, which is important information that can help the model begin at a more likely starting point (i.e., it is unlikely any kind of peer influence parameter will be negative, if it exists). Not only that, but prior works on legitimacy suggest there may be a positive relationship between peers and legitimacy outcomes—furthering reinforcing the decision to rely on the informative prior.

After specifying prior information, the observed data—which contains information about each of the model parameters—is used to update known information about each parameter in the model. This update is achieved through Bayes' theorem, which combines the prior distribution with the likelihood function to obtain the posterior distribution for each parameter. The aim is for the posterior distribution to reflect a coherent updating of beliefs based on the available information. While the integration of the posterior distribution to unity is often a desirable property, it's not a strict requirement; it simply ensures that the posterior probabilities are properly scaled (e.g., Kass & Raftery, 1995). Not all parameters may reach unity in the posterior distribution, indicating that there may still be some uncertainty about certain parameter values. However, the resulting posterior distribution allows the researcher to express their belief in the probability of a parameter exceeding certain thresholds (e.g., being greater than 0 for positive relationships).

The aforementioned processes is repeated to obtain samples from the joint posterior distribution via Markov chain Monte Carlo (Dittrich et al., 2017). This method iteratively generates samples from the joint posterior distribution, eventually producing an adequate sample size that represents the overall posterior distribution for each model parameter. Once the posterior distribution is obtained, various point estimates such as the posterior mean can be calculated to summarize the parameter estimates. Additionally, credible intervals, such as 95% credible intervals, can be derived from the posterior distribution to provide a measure of uncertainty about the parameter estimates, indicating the range within which the true parameter value is likely to lie.

Given the BANAM is an adaptation of the linear network autocorrelation model, similar model assumptions remain (similar to OLS)—including that the covariate error terms are assumed to be independent and evenly distributed (Kreft et al., 2023). Unlike more traditional regression models, the results of a BANAM model are instead a distribution of values in which the true estimate lies, though this distribution can be represented by point estimates of which here I use the *mean*. Therefore, the estimate can be interpreted as a one unit increase in the independent variable, results in—on average—the estimate's value increase in the dependent variable. The significance, or fit, of each parameter is also indicated by the concentration of the distribution around a certain set of values, and especially whether those values contain zero—or likely many negative and positive numbers. That said, for example, if the distribution is concentrated around many positive numbers, the belief that the parameter value is positive can then be expressed as a probability given the distribution's concentration on positive values.

The BANAM also includes an autocorrelation parameter that represents a similar type of relationship—though is instead viewed as more of a correlation between a given officer and their

friend's PAL values. In other words, one could interpret the autocorrelation as when a given officer's friends' PAL values increase, then so does the focal officer's. As an alternate example, imagine this relationship like that of crime rates between neighborhood A and adjacent neighborhoods B, C, and D. A positive autocorrelation value would suggest that if B, C, and D experience higher crime rates, so would neighborhood A. If the autocorrelation value were negative or not significant, this would simply suggest neighborhood A's crime rates are not dependent on the crime rates in B, C, or D. If the autocorrelation value is significant herein, this suggests there is sufficient evidence that of dependence between a given officer and their friends' PAL values.

The final advantage of the BANAM is that its flexibility also allows for multiple networks to be modelled simultaneously (Dittrich et al., 2020). In this case, much prior research focuses on the role of formal prescriptions of duty (i.e., assignment) to assess similarities in police attitudes, which fail to capture informal influences (e.g., Ingram et al., 2013; 2018). To account for the potential of such influences, I am able to include both the friendship and formal (i.e., assignment) networks in the BANAM to determine whether social influence is associated with PAL in either domain, net of other covariates that may also be associated with PAL.

3.4 Dependent Variable

3.4.1 Perceived Audience Legitimacy

The main behavioral outcome, perceived audience legitimacy (PAL), captures, from the officer's standpoint, whether and to what extent the public perceives the police as legitimate authority figures. PAL is measured using three self-report survey questions. Officers were asked to indicate the extent to which they agree or disagree (0 = strongly disagree; 4 = strongly agree) with the following statements: (1) "Most civilians feel an obligation to obey police officers", (2)

"Most civilians believe they should do what the police say, even if they disagree", (3) "Most civilians believe this department can be trusted to make decisions that are right for the people in their neighborhoods". The minimum score is 0, and the maximum PAL value is 12. However, for the BANAM and ERGM model, the officer's average PAL score will be used pursuant to Nix et al.'s (2020) approach. The question wording and operationalization was derived from Nix et al. (2020), who theorized and examined factors relevant to influencing an officer's PAL.

3.5 Predictors

3.5.1 Citizen Threats

The number of times a citizen threatens an officer is measured as an officer's self-report of the amount of times in the last year they were threatened by citizens with either a weapon or physically (e.g., fists, verbally) during the performance of their duties. More specifically, officers were asked to respond to the following questions: "In the past year, how many times were you directly threatened with a deadly weapon (e.g., firearm, knife, sharp/blunt object) while on duty?" and "In the past year, how many times were you threatened with physical force where no deadly weapon was involved (e.g., hard strikes, punches, kicks) while on duty?" Officers were able to input the exact number (i.e., continuous), which lead to a minimum score of 0, and a maximum score ranging all the way to 200. To help mitigate the presence of some outliers, this variable was re-coded into five equal quantiles based on officer response groupings (i.e., a roughly equal number of officers for each quantile). Although recall may be an issue--asking officers about prior interactions with citizens is similar to Nix and colleagues (2020), who also gauged officer perceptions about recent instances of 'citizen disrespect.' Theoretically, as well, officers who had experienced a number of times where citizens threatened them or disrespected

them (i.e., challenge to their authority) might perceive that the public views them as less legitimate.

3.5.2 Officer Rank

Officer rank was included to control for the different propensities of an officer to come into contact with citizens. Given that rank-and-file officers comprised the bulk of officer ranks across departments, *rank* is operationalized as (0 = police officer, 1 = other ranks). In using a binary measure, results will indicate whether officers who are not in the rank-and-file share different levels of PAL as compared to the rank-and-file. Prior works demonstrate some inconsistency in whether rank plays a role, though some older police culture research argues 'management cops' and 'street cops' share much different views about how policing should be carried out (i.e., Ruess-Ianni & Ianni, 1983). In addition, rank-and-file officers encounter the public on a more frequent basis, which may subject them to more negative (or positive) experiences with citizens during the arrest/apprehension or ticketing process. Finally, it also plausible same rank officers view one another as peers, and may develop friendships borne from formal working relationships—not controlling for rank may produce a larger friendship effect that is influenced simply by same rank officers sharing more friendships.

3.5.3 Tenure

Tenure aims to capture within-rank variation in PAL—where experience may play a role in how officers believe the public view them. Tenure is a continuous measure derived from officers indicating how many years they have served as a police officer. More traditional works argue officers likely gain more confidence in their role over time (e.g., Muir, 1977), though quantitative examinations of officer legitimacy find mixed results on whether tenure affects officer perceived legitimacy (e.g., Gau & Paoline III, 2021; Nix et al., 2020). Additionally,

controlling for tenure is largely the same rationale as rank: Officers with more time on the job may have more similarities that lead them to develop friendships, and so accounting for tenure is necessary to further isolate the association between friend and focal officer PAL levels.

3.5.4 Race

There may exist racial differences in how officers believe the public perceive them, and so—like prior police legitimacy works (e.g., Nix et al., 2020; White et al., 2021)—officer race is included and coded as (0 = non-white, 1 = white). Differences in officer legitimacy have been observed, for example, by researchers examining the 'black-in-blue' phenomenon of a black police officer working during a Black Lives Matter protest (see e.g., Kochel, 2022; Preito-Hodge, 2023). Additionally, Black officers may receive scrutiny from community members, in response to police violence against black community members may result in an internal conflict that does not similarly impact white officers.

3.5.5 Sex

There may be inherent differences in public reception of, and interactions with, female officers as compared to male officers, which may differentially affect how such officers develop perceptions about their community. To account for this possibility, officer sex is included as a control variable (0 = non-male, 1 = male). In general, female officers may have higher quality interactions with citizens, as prior works have found female police officers are less likely to receive citizen complaints (e.g., Porter & Prenzler, 2017), and their presence in multiple officer encounters may aid in the de-escalation of possible use of force incidents (e.g., Deller & Deller, 2019). Not only that, but citizens may have more favorable perceptions of female police officers (Pickett et al., 2023; Schuck & Rabe-Hemp, 2016), and believe them to potentially be less aggressive than their male counterparts (Roberts & Stalans, 1997). Taken collectively, this may

produce different experiences for male and female officers, and so controlling for those possible differences is necessary here.

3.6 Network Matrices

3.6.1 Friendship Network

To assess the presence of social influence, network matrices are included in the BANAMs. More specifically, network matrices will be used to determine the presence of autocorrelation in the outcome, or a weighted average measure of those in direct proximity to the focal officer. For the friendship network, officers were able to select up to 10 others they considered close friends in the department, which allowed for the creation of a directed and binary adjacency matrix (i.e., 1 = friendship tie, 0 = absence of tie). As a result, the boundary of the friendship network was current or former officers who worked in each respective department.

The structure of the friendship network is *directed*, meaning each officer is tasked with identifying others they consider friends. In other words, when officers are tasked with directly selecting their friends, this provides information about the relationship's symmetry. For example, if Officer A selects Officer B as a friend and vice versa, the relationship would be considered 'mutual' or 'reciprocal.' Alternatively, if either Officer A or B does not select the other as a friend, that relationship is considered asymmetric and may imply some sort of power imbalance or that the selected officer possesses a trait that makes them a desirable social connection to maintain (e.g., Kadushin, 2012). Despite the absence of reciprocity, the dynamic is still considered meaningful given one of the officer's views the relationship differently than the other (e.g., potentially more prone to influence).

Finally, it should be noted that because the outcome of interest was directly related to the survey—only officers who elected to take the survey were included in both the analysis and

friendship network. While this cut down the overall size of the friendship network, this practice is relatively common in studies that rely on both survey and network data (e.g., Haynie et al., 2018; Young & Haynie, 2022; Wenger et al., 2023), and is necessary given the outcome of interest is derived from survey items.

3.6.2 Assignment Network

One of the most powerful organizing forces in a police department is formal assignment, compelling officer socialization and exposing them to similar work-related outcomes. General assignment, field training assignments (e.g., Adger et al., 2022), and even the workgroup (e.g., Ingram et al., 2013), have been used to examine the transmission of police culture norms (including officer self-assessed legitimacy), and thus formal prescriptions of duty are of salience to the current work.

Assignment data were provided by both officers and the departments, which resulted in various levels of assignment granularity. While this may be a limitation of the data, this also provides an opportunity to determine whether assignment measurement affects outcome similarities between officers. SW provided the most general assignment information, which relates to the particular area within the jurisdiction to which officers are assigned (e.g., XYZ Patrol Division, ZYX Patrol Division). SE provided assignment data that was a bit more specific (e.g., Auto Crimes Unit, Area 1 Patrol, Area 3 Proactive), as it not only indicated where in each jurisdiction an officer was assigned, but also additional assignment-specific information (e.g., patrol, proactive). Finally, NE provided the workgroup for each officer, including their district (e.g., North District), role (e.g., Patrol), exact rotation (e.g., A/C rotation), and squad (e.g., Squad 4). In other words, this ensures that each officer with the same exact assignment information directly works with one another. Ingram et al (2013) argue there is a distinction between simply

‘colleagues’ and workgroup members, as workgroups have more shared experiences, exposure to similar environments, and are thus more likely to develop along similar trajectories (e.g., behavior, attitudes). Having such information for NE provides an opportunity to determine whether assignment specificity plays a role.

All of the assignment data are *undirected* and *bipartite* given that instead of directly indicated friendships, connections are based on officers’ mutual involvement in the same assignment. To create the assignment networks, a one-to-many join was performed to match officers based on the assignment data they—or the department—provided. Following this join, a one-mode projection was performed to create ties between officers based on their mutual involvement in the same assignment groups.

Given the possibility that the number of connections an officer has at the assignment level may vary considerably as compared to the more rigid cap of 10 in the friendship network, Dittrich et al (2017) recommend row-normalization to more evenly weight the influence of each connection. That is, each connection is divided by the total number of friend nominations (or same assignment colleagues) a given officer has to determine how much weight each friend’s outcome will hold in the average calculation. Effectively, row-normalization equalizes the amount of influence given to each friend in an officer’s network when comparing the overall friend-group’s average PAL score to the focal officer’s.

Although row-normalization has some drawbacks given that each connection is weighted the same in this instance (see e.g., Simpson and Kirk, 2023), it is necessary in the current inquiry given the network sizes may differ (i.e., maximum of 10 friends versus assignments of varying size). However, sufficient data to account for the frequency of formal and informal interactions is atypical in policing research (e.g., Ingram et al., 2013; 2018; Paoline III, 2020), though Simpson

and Kirk (2023) provide evidence that such frequencies may be important. Although the current work does not have such information without a significant loss in data, future works should consider how interaction frequencies condition intradepartmental social influence processes. That said, the current work is one of the first that accounts for friendships, which may be an end result of more frequent assignment-related interactions (e.g., responding to calls), as well as other job and non-job-related similarities. In addition, this work is the first to employ methods able to directly assess the relationship between officer friendships and officer attitudes, net of any influence that is the product of shared experiences in the same assignment.

3.7 Descriptive Results

Descriptive information for PAL and the covariates used in the final analysis are included in Table 1, for each department. Across each of the departments the average PAL score appears to be relatively high, meaning most officers believe the community views them favorably. This was particularly pronounced in SW, where the average officer had a PAL score of 9.29/12, meaning the minimum rating for each item was agree (i.e., agree, 3) or above (i.e., strongly agree, 4). The lowest PAL average in any department was NE at ($\bar{x}$ = 7.24), with the standard deviation indicating a number of officers falling below the halfway threshold of 6/12 for the PAL index. Given this variability across cities (and possibly even within cities) it could be that factors like assignment or other characteristics influence these viewpoints, which later analyses will address.

When breaking down PAL by its constituent components, it appears that the higher levels of PAL may be driven mostly by the obey and do questions—which pertain to citizen behavior during interactions. Interestingly, across each of the cities, whether officers believe citizens trusted them consistently received the lowest ratings, which is especially pronounced in NE. It

should be noted that NE and SE have both experienced protests and city-wide backlash in relation to officer-involved shootings (both local and national)—which may have differentially affected the level of trust officers believe citizens have in them. Alternatively, located in a more suburban environment, SW was largely shielded from such protests and backlash which may explain their higher levels of perceived trust.

To better examine whether the PAL measure derived from Nix et al. (2020) demonstrates internal consistency across departments, Cronbach's alpha was also calculated for each department's index.

Table 3.1 Descriptive Statistics of Measures

	SE **M (SD)**	**NE** **M (SD)**	**SW** **M (SD)**
N	1,239	837	279
PAL	8.35 (2.17)	7.24 (2.21)	9.29 (2.20)
Trust	2.14 (1.07)	1.38 (1.07)	2.79 (0.91)
Obey	3.22 (0.89)	3.16 (0.94)	3.26 (0.89)
Do	2.98 (1.04)	2.68 (1.20)	3.22 (0.99)
Tenure	14.58 (10.01)	13.35 (8.92)	12.55 (8.37)
Threatened	2.36 (6.54)	6.20 (15.55)	5.57 (13.32)
Officer	0.52	0.67	0.70
White	0.30	0.54	0.70
Male	0.84	0.87	0.89

There appeared to be some wavering consistency across departments, which is indicated with the following Cronbach's alpha values: SE ($\alpha = .6$), NE ($\alpha = .5$), and SW ($\alpha = .7$). While some sources attribute lower alpha scores to fewer items used, the overall results suggest a range of poor internal consistency in NE to moderate in SE and SW (George & Mallery, 2003; Gliem & Gliem, 2003). This largely may be related to potential differences in the trust variable, and the obey and do variables given the reliability tests indicate that the removal of trust may *increase* the reliability of the broader PAL measure. Though the current study relied on a prior, empirically supported operationalization of PAL (i.e., Nix et al., 2020)—future studies should

consider the potential for such items potentially tapping into different constructs, as the evidence here indicates somewhat weak internal consistency.

Although recoded as categorical for analysis, the raw threatened variable is presented here to demonstrate the variable's skew (i.e., higher std. deviation than mean). The raw values suggest the average officer is threatened either physically or with a weapon anywhere from 2 ~ 6 times per year—though some outliers may be affecting these results (also indicated by a large standard deviation). For example, in all 3 cities, the maximum reported number of times threatened exceeded 100+, despite the highest mean value being slightly more than 6. All departments were mostly male and the sample predominately comprised of those at the rank of 'Officer,' which is salient given that lower-ranking beat officers are likely to have the most contact with the public as compared to those of higher ranks. Accordingly, such officers may likely be exposed to more citizen viewpoints on the police. Finally, NE and SW have a predominately white police force, whereas SE features a pre-dominantly non-white police force.

3.7.1 Friendship Network

Descriptive information for each of the three department-wide friendship networks are presented in Table 2, beginning with the size and number of unique connections between officers. Nodes represents the number of officers *both* included in the network and who took part in the survey, which was a necessary concession given the outcome of interest is based on survey data. SE featured the largest network, with (n = 3,940) connections between the (n = 1,239) officers.

The network also appears to be highly connected—given the largest connected component (LCC) contains almost 94% of the entire friendship network. In other words, through both direct and indirect associations, 94% of all officers in the larger network are all connected

to one another to some degree. In addition, NE and SW have LCC's that contain roughly 85% and 90% of all officers in the friendship network, respectively. As with many large networks, despite the LCC containing a large number of officers, only 0.3% of the total possible connections exist between officers (i.e., density). NE is even less connected, though SW exhibits the highest degree of connectivity with approximately 1.1% of all possible ties existing.

Table 3.2 Friendship Network Characteristics

	SE	**NE**	**SW**
Nodes	1239	837	279
Edges	3940	1491	825
Largest connected comp.	1162	711	253
Density	0.003	0.002	0.011
Reciprocity	0.300	0.304	0.371
In-degree - mean	3.180	1.780	2.960
In-degree – minimum	0	0	0
In-degree – maximum	18	9	11
Out-degree – mean	3.180	1.780	2.960
Out-degree – minimum	0	0	0
Out-degree - maximum	10	9	10
PAL Assortative	0.03	0.10	0.05
PAL Moran's I	0.04*	0.13**	0.03

Reciprocity suggests that only around 1/3 of all friendship nominations are reciprocated—meaning for every 3 others an officer names as a friend, only 1 of them nominate the focal officer as a friend as well. Further, on average, officers received between 2 and 3 friendship nominations from other officers, with the most popular officer receiving 18 friendship nominations in SE, 9 in NE, and 11 in SW. Alternatively, the minimum in-degree of 0 also indicates the presence of isolates—or officers who received no friendship nominations.

Assortativity attempts to capture the relationship between officers with similar PAL values being connected to one another in the friendship network. Across all three cities, the relationship is quite low—meaning across the network officers with both higher and lower levels of PAL are friends with one another. In relation to the hypotheses proposed above, this may

suggest that social selection based on PAL is unlikely—or a weak relationship at best. However, assortativity is a relatively broad measure of similarity, considering the totality of the network and not more complex structures that may influence dyad-wise similarity. The ERGM will allow for examining similarity in the latter case, which also accounts for the influence of more complex dependence structures on social selection.

Finally, the Moran's I value (ranging from -1 to 1) indicates the tendency of an officer and their friend group to have similar PAL values, which hints more at peer influence given it considers the *totality* of an officer's exposure to social influence instead of dyad-wise (i.e., one-to-one) like assortativity. In general, Moran's I is often used in place-based studies to provide evidence for spatial autocorrelation—or that contiguous places share more similar values on the outcome of interest than non-contiguous places. Along the same line, the significance of the Moran's I value in SE and NE provides some descriptive evidence that peer influence may be playing a role in explaining the distribution of officer PAL attitudes—meaning officers who are a part of the same friend groups have more similar PAL attitudes as compared to others in the department. Taken together, the assortativity and Moran's I measures provide the first indication that peer influence, and likely not selection, is the mechanism which best explains why peers may be important in the self-legitimation process. However, these measures are unable to account for other potential processes that must be ruled out (e.g., assignment-based influence) before making any determinations about friends versus formal colleagues.

3.8 BANAM Results

To determine the presence of peer influence in the development of PAL attitudes among officers, across each city three models were estimated containing the following: a model with all predictors and the assignment network; a model with all predictors and the friendship network;

and a final model with all predictors and both the friendship and assignment networks. Including the two networks in the final model effectively 'controls' for the potential influence of officer assignment influence on the outcome, better ensuring that any estimates for the friendship network influence are not confounded with formal prescriptions of duty. In other words, officers on the same assignment are likely subjected to similar working conditions, and may be more alike in their PAL scores if those local conditions drive the development of PAL.

The results of the three BANAMs are contained in Table 3 below. For ease of interpretation, each parameter's distribution is summarized by a single *mean* point estimate, and in parentheses the upper and lower bounds of the 95% credible interval, which can be viewed similarly to more conventional confidence intervals. Importantly, if the 95% credible interval does not cross zero, the parameter can be viewed—as in a traditional sense—as sharing a 'significant' relationship with the outcome.

Beginning with SE, none of the node-level covariates were found to share a relationship with PAL—based on the 95% credible interval crossing 0 in each case. In other words, I am unable to express the belief there is at least a 95% probability any of the covariates share a meaningful relationship with the PAL outcome—given the potential estimate's true value may be 0. Moving to the networks, the assignment network's autocorrelation value is not significant across either of the models—either alone or in combination with the friendship network. The friendship network's autocorrelation value emerges as significant across both the friendship only and combined assignment-friendship model. This suggests there is at least a 95% probability an officer's PAL value is dependent on the values of their friends—with the credible interval in the

Table 3.3. BANAM Results

	SE (n = 1,239) $\bar{x}$ (95% Cred. Int.)			**NE (n = 837) $\bar{x}$ (95% Cred. Int.)**			**SW (n = 279) $\bar{x}$ (95% Cred. Int.)**		
	Asst.	Friend	Asst. - Friend	Asst.	Friend	Asst. - Friend	Asst.	Friend	Asst. - Friend
Intercept	3.02 (2.71, 3.34)	2.84 (2.66, 3.03)	2.84 (2.51, 3.16)	2.68 (2.45, 2.91)	2.58 (2.36, 2.79)	2.62 (2.38, 2.87)	3.66 (3.11, 4.21)	3.35 (2.95, 3.75)	3.53 (2.97, 4.10)
Officer	-0.03 (-0.13, 0.06)	-0.02 (-0.11, 0.08)	-0.02 (-0.11, 0.08)	-0.08 (-0.20, 0.03)	-0.09 (-0.20, 0.03)	-0.08 (-0.20, 0.03)	**-0.32* (-0.51, -0.12)**	**-0.30* (-0.49, -0.10)**	**-0.30* (-0.50, -0.11)**
Tenure	-0.01 (-0.01, 0.00)	-0.00 (-0.01, 0.00)	-0.00 (-0.01, 0.00)	0.00 (-0.00, 0.01)	0.00 (-0.00, 0.01)	0.00 (-0.00, 0.01)	-0.01 (-0.02, 0.01)	-0.00 (-0.02, 0.01)	-0.00 (-0.02, 0.01)
Sex	-0.09 (-0.20, 0.02)	-0.09 (-0.20, 0.02)	-0.09 (-0.20, 0.02)	-0.01 (-0.16, 0.14)	-0.02 (-0.17, 0.13)	-0.01 (-0.17, 0.14)	-0.09 (-0.36, 0.18)	-0.01 (-0.35, 0.19)	-0.08 (-0.35, 0.20)
Race	-0.05 (-0.13, 0.05)	-0.05 (-0.14, 0.04)	-0.05 (-0.14, 0.04)	-0.03 (-0.14, 0.07)	-0.03 (-0.14, 0.07)	-0.04 (-0.13, 0.07)	0.13 (-0.06, 0.32)	0.13 (-0.06, 0.31)	0.14 (-0.06, 0.33)
Threat	-0.03 (-0.06, 0.00)	-0.02 (-0.05, 0.00)	-0.03 (-0.05, 0.00)	**-0.06* (-0.10, -0.02)**	**-0.06* (-0.10, -0.02)**	**-0.06* (-0.10, -0.02)**	-0.03 (-0.09, 0.04)	-0.03 (-0.10, 0.03)	-0.03 (-0.09, 0.04)
Ast. Net.	0.00 (-0.09, 0.10)		0.00 (-0.10, 0.10)	-0.02 (-0.06, 0.03)		-0.02 (-0.07, 0.03)	-0.07 (-0.20, 0.07)		-0.07 (-0.20, 0.06)
Friend Net.		**0.07* (0.05, 0.11)**	**0.08* (0.05, 0.11)**		**0.05* (0.01, 0.09)**	**0.05* (0.01, 0.09)**		0.03 (-0.02, 0.09)	0.04 (-0.02, 0.09)

***Bold** indicates 95% probability estimate value is not zero

combined model (0.05, 0.11) concentrating relatively heavily around a small boundary of positive values, with the mean value (0.08) representing the distribution. Here again, the interpretation of the autocorrelation value is not the same as other parameters, and instead viewed much like a Pearson's correlation coefficient between an officer and their friends' PAL values—net of other factors controlled for in the model. Put simply, as an officer's friends' PAL values increase, this results in a small, but statistically significant, increase of the focal officer's PAL levels—suggesting the existence of peer influence among friends. It should also be noted that while the magnitude of the relationship is somewhat small, it is not uncommon in perception-based studies that examine peer influence (e.g., Kc et al., 2019; Prochnow et al., 2020).

For NE, a similar trend emerges. However, in this case, officers who self-reported being threatened more by citizens over the past year had lower PAL levels than those threatened less. Accordingly, for each additional threat category higher (i.e., 1-5, with 1 lower threats and 5 higher threats), on average an officer would have .06 lower PAL. The 95% credible interval for this estimate also appears to mostly concentrate on a small boundary of values between (-0.10, -0.02), suggesting there is at least a 95% probability the true estimate shares a negative relationship with an officer's PAL around the -0.06 mean value that represents the broader distribution.

The assignment network showed no significant relationship related to outcome similarity among officers. Given how assignment data are structured in NE, this finding is somewhat surprising[1]. Prior works have found attitude similarity among patrol officers at the work-group

[1] As a supplementary analysis (see Appendix D) to determine if similarities exist between patrol workgroup members (see Ingram et al., 2013), I also analyzed only the members of patrol workgroups. The findings remain the same as the overall department: that patrol officers on the same workgroup do not have—on average—any more similar PAL as with other officers in the department.

level (e.g., Ingram et al., 2013; 2018), though here I am able to distinguish between other types of relationships that include both those in the same assignment and relationships that span formal boundaries. Namely, in NE, the friendship network showed similarities among officers who are friends—suggesting peer influence among friends though not necessarily at the assignment level (or among formal colleagues). In other words, when an officer's friend group has higher levels of PAL, so too does the focal officer which again suggests the existence of some peer influence processes. Similar to SE, this correlation between an officer's PAL and their friends' PAL values is somewhat small, though the credible interval bounds suggest there is at least a 95% probability the relationship is greater than 0. In other words, officers who are friends have an influence on one another's PAL levels (i.e., they are more similar), as compared to officers who are not friends.

The final set of models are for SW, wherein only one of the predictors emerge significant. Officers are more likely to have lower levels of PAL than higher ranking officers. More specifically, officers have, on average, -0.30 lower PAL than officers of higher ranks—and the concentration of the 95% credible interval (-0.50, -0.11) around this value (and not crossing zero) suggests this relationship is meaningful. This finding suggests higher ranking officers believe the community views the department in a more favorable light, though the lower-ranking officers (i.e., line officers) who engage the public daily have different views. This could indicate some disconnect between higher and lower-rank officers, which is reflective of the observations in Ruess-Ianni and Ianni (1983) who identified a demarcation between the 'management cop' and 'street cop' cultures.

For SW, none of the networks emerged as demonstrating an influence effect—a finding which differs from the other two cities. One potential explanation for this finding is that the

overall average PAL score was a bit higher for SW, meaning most officers believe the community views the department favorably. Given the overall positive outlook, attitude similarity between friends and/or formal co-workers would be less likely to significantly differ from other officers in the department. Interview responses also provide further evidence of the overall belief that the community views the SW department in a positive light, though such findings are discussed in more detail in the qualitative results section. Accordingly, there is no support for hypothesis one regarding similarities by formal assignment, and hypothesis two is mostly supported given that officer friends influence one another's PAL in two of three cities. It should also be noted that the results do not change following imputation (for NE and SE), of which the results are included in Appendix E below.

Although the BANAM models provide some evidence of peer influence in relation to PAL development, they are not without their limitations. Of particular salience, the BANAM only suggests that officers share similar attitudes to the collective average of their friends as compared to those the officer is not friends with. In other words, it could be officers seek out others who already have the same views as them (i.e., social selection), or officers befriend one another for different reasons and subsequently influence one another's attitude development. One commonly used method with cross-sectional data to further isolate the mechanisms at play is to estimate an exponential random graph model (ERGM), which is also known as a social selection model. This will allow for further exploring whether the peer influence observed is a result of social selection. If the results are null, this may suggest officers likely become friends for other reasons and subsequently influence one another's PAL.

3.9 Exponential Random Graph Models

The second step of this analysis involves estimating two ERGM models (social selection models herein after) given the significant peer influence results in NE and SE. Accordingly, the ERGM attempts to, through including network processes (e.g., homophily, closure) and individual characteristics, determine how a given network developed its observed structure. In this case, the outcome is binary, representing whether any given dyad of officers in the network shares a friendship tie. If a friendship tie exists that outcome is coded as a 1, and if a friendship tie does not exist it is coded as 0. This makes social selection models similar to a more traditional logistic regression model, which are more commonly used in criminal justice research. As such, the coefficients can be interpreted as the conditional log odds increase/decrease in a friendship tie existing between any two officers, net of other factors included in the model. The benefit of using a social selection model in part 2 of the analysis is that it enables exploring hypothesis three in more detail, and specifically determining whether there are any associations between an officer's PAL and their likelihood of sharing a friendship tie.

Characteristic terms included as both individual and homophily-based measures are discussed in more detail below. However, for social selection models there is a point of distinction for the homophily measures. First, if the measure is continuous, such as tenure and PAL, homophily will be assessed as the *absolute difference* between an officer and each of their respective friends. A negative coefficient here would indicate officers with a greater absolute difference (i.e., who have less similar PAL or Tenure) are less likely to be connected as friends in the network—meaning there is evidence of homophily. Along the same line, categorical measures (e.g., race, sex) that are coded as binary are assessed via a matching term, which determines whether two officers have the same exact value for a given attribute. A positive

coefficient here would indicate homophily based on a categorical measure. For example, one could determine if males are more likely to befriend other males, of which a positive coefficient would suggest sex-based preferences for friendship.

Finally, for the sake of brevity, the friendship network and assignment networks used in the analysis are subject to the same creation process as used in the peer influence models—and thus are not discussed further below. Instead, only friendship network predictors will be detailed below. That said, because I am still concerned with the relationship between friends *and* PAL, only those who participated in the survey will be included (as in the above peer influence models), which is an accepted practice for networks that contain a survey component (e.g., Haynie et al., 2018; Wenger et al., 2023; Young & Haynie, 2022;).

3.9.1 Friendship Network Predictors

PAL Similarity. This effect will help determine whether, all else equal, officers with more similar PAL levels share friendship ties. The results of the BANAM suggest that officers who are friends do share similar levels of PAL, though we are yet unable to determine through what mechanism those similarities arose. It may be that officers with similar outlooks on the job, and beliefs about how the public view police, consider those views when making friends with others in the department (i.e., selection). However, the only prior studies that examine the role of social influence in attitude similarity only assess the formal work-group (Ingram et al., 2013; 2018), which may miss lower level dependencies that span formal boundaries.

Characteristic Homophily. The adage "birds of a feather flock together" is often used to describe how homophily plays a role in the selection of one's friends (McPherson et al., 2001; 2021). In other words, this notion suggests individuals who are more alike are much more likely to become friends. To best capture this process, based on prior research of potential sociability

between officers (e.g., Wood et al., 2019) and broader network research on this topic (e.g., McPherson et al., 2001), the following characteristics will be included both individually[2] (to determine how characteristics impact the propensity to establish friendship ties) and at the dyad level (homo/heterophily):

Race. Officers who are the same race will be more likely to develop friendships. This may be related to cultural similarities, or unique struggles faced as, for example, a black police officer working during a Black Lives Matter protest (e.g., Kochel, 2022; Preito-Hodge, 2023). As a result of those unique, shared experiences, it may serve as impetus to create friendships. Race here is coded as binary, with (1 = white officer) and (0 = non-white officer).

Sex. Despite female police officers entering the force in the 1970s, little research has examined the acceptance of female officers into a mostly male-dominated profession. However, broader research on how sex influences friendships demonstrate most to be primarily homogenous (Block & Grund, 2013; Schaefer et al., 2012; Thomas, 2019), even within the workplace (e.g., Ibarra, 1992; Kleinbaum et al., 2011). Much like race, this could again be related to the unique struggles faced by female officers in the workplace (e.g., sexual harassment) or the potential 'optics' of a male and female officer who are close friends. Affirming this, Berstein and Kostelac (2002) found that female officers identifying with the LGBTQ community often felt like they could open up to other female officers largely on the basis of their shared experiences as a female working as a police officer, as compared to their male counterparts. It should be noted, however, that selection based on sex may also be hindered to some extent by representation. In other words, if a female officer does not work with any other

[2] The only exception made here is assignment. Assignment instead is modeled as an exogenous influence on the network creation—such that friendships are more likely to form between officers who work together. Including assignment as an individual characteristic would not be feasible as it would add a large number of covariates to the model (one for each assignment). Accordingly, it is included in the model as an edge covariate.

female officers—selecting them as friends becomes much more challenging. Gender here is coded as binary, with (1 = male) and (0 = female).

Tenure. Another noted difference in the potential sociability of an officer might be their age difference, whereby the larger the age difference the less (generationally) officers may have in common. Although examining officers co-named in misconduct complaints, Wood and colleagues (2019) found that dyadic behavioral outcomes of police officers conditioned by their difference in tenure such that officers further away in tenure were less likely to be named with one another in a complaint. In addition, Britz (1997) found that tenure may influence an officer's willingness to be a part of the 'in-crowd,' citing potential reasons like older officers having more responsibilities (e.g., family) and less free-time to maintain a vast number of friendships. Ultimately, however, it is likely that larger tenure differences will share a negative relationship with friendship creation between officers. Tenure is coded continuously, representing the number of years an officer has been in law enforcement.

Same Assignment. Another form of homophily is spatial proximity. Generally, in a police department, spatial proximity is determined by an officer's assignment. Formal assignment compels interactions between officers, creating more opportunities for same-assignment officers to establish friendships. Although it is possible for two officers to meet outside of the department, formal assignment and workgroups have been found to demonstrate similarities in attitudinal and behavioral outcomes (e.g., Ingram et al., 2013; 2018). Despite the assignment network showing no evidence of similarities for PAL as compared to others in the assignment network, I argue that the compelled interaction of working the same assignment will share a strong and positive relationship with friendship tie creation between officers. Same assignment will be examined as a binary matrix, with each officer as a row and a column. If

officers are on the same assignment, their intersecting cell will have a 1, and all others will be 0. This allows for treating assignment as an exogenous outcome on the friendship network to determine whether spatial propinquity increases the odds of friendship.

Structural Network Effects. While the above parameters use a combination of actor covariates to predict tie creation, I include a number of structural effects that capture other social processes. Importantly, structural network effects greatly increase the convergence likelihood of an ERGM, as they may account for other unobserved social processes like closure. Although the connection between some of the below parameters and their relationship to social selection based on PAL are not apparent, that is the intention; instead, they capture endogenous network processes that further explain friendship creation.

Edges (density). Edges are included in nearly every ERGM model as it functions almost like the intercept in a more traditional regression model. In general, the edge term captures the tendency of officers to create friendships in general. If this parameter is not included, the ERGM algorithm would be much more inaccurate in replicating the observed network through simulations—as tie density would be missing. In other words, if only a small percentage of all possible ties exist in the observed network, providing this information to the ERGM will help direct its replication process.

Reciprocity. As somewhat of a complement to the edges term, reciprocity (captured by the 'mutual' parameter in ERGM) helps determine to what extent ties in the network are reciprocated. As such, this term will capture friendships between two officers who both nominate one another as friends.

GWESP. To model the existence of localized groups (i.e., friend groups) within a network, a measure of closure or transitivity is included. In this instance, I use the geometrically-

weighted edgewise shared partner parameter. Developed and discussed more in-depth in Hunter (2007), this structural effect is best described as capturing the number of two paths between focal node *i* and friend *j* completed by *k* other nodes *h*. The idea is to capture the local neighborhood of focal node *i,* and so the more nodes *k* completing two paths between *i* and *j*, the more 'clustering' there is in *i's* network. In other words, *i* is friends with *j*, so how many other friends of *i* also consider *j* a friend? Further, if *i* and *j* share more common friends, how much more likely are they to become friends themselves?

GWDSP. To aid in determining the extent of transitivity in the graph, geometrically weighted dyadwise shared partners captures the propensity for two-paths to occur between triads in a network. For example, this term captures the following scenario: how often is i -> j -> k, though there is no connection between i and k. Therefore, the gwdsp helps further determine whether the structures in the network resemble more imbalanced triads (where j is the go-between), or are triads generally complete with i, j, *and* k all connected. In other words, Papachristos et al (2013) argue the inclusion of both GWESP and GWDSP provide direct evidence of transitivity if GWESP is significant and positive and GWDSP is not significant and negative.

GWIDegree. Geometrically weighted in-degree will help aid convergence as it helps model the in-degree distribution (or ties received). It is often used to gauge node popularity, akin to the Matthew Effect. That is, it may help determine whether some nodes receive a disproportionate amount of friendship nominations from other officers (gain more popularity due to their status as being popular)—or whether nominations are relatively evenly dispersed throughout the population.

GWODegree. Geometrically weighted out degree functions similar to its in-degree counterpart, but instead captures the outdegree distribution of the network. It essentially functions to capture the social activity of an officer, and namely their propensity to send friendship ties to others. Importantly, there may be some unobserved characteristics that influence social activity among officers—and gwodegree may capture those traits through determining one's overall propensity to send ties.

3.10 ERGM Results

As a supplemental analysis to further explore potential mechanisms driving an peer influence derived from the BANAM models—two ERGMs were estimated with the results included in Table 4. More specifically, SE and NE indicated a significant peer association for officer PAL among friends, though not for formal colleagues (i.e., assignment). Accordingly, ERGMs are generally used to assess a different type of peer influence known as social selection—allowing for the exploration of whether propinquity, individual characteristics, attitudes, or other structural characteristics of a network explain friendship creation. Although the main focus here is on whether PAL levels influence friendship creation, I will briefly cover the other results derived from the ERGM estimations.

From the both the NE and SE social selection models, the edges term indicates that out of all possible friendships between officers—the likelihood of officers becoming friends (with any given officer) is relatively low. From the structural characteristics, a significant and positive gwesp term as well as a negative and significant gwdsp term suggests there is a preference towards clustering—meaning officers with mutual friends are more likely to become friends and form a triad between all three officers. The negative and significant gwidegree parameter in SE suggests the presence of a 'Matthew effect' among a smaller subset of officers, meaning some

officers receive a disproportionate amount of friendship ties as opposed to ties being relatively evenly distributed across the sample. However, in NE, the gwidegree was not significant meaning the distribution of friendship ties received was more evenly dispersed across the sample.

Further, across both sites, the negative and significant gwodegree term suggests that most officers within the sample identified a 'similar' number of officers as their friend—though it should be restated the number of possible friendships was capped at 10 per officer. The final structural parameter included was reciprocity, which was positive and significant and suggests friendships were much more likely to exist when they were mutual (i.e., both officers named one another as friends).

Several officer characteristics also emerged as significant predictors of friendship selection. Across both sites, the following findings emerged: officers of the same race were more likely to consider one another friends; males—in proportion to their representation in the sample—were less likely to form friendships in general; officers of the same sex were more

likely to consider one another as friends; officers of the same rank were more likely to consider one another friends, though those of rank officer—in proportion to their representation within the sample—were less likely to send friendship ties than other higher rank officers (which could be a function of simply knowing less people, or having worked with fewer people); - finally, officers who have more similar time on the job were also more likely to consider one another friends as opposed to officers with more drastic differences in tenure.

Included also as an exogenous network parameter that may predict friendships was an officer's assignment. Across both SE and NE officers working on the same assignment were-

Table 3.4. ERGM Results

	NE β (SE)	SE β (SE)
Edges	-5.31***	-5.41***
	(0.17)	(0.10)
GWESP	1.34***	1.29***
	(0.06)	(0.03)
GWDSP	-0.16***	-0.09***
	(0.01)	(0.01)
Reciprocity	4.27***	3.69***
	(0.13)	(0.08)
Gwidegree	-0.14	-1.08***
	(0.11)	(0.09)
Gwodegree	-1.74***	-2.13***
	(0.10)	(0.08)
Same Assignment	1.78***	0.99***
	(0.06)	(0.03)
Race Homophily	0.54***	0.56***
	(0.05)	(0.03)
White	-0.02	0.09***
	(0.03)	(0.01)
Sex Homophily	0.62***	0.33***
	(0.07)	(0.04)
Male	-0.26***	-0.17***
	(0.04)	(0.02)
Rank Homophily	0.39***	0.30***
	(0.05)	(0.03)
Officer	-0.20***	-0.09***
	(0.03)	(0.02)
Tenure Similarity	-0.08***	-0.09***
	(0.00)	(0.00)

Table 3.4. ERGM Results Continued

Tenure	-0.00	0.00*
	(0.00)	(0.00)
Avg. PAL Similarity	-0.08*	0.01
	(0.04)	(0.02)
Avg. PAL	0.05*	0.04**
	(0.02)	(0.01)
AIC	-70,997	-71,031

* p < 0.05; ** p < 0.01; *** p < 0.001

significantly more likely to form friendships with one another demonstrating the existence of spatial propinquity in the friendship development process. Here again, this does not suggest that officers will become friends with everyone in their assignment, but instead demonstrates assignments likely provide an atmosphere for friendships to develop among officers. Coupled with the BANAM findings that assignment is not necessarily a determinant factor in PAL development—this may reaffirm the idea that officers are more selective within assignment on who they choose to associate with beyond their formal duties.

Of most salience to the current study, there was a relatively weak association between PAL similarity and officer friendships—which does suggest the existence of some level of selection in NE only. In other words, officers may be more likely to befriend others who have similar views about the public. Viewing this finding in light of the BANAM models, officers seemingly factor in individual citizen interactions more given being threatened by citizens shared a negative association with officer PAL. Accordingly, it could be that officers who have had those negative experiences use that common ground to develop friendships, and potentially help one another reconcile or discuss their views on what the public think of police. In either case, the quantitative results paint a more consistent picture for the existence of peer influence (i.e., BANAM models), though some contexts, like NE, may produce friendships built to some degree on officer views of the public.

Included in Appendices F and G are goodness of fit diagnostics for each model, which indicate how well each of the models reproduces the observed network's structural and model statistic distributions (e.g., Goodreau et al., 2009; Krivitsky et al., 2023). When examining the figures, the observed network's values is represented by the black line—of which its points aim to *ideally* match with the blue points, and within the gray lines which are confidence intervals of

acceptability that indicate the range of values covered by the simulations. In other words, the black line should fall within the confidence intervals (i.e., gray lines) to ensure the observed network is as accurately reproduced as possible. Although the black line deviates outside of the confidence intervals in a few places, the abundance of non-significant p-values across the goodness of fit diagnostics indicates the estimates obtained are reliable for inference. That said, some deviations are likely given the attempt to maintain consistency in the parameters and their specifications across both cities—which may sacrifice model fit in some areas—though here to no significant degree.

Chapter IV: Officer Interviews

Across all three sites, the interviews were semi-structured and guided by a set of pre-determined questions meant to address various components of the survey. For the current study, interview responses were coded that primarily focused on officer perceptions of their legitimacy in the eyes the public (see Appendix G below). The questions asked of officers proceed as follows (or are some close derivation): *"From your perspective, how are police viewed in the eyes of the public?"* As probes for additional exploration of this broader question, officers were asked: 1) *"Can you describe a specific event that has shaped your answer?"* 2) *"Have you discussed this with other officers?"* 3) *"Have recent tensions and/or media coverage related to officer-involved shootings impacted how you believe the public view police?"*

The conditions under which officers were invited to participate were similar in SW and NE, whereby officers who elected to partake in the survey were asked if they would be interested in participating in an interview at a later date. In NE, this led to 159 officers being contacted, and (n = 31) participating in an interview for an overall response rate of ~ 20 percent. In SW, 21 officers expressed an interest in participating in an interview, which led to (n = 8) being interviewed, for an overall response rate of 38 percent.

Although SE had a similar invite protocol as the other two departments, officers who expressed interest were also offered $50 for their participation in an interview. This resulted in (n = 61) interviews from 270 officers contacted via email or phone, or a response rate of 23 percent. Much like SW and NE, on both the covariates and PAL interviewed officers in SE were approximately similar to those who were included in the analysis (talk more about here). Table 5 displays the breakdown of interview respondents by department, including all of the key variables used for analysis in the peer influence models (i.e., BANAM).

Table 4.1. Interview Respondent Descriptives

	SE M (SD)	NE M (SD)	SW M (SD)
N	61	31	8
PAL	7.73 (3.00)	7.35 (2.52)	10.14 (1.34)
Trust	2.07 (1.23)	1.61 (1.08)	2.71 (0.95)
Obey	3.11 (1.11)	3.35 (0.75)	3.85 (0.37)
Do	2.54 (1.39)	2.38 (1.56)	3.57 (1.13)
Tenure	13.57 (7.90)	12.93 (9.22)	12.85 (10.71)
Threatened	1.59 (2.54)	5.61 (7.91)	0.85* (1.07)
Officer	0.36*	0.58	0.71
White	0.47*	0.48	0.80
Male	0.85	0.94	0.63

* Significant difference in mean from full sample ($p < 0.05$); see table 1 for full sample values

Of importance here, SE and NE have relatively modest levels of PAL among officers in the interview sample, which are largely reflective of the broader departmental sample. Similarly, the breakdown of each component of PAL reflect the broader trends of the sample, and indicates where the bulk of variation in scores may be occurring. That is, much like the broader sample, trust is rated lowest across all cities, though particularly in SE and NE. Compared to SW, the somewhat lower levels of PAL among SE and NE may also be reflective of the social conditions, and past instances of conflict with citizens that may indicate lower levels of legitimacy in the eyes of the public. For example, SW experienced few, if any, protesting or citizen backlash in the aftermath of George Floyd (among many other national events), whereas this is not the case with SE and NE. In fact, high-profile events occurred within both SE and NE within the past decade, which led to conflict—and in the case of NE a consent decree—which have created even more tension among the police and public. In other words, such events may play a role in the lower assessments of PAL in SE and NE, as compared to SW.

Of importance, most of the characteristics of the interview samples were similar to those of the larger department-wide sample—with a few statistically distinguishable differences based on the results of a series of t-tests. In SE, those of rank ‘Police Officer’ are underrepresented,

comprising only 36% of the sample, whereas in the larger sample they comprise 52 percent. Similarly, white officers are overrepresented in the interview sample, comprising 47% of the interviewees but only 30% of the department-wide sample. NE interviewees had no significant differences in their mean values as compared to survey respondents across all measures. Finally, SW interviewees indicated they had been threatened less, on average, than the survey sample, which had a mean of 5.57 as compared to a mean of 0.85 in the interview sample. Given the few differences between interviewees and the survey sample, it appears that most of the interviewees are representative of the larger samples from which they are derived.

To first categorize interview responses based on the interview guide, all interview transcripts were uploaded to Nvivo (version 14), a software for analyzing qualitative data, and coded accordingly. Although theoretical frameworks regarding officer self-assessed legitimacy exist—none have explored the issue of officer legitimacy through interviews with police, especially PAL. Exploration of the qualitative findings were primarily guided by the quantitative findings to the extent possible; however, given that most of the variables in the peer influence models were not significant, I first examine officer discussions about PAL generally, followed by what events/aspects of the job motivated officers' responses about PAL, and finally exploring the significance of one's friends in the PAL development process (i.e., the key finding from the peer influence models models).

The peer influence models and friend selection models provide quantitative evidence of social influence processes related to PAL and friendship development, and—in particular—suggest officers may become friends for reasons apart from their beliefs about how the public view in SE, but in NE (where citizen threats were associated with PAL) officer PAL similarities were related to friendship creation. That said, the peer influence models demonstrate more

consistent findings that officers are influenced in their views by their overall group of friends (i.e., significant peer influence results), though there may be some selection based on PAL attitudes in NE. Following a mixed thematic analysis (i.e., exploring what affects PAL) and explanatory-sequential design (i.e., explaining the quantitative findings), the interviews were largely explored through the lens of the quantitative findings with additional clarification on how officers may form their perceptions of how the public view them (see e.g, Creswell & Creswell, 2018). More specifically, the models revealed friends to be integral to this process, and no other covariates, providing impetus to create a better understanding of perceived audience legitimacy generally.

The coding process began by examining each question related to an officer's perceived audience legitimacy—which are detailed above. Here again, because the qualitative portion of this work was mostly exploratory and viewed through the lens of the quantitative findings, I mainly focused on extracting general themes during the first coding exercise to help determine how officers develop perceptions of how the public view them—with an emphasis on *why* friends may be important in this process. The first question queried about what officers think make them legitimate in the eyes of the public, and so initial responses to this question were coded more broadly. This largely began with coding initial responses—or definitions from the officers' perspective—to this general question about how they think the public view them. Subsequently, moving further into the response yielded additional details related to why they think the public view them the way they do were examined (e.g., neighborhood context, high-profile events, negative media attention). In the second and third coding exercises, specific sub-themes were explored under each probe to help further explore the officer's general response to how they think the public view them. Following this coding procedure, the most common

responses were used to group the possible themes *in an attempt to* reach a point of saturation—and to remove any instances that did not appear across interviews (e.g., Guest et al., 2006). The final phase included a coding procedure that helped better align the qualitative responses with the quantitative results—aiming to develop an understanding for why peers may be important in one another's legitimation process.

In general, themes derived represented common responses that emerged across interviews for each question— beginning with how officers internalize individual interactions with citizens, and the implications of such interactions in the development of their own legitimacy. The second section expands on the influence of major events like protests on officer PAL, and how those daily interactions may carry less weight in its conception. Section three highlights the role of a negative media in conditioning public attitudes, and how officers think it perpetuates the police-citizen divide. The qualitative results culminate with a discussion on public backlash and how it may push officers to lean on one another as a source of support or reflection.

4.1 Term Clarification

Throughout the sections, I focus on providing distinctions between officers with varying levels of PAL and tenure—designated as high/low based on the full sample's average value (SE (8.35); NE (7.24)). More specifically, when possible I attempt to expand on whether officers with high or low PAL provide different responses to questions and probes, primarily as an explanation to its variation across settings or officers. That said, distinctions may not be possible in every section, and may not be necessary if there is unanimity across a theme, though if there are differences they are noted.

Beyond PAL differences, the focus on specifically tenure is for three principal reasons: prior works finding tenure as a significant predictor of officer PAL (e.g., Gau & Paoline III,

2021; Nix et al., 2020); its theorization to predict officers' gaining experience and developing a sense of their own legitimacy as an officer (e.g., Bottoms & Tankebe, 2012; Muir, 1977); and the potential for tenure to attenuate emotional responses during citizen interactions (e.g., Holz et al., 2023). In other words, it may be that officers develop different views of the public as they progress through their career and—given the lack of qualitative evidence on officer legitimacy—is worth exploring in more detail here. While it is plausible other characteristics may affect legitimacy, such assertions are not supported empirically regarding legitimacy orientations generally (Bradford & Quinton, 2014; Tankebe, 2019; White et al., 2021), nor specifically for PAL (e.g., Gau & Paoline III, 2021; Nix et al., 2020).

Each participating officer that is quoted was given a pseudonym that in no way reflect or represent the real name of any individual officer within each respective department. This is primarily done to facilitate referencing quotes made by the same officer. Finally, instead of referring to model types by acronym (e.g. BANAM, ERGM), I reference them by the specific network mechanism being tested—either influence or selection (e.g., peer influence models, friend selection models).

To simplify the presentation of the results, and to be able to explore how they may differ based on officer characteristics, the following abbreviations will be used:

- +PAL = Above average PAL for a given department's full sample (see Table 1)
- -PAL = below average PAL for a given department's full sample (see Table 1)
- PAL(NA) = PAL values unavailable
- +Years = Above average tenure for a given department's full sample (see Table 1)
- -Years = Below average tenure for a given department's full sample (see Table 1)
- Years(NA) = Tenure values unavailable

- Peer influence models = BANAM results
- Friend selection models = ERGM results

4.2 Officer Interview Results

4.2.1 The Protector and the Tyrant: Neighborhood Context and Daily Interactions

In general, perceived audience legitimacy (PAL) pertains to how police believe they are viewed by the public. By extension, one might expect daily officer interactions with the public to be a primary source for gauging public sentiment about police. However, the peer influence models suggest that an officer's working assignment is not associated with their PAL attitudes. This finding departs to some degree from prior works on police culture and officer attitudes, which find similarities at the workgroup (i.e., assignment) level—whereby exposure to common environments, groups of citizens, and crime conditions produced attitudinal similarities between officers (Ingram et al., 2013), though it supports the peer influence model findings herein. In the interviews, officers discussed how they encounter a wide range of people in their day-to-day interactions with the public. Back-to-back calls may go from an angry citizen who is shouting slurs at the officers face, to another who is then buying them coffee and thanking them for their service. This heterogeneity in citizen interactions makes it difficult for officers to grasp a collective public sentiment about how they are viewed by the public. For example, Officer Brown in SE makes the observation that negativity often stems from where in the city one is assigned, while Officer Lyle in SE and Officer Wilson in NE says public views vary in geographic areas as small as from neighborhood-to-neighborhood.

> *So I think that a lot of the negative views are just people speaking the loudest and people attempting to sway the public towards their way of thinking. I definitely*

had more negative encounters than positive, but it's not going to be an overwhelming sense. And a lot of that can have to do with where I'm at in the city. [Officer Brown, SE; +PAL; -Years]

In some neighborhoods, police officers are viewed as the protector of the civilization, in particular, the pillar of community. In some neighborhoods we're viewed as villains, tyrants. [Officer Lyle, SE; PAL (NA); +Years]

I think it depends on what neighborhood you're in and where you are on what the perceptions are of the police. [Officer Wilson, NE; -PAL; -Years]

This work is not the only to find that officer beliefs about how the public view them shift based on ecological context and the needs of a neighborhood/community. (Nix, 2017; Shjarback et al., 2017). In fact, many officers apart from those quoted above made the same observation, which may suggest a learning process during the academy, field training, or even on the job, on what to 'expect' when policing certain areas within their respective cities. By extension, this may create a shared understanding (regardless of assignment) that transcends individual experiences within-assignment, as in some assignments officers may expect to involve more negative experiences than others. However, through this shared understanding—they similarly understand not all citizens react the same towards officers.

In addition to having a general knowledge of police support by neighborhood, officers also discussed how their interactions with citizens painted an inconsistent picture of how the public writ large may view them. This may also explain why citizen threats to officers was only

significant in NE's peer influence model (see also e.g., Nix et al., 2020). That is, if officers have a general understanding of areas where they may receive support versus where they may be disliked—being threatened may not pose as serious as an issue to how they believe the public view them, as that threat may have been made in an area the officer knew they were already disliked. This is salient given that challenges to an officer's authority is argued to be the earmark of declining legitimacy among the public—or the point at which an officer should reflect on whether their practices align with the citizenry's values on public safety (see e.g., Bottoms and Tankebe, 2012). However, it may be that negative individual encounters are not enough to trigger the process of shifting officer priorities or their approach to public safety, given they seem to be balanced out with a number of positive experiences as well. See, for example, officers discussing the confusion in gauging a collective public sentiment based on individual interactions.

> *Yeah, because I feel like it's a case-by-case basis. Like I said, if you walk into this coffee shop now and there's 20 people in there, 15 might be happy to see you, and five would be like, 'What is this guy doing here? He probably wants some free shit.'* [Officer Lesley, SE; +PAL; -Years]

> *When I'm in uniform, I'd say that for every person that is cussing me out or F the police – F this, F that, I've got at least three people that will say thank you for being here, we support the police.* [Officer Riley, NE; -PAL; -Years]

> *I mean, each individual citizen encounter, that's the difficult thing is…one citizen…they love the police because the police found their car and returned it in*

one piece and the other one hates the police because they got a speeding ticket last night and now the [Department] is horrible. [Officer Brady, SE; -PAL; -Years]

I think it's still about 85% of the public that likes you, likes the police, respects the police. I think that's always been that 15% no matter where you go that hates the police. [Sergeant Lake; SW; +PAL; +Years]

The notion of a split opinion among citizen views [or something similar…] emerged across both low and high PAL categories,, as well as low and high tenure levels. However, the descriptive statistics indicate most officers on average, view them as legitimate, with higher ratings for public response to officer commands (i.e., obeying and doing what police ask). One theme that emerged across both high/low tenure and PAL, officers also suggested one reason the public view them positively is because they know 'the police are needed.' In the latter case, such officers would describe a 'quiet majority' who knew the police are necessary (e.g., through continuing to call them for service, etc.), but whose voices are shrouded by a smaller group of more vocal citizens who are anti-police. Here again, because SW indicated mostly positive relationships with their citizens, these sentiments were mostly present in SE and NE. For example, officers in SE and NE discussed the 'quiet majority' and a negative subset of citizens who likely would never support the police:

I think the public in [SE], like the neighborhoods that we serve on a daily basis, I feel like they know the need for police…especially during the riots of 2020 they

were coming to us and saying, we need you-all, we were the ones that are calling you-all, you're responding out here sometimes it's for good, sometimes for bad. But we know the importance of you-all. [Officer Tibby, SE; PAL (NA); -Years]

At least the people who speak up or the ones who tell us we're not wanted are not people who do want us there, they're silenced by the people who don't want us there and we know that, at least I know that, that's who I work for. [Sergeant Andersen, NE; -PAL; -Years]

I think for the most part, the public view of police is positive. The ones that are negative are the ones that get caught, and don't want to go to jail that are committing the crime. [Lieutenant Craig, SE; +PAL; +Years]

It seems that most good people, if I have to classify the two groups, the people being people law abiding citizens, they want the police there. They want you to do your job and they want you to do your job right. But there is what seems to speak louder than everybody else, it seems…people who don't necessarily want you to do their jobs, who are committing criminal activity… [Sergeant Larson, NE; -PAL; +Years]

Given that the descriptive statistics for each department indicated a relatively high level of PAL, it may be that officers come to develop an understanding that most of the public likely knows the police are needed and are appreciative of those services. However, individuals with

more negative views of the police are more vocal or may be more amplified by media outlets than those with more positive views of police. Of salience, this sentiment emerges across officers with high and low PAL, as well as officers with high and low tenure. That said, the results also revealed officers with higher levels of tenure also more frequently discussed believing the public held (at least mostly) positive views of them, though most of the higher tenure officers also held higher ranks in their respective departments—potentially removing them from street-level assignments where interactions with the public are more frequent. Alternatively, those with lower tenure—and often lower ranking (i.e., beat cops)—more frequently discussed public opinion being split; the public having negative views overall; or that there was a 'quiet majority' who know the police are needed but may not be as vocal as those with negative views of police.

In either case, however, a split opinion emerged most frequently, which may further reinforce the notion that interactions with citizens on a daily basis paint a relatively inconsistent picture for law enforcement. Here again, this may also explain the relatively high ratings for the obeying and doing aspects of PAL—which may be more indicative of daily interactions where most involve those who know police are necessary and needed, and thus reinforce their legitimacy through complying with demands. However, the perceived public trust aspect of PAL was consistently rated lowest—on average—across departments and may be what varies in during times of heightened criticism of police (see e.g., Adams, 2019; Capellan et al., 2020; Gauthier & Graziano, 2023). In fact, many officers pointed to how highly-publicized police-citizen interactions—and resulting backlash—affected how they think the public view and interact with law enforcement.

4.2.2 What Are We Supposed to Think? High-Profile Events and Public Consensus

Officer responses about their daily interactions with the public indicated it may be difficult to derive a collective sentiment—or that it even varies neighborhood-to-neighborhood. Accordingly, when asked to detail any specific incidents or events that informed their response to how they developed their beliefs about how the public view police, most officers referred to negative media coverage surrounding major events such as the killing of George Floyd, Freddy Gray, Rayshard Brooks, and many other instances of power abuse/corruption that garnered national media attention *rather than their daily interactions*:

> *Yeah, clearly the protests. I was out there for George Floyd and Rayshard Brooks, when that happened, those protests. And you see the anger that people had toward police. And people really felt a certain type of way towards police and just felt we were just out here just killing people, doing what we wanted to do, not respecting people's rights.* [Officer Espinoza, SE; -PAL; -Years]

> *Yeah, all those events happening with cops involved has shaped my view of how the community would react because, if I was a regular citizen, I probably would react the same way* [Sergeant Garza, SE; -PAL; +Years]

> *I would say the recent events. I mean, George Floyd was a big one. Really kind of the perspective of police and that's not what we do, but it happened…So I think that right there shaped a lot of like differences of the community, how they view us because that one incident.* [Officer McEntire, SE; +PAL; -Years]

Freddie Gray. That's [NE's]. That's really what started it all. [Sergeant Edwards, NE; -PAL; -Years]

It goes up and down, like we have major events that happen around the world or the United States. Like something bad goes with the police, so then we're all kind of viewed that way, or something good happens and then it goes, it's just a roller coaster. [Officer Grimes, SW; +PAL; -Years]

The common theme among such cases is that cases mentioned by officers garnered national media attention, and—in NE and SE—elicited a widespread public response in the form of protests and riots. For the most part, officers across high/low tenure and PAL noted the impact of high-profile events that began with earlier cases such as Michael Brown and Freddie Gray. While some officers with more tenure would mention other types of interactions (e.g., traffic stops, domestic disputes), the primary emergent theme was related to highly publicized events that created division between the police and public. Notably, even officers who felt the public viewed them positively did not necessarily reference 'positive' encounters when asked what informed their answer on how citizens view them, with the exception being a couple of officers in SW. Here again, this trend existed regardless of high/low PAL and tenure.

Compared to SW, however, it should be noted that NE and SE have had more tumultuous relationships with their citizens—often prompted by instances of corruption (e.g., Gun Trace Task Force) and perceived unjustified uses of deadly force (e.g., Rayshard Brooks, Freddie Gray). This may offer some support for Bottoms and Tankebe's (2012) dialogic model of

policing, whereby public outcry and backlash not only got the attention of officers, but particularly emphasized the unwillingness of citizens to be subject to perceived unjust uses of force. Further, Bottoms and Tankebe (2012) would argue that force, and especially the need to rely on force frequently, is a principal indication of deteriorating legitimacy, which is particularly salient here given officer use of force was the focal point of many protests.

4.2.3 The Media Lies and the Public Buys (Into the Narrative)

Throughout describing major incidents and how they may precipitate increased public backlash, officers' particularly emphasized negative media coverage aimed to paint all police in a negative light. Throughout almost all interviews, officers argued that traditional media (e.g., television) and social medias thrived on negative coverage of police, which likely played a role in the deterioration of police-citizen relationships in the wake of the aforementioned major events. In fact, across both high/low PAL and tenure, officers almost unanimously argued that media attention further deepened the police-citizen divide, highlighting only the actions of a few bad officers. For example, Officers Belk and Khan argue negative media attention affects public opinion and may purposefully leave out context to push a certain narrative.

> *…the media is a business and the part of the business that makes them the most money is negative stuff, especially when it comes to policing…And because of that people are exposed to the negative stuff and that affects public opinion.*
> [Investigator Belk, SE; +PAL; -Years]

> *Social media, TikTok, Instagram. You can see one video your way but the public might see the video a different way.* [Officer Khan, SE; -PAL; -Years]

I think media is one of the worst things to happen to police on both sides. It's been my experience that one half of the media outright lies about us and the other half doesn't lie, but they leave out context and key pieces of information to direct a narrative. [Officer Brown, SE; +PAL; -Years]

The media has a job and that's to get ratings and numbers and to be somewhat biased in their opinion…the narrative that they push, it's one sided… [Officer Norman, NE; -PAL; +Years]

Given the focus on negative attention directed towards police, the interviewees believed this certainly affects public opinion, creating an ethos in which the relationships between the police and public deteriorate. Officers also highlighted the importance of context, and how body-worn cameras have enabled them to produce the interaction in its entirety. They argue this may help sway public opinion, though not always given the public may not be as attuned to what actions are legal and that even justified uses of force do not 'sell' well in the media. For example, Officers Espinoza and Sergeant Jacobs discuss the impact of such issues:

If I ask somebody little, what's the news? I'm going to Instagram. So if you're watching a video of a police officer basically in essence killing someone, even if the officer's right, no way, it looks bad…Like it might not actually be bad, but it doesn't really help us be more legit [Officer Espinoza, SE; -PAL; -Years]

> *I think it's a double-edged sword because I don't think that it's portrayed us in a good way, but I also don't think that they're intentionally trying to portray us in a bad way…I know the public doesn't really understand case law and the difference between policy versus state law versus case law, and so they might see things one way and it's like, well, no…You might not like the outcome but they're justified in everything they're doing.* [Sergeant Jacobs, NE; +PAL; -Years]

Likely as a consequence of negative media attention and perceived lack of knowledge about police operations, this may create a social distance between officers and the public—including with their non-police friends, acquaintances, and family members. As prior works have found police do not believe the public are qualified to make judgements about the legality or appropriateness of their conduct (see e.g., Brewer, 2022; Wells & Schaefer, 2007), especially in situations involving use of force. For example, in examining officer discussions on Reddit (a social media site) about use of force videos, officers would specifically mention that often the public viewed any use of force as misconduct—despite the legality of the force used in a given situation. Kochel (2022) also observes how negative media coverage and misinformation affected officers in Ferguson in the wake of the Michael Brown shooting, particularly among Black police officers. She finds that Black officers were faced with a seemingly paradoxical set of circumstances of being 'Black in blue,' during protests about police violence against Black Americans. That is, Black citizens and the family members of Black officers had a difficult time reconciling how a Black police officer could remain in the occupation following incidents like the shooting of Michael Brown, leading such officers to instead rely on other officers as their systems of support—especially other Black officers who could better relate to their situation.

4.2.4 Shielded in Solidarity: The Support of Officer Friends Amid Public Backlash

As found in the previous section, negative media attention, and that citizens may not be qualified to judge officer actions, lead officers to turn inwards to other officers they trust to talk about high-profile police-citizen encounters. In fact, many officers discussed how—despite being a strong support system—even their families were difficult to talk about such situations with, mainly because they have not experienced what it is like to be an officer. For example, Officer Tibby and Sergeant Pruitt address the difficulties in talking about high-profile officer-involved events with non-law enforcement friends and family:

> *I mean, I have a pretty supportive family and my wife knows everything that goes on with me at work and I can tell her everything, and she still would never get it the same way the guy [who] worked on the street will.* [Officer Brown, SE; +PAL; -Years]

> *That's a different situation…There are times where I will discuss some of this with my family and other friends that are not law enforcement, but generally I don't receive the same response as I would from a fellow police officer because of the lack of perspective of law enforcement in the work that I do.* [Sergeant Pruitt, NE; -PAL; +Years]

In other words, given that non-law enforcement family and friends are part of the public writ large, and have no experience in policing, officers likely have a much different take on officer-involved events. Even in SW (although peer influence was not significant), of which its officers

feel they have a great relationship with their community, and was largely shielded from protests and backlash in response to the killings of, for example, Michael Brown and George Floyd, indicated they discuss those national issues amongst themselves:

> *I mean, I think we pretty much all have the same views. So, it's just conversations that come up and then we just kind of move on from it.* [Officer Stevens, SW; PAL (NA); Years(NA)]

> *We talk about it, not like a formal discussion. We do talk about things like that because that's the last thing anybody wants is to get involved in an incident and then be on like CNN or some front-page news thing.* [Sergeant Lake; SW; +PAL; +Years]

In general, then, it appears officers prefer discussing such issues with other officers given the unique experiences and occupational environment they share. As the peer influence model findings indicate, it seems that, at least in part, one group officers may be having these discussions with is among their friends within the department. That is, officers seemingly form closer bonds amongst a subset or a few officers they work with—perhaps trusting them more with discussions about issues like those surrounding police violence or protests. For example, officers say this about discussing the high-profile events or protests:

> *Definitely informal. I can't say if it was happening through the entire zone or the entire watch. But I know in my circle or group we were constantly just hey, meet me over here.* [Officer Tibby, SE; PAL (NA); -Years]

I say that to say this, that's something I get into more with my partners because you ride 40 hours a week in a car with somebody. You start getting a lot closer. Both of them are my best friends now. The two that are still here, best friends. [Officer Walton, SE; PAL (NA); -Years]

One of my good friends—he and I are still good friends—because we sat and swapped conspiracy theories and war stories for years and he sat right behind me. And so something would happen and wed both get out of our cubicle and lean back and look at each other. [Sergeant Levine, SE; +PAL; -Years]

We do talk about it. We basically see if the officer is right or wrong. And some of the cases we'll follow, collectively as friends, we'll follow those and see where it goes, especially local cases…[Sergeant Pruitt, NE; -PAL; +Years]

…[If] you have trusted people around you, it makes a big difference…We'll go and grab a beer after work and—which I am not saying is the most healthy way to deal with it—but there's more communication now than I've seen in years gone by. [Sergeant Buckley, SE; -PAL; +Years]

In general, many of the officers interviewed confirmed that they did discuss major events and their implications (e.g., public backlash, discussions on excessive use of force) with other officers, though also (as in the last quote above) smaller scale (i.e., individual interactions) they

may encounter in the daily performance of their duties. Although officers in every interview did not mention specifically those discussions happened with their friends in the department, the results of the peer influence models, alongside the quotes above suggest the opinions of officers' friends may hold more weight than simply a colleague. It could be that more routine interactions are discussed amongst colleagues or peers, and that potentially deeper issues (e.g., protests, police violence) are discussed more among officers who had developed stronger relationships.

Some officers offered additional details (mostly in NE) about why they selected the officers they did as friends, as opposed to other officers they worked with throughout their career. While PAL was not mentioned specifically, officers mentioned factors like overall character, intelligence, work ethic, morals, and similar world views—all of which may play a role in their being influenced, and influencing, friends' attitudes about policing (i.e., PAL). The following quotes are in response to officers being asked to describe the nature of their friendships and how they developed, which capture the aforementioned sentiment:

> *Their character and the fact that we had each other's backs in that we looked out for each other as far as safety, but also doing the right thing and just [a] similar code or similar way of doing the job, is what led to the friendship.* [Officer Zhang, NE; -PAL; +Years]

> *The idea is my world views are very dissimilar from a lot of people that I work with, whether that's because of social backgrounds, educational backgrounds, world experience backgrounds, very, very different. [There] is a very distinct*

division between friends and colleagues and it all depends on our world views. [Lieutenant Aspen, NE; +PAL; +Years]

For some reason there's some people where I feel like my personality just clicked for some reason with them and then it turned into that, hey, let's go grab dinner after work one day, or let's go out to the shooting range or whatever it may be. To me they just feel like genuine people who care about me, and I care about them obviously, and it goes deeper than just going to calls together. [Officer Wilson, NE; -PAL; -Years]

I guess we just clicked, because we had the same mindset as far as policing and doing the right things. [Sergeant Cobb, SE; +PAL; -Years]

Here again, although the officers do not explicitly mention PAL when describing their friendship development with another officer, that is largely to be expected. Instead, they refer to having similar worldviews, appreciating the mindset of a fellow officer and being willing to do the right thing as important characteristics of an individual they consider a friend. Accordingly, it is feasible that prioritizing such characteristics in a police friend (e.g., similar world views) may, by extension, encapsulate viewpoints on issues like internalizing day-to-day interactions, public backlash, or even negative media coverage of police, which may all serve to inform officer perceptions of how they believe the public view them. Given officers have informal discussions with friends who may be like-minded in other regards, this may lead them to develop similar viewpoints—such as PAL.

4.3 Summary

The interview responses pertaining to PAL and the influence of an officer's friends suggest officers may learn to 'expect' pushback or civilian confrontation in certain areas of the city they police—while in others they receive praise and support. That is, officers seemingly recognize there is a 'quiet majority' of citizens who know the importance of law enforcement, rely on their services (e.g., calls for service), and comply with their demands—potentially serving to bolster certain aspects of PAL (e.g., doing and obeying). However, more internal discussions between officers may take place in the wake of high-profile local or national events (e.g., death of George Floyd), which result in widespread backlash in the form of protests and negative media coverage. Indicated by the mostly low ratings for the trust aspect of PAL, such public demonstrations may signal declining public trust in the police, spearheaded by a 'loud' group citizens who view police negatively, and who are amplified by the media. That the negative media and 'loud' group of citizens who view police negatively affect officers' PAL was made apparent by the almost unanimous focus on negative, high-profile events when asked what informed their answers about PAL. Here again, this existed across high/low PAL and tenure, with only a few higher tenure officers mentioning other types of interactions. In other words, the barrage of negative viewpoints in the wake of high-profile events may outweigh the 'quiet majority' who are generally thankful for police, creating a greater perception of declining trust even when officers may know there are citizens who support them.

Given negative media coverage and public misunderstanding during times of heightened criticism, traditional support systems—like family and non-police friends—may not fully understand the experiences of an officer, leading officers to lean more on their friends for such support. This is largely reflected in the peer influence model results, whereby cities that

experienced protests and backlash (i.e., SE and NE) indicated evidence of peer influence for PAL, whereas SW—which was largely shielded from such events—indicated a high average PAL score (~9/12) that did not significantly vary between officers who were friends versus not friends (on average). Finally, officers may also prefer to select 'like-minded' others based on character, work ethic, or for other reasons, possibly leading them to develop other similar attitudes about policing, such as PAL.

Chapter V: Discussion

The goal of this study was to understand the role that officers' informal peers played in influencing PAL—or how the police think the public view them. More specifically, the current study aimed to intersect two primary lines of research: peer influence (via network analysis) and police legitimacy. This work also improved on past police legitimacy works by operationalizing peers as friends directly indicated by the focal officer and examining the responses of both the focal officer and their friends' PAL levels. Accordingly, the friendship network included both horizontal and vertical relationships that fell within, and spanned across, formal boundaries, which had previously dictated the extent of prior works on officer peers and legitimacy attitudes (e.g., Hacin & Mesko, 2022; Tankebe, 2019; White et al., 2021). The flexibility of the peer influence models allowed for simultaneously examining both formal (i.e., assignment) and informal (i.e., friendships) influences on officer PAL. Social selection models (i.e., ERGMs) detailed how friendships form within two of three departments (where peer influence was observed) studied herein and helped further determine the peer influence mechanisms at play—whether selection, influence, or some combination of both. Finally, the qualitative results provided additional context on how officers make their judgements about how the public view them, what influences their responses, and how friends may function as a stronger form of support during times of heightened criticism (potentially leading to the development of similar PAL levels).

The primary contribution of this work is that officers who are friends may influence one another to develop similar PAL levels, whereas this is not necessarily the case for formal colleagues. In fact, this is a major contribution in two respects: 1) In general, being the first to provide evidence that non-misconduct, informal networks (i.e., friendships) matter in the context

studying police attitudes; 2) Officer self-legitimation (for PAL specifically) may in part be the product of endogenous processes that span formal organizational boundaries. That is, in relation to the latter point, the peer influence models indicated the presence of a non-zero level of autocorrelation in the PAL outcome among those officers who are friends, but no such observable dependence among officers serving on the same assignment generally (i.e., SE and SW), the same workgroup or even among patrol officer workgroups (i.e., NE). This finding in part supports prior works on officer legitimacy which find relationships with one's colleagues is often one of the most influential factors (e.g., Hacin & Mesko, 2022; Tankebe, 2019; Tankebe & Mesko, 2015; White et al., 2021). However, prior works were often vague in their questioning about 'relations with colleagues,' which could feasibly refer to several different types of relationships within a police department. More specifically, when an officer read the term 'colleague,' who were they considering in their response? Those they work with in a formal capacity? Those they attended the academy with, keep in touch with, or even go out to lunch with? The current work elucidates this conception by explicitly examining friendships *and* formal colleagues in place of a more general pool of referents (i.e., colleagues generally), which revealed the presence of peer influence among officer friends, though not necessarily formal colleagues working on the same assignment.

Informal peers (i.e., friends) being one of the strongest sources of influence on how officers develop PAL also support Nix et al.'s (2020) finding in part. That is, Nix et al., (2020) find that an officer's 'global beliefs of citizen animus' are related to PAL, though this work clarifies that one potential source which informs those global beliefs are informal conversations between officer friends about police-citizen relations. In other words, it may be that as officers are presented with challenges to their legitimacy by the public, they consult with those they are

closer to (i.e., friends) so they can process whether such challenges indicate whether their behavior may be misaligned with the public's values and views of police generally (i.e., how other officers view the public), or whether such peers experience similar encounters. Further, it may be that those challenges (herein citizen threats) also serve to explain some officer friends, given the social selection model in NE indicated the presence of PAL homophily among officer friends.

That an officer's social group influences PAL attitudes also affirms the idea that some officer legitimacy may be endogenously generated along informal channels pursuant to aspects of police culture (e.g., Debbaut & DeKimpe, 2023), and here specifically by relationships that span formal boundaries (i.e., friendships). For example, prior works on perceived audience legitimacy find officers believe they appear most legitimate to the public when embodying a 'crime fighting image' (e.g., Gau & Paoline III, 2021; Jonathan-Zamir & Harpaz, 2014), which is a product of police culture and the idealization of what encompasses true police work (e.g., Debbaut & DeKimpe, 2023; Reiner, 2010; Paoline III, 2003; 2020). This is salient here because if the specific audience (i.e., public they serve) to which an officer is exposed was of relevance, the assignment and workgroup networks likely should have exhibited similarities in their PAL as opposed to, or even alongside, other informal channels. Accordingly, if the idea of legitimation based on a 'crime fighting image' found by prior works is applied here, it could be officers seek approval from like-minded others (i.e., friends) to reinforce this notion that the public writ large inherently want effective crime fighters, even when the public are being critical of police actions, and calling for change.

This notion it is supported by conclusions drawn elsewhere about officer reluctance to trust citizens to judge their behaviors/actions, social psychology research, as well as the

qualitative findings presented herein. As argued throughout, there is a long history of police opposition to oversight from non-police actors and/or citizens (e.g., Finn, 2001; Wells & Schaefer, 2007), which largely extends into the era of the commercialization of police-citizen interactions via the internet (e.g., Brewer, 2022). For example, Brewer (2022) examines an online forum r/ProtectandServe on the popular site Reddit, which is exclusive to verified law enforcement officers. Notably, in reaction to high-profile interactions posted on YouTube, interactions covered by traditional media (e.g., CNN, MSNBC, Fox News, etc.), and even through internet memes, the idea emerges that citizens have a fundamental misunderstanding of what constitutes appropriate behavior from police officers. They contend that any videoed use of force will always appear unsightly to the public—even though the force use was within policy, commensurate with the suspect's resistance, and often taken out of context (i.e., the full interaction was never shown). Herein, a portion of the qualitative results support these contentions, especially pertaining to police-citizen interactions posted on social media that officers argue are often presented without context. In addition, the interviewees also contend that this leads to what they believe are a 'loud' subset of citizens making judgements based both on narratives presented by the media that are construed outside the confines of the law/policy, and on only a portion of the full interaction that led to the force being used. Accordingly, this makes trusting the opinion of citizens difficult for law enforcement, whereby the interviewees even suggest extends to their immediate, non-law enforcement families (see also, Kochel, 2022).

Drawing a similar conclusion as I do here, Tankebe (2014) contends that reliance on peers in the self-legitimation process (i.e., reaffirming the police image in the eyes of the public) may also be explainable by the social-psychological concept known as "compensatory self-inflation" (cf. Tankebe, 2014, p. 21). That is, Greenberg and Pyszczynski (1985) suggest that

when someone faces a 'failure' (or a challenge to their self-concept) in one domain, they seek to self-inflate (or reaffirm) their image in another domain by consulting like-minded others. As noted by many officers in the qualitative portion of this work—failures in the public domain often occur when high-profile police-citizen encounters focus on abuses of power like excessive use of force. More specifically, protests against such abuses occurred in two of the three cities examined here, resulting in a subset of citizens with negative views towards police purportedly being amplified by the media. Such major events likely had a direct impact on the image of police officers as even officers with above average PAL levels indicated their answers about how the public view them were informed by the negative coverage of, and public backlash to, those events. Further, officers conveyed coverage of high-profile events often lacked the full context, left citizens misinformed, and resulted in their confiding in fellow officers because, even from their own families' officers "don't receive the same response as [they] would from a fellow police officer because of the lack of perspective of law enforcement..." In other words, increased scrutiny may further entrench officers, at least temporarily, in an 'us versus them' mindset that is a product of the broader police culture—which promotes isolation from civilian input as an adequate coping mechanism under the guise of improving an officer's safety (e.g., Paoline III, 2003; 2020; Sierra-Arevalo, 2024).

Although comprising only a subset of the full corpus of interviews, the notion of seeking out like-minded others was also discussed when officers would detail why they selected some officers as friends, but not others. In general, such officers mentioned 'clicking' or having 'similar world views' with those they considered friends—which more largely represents that homophily (albeit not for PAL) plays a role in who officers select as friends. For example, officers of the same race, sex, and tenure were all more likely to befriend one another, suggesting

that even within the context of policing seeking out friendships among those viewed as socially similar remains (e.g., McPherson et al., 2001; 2021). Even though PAL was weakly associated with friendship selection in NE—it follows that if one purposefully seeks out friends with many other similarities (e.g., political views, cultural similarities, etc.), those friends could gradually influence one another's attitudes (as the peer influence model results suggest). Along the same line, those friends may also reaffirm one another's viewpoints on issues in policing, like use of force, that are often the spectacle of media coverage of high-profile police-citizen encounters.

In general, the implications of the peer influence findings suggest that officers are in part a product of their *informal* social environments (see e.g., Jain et al., 2022; Seirra Arevalo & Papachristos, 2021). This is not to say that those social environments cannot undergo change—rather that the clustering of attitudes and behaviors in a police department are likely explainable by multiple formal and informal (e.g., friends) channels. Such a distinction further reifies criticisms of the long-argued 'bad apple,' argument offered when a seemingly 'rogue' officer engages in misconduct or other negative behaviors (e.g., Ouellet et al., 2019; Sierra-Arevalo & Papachristos, 2021). Instead, the existence of peer influence in officer legitimacy attitudes lends some credence to the idea that officer attitudes—and any resultant behaviors (e.g., Holz et al., 2023)—are not developed independent of their peers.

The influence of the department's informal social environment is particularly consequential for disciplinary actions such as officer reassignment. That is, if informal relationships that span formal boundaries influence officer attitudes, this is likely to diminish the effectiveness of simply reassigning an officer to another jurisdiction. However, Rozema and Schanzenbach (2019) find that reassignments to desk duty are likely to be more effective for misconduct or force-prone officers—both of which are potential negative outcomes related to

lower levels of PAL (e.g., Jonathan-Zamir & Harpaz, 2014; Nix et al., 2020). For example, in their study of Chicago police, they conclude that removal of such officers from citizen contact may have saved the department over $6 million in lawsuit payouts over just a five-year period. In this case, even if reassigned officers are still in contact with their friends elsewhere, their removal from citizen contact is likely to reduce any of the consequences of lower PAL from manifesting (e.g., misconduct, use of force, etc.). It should also be noted that even though peer influence may span the formal boundaries of a department—the groups of officers whose behavior rises to such concerning levels is still often a small number (Rozema & Schanzenbach, 2019). That said, detection of such officers, who they influence and may be influenced by is consequential as those officers often precipitate the major events (e.g., abuses of force) referenced by the interviewees in the current study. As a result, they damage the reputation of not only their own department—but the impacts of their behavior is not constrained to only the citizens they police.

Coupling the descriptive and qualitative results together, another major finding of this inquiry pertains to how officers conceive of and define PAL, as well as how they view their interactions with the public. In Bottoms and Tankebe's (2012) initial conceptualization of the dialogic model of policing, they detailed that legitimacy cultivation should be viewed as a conversation between the police and public. Within that conversation, they argue, cues from the public (e.g., resistance, non-compliance, etc.) should indicate to officers that their claims to legitimacy are either accepted (e.g., compliance) or rejected (e.g., non-compliance, protests, etc.). Apart from the mechanisms of endogenous legitimation for filtering citizen interactions (i.e., talking to friends), the qualitative results indicate that determining the state of how police

are viewed by the public may not be clear cut and instead driven primarily by larger-scale challenges (i.e., high-profile interactions) to the police image as a whole.

Supporting the evidence presented by Nix (2017) and theorization by Bottoms and Tankebe (2012) on police facing 'multiple audiences,' officers indicated they 'learn' where they are likely to have positive and negative interactions throughout the jurisdictions they police. Accordingly, they may adjust their expectations when entering neighborhoods where police are supported versus not-supported, potentially placing less weight on 'challenges' to legitimacy by individual citizens. Based on the descriptive findings herein, it appears that what differs most drastically is the level of perceived trust officers believe certain neighborhoods have for police to do what is best. Officers routinely rated, on average, they felt like citizens did what police asked, and obeyed their commands (i.e., citizens mostly complied on a routine basis)—though routinely rated trust low across each city examined.

Despite officers mentioning a 'quiet majority' that they 'know' value the services of police—even if they are not vocal about it—it may be that the media and the voices it amplifies carry an increasing weight in officers discerning a more 'unified' voice among citizens. This is first supported by the fact that most interviewees—regardless of PAL level—mentioned negative high-profile police-citizen interactions when explaining what informed their viewpoint on how citizens perceive the police. Accordingly, given the descriptive findings, it could be that the trust aspect of PAL may carry more weight than the other components of PAL as operationalized herein—such as whether citizens obey the commands an officer gives. Further, and as detailed below, media consumption may play a critical role in officers' developing a sense of declining trust, as media purportedly represents a larger societal voice outside of the direct communities' officers serve (e.g., Nix & Pickett, 2017; Turchan, 2020).

Largely precipitated by the events in Ferguson, MO, in 2014, it could be that high-profile events—and their coverage—have become *the* major indicator to law enforcement that their legitimacy may be declining in the eyes of the public, especially when those events manifest citizen backlash like the protests that occurred in SE and NE. That media will continue to play a pivotal role in informing officer views on citizens may first be underscored by the notion that over 40% of individuals aged 18-29 use social media as their primary source of news. Viewing this in light of a series of studies finding a significant increase in law enforcement *retirements* (e.g., Adams et al., 2023; PERF, 2021), younger generations of law enforcement officers are likely to be heavily attuned to social media and consume news on social media sites. As the qualitative interviews indicate, social media is highly criticized by officers as prioritizing the circulation of out of context, negative interactions between the police and public, possibly contributing to their overall perception certain members of the public view law enforcement in a negative light.

Recognizing that media and the circulation of police-citizen interactions is likely a permanent fixture of the policing landscape going forward, some research has investigated how media and technology availability may continue impacting police (Goldsmith, 2010; Nix & Pickett, 2017; Rantatalo, 2016). Goldsmith (2010) posited that the pervasiveness of technology is akin to a 'second visibility,' whereby the public no longer have to directly observe interactions (first visibility) with police or other criminal justice officials. Alongside the rise of mobile, camera-equipped devices, policing agencies and personnel have experienced a loss of control over the conditions under which the public may view their interactions with citizens. Fernback (2013) suggests this new access to media allows for "[increased] transparency as an antidote to concentrated power in the hands of the surveillors" (p. 14).

Social media sites such as Facebook or Twitter have further exacerbated the loss of narrative control, which contribute to flattening the hierarchy of credibility police once commanded (Greer & McLaughlin, 2010; Mutsaers & van Nuenen, 2018). Specifically, Mutsaers and van Nuenen (2018) argue "A mobile device [has] reversed the hierarchy of credibility, which usually [allocated] the right to police members to define a situation, to tell others what 'really' happened" (p. 165). Technology availability gives citizens the power to record and disseminate police-citizen interactions to a wider audience, which used to be much more difficult before the proliferation of mobile devices. In light of this, it may be that one mechanism driving the low trust inherent to officer PAL is related to the ease with which citizens can record and access officer interactions, signaling to officers their actions may be recorded and viewed without adequate context (i.e., the whole interaction).

Although interviewees suggested they attempt to look past the 'loud' subset of citizens who are criticizing them and focus more on the 'quiet majority' who officers believe align with their mission to focus on crime-fighting foremost, an unfortunate consequence of police-citizen interactions 'going viral' may be more consequential than officers realize (e.g., Ang et al., 2024; Desmond et al., 2016). Perhaps most convincingly, Ang and colleagues (2024) find that across thirteen major cities in the US, in the aftermath of the murder of George Floyd, violent crime increased (i.e., gunshots) while overall 911 call volume decreased. They found that this effect persisted in both white and black neighborhoods, well beyond the protests ending, and is not driven by any changes in police response times. Supplementing gunshot and call volume data, the authors also find from a nationally representative survey that citizens are less likely to report their victimizations to police due to an increased level of mistrust. In other words, 'viral' high-profile encounters that result in waning legitimacy have dire consequences for public safety and

having faith a ‘quiet majority’ still fully trusts police may be misguided, and instead a product of endogenous self-legitimation (i.e., we are focusing on crime control which is what we think the public want).

Alongside the use of body-worn cameras to improve transparency, one method departments may be able to further connect with citizens through direct interaction is utilizing a tool many officers criticized: Social media. Although studies of police use of social media find many departments use it to gather crime-related information (e.g., Edwards et al., 2021; Lieberman et al., 2013), this may not be ideal for creating and maintaining a more positive presence in the eyes of the public (e.g., Hu et al., 2020). For example, Hu and colleagues (2020) find that citizens react more positively (via comments, likes, and shares) to non-crime posts that elicit a police-public interaction—such as humanizing individual officers through pictures, narratives, and backgrounds, or through providing meetup opportunities like Coffee with a Cop. Prioritizing interactive posts that elicit a more favorable public response may also provide an opportunity for administration/executives to aggregate positive online comments/reactions and share them with officers (e.g., department newsletter) to demonstrate public support when daily interactions may paint a more inconsistent picture. Although online interactions with citizens is a relatively new domain, prior works on increasing engagement with the public outside of routine duties have been shown to have positive impacts on officer morale (e.g., Adams et al., 2002; Hayslip & Cordner, 1987). To that end, all police departments have access to tools which may further improve their legitimacy in the eyes of the public and potentially help maintain a positive outlook among officers (especially for perceived trust).

Based on the descriptive quantitative findings, qualitative findings and extant works on the role of media in influencing officers’ views about how the community perceive them, this

work may also have implications for operationalizing PAL and officer-assessed forms of legitimacy. First, across every city examined, officers' perceptions of whether the public trust them were consistently rated low—meanwhile other aspects of the concept (e.g., obeying, doing) mostly high. Based on the qualitative findings about events that informed their answer for why officers' think the public view them a certain way, most officers referenced high-profile events that were often the spectacle of widespread media attention. Considering the arguments of Goldsmith (2010) and the changing landscape of police personnel (e.g., Adams et al., 2023; PERF, 2021), future studies must consider the nuances of media consumption (e.g., intensity, partisanship, etc.) as likely a core aspect of PAL. Given the peer influence observed here, it may also be necessary to account for the media consumption of an officer's friends as well.

Second, it may also be that PAL's future operationalizations tap more into how its various components are weighted by officers—especially given the reference to negative media coverage of major police-citizen events, even by officers exhibiting higher levels (i.e., above average sample scores) of PAL. In fact, the lack of discrepancy between high and low PAL officers may lend support to the notion that most officers rely mainly on their own experiences as opposed to best practices as identified by policing research—which similarly includes works on legitimacy (e.g., Lum et al., 2012; Nix, 2017). One example pertains to the debates about what is meant by an 'obligation to obey' as opposed to 'dull compulsion' or 'coercion,' given the perception the public 'obey' or 'do' what police ask is a component of PAL as operationalized herein. Although covered extensively elsewhere, in brief this debate refers to semantic differences in what an 'obligation to obey' implies regarding citizen compliance to officer demands. That is, one side would argue that an obligation to obey suggests citizens comply out of a normative obligation to obey the law, and *not* because they feel like they are compelled to

simply because the individual is an officer, or because of the threat of force implied in any encounter with a police officer (e.g., Sunshine & Tyler, 2003; Tyler, 2006). Alternatively, others would argue that—while there may be a normative obligation to obey—other non-normative factors similarly play a role, such as compliance out of fear of receiving some sort of punishment (e.g., Reisig & Trinkner, 2024; Tankebe, 2013).

The question remains, however: Is it reasonable to assume officers can make—or are even aware of—this distinction? Or even attribute non-compliance during individual interactions to a 'loss of legitimacy'? As the qualitative results suggest here, non-compliance via larger displays of public discontent may be necessary to signal a true loss of legitimacy, given individual encounters may paint an inconsistent picture. Instead, it may be that certain aspects of PAL, like a general sense of perceived trust (e.g., from media coverage), are easier to recognize by officers—and thus may carry heavier weight in their development of beliefs about how the public view them. Unfortunately, despite its recognized importance in maintaining relationships with the public, research asking questions about whether officers know what legitimacy is, or its implications, is largely missing, and is necessary for charting a path forward in improving police legitimacy. Although the current work aimed to answer questions about how an officer's peers might be influential in the legitimacy-building process, future works should begin with asking those more straightforward questions, which may provide a better starting point for gaining insight into how police themselves view their own legitimacy.

5.1 Limitations and Future Research

This work was one of the first to quantitatively assess whether informal relationships and peer influence were associated with officer attitudes—though specifically PAL—primarily through a network analysis of officer friendships. In fact, decades of police works on officer

attitudes, behaviors, and police culture generally have recognized the likely presence of an informal peer influence process—though none have examined those hypotheses through a network lens, and especially via prosocial relationships (i.e., non-misconduct relations; see although Simpson & Kirk, 2022). Of course, given the work was mostly exploratory and cross-sectional, causal inferences may not be derived from the results presented herein. Instead, the results should be viewed as a starting point for better understanding and assessing how an officer's informal environment may play a role in their personal and professional development. The PoNet project was longitudinal by design (i.e., two waves of data collected), however, the main focus of the current inquiry (PAL) was only collected in one wave of the survey in SE, and missing data across waves rendered common longitudinal network methods unusable for NE. Accordingly, future works should first begin by assessing peer influence processes longitudinally, which will better enable the disentanglement of specific social influence mechanisms (i.e., selection v. influence) at play. While the current work used an improved version of one of the most common ways to assess peer influence in the field of network analysis (i.e., BANAMs), and a gold standard methodology for examining social selection in a cross-sectional sample (i.e., ERGM), future works should employ longitudinal stochastic actor-oriented models to disentangle the specific peer influence mechanisms at play. Of course, causal methods such as the use of instrumental variables to examine peer influence would provide the strongest evidence of an effect (for police networks see e.g., Quispe-Torreblanca & Stewart, 2019).

The second major limitation of this work may be that the peer influence findings related to PAL are solely isolated to PAL. First, despite being the first to examine peer influence on officer attitudes via informal relationships in the department, future works should examine other

attitudes (e.g., those traditionally tied to police culture) to determine whether peer influence is only relevant for certain officer attitudes. For example, at the workgroup level Ingram and colleagues (2013) find variability in the development of 5 of the 8 police culture attitudes being examined, which suggest some attitudes may be more susceptible to meso-level variation (e.g., networks, workgroups, etc.) than others. In other words, peers may differentially influence attitudes that are more susceptible to vary across a department (e.g., job satisfaction), though additional inquiries will need to be conducted to make more definitive conclusions.

The third major limitation of this work, the officers' perceived audience legitimacy attitudes captured here represent a snapshot (i.e., cross-sectional) in time that may make the results conditional upon when the surveys were conducted. Primarily, the survey data collected and used in the current work were collected in 2022, which follows in the wake of several notable events like COVID-19 and the murder of George Floyd, and as a result heightened tension between the police and public, as well as higher levels of turnover/retention issues nationwide (e.g., Adams et al., 2023; del Pozo et al., 2024). Accordingly, it could be that such conditions further incentivized officers to lean on one another for support and, particular to this study, especially officer friends. However, while the time period may influence the results, it should also be noted that such events were not the spawn of tensions among the police and public.

One example pertains to the events in Ferguson, MO, in 2014 that many scholars refer to as the beginning of a 'Ferguson effect' (e.g., Capellan et al., 2020; Hoffman et al., 2021), or a 'viral video effect,' whereby national coverage of high-profile police-citizen encounters result in an uptick in public backlash. That the conditions of the policing landscape have likely changed going forward is also observed by Goldsmith (2010), who posited that the proliferation of

camera-equipped cellular devices among citizens has ushered in a new era of 'visibility' for police actions. It is likely that tension between the police and public following such high-profile events will be a somewhat permanent fixture of the law enforcement occupation, especially given the contentions of the current study's interviewees that some citizens will likely never agree with the actions of law enforcement. This is not to say such events will cause permanent changes, but instead largely reaffirms the notion that police legitimacy will constantly in flux and should be guided by a continual dialogue between the police and public (Bottoms & Tankebe, 2012). Accordingly, future works should continue examining the nuances of officer legitimacy, and especially whether officer self-assessment of legitimacy remain similar or change over time.

A final limitation of the current work pertains to how informal peers were operationalized—and primarily that only friendships were examined. Future works should examine whether other relationships within a department may produce similar findings. For example, it could be that an officer has informal mentors (e.g., seasoned officers) that provide them with advice on how to be successful on the job, in new assignments, or how to deal with negative situations like an internal affairs investigation. Much like a friend, this person may exert a similar influence on the developmental outcomes of one or several officers who make look up to them. In addition, other formal relationships—like between an officer and their supervisor or even a field training officer—may condition attitudinal or behavioral outcomes (e.g., Adger et al., 2022), as supervisors can set the tone for how much support an officer can expect from their organization (e.g., Wolfe & Nix, 2017). In either case, it may be that other informal/formal channels of influence via interpersonal relationships exist within a police department, beyond that of an officer's friends.

5.2 Conclusion

Police legitimacy and improving police-citizen relations has spearheaded public policy reforms arguably since 2015, following recommendations of the President's Task Force on 21st Century Policing. Integral to these reforms is the idea that public *and* police cooperation is necessary. For some time, legitimacy research primarily focused on the viewpoints of citizens—neglecting to uncover how law enforcement conceived of their own legitimacy. As research has since shown, the way law enforcement thinks about their own legitimacy, and how the public perceive them may be consequential for successfully implementing reforms aimed at rebuilding relationships between the police and public.

The aims of the current work set out to determine whether endogenous factors, like peer relationships, contribute to an officer's conception of their own legitimacy—with findings revealing friends may be important in the legitimation process, especially when criticism from the public is high. That is, in two of three cities where police experienced high levels of public scrutiny, peer relationships shared a positive association with perceived audience legitimacy—suggesting officers may lean on one another during times of heightened criticism to reaffirm their own legitimacy. The implications of such a finding support the notion that police inherently mistrust the public to judge their behaviors, with the qualitative findings further reifying that police believe the public are fundamentally misinformed on how best law enforcement should be carried out. While there should be some level of distance between the public and police so that police can maintain a sense of authority when doing their job (i.e., capitulating to every public demand is not feasible)—this may also indicate more conversations between the police and public are necessary to better clarify the objectives and expectations of each side.

Although focusing primarily on perceived audience legitimacy, the current work also provides further evidence that networks matter within the context of policing—though now demonstrating this via friendship networks. More specifically, this work is the first to provide quantitative evidence that friends within a police department influence one another's attitude development, a meso-level factor that had largely been ignored by past scholarship on police attitudes. Future works should consider the potential for informal networks to be an explanatory factor in the distribution of attitudes within a police department—moving beyond simply examining formal assignment. This may also help explain within-department variation beyond that captured by formal prescriptions of duty and may help inform law enforcement on how best to combat the proliferation of attitudes and behaviors antithetical to the cultivation of legitimacy among the public.

Appendix A. Informed Consent Form

Title: The Dynamics of Police Networks
Principal Investigator: [Researcher]
Sponsor: National Science Foundation

Introduction and Key Information

You are invited to take part in a research study. It is up to you to decide if you would like to take part in the study. The purpose of this study is to examine the ways in which informal networks and working relationships shape officer retention and performance outcomes. Your role in the study will last approximately 15 minutes. You will be asked to do the following: Complete a survey. Participating in this study will not expose you to any more risks than you would experience in a typical day. This study is not designed to benefit you. Overall, we hope to gain information about how police networks shape the spread of behavior, and can be leveraged to enhance officer retention and performance.

Purpose

The purpose of the study is to examine the ways in which informal networks and working relationships shape officer retention and performance outcomes. You are invited to take part in this research study because you are a sworn officer. A total of 6,502 officers will be invited to take part in this study.

Procedures

If you decide to take part, you will be asked to complete a 15-minute survey. Your department records will be used to enhance the survey data.

Future Research

Researchers will remove information that may identify you and may use your data for future research. If we do this, we will not ask for any additional consent from you.

Risks

In this study, you will not have any more risks than you would in a normal day of life. No injury is expected from this study, but if you believe you have been harmed, contact the research team as soon as possible. Georgia State University and the research team have not set aside funds to compensate for any injury.

Benefits

Participation in this study may not benefit you personally. Overall, we hope to learn about how networks and relationships shape officer retention and performance outcomes.

Alternatives

The alternative is to not take part in the study.

Voluntary Participation and Withdrawal

You do not have to be in this study. If you decide to be in the study and change your mind, you have the right to drop out at any time. You may skip questions or stop participating at any time.

This will not cause you to lose any benefits to which you are otherwise entitled. In this survey we are asking you to nominate other officers in the department who you consider part of your informal network. As such, we will be asking other officers to provide information on yourself, as to whether they would consider you part of their informal network.

Confidentiality

We will keep your records private to the extent allowed by law. The following people and entities will have access to the information you provide:

- [Researcher], Georgia State University; [Researcher], Georgia State University
- GSU Institutional Review Board
- Office for Human Research Protection (OHRP)

Your survey answers will be stored initially with Qualtrics in a password protected electronic format. Data will later be downloaded on to an encrypted external hard drive. You will be assigned a random numerical code, and this code will be used in place of your identifier in the stored data. The key code linking your identifier with your number will be stored on an encrypted external hard drive in a locked file cabinet in a locked office. It will be destroyed three-years after the end of data collection. When we present or publish the results of this study, we will not use your name or other information that may identify you.

This research is covered by a Certificate of Confidentiality from the National Institutes of Health. With this Certificate, the investigators may not disclose research information that may identify you in any Federal, State, or local civil, criminal, administrative, legislative, or other proceedings, unless you have consented for this use, or if there is a federal, state, or local law that requires disclosure (such as to report child abuse or communicable diseases), or if it is used for other scientific research, as allowed by federal regulations protecting research subjects.

Contact Information

Contact [Researcher] at [phone] or [email]

- If you have questions about the study or your part in it
- If you have questions, concerns, or complaints about the study

The IRB at Georgia State University reviews all research that involves human participants. You can contact the IRB if you would like to speak to someone who is not involved directly with the study. You can contact the IRB for questions, concerns, problems, information, input, or questions about your rights as a research participant. Contact the IRB at 404-413-3500 or irb@gsu.edu.

Consent

We will give you a copy of this consent form to keep.

If you are willing to volunteer for this research, please sign below.

_____ _____

Printed Name of Participant

_____ _____ _____

Signature of Participant Date

Principal Investigator or Researcher Obtaining Consent		Date

Appendix B. Survey Instrument

Georgia State University

Confidential Survey of Police Officers

This survey is **CONFIDENTIAL**. The National Institutes of Health has approved a Certificate of Confidentiality that protects the identities of individuals who complete this survey.

1. Welcome		
1.1 Thank you for agreeing to participate in the study. To continue with the survey, please **provide your four-digit survey code:**	_____	

2. Professional Background		
2.1. How many years have you been a sworn member of a police department?	_____	[Drop-down list of number of years from < 1 year to 40+]
2.2 Current Rank:	[ ] Officer Trainee [ ] Officer [ ] Detective [ ] Sergeant [ ] Lieutenant [ ] Captain + above [ ] Other: (Please specify) _____	
2.3 Graduation from the Police Academy:	Year: _____ Month: _____ Class No.: _____	[text-entry]
2.4 Assignment(s): Choose the lowest level of organization that applies. If more than one assignment for the same year, select the assignment for which you spent the most time in that year.	Year / Assignment 2022 _____ 2021 _____ 2020 _____ 2019 _____ 2018 _____	[drop down list of all units within the department excluding Chief of Police & Assistant Chief of Police] – see list in table at end
2.5 If selected 'Other' for prior assignment(s), please	Year / *Assignment* 2022 _____ 2021 _____	[text-entry]

type-in lowest level of organization that applies:	2020 _____ 2019 _____ 2018 _____	

3. Informal Network		
3.1 List up to 10 XXPD officers you consider close friends (Begin typing name and roster will auto-populate):	Officer 1 _____ Officer 2 _____ Officer 3 _____ Officer 4 _____ Officer 5 _____ Officer 6 _____ Officer 7 _____ Officer 8 _____ Officer 9 _____ Officer 10_____	[As officers begin typing in name it will auto-populate using a pre-supplied roster of all officers within the department]
3.2 List up to 3 XXPD officers you consider **informal mentors**. An informal mentor is a more experienced member of the department who counsels you on professional issues, such as career planning, navigating departmental politics, or had a major impact on your career (Begin typing name and roster will auto-populate):	Officer 1 _____ Officer 2 _____ Officer 3 _____	[As officers begin typing in name it will auto-populate using a pre-supplied roster of all officers within the department]
3.3 In the past year, on average, **how frequently did you socialize** with these officer(s) outside of work? For instance, getting together for coffee, lunch, drinks, the gun range, the gym, and so on?	[ ] Daily [ ] A few times a week [ ] A few times a month [ ] Less than once a month	[Officers listed in 3.1 & 3.2 will be piped forward – so that subject responds separately for each selected colleague]
3.4 How many **years** have you known these officer(s)?	[Drop-down list of number of years from < 1 year to 40+]	[Officers listed in 3.1 & 3.2 will be piped forward – so that subject responds separately for each selected colleague]

3.5 Who is your direct supervisor in the [*department name*]	Text entry: _____	[As officers begin typing in name it will auto-populate using a pre-supplied roster of all officers within the department]
3.6	Consider all your closest friends inside AND outside the [*department name*]. How many of your closest friends are or have ever served as police officers? (%)	

4. Retention	
How likely is it that you…	
4.1 will leave the XXPD within the next year?	[ ] Extremely likely [ ] Somewhat likely [ ] Neither likely nor unlikely [ ] Somewhat unlikely [ ] Extremely likely
4.2 will leave the policing profession within the next year?	[ ] Extremely likely [ ] Somewhat likely [ ] Neither likely nor unlikely [ ] Somewhat unlikely [ ] Extremely likely

5. Legitimacy					
5.1. Indicate the degree to which you agree or disagree with the following statements:	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
Most civilians feel an obligation to obey police officers	[]	[]	[]	[]	[]
Most civilians believe they should do what the police say, even if they disagree	[]	[]	[]	[]	[]

Most civilians believe this department can be trusted to make decisions that are right for the people in their neighborhoods	[]	[]	[]	[]	[]

6. Dangerousness					
6.1. Indicate the degree to which you agree or disagree with the following statements:	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
Police officers stand a good chance of getting hurt	[]	[]	[]	[]	[]
Being a police officer is more dangerous than most other jobs	[]	[]	[]	[]	[]

6.2 In the past year, on average, how many **hours a week did you spend watching videos of tactical training or officer safety** (e.g., officer safety videos, dash cam footage)?	_____ hours
6.3 In the past year, how many times did you **attend a tactical training workshop outside the department** (e.g., active shooter, critical incident, weapons training, tactical response)	_____ times

7. Officer Safety	
7.1 In the past year, how many times were you **directly threatened with a deadly weapon** (e.g., firearm, knife, sharp/blunt object) while on-duty?	_____ times
7.2 In the past year, how many times were you **directly threatened with physical force** where no deadly weapon was involved (e.g., hard strikes, punches, kicks) while on-duty?	_____ times
7.3 In the past year, how many times did you **use physical force** (e.g., hard strike, punches, kicks, pressure holds) in the performance of law enforcement duties?	_____ times
7.4 In the past year, how many times did you **draw your taser** in response to a direct threat in the performance of law enforcement duties?	_____ times
7.5 In the past year, how many times did you **discharge your taser** in the performance of law enforcement duties?	_____ times

7.6 In the past year, how many times did you **draw your firearm** in response to a direct threat in the performance of law enforcement duties?	_____ times
7.7 In the past year, how many times did you **point your firearm** in response to a direct threat in the performance of law enforcement duties?	_____ times
7.8 In the past year, how many times did you **discharge your firearm** in the performance of law enforcement duties?	_____ times

8. How many times have you been the subject of an Internal Affairs investigation as an accused?

8.1 How many times have you been the subject of an Internal Affairs investigation as an accused officer?	_____ times [drop down menu ranging from 0 to 100+ times]

8.2 Investigation:	Nature	Year	Outcome
Investigation 1	_____	_____	_____
Investigation 2	_____	_____	_____
Investigation 3	_____	_____	_____
Investigation 4	_____	_____	_____
Investigation 5	_____	_____	_____
[The above question auto-populates based on the number of time officer reports being involved in an investigation (i.e., if 1 investigation will only list Investigation 1)]	[drop-down list with list of department classifications – see Table at end of survey]	[drop-down list < 2000 – 2022]	[drop-down list with department classifications]

9. Demographics

9.1 Current Age:	_____ [drop-down list ranging from 18-65+]
9.2 Gender:	[ ] Male [ ] Female [ ] Other: (Please specify) _____

9.3 Hispanic or Latin/x/o/a:	[ ] Yes [ ] No
9.4 Race/Ethnicity	[ ] American Indian or Alaskan Native [ ] Asian, Asian American, or Pacific Islander [ ] Black or African American [ ] White [ ] Other: (Please specify) _____
9.5 Highest Level of Education Completed:	[ ] High school diploma or equivalent [ ] Some college, no degree [ ] Associate's degree [ ] Bachelor's degree [ ] Master's degree [ ] Doctoral degree
9.6 Relationship Status:	[ ] Single [ ] Married / Domestic partnership [ ] Widowed [ ] Divorced [ ] Separated [ ] Other: (Please specify) _____
9.7 Household Income:	[ ] < $20,000 [ ] $20,000 - $34,999 [ ] $35,000 - $49,999 [ ] $50,000 - $74,999 [ ] $75,000 - $99,999 [ ] $100,000 - $149,999 [ ] $150,000 and higher
9.8 Zip Code of Current Residence:	_____

Appendix C. Full Sample Descriptives

Table C.1. Full Sample Descriptives

	Mean	SD	Min	Max	% Missing[1]
Southeast (n = 1,362)					
PAL	8.33	2.18	0	12	1.40%
Tenure	15.03	10.30	0	42	2.50%
Threatened	2.31	6.41	0	102	2.50%
Officer	0.51	-	0	1	0.10%
White	0.30	-	0	1	1.50%
Male	0.84	-	0	1	1.40%
Northeast (n = 990)					
PAL	7.24	2.21	0	12	5.00%
Tenure	12.97	9.03	0	41	0.20%
Threatened	6.12	15.25	0	200	9.60%
Officer	0.69	-	0	1	1.40%
White	0.52	-	0	1	0.60%
Male	0.86	-	0	1	0.10%
Southwest (n = 295)					
PAL	9.29	2.20	0	12	1.69%
Tenure	12.75	8.57	0	41	0.34%
Threatened	5.45	13.18	0	130	3.05%
Officer	0.71	-	0	1	0.00%
White	0.68	-	0	1	1.02%
Male	0.88	-	0	1	1.36%

[1] These values represent total responses to demonstrate the % missing per variable

Appendix D. NE Patrol Workgroup Results

Table D.1. NE Patrol Workgroup Results

	NE (n = 334)
	Workgroup
Intercept	2.69 (2.28, 3.08)
Officer	0.05 (-0.15, 0.25)
Tenure	0.01 (-0.00, 0.02)
Sex	0.05 (-0.20, 0.31)
Race	-0.03 (-0.19, 0.12)
Threat	-0.10 (-0.15, -0.04)
Ast. Net.	-0.07 (-0.16, 0.02)

Appendix E. Imputed BANAM Results

Table E.1. Imputed BANAM Results

	SE (n = 1,297)	**NE (n = 903)**
	Asst. - Friend	Asst. - Friend
Intercept	2.99	2.60
	(2.61, 3.38)	(2.23, 2.98)
Officer	-0.07	-0.07
	(-0.16, 0.02)	(-0.18, 0.04)
Tenure	-0.00	0.00
	(-0.01, 0.00)	(-0.00, 0.01)
Sex	-0.09	0.00
	(-0.20, 0.02)	(-0.14, 0.14)
Race	-0.04	-0.03
	(-0.13, 0.04)	(-0.13, 0.07)
Threat	-0.04	**-0.09**
	(-0.09, 0.00)	**(-0.13, -0.05)**
Ast. Net.	0.02	-0.02
	(-0.08, 0.12)	(-0.06, 0.03)
Friend Net.	**0.08**	**0.05**
	(0.05, 0.10)	**(0.01, 0.09)**

Appendix F. SE ERGM Goodness of Fit

Figure F.1. SE ERGM Goodness of Fit

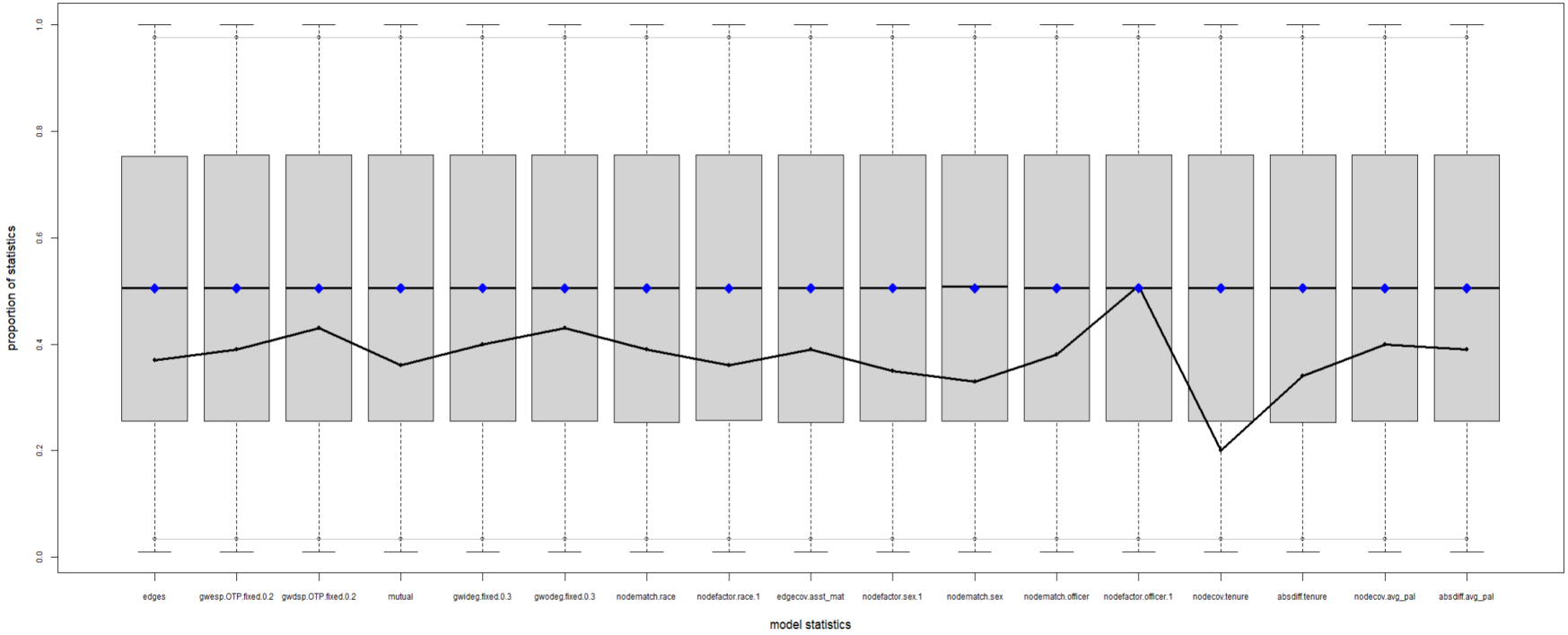
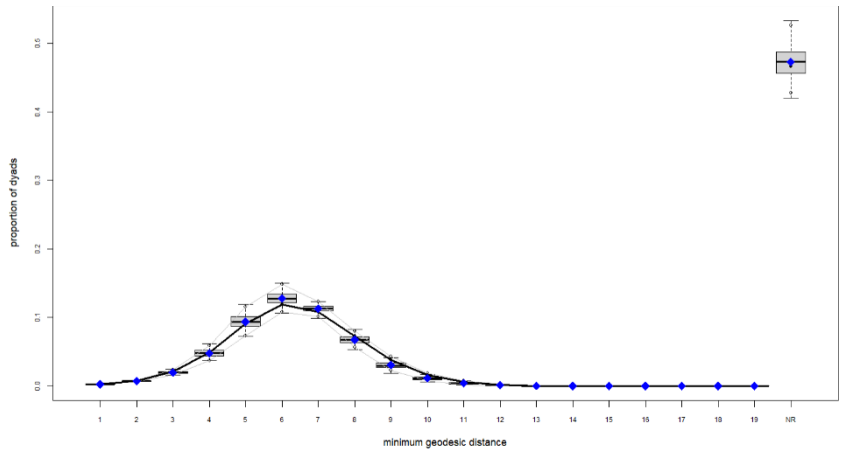
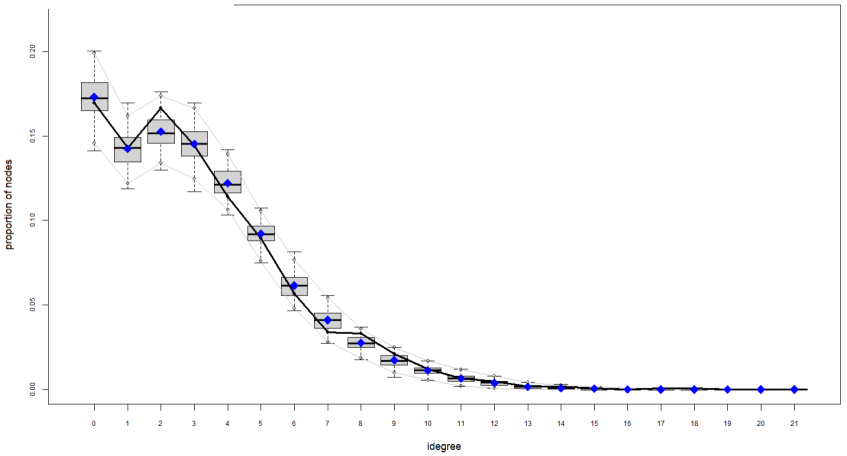
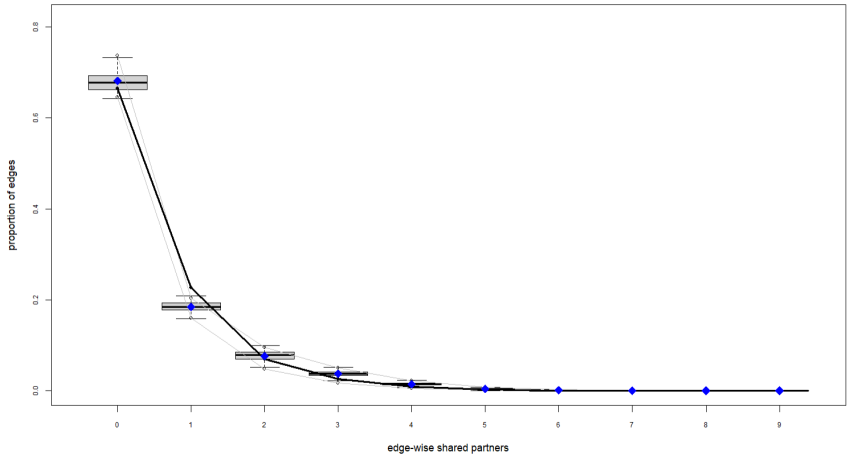
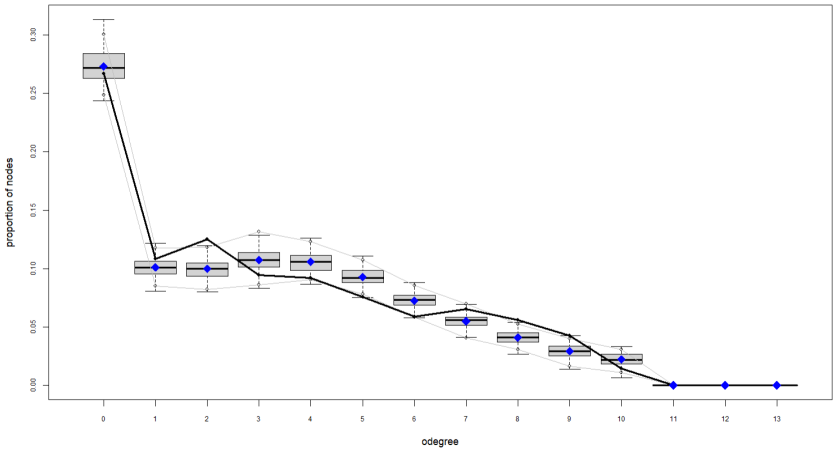


Figure F.1. SE ERGM Goodness of Fit Continued









Appendix G. NE ERGM Goodness of Fit

Figure G.1. NE ERGM Goodness of Fit

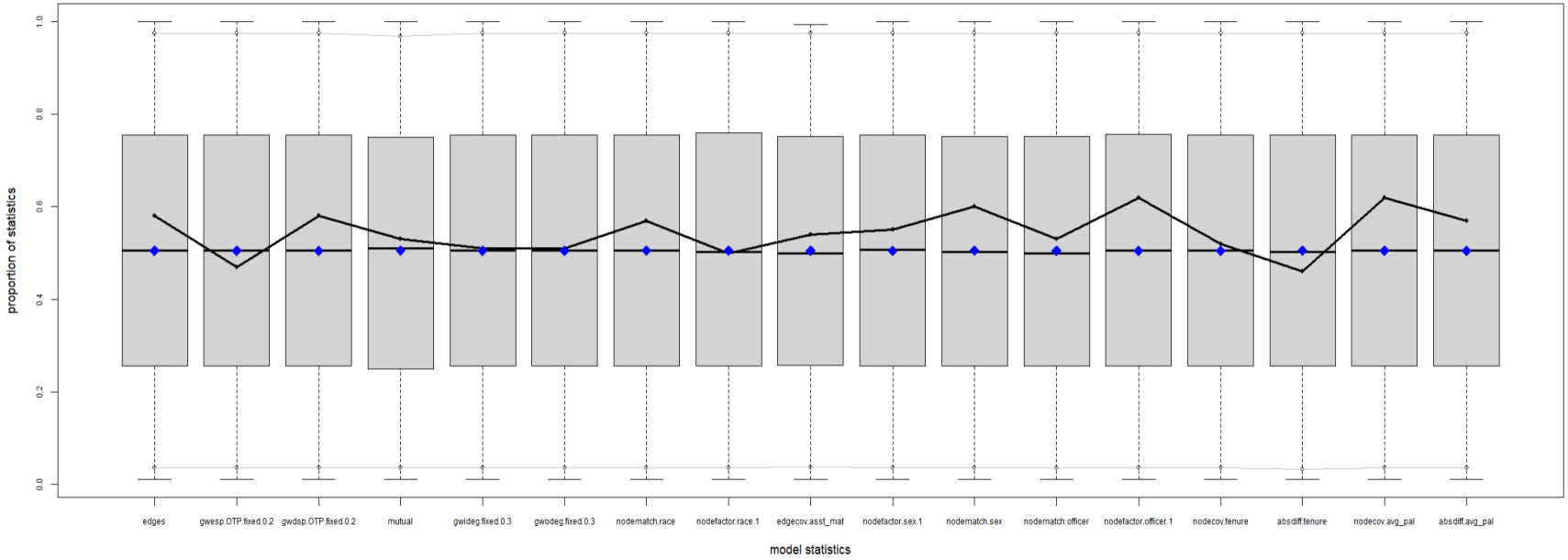
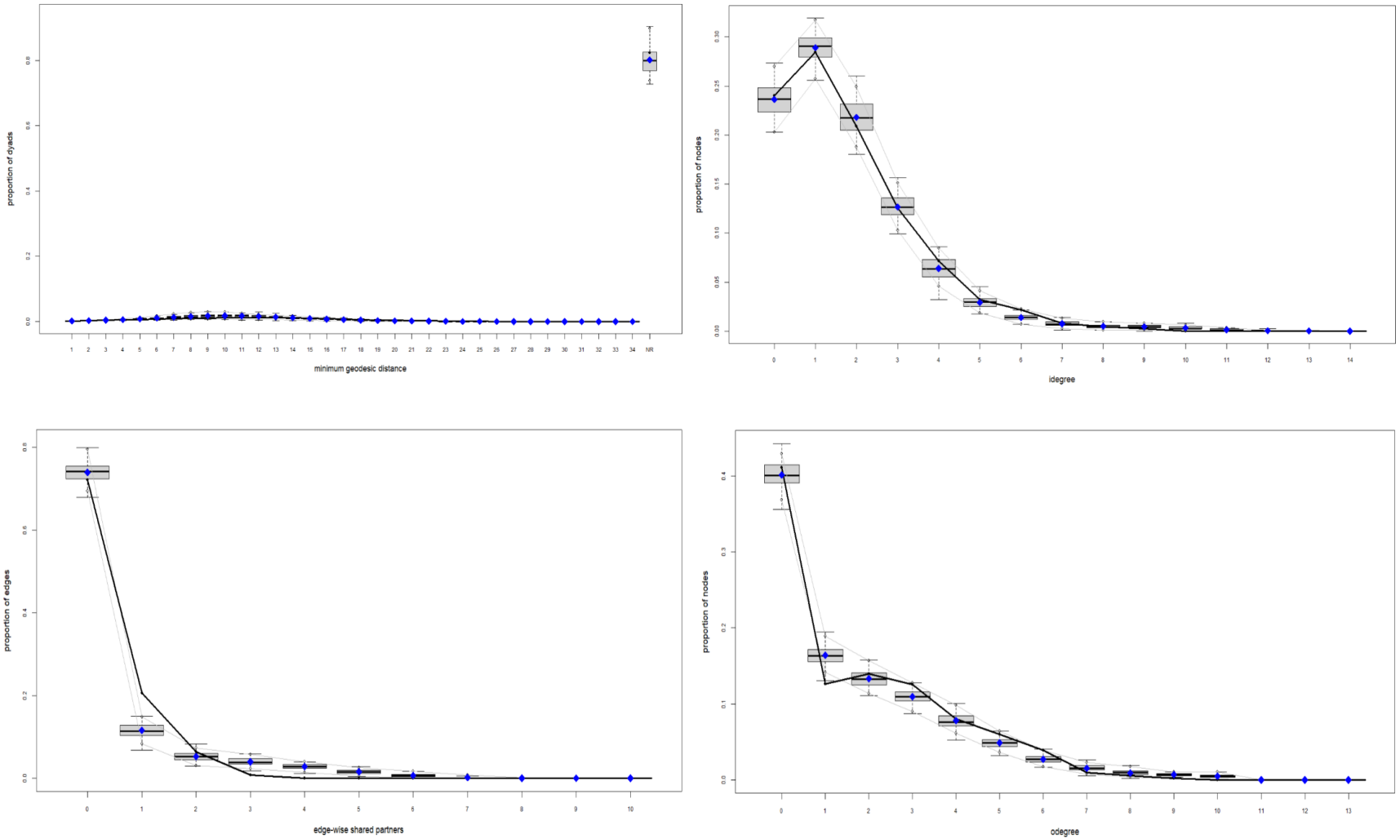


Figure G.1. NE ERGM Goodness of Fit Continued



Appendix H. Interview Guide

Topic Area	Questions	Probes
Friendship	Presented with the names for '**close friends**' and asked: Can you go over these nominations and tell me about the colleagues you named, starting from wherever you like?	○ You have likely worked with many officers throughout your career. What about the individuals you chose as friends make them 'friends,' as opposed to simply a work colleague?*
Police Legitimacy	From your perspective, how are the police viewed in the eyes of the public?	○ Can you describe a specific event that has shaped your answer? ○ Have you discussed this with other officers? (If yes, tell me about the last time…) ○ Have recent tensions and/or media coverage related to officer-involved shootings impacted how you believe the public view police? ○ Does this differ when viewing social media versus TV representations (or even local news coverage versus national)?

*This probe was not on the official interview guide, but asked (or some variation thereof) in several interviews in NE

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Vita

Logan Ledford was born and raised in rural western North Carolina. He attended East Tennessee State University, where he earned his bachelor's and master's degrees in Criminal Justice and Criminology. During his time at East Tennessee State University, Logan was recognized for his academic achievements, namely earning distinguished undergraduate and distinguished graduated student awards. His master's thesis focused on the increasing role of traditional law enforcement duties that state-level park rangers are tasked with performing—with a particular emphasis on how it impacts their stress levels. Following the completion of his master's degree, Logan Ledford attended Georgia State University where he obtained a Ph.D. in Criminal Justice and Criminology, graduating in the summer of 2024. For his work in the doctoral program, Logan received the "Excellence in Criminal Justice and Criminology Doctoral Research Award," which recognizes doctoral students who have published outstanding works and were first author on the publication.

Logan's main research interests have shifted from his thesis topic to encompass policing issues more broadly, though his work has become more interdisciplinary via application of a network perspective to criminal justice issues. Logan employs cutting-edge methodological frameworks to examine how social relations between criminal justice actors may influence their behavioral and attitudinal outcomes—hoping to better understand the role of social dynamics in the emergence of criminal justice issues. In the future, Logan aims to continue further exploring how networks can be leveraged in a criminal justice setting to implement change—and to better the outcomes of those involved in the system.

Logan's research has been featured in *Crime & Delinquency*, *Police Practice and Research*, and *Policing: A Journal of Policy and Practice*. He has also co-authored two book

chapters, with the most recent being featured in the *Sage Handbook of Social Network Analysis (2nd)* which focuses on network innovations in criminal justice research. In general, such innovations have highlighted how networks permeate nearly all aspects of crime issues, as well as that they have been central to our theoretical frameworks for decades. He has also recently had a work examining the ecological variation in hate crime clearances in NYC published in the *Criminal Justice Review*, and has a work currently submitted for review at the *Journal of Research in Crime and Delinquency*. Regarding the latter work, Logan and his co-authors map the co-use-of-force networks of officers in the seven largest departments across New Jersey, and reveal officer characteristics and mutuality may influence two officers to co-use force. The work helps better determine the clustering of force incidents within a department—and whether officer characteristics in co-use-of-force-incidents are consistent across departments.