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Intergenerational Transmission of Organizational Misconduct: Evidence from the Chicago Police Department

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Abstract. This paper investigates how organizational misconduct is perpetuated through intergenerational transmission. We theorize that early exposure to a subculture of misconduct imprints newcomers with the belief that misconduct is normal, which is then carried by these individuals into managerial positions and passed down to their subordinates. We test this using longitudinal administrative data from the Chicago Police Department from 1980 to 2017. We exploit a lottery that assigns applicants to training cohorts to demonstrate that officers exposed early on to a subculture of misconduct not only engage in more misconduct over their entire careers, but also increase the misconduct of their subordinates after they become managers. We also find that this intergenerational dynamic is stronger when subordinate officers were exposed to a subculture of misconduct themselves, are earlier in their tenure, and have not yet received their annual review from their manager. Taken together, these findings reveal a bottom-up dynamic whereby beliefs about misconduct are developed in an organization's lowest ranks, carried by these individuals over time, and passed down to future generations. This study expands our understanding of how organizational misconduct is perpetuated as well as offers important policy implications for addressing the problem of police misconduct.

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Keywords: misconduct • intergenerational transmission • incentives • imprinting • police

1. Introduction

Why is misconduct so difficult to root out of organizations? From long-lasting fraud (Elkind and McLean 2003, Efrati et al. 2008) to systemic discrimination (Koren 2018, Wiener-Bronner 2021), misconduct is surprisingly persistent. One reason for this persistence is that a culture of misconduct, once inside an organization, tends to reinforce and perpetuate itself (Ashforth and Anand 2003). Scholars have thus tried to better understand this dynamic with the hope that we might identify ways to address this persistence and eventually eliminate such behaviors (Vaughan 1999, Greve et al. 2010).

Existing research on the matter shows that this dynamic often starts with executive leadership. Indeed, leaders not only establish incentive systems that can reward or encourage misconduct (Pierce and Snyder 2008, Larkin and Pierce 2015, Gubler et al. 2016), but their actions can also subtly condone such behaviors (Treviño and Youngblood 1990, Sims and Brinkmann 2002) by setting a tone at the top (Brief et al. 2001, Schwartz et al. 2005) that trickles down to others (Mayer et al. 2009). Once a culture of misconduct is established by leadership as normal, newcomers to the organization get socialized into

this corrupt system (Van Maanen and Schein 1979, Harrison and Carroll 1991), learning from others what behaviors are typical, tolerated, or worth doing (Bandura 1965, Cialdini et al. 1990), eventually engaging in misconduct as well (Dimmock et al. 2018, Chan et al. 2020). In this way, misconduct is shown to perpetuate itself through a top-down dynamic, whereby leadership creates a culture of misconduct into which newcomers get socialized (Ashforth and Anand 2003).

However, we argue that this dynamic can also run in the other direction, whereby newcomers carry their socialization into leadership positions and influence the subordinates with whom they work. Unlike the top-down process, this bottom-up process focuses on how beliefs about misconduct are originally developed in an organization's lowest ranks, carried by employees over time as they are promoted, and passed down to future generations. Building on prior work showing that culture can be transmitted across generations (e.g., Zucker 1977, Lowes et al. 2017), we theorize that beliefs about misconduct can persist in a similar manner. This emergent dynamic, we argue, starts when newcomers are exposed to a subculture of misconduct upon entering the

organization. We theorize that this early exposure imprints newcomers with a belief that misconduct is normal (i.e., such behaviors are commonplace and/or worthwhile to engage in), which persists throughout their entire career (e.g., Marquis and Tilcsik 2013; see also Bianchi and Mohliver 2016). This imprint is then carried by these individuals into managerial positions (Ireland 1992, Huy 2001), where they begin influencing the subordinates with whom they work to engage in more misconduct as well.

This bottom-up dynamic of intergenerational transmission extends our understanding of how organizational misconduct gets perpetuated in at least two ways. First, although prior work implies that newcomers socialized into a culture of misconduct somehow replenish the corrupt system and enable misconduct to persist (e.g., Ashforth and Anand 2003), this dynamic has not been fully theorized or examined. For instance, most research focuses on short-term spillover effects upon newcomers (Dimmock et al. 2018, Chan et al. 2020), leaving unspecified if these onboarding processes affect newcomers' beliefs about misconduct, whether these beliefs persist as they move throughout the organization, or how these beliefs might influence others with whom they work. The theory developed in this paper argues that early exposure to a subculture of misconduct can generate a long-term imprint on newcomers' beliefs, which is carried across their careers and influences their future subordinates, thus demonstrating how exposure to misconduct early in one's career explicitly feeds back into the organization and allows such behaviors to persist (Vaughan 1999, Greve et al. 2010).

Second, this dynamic also helps us better understand how misconduct from an organization's past can persist into the future despite substantive efforts to reform. For example, an organization might try to change its onboarding procedures (e.g., Cable et al. 2013, Gutierrez 2016), but managers socialized into a subculture of misconduct long ago can linger in the system for decades, influencing generation after generation of subordinates that pass under their supervision. Similarly, while organizations commonly replace a single executive in order to fix the tone at the top (Sims and Brinkmann 2002, Mayer et al. 2009), identifying and then replacing all of the corrupt middle managers may be more costly. In this way, our theory highlights how middle management can emerge as an important inertial force within organizations (e.g., Hannan and Freeman 1984) that allows misconduct to persist (Ashforth and Anand 2003).

We examine the intergenerational transmission of misconduct in the context of the Chicago Police Department (CPD). Our decades-long panel data allow us to follow nearly all Chicago police officers since 1980 across their careers from their initial training in the police academy through their promotion to manager (i.e., sergeant) and subsequent supervision of other officers. These data also

enable us to observe all third-party misconduct complaints reported by citizens, which aligns with definitions of misconduct as behavior judged by others to be either illegal or morally unacceptable (Jones 1991, Greve et al. 2010). To test our theory, we leverage a random lottery that assigns applicants to training cohorts to demonstrate that incoming officers exposed to a subculture of misconduct during their training period not only receive more complaints of misconduct over their entire careers, but also increase the misconduct of their subordinates when they become managers. We also find that this intergenerational dynamic is stronger when subordinate officers are exposed to a subculture of misconduct themselves, are earlier in their tenure, and have not yet received their annual review from their manager.

2. Intergenerational Transmission of Organizational Misconduct

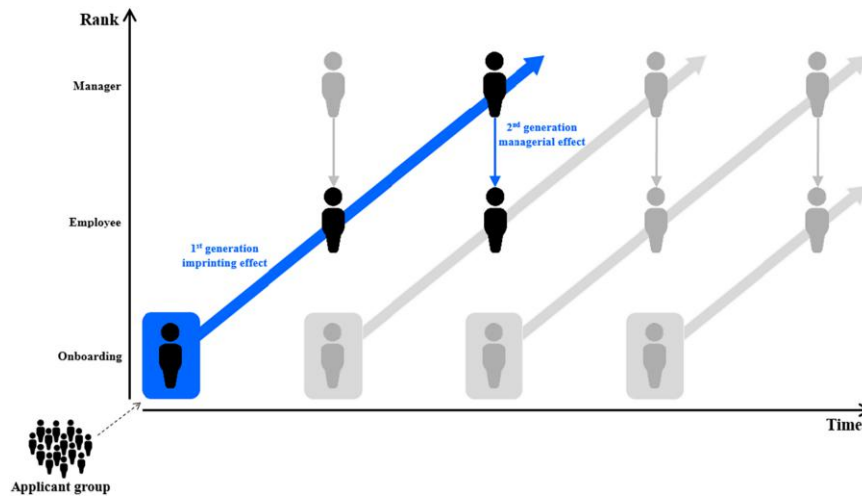
Scholars have long recognized that culture can be carried across generations and persist in a system long after it was introduced. Economists have explored intergenerational transmission within families, showing how children develop beliefs, carry them over time, and pass them down to their progeny (Tabellini 2008, Lowes et al. 2017). Organizational scholars have similarly explored transmission across role-based generations, showing how newcomers to an organization learn new beliefs, carry these beliefs with them when promoted, and eventually pass them to their subordinates (Zucker 1977). Building on this idea of intergenerational transmission and adopting the role-based conceptualization of generations, we suggest that misconduct might get passed down and persist within an organization in a similar manner.

Figure 1 depicts our theoretical argument. We theorize that organizational newcomers who are exposed early on to a subculture of misconduct are imprinted with the belief that misconduct is normal, and that these beliefs persist over their entire career. This, in turn, not only increases these newcomers' misconduct across their own careers, but when they are promoted into a managerial position, it has a downstream effect on their subordinates, increasing their misconduct as well.

2.1. First Generation Imprinting Effect

The dynamic begins when newcomers enter the organization and, during this sensitive onboarding period (Van Maanen and Schein 1979, Cable et al. 2013), are exposed to a subculture of misconduct—an environment in which misconduct appears to be tolerated, condoned, or even encouraged (Weber 1995). Upon entering such an environment, newcomers pay close attention to the attitudes, communications, and behaviors of those around them to learn what is typical (Bandura 1965, Cialdini et al. 1990), expected (Sutherland 1947; Chappell and Piquero 2004; Akers 1999, 2009) or worthwhile (Becker 1968) and,

Figure 1. Intergenerational Transmission of Organizational Misconduct



through these interactions, change their behaviors to conform to what others are doing (Ashforth and Anand 2003).

Existing research demonstrates a number of ways these short-term spillover effects upon newcomers can occur (Treviño et al. 2006, Pierce and Balasubramanian 2015). For example, when newcomers start working with misconduct-prone peers (Gould and Kaplan 2011, Palmer and Yenkey 2015, Dimmock et al. 2018, Ouellet et al. 2019, Quispe-Torrealblanca and Stewart 2019, Chan et al. 2020) or managers with low moral standards (Sims and Brinkmann 2002, Mayer et al. 2009), they observe others' attitudes or behaviors (Gino et al. 2009) and start engaging in misconduct as well (Jones and Kavanagh 1996). Similarly, when newcomers enter an environment with incentive systems (Greenberg 1993, Larkin 2014, Balasubramanian et al. 2017), regulations (Dharmapala et al. 2022), or norms that tolerate or encourage misconduct (Fisman and Miguel 2007, Parsons et al. 2018), they tend to start engaging in such behaviors too.

Although being exposed to a subculture of misconduct can produce these short-term spillover effects, we theorize that this early exposure might also have a more persistent effect upon newcomers. More specifically, we argue that such exposure may imprint upon newcomers a belief about the normalcy of misconduct that lasts over the long term. Indeed, scholars suggest that, during sensitive transition periods (e.g., onboarding), when individuals are highly susceptible to outside influence, the beliefs present in the environment can become imprinted upon the newcomer (Stinchcombe 1965). When this happens, the imprinted beliefs tend to persist for a long time, "even in the face of subsequent environmental changes" (Marquis and Tilcsik 2013, p. 201). Scholars show, for example, that newcomers exposed early on to financial risk (Kacperczyk 2009), resource abundance (Tilcsik

2014), and certain types of evaluation (Castilla and Ranganathan 2020) develop related beliefs and behaviors that persist for their careers (e.g., Dokko et al. 2009, McEvily et al. 2012, Bianchi and Mohliver 2016).

Building on this line of thinking, we propose that newcomers who are exposed to a subculture of misconduct may be imprinted in much the same way. In particular, because these subcultures appear to accept, tolerate, or even encourage misconduct, newcomers that enter these environments come to believe that such behaviors are normal in this organization. For instance, newcomers might observe peers or managers engaging in misconduct as if this is what one is supposed to do there (Sims and Brinkmann 2002), leading newcomers to believe that such behaviors are commonplace on the job (Ashforth and Anand 2003). Newcomers might also observe that the potential benefits of engaging in such behaviors outweigh the apparent costs (Becker 1968), leading them to believe that engaging in misconduct may be worthwhile in this organization (Hill and Kochendorfer 1969, Michaels and Miethe 1989).

Once imprinted, the belief that misconduct is normal is likely to persist over the long term. One reason for this persistence is that after leaving their sensitive onboarding experience, newcomers are simply "less receptive to learning and environmental influences" as they continue with their careers (Marquis and Tilcsik 2013, p. 204). As such, the imprinted beliefs acquired early on tend to stick with a person over time (e.g., Kacperczyk 2009, Tilcsik 2014). However, another reason such beliefs are likely to persist has to do with the fact that counter-normative beliefs, such as those about the normalcy of misconduct, are not openly talked about. Indeed, individuals with such beliefs tend not to openly discuss them, but instead, selectively disclose them only with those they trust (Sutherland 1947). As a result, even if an imprinted newcomer moves through other subcultures in the organization in

which they observe no one else engaging in misconduct, they are unlikely to find this fact diagnostic or a challenge to their beliefs as they may simply assume that others are selectively disclosing such behaviors just as they are (Reeder and Brewer 1979). In this way, newcomers exposed early on to a subculture of misconduct are able to maintain their imprinted beliefs about the normalcy of such behaviors as well as their selective engagement in such behaviors over long periods of time.

2.2. Second Generation Managerial Effect

We theorize that the effect of this imprint also does not stop with the first generation. Indeed, parents often pass down beliefs they learned in childhood to their children (Tabellini 2008, Lowes et al. 2017), and employees tend to pass beliefs on to subordinates with whom they work (Zucker 1977). As a result, after these imprinted newcomers leave their onboarding experience and start working within organization, some of them eventually are promoted into the managerial ranks. We argue that, when this happens, their imprinted beliefs about the normalcy of misconduct will begin to influence their subordinates to start engaging in misconduct as well.

This argument draws on the well-established idea that managers are a powerful force in perpetuating an organization's culture (Ireland 1992; Huy 2001, 2002, 2010). Residing at the nexus of the organization, managers closely supervise and interact with nearly all of an organization's employees on a daily basis, allowing them the opportunity to influence a significant number of people. For example, their close scrutiny enables them to incentivize and coerce their subordinates by defining the parameters of what employees work on, monitoring them, and conducting performance reviews (e.g., Pierce et al. 2015, Burbano and Chiles 2022). As such, imprinted managers can withhold punishment or even reward subordinates to engage in more misconduct when under their supervision (e.g., Ponemon 1992). Managers also have substantial informal influence over their subordinates in the way they demonstrate how to perform certain tasks, develop their skills, and model behaviors (Brown et al. 2005, Brown and Treviño 2006). For these reasons, managers imprinted with the belief that misconduct is normal are more likely to encourage or allow their subordinates to engage in more misconduct too.

However, what makes this managerial effect unique is the source of influence on their subordinates. Indeed, we already know that subordinates are influenced by many factors, such as their own prior onboarding experience, their peers, and of course their managers. However, prior work has not examined from where this managerial influence originates, largely assuming that the manager is just a bad apple (e.g., Treviño and Youngblood 1990) or that they were being influenced by their manager above them (e.g., Mayer et al. 2009). What our theory suggests is that this managerial influence can originate from

the imprint this manager acquired during the onboarding process years or even decades before. In this sense, the source of influence on these subordinates is the manager's onboarding experience, with the manager acting as a carrier of these beliefs from the organization's past into its future. What this suggests is that generations of subordinates can continue to be affected by a subculture of misconduct "that existed before their careers began" (Tilcsik 2014, p. 641) simply because their manager, who was imprinted years ago to see misconduct as normal, remains in a supervisory position within the organization.

2.3. Summary

This intergenerational dynamic, thus, offers a bottom-up theory about the persistence of misconduct within an organization. Specifically, it explains how early exposure to a subculture of misconduct can imprint newcomers with the belief that such behaviors are normal, a belief that they carry for their entire career. These beliefs not only lead these imprinted individuals to engage in more misconduct over their own careers, but when they are promoted into managerial positions, it has a downstream effect on their subordinates, increasing their misconduct as well. In this way, our theory depicts how beliefs about the normalcy misconduct can be developed in an organization's lowest ranks, carried by these individuals over time, and passed down to future generations.

3. Empirical Setting and Data

The context of this study is the CPD, which is the second largest police organization in the United States (Police Accountability Task Force 2016). The CPD is empowered to enforce the law; prevent crime; and protect the health, safety, and property of people in Chicago, Illinois. Approximately 60% of its officers patrol geographic districts, whereas others specialize in areas such as drugs or gangs. In our sample, 25% of the police officers are female, 54% are white, 29% are black, and 16% are Hispanic.

Our data were obtained through Illinois Freedom of Information Act (5 ILCS 140) requests made by either the Invisible Institute, a nonprofit organization in Chicago, or by the authors. We obtained panel data from 1980 to 2017 that include complaints of officer misconduct, organizational assignments, ranks, manager-subordinate relationships, and demographic information on nearly all CPD personnel. These data have been used recently to investigate a variety of questions related to police misconduct and the use of force (see Ba and Rivera 2019, Faber and Kalbfeld 2019, Holz et al. 2019, Ouellet et al. 2019, Rozema and Schanzenbach 2019, Wood et al. 2019, Zhao and Papachristos 2020). See Online Table A1 for a full description of the data sources used.

3.1. Misconduct in the Chicago Police Department

Police misconduct has plagued the CPD for decades. In 1968, the Chicago Police beat protesters during the

Democratic National Convention in what investigators called a police riot. Since then, several high-profile cases have led to the arrests of corrupt officers in the department. Jon Burge, for example, was charged with leading a group of officers who beat, burned, shocked, and suffocated hundreds of mostly black men to coerce confessions. A 2017 investigation by the U.S. Department of Justice revealed that these were not isolated incidents. The report criticized the CPD for excessive violence, poor training, and inadequate oversight. It also concluded that the “CPD’s pattern of unlawful conduct is due in part to deficiencies in CPD’s training and supervision” (Department of Justice 2017, p. 10).

The process of reporting officer misconduct is straightforward. Any individual can file a complaint of misconduct by phone, by mail, in person, or online. Misconduct complaints also must be accompanied by a signed affidavit, which reminds the complainant that knowingly false statements may be criminally prosecuted for perjury. All misconduct complaints with a signed affidavit are investigated and determined to be either sustained (about 9%) or unsustained. If the complaint is sustained, the investigating agency recommends disciplinary action. About 78% of sustained complaints result in some recommended disciplinary action. Of these, about 30% were reprimands, 53% were suspensions of fewer than 10 days, 10% were suspensions of between 10 and 30 days, 3% were suspensions for more than 30 days, and about 4% resulted in separation or termination. The Chicago Police Board takes these recommendations and makes a final decision regarding disciplinary action.

We obtained the CPD’s complaints database of all complaints filed from 1980 to 2017 from the Invisible Institute’s Citizens Police Data Project.¹ The data include the name of the complainant, the accused officers’ names, the date of the incident, the nature of the alleged misconduct (e.g., excessive use of force, illegal search, etc.), and the details of the CPD’s investigation and disciplinary action if applicable. During our sample window, the existence of complaints, the identity of the accused officers, and the outcomes of the investigatory process were not made public to other police officers or to the people of Chicago.

3.2. Hiring, Training, and Promotion in the Chicago Police Department

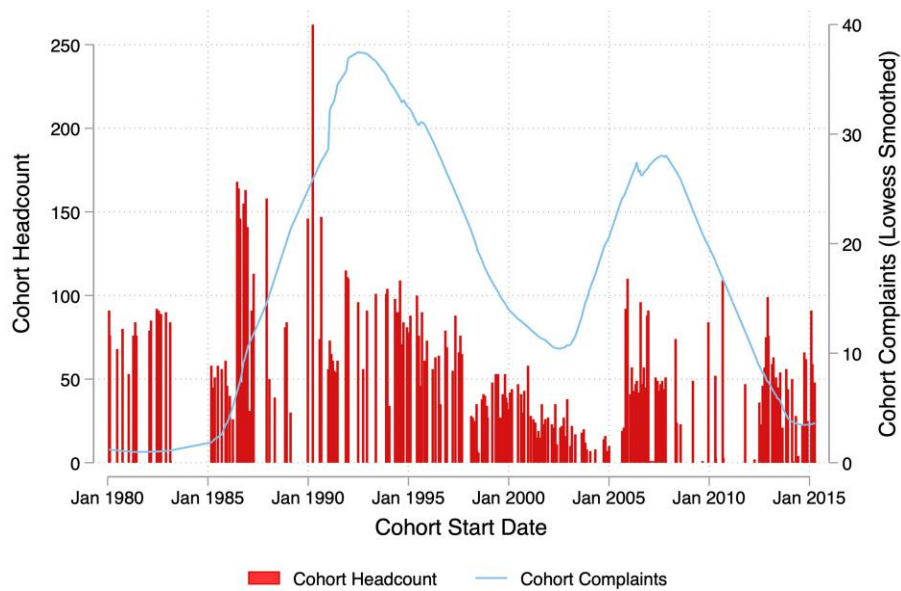
3.2.1. Hiring and Training Period. The CPD hiring process begins with a call for applicants, whereby the department announces that it is accepting applications for new police officers (see Online Figure A1 for an example). To be considered, applicants must pass an entrance exam, be at least 21 years old, be a U.S. citizen, and meet the minimum education requirements. Applicants who respond to the call and meet the requirements, hereafter referred to as an applicant group, are eligible for hire. Everyone in the applicant group is assigned a random

lottery number that determines the order in which they are invited to join the police department.² As vacancies become available, the CPD invites a cohort of applicants in order of the applicant’s assigned lottery number from the applicant group to begin police officer training. Once invited, applicants cannot postpone or reschedule their start date. If the applicant is unable to join the assigned cohort, the applicant is removed from the applicant group and must reapply to the next call. The duration between an applicant’s application and invitation ranges from several months to several years. The average cohort size in our sample is 53 officers (median of 47). Figure 2 plots the size of each cohort between 1980 and 2016.

Before cohort members become sworn police officers, they must attend the police academy, which includes two phases: (1) classroom training and (2) field training. Classroom training lasts approximately six months and addresses topics such as relevant laws, gangs, drugs, report writing, firearm use, and traffic stops. Each instructor specializes in a specific subject area (e.g., firearms, negotiations, etc.). Moreover, classroom instruction is a full-time job (i.e., instructors do not actively police the city), and as such, these individuals often remain instructors for decades. Because of this structure, cohorts do not have a single instructor who teaches all material, but instead rotate through subjects that are taught by specialized instructors. This means that two cohorts that entered in the same year generally are exposed to the same group of instructors, subjects, and training materials.

After classroom training, cohort members complete 6–12 months of field training, during which they rotate between field assignments according to the needs of the police department (Police Accountability Task Force 2016). Again, field training officers are a specialized group of officers who are approved and have undergone specific training. Although cohort members are not assigned to all field training officers, the pool of field training officers is relatively constant. Thus, cohorts are exposed to the same general set of field training officers. During field training, trainees practice real-world encounters with the public under the supervision of a police academy–assigned field training officer. Throughout field training, cohort members remain close with one another, often engaging in informal social activities.

3.2.2. Academy Cohort Imprint. The police academy is a sensitive transition period during which cohort members exhibit a high degree of susceptibility to external influence (Savitz 1970, Manning 1977). This is a setting, therefore, in which trainees are imprinted by—or come to reflect the beliefs present in—their immediate environment about what is considered to be normal conduct (see Marquis and Tilcsik 2013). One of the largest influences during this exposure period comes from trainees’ other cohort members.³

Figure 2. Chicago Police Academy Cohort Size and Cohort Complaints (1980–2016)

One reason for this is that the formal training that trainees receive leaves ambiguity regarding what is considered appropriate conduct within the police department. The Department of Justice (2017) reports that the CPD police academy “does not equip recruits with the skills, knowledge, and confidence necessary to serve Chicago communities” (p. 10), finding that “only one ... out of six came close to properly articulating the legal standard for use of force” (p. 59). Moreover, Hopper’s (1977) ethnography of the police academy revealed that, because trainees knew that “what officers did on the street was not always the same thing as what they had learned in the classroom” (p. 161), instructors often failed to adequately teach trainees because they assumed “that the cadets would violate these rules later on” (p. 161).

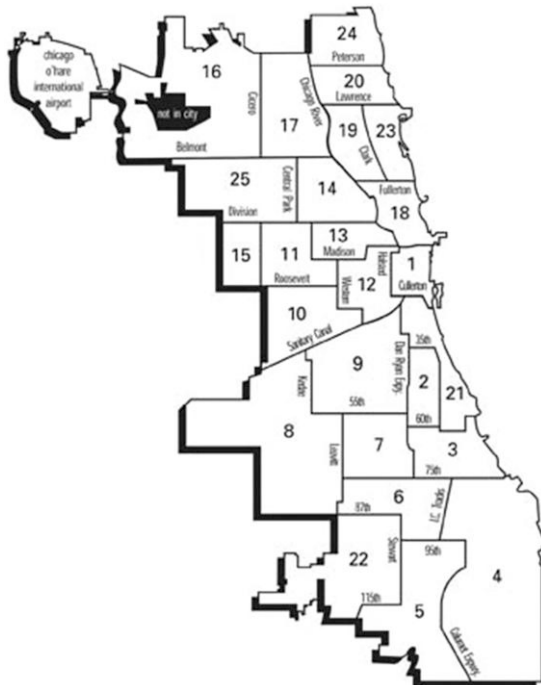
Because formal academy instruction leaves ambiguity over what constitutes proper conduct, trainees tend to look to their peers within their academy cohort to determine what is appropriate. Indeed, cohort members spend an “extraordinary amount of time together, not only during academy hours, but outside of the academy as well” (Chappell and Lanza-Kaduce 2010, p. 203), leading them to form “strong bonds” and become “friends, confidantes, and supporters” (p. 203). During this period, Hopper (1977, p. 162) finds that trainees try hard “to develop group perspectives” and “emulate [other] cadets” in terms of what appears to be normal conduct. Importantly, these assumptions for what is considered normal also vary across cohorts. Indeed, Chappell and Lanza-Kaduce (2010, p. 204) find that police academy cohorts developed a “shared set of values and beliefs about personal and professional morality” and these norms “var[ied] somewhat from class to class.”

These differences in shared norms between police academy cohorts create different imprinting environments for trainees and, in turn, differences in what they come to believe is normal conduct as a police officer. As discussed in detail herein, to measure a focal officer’s early exposure to a subculture of misconduct, we use the number of misconduct complaints the members of a focal officer’s cohort receive (excluding the focal officer’s complaints). Indeed, cohorts that develop a shared belief that misconduct is normal likely have more misconduct complaints than cohorts that do not see such behaviors as normal. The average officer’s cohort members receive about 23 complaints during the academy period with a standard deviation of 25 complaints (see Figure 2 for time trend).

3.2.3. Unit and Manager Assignment. After a new cohort’s police academy training is complete, trainees are evaluated to determine whether they are qualified to join the police force. In practice, the attrition rate is “very close to zero” (Department of Justice 2017, p. 96). New officers are assigned to one of the CPD Bureau of Patrol’s 25 geographic districts, called units. Figure 3 shows the boundaries of the 25 geographic units. Officers remain in the same unit until they are transferred to another unit or leave the police force. Officers’ initial unit assignment is outside of their control. However, they may request to be transferred to another unit through a bidding process based on seniority. In our sample, the average unit tenure of an officer is about 13 years.

Each unit is headed by a commander. Under the commander, in order of rank, are captains, lieutenants, sergeants, and officers. Sergeants perform two distinct roles.

Figure 3. Chicago Police Department Geographic Units



Source. Chicago Police Department Report 1999/2000.

Sergeants on duty are responsible for roll call and directing officers' day-to-day activities when officers are out on the beat. Officers report a different sergeant on duty each day. Because sergeants on duty rotate on a daily basis and are not responsible for monitoring officer misconduct or evaluating performance, they are not defined as managers in our analysis.

Supervising sergeants, which we define as managers in our analyses, are responsible for monitoring officer performance (including misconduct), providing informal feedback, and conducting formal annual performance evaluations. As opposed to the rotating assignment of sergeants on duty, each officer is assigned to a new manager (supervising sergeant) from the unit on an annual basis, beginning in January every year (Rim et al. 2020). Thus, officer relationships with supervising sergeants last for one calendar year. Each year, about 90% of officer–manager relationships are new. In our sample, the average manager has about six subordinates per year.

3.2.4. Promotion. Officers are eligible to be promoted to sergeant after five years of service. A minimum of 70% of all manager promotions are based on the results of an examination (Police Accountability Task Force 2016), which consists of a multiple-choice test and a scenario-based assessment. The remaining promotions are based on a merit selection process. Merit promotions are made at the “discretion of the Superintendent of Police,” conditional on passing the examination (CPD Employee Resource E05-05).

Because 70% of promotions are based on the results of a written examination, an officer's misconduct does not factor into these promotions. Although misconduct may be a factor in the 30% of merit promotions, this seems unlikely given that the Police Accountability Task Force (2016, p. 29) concludes that “an officer's disciplinary record is not considered in the Sergeant promotion process.” They also find that evaluations for promotion to sergeant are based on “crime statistics to the exclusion of any other metrics” with “no attention paid to personnel issues, much less discussion of addressing real or suspected misconduct” (Police Accountability Task Force 2016, p. 105).

4. Sample and Empirical Approach

We establish the intergenerational transmission of misconduct, summarized by Figure 1, in several ways. Our primary approach, detailed as follows, tests the first and second generation effects separately. We test the first generation imprinting effect by estimating how an officer's early exposure to a subculture of misconduct during police academy training affects the officer's subsequent career misconduct. We then test the second generation managerial effect by following all first generation officers who are promoted to manager to estimate whether their misconduct (before being assigned a new subordinate) predicts their subordinates' misconduct. After establishing and empirically demonstrating independent first and second generation effects, we then empirically link the two effects together using both a reduced-form and two-stage least squares (2SLS) estimation.

4.1. First Generation Sample and Empirical Approach

4.1.1. First Generation Sample. To estimate the effect of an officer's exposure to a subculture of misconduct during training on the officer's subsequent misconduct, we define a first generation sample of officers who joined the CPD between 1980 and 2017 and went through academy training. We exclude officers who were trained before 1980 because complaint data are unreliable and sparse. Results are not sensitive to this exclusion.

The unit of observation for the first generation sample is the officer-year. The final first generation sample consists of 11,121 officers (about 228,000 officer-year observations) who were assigned to 266 unique police training cohorts based on the CPD's lottery system. Descriptive statistics for the first generation sample are in Table 1, panel A.

4.1.2. First Generation Estimation. To identify the effect of an officer's exposure to a subculture of misconduct during police academy training on the officer's subsequent misconduct, we estimate the following equation:

$$Complaints_{it} = \beta_0 + \beta_1 CohortComplaints_i + \delta X_{it} + \varepsilon_{it}, \quad (1)$$

Table 1. Summary Statistics

	Observations	Mean	Standard deviation	Minimum	Maximum
Panel A: First generation sample (1980–2017)					
Complaints	228,467	0.554	1.176	0	27
Cohort complaints (standardized)	228,467	0.00222	0.997	−0.912	3.083
Arrests	228,467	0.0495	0.368	0	19
Salary	114,951	77,016	15,850	3,082	197,736
Award	228,467	0.31	0.462	0	1
Female	228,467	0.254	0.436	0	1
Tenure	228,467	13.39	8.64	1	37
Race/ethnicity					
White	228,467	0.537	0.499	0	1
Black	228,467	0.286	0.452	0	1
Hispanic	228,467	0.157	0.364	0	1
Asian	228,467	0.016	0.126	0	1
Native American	228,467	0.00311	0.0557	0	1
Panel B: Second generation sample (2009–2017)					
Subordinate's complaints	23,938	0.362	0.798	0	9
Subordinate's cohort complaints (standardized)	14,351	−0.0021	0.999	−1.368	3.039
Manager's complaints (prior five years, standardized)	23,938	0.0164	1.028	−0.819	10.83
Manager's cohort complaints (standardized)	23,938	0.00031	1	−1.133	2.783
Subordinate tenure	23,938	14.93	7.667	1	59
Before review complaints	23,938	0.2	0.556	0	8
After review complaints	23,938	0.162	0.506	0	8

where $Complaints_{it}$ is the number of misconduct complaints an officer, i , received for incidents that occurred in the year, t . When measuring $Complaints_{it}$, we only include observations that occur after the focal officer has completed the police academy. One concern with using complaints to measure misconduct is that many cases of police misconduct go unreported, whereas other complaints might not be viewed by all people as misconduct (Walker and Bumphus 1992, Stroube 2021). This presents two problems. First, we might wonder whether complaints accurately capture misconduct. Using similar data, Rozema and Schanzenbach (2019, p. 225) find evidence of a “strong relationship between [complaints] and future civil rights litigation,” suggesting that misconduct complaints are highly correlated with actual misconduct. Moreover, because complaints must be accompanied by a sworn affidavit, complainants know that they face criminal prosecution for filing a knowingly false complaint. Second, if the measurement error is correlated with our independent variables, our estimates could be biased. We think that the measurement error induced by using misconduct complaints to measure misconduct is unlikely to significantly bias our coefficients because officers are assigned to cohorts based on a random lottery. Thus, the level of misconduct in an officer's training period should be uncorrelated with personal characteristics that may attract more or fewer complaints.

The independent variable, $CohortComplaints_{it}$, is equal to the number of complaints filed against members of the focal officer's police academy training cohort, excluding the focal officer's complaints, during the training period.

To ease interpretation and comparison with other coefficients, we standardize this variable to have a mean of zero and a standard deviation of one. The term X_{it} is a vector of cohort-year fixed effects, year fixed effects, unit fixed effects, and/or unit-year fixed effects. Cohort-year fixed effects are important for identification as officers are randomly assigned to a cohort within an applicant group, not across decades. By including cohort-year fixed effects, we, thus, compare focal officers to other officers that were randomly assigned to other cohorts in the same year. Cohort-year fixed effects also largely address relatively stable environmental factors that might affect a cohort's misconduct (e.g., secular trends in crime rates, police department corruption at the time, and changes to academy instructors). Year fixed effects address time-specific shocks in complaint rates as well as any time-specific shocks that may influence the likelihood an officer receives a complaint of misconduct. Unit and unit-year fixed effects are also included in some regressions to address differences in the demographics, crime, and complaint rates among units. However, our preferred specification does not include fixed effects related to the unit because these could be considered “bad controls” (Angrist and Pischke 2009, p. 64; Cinelli et al. 2022) because unit assignments are intermediate outcomes that occur after the treatment (i.e., the random assignment of applicants to training cohorts). The term β_1 is our coefficient of interest. The estimated terms δ , β_0 , and ε_{it} represent a vector of control coefficients, the intercept, and an error term, respectively. We use ordinary least squares (OLS) estimators with standard errors clustered at the

cohort and year levels (Abadie et al. 2022). See Figure 9 for evidence that the results are robust to alternative specifications.

4.1.3. First Generation Identification Strategy. For causal identification, we leverage the random assignment of applicants to police academy training cohorts. If misconduct-prone applicants select into cohorts with misconduct-prone peers, then we might observe a correlation between the misconduct in an officer's training cohort and the officer's future misconduct even if there were no direct causal connection. Because an officer's cohort (and, thus, the cohort members) is assigned through the lottery system described earlier, concerns of selection bias are assuaged.

Although we believe that *Cohort Complaints* is the best measure of an officer's exposure to a subculture of misconduct, there are several components of this subculture that may be operative. As in most onboarding periods, there are three broad sources of influence: peers, leaders/instructors, and other environmental factors. Relatively stable environmental factors, such as secular crime trends and the public's general attitude toward police, are addressed by cohort-year fixed effects. For example, Chicago crime rates reached their peak in the early 1990s and fell during the 2000s. Thus, we might expect that officers who attended the police academy in 1991 might have more misconduct than those in 2001 because of their exposure to higher levels of crime. However, by including cohort-year fixed effects, we effectively compare each cohort with other cohorts in the same cohort year who were presumably exposed to the same environment. Similarly, because most police academy cohorts in a given year are exposed to the same set of police academy instructors and field training officers (for details, see Section 3.2.1), we think it is unlikely that our results are driven by instructors or training officers. Thus, we think the most likely source of the first generation imprint is exposure to misconduct-prone peers.

4.2. Second Generation Sample and Empirical Approach

4.2.1. Second Generation Sample. We next construct a subsample of officers from the first generation sample who were later promoted to manager (supervising sergeant). We use annual review records to identify each manager's subordinates each year. Our second generation sample is limited to the period from 2009 to 2017 because the CPD could not provide annual review data before 2009. Because the CPD assigns each officer a new manager each January (Rim et al. 2020), we assume that an officer was assigned to a manager for the calendar year in which the annual review took place.

As with the first generation sample, the unit of observation for the second generation sample is the subordinate officer-year. The second generation sample consists

of 1,173 unique managers assigned to 10,085 unique officers. Sample statistics for the second generation sample are in Table 1, panel B.

4.2.2. Second Generation Estimation. To identify the effect of the manager's misconduct on the subordinates' misconduct when under the manager's supervision, we predict a subordinate's complaints using the number of complaints the manager received in the five years before the supervision begins. Specifically, we estimate the following equation:

$$\text{Subordinate's Complaints}_{it} = \beta_0 + \beta_1 \text{Manager's Complaints}_{it} + \delta X_{it} + \varepsilon_{it}, \quad (2)$$

where $\text{Subordinate's Complaints}_{it}$ is the number of misconduct complaints a subordinate officer, i , received for incidents that occurred in year t . $\text{Manager's Complaints}_{it}$ is equal to the sum of complaints the officer's manager had in five years before becoming the focal subordinate's manager. We standardize *Manager's Complaints* to ease comparison with other coefficients. We selected the five-year period because this is the minimum number of years an officer must serve before becoming eligible for promotion to manager (sergeant). Here too, X_{it} represents cohort-year (of the manager) fixed effects, year fixed effects, unit fixed, and/or unit-year fixed effects. We also include officer fixed effects to address selection concerns that complaint-prone officers are assigned to complaint-prone managers and to control for the cohort to which the subordinate was assigned. To address selection based on time-variant changes in a subordinate officer's propensity for misconduct, we also include fully flexible controls (dummies) for the number of complaints the subordinate officer received before the focal year, t . The term β_1 is our coefficient of interest. The estimated terms δ , β_0 , and ε_{it} represent a vector of control coefficients, the intercept, and an error term, respectively. We use OLS fixed effects estimators and cluster standard errors by the manager, year, and subordinate officer (Abadie et al. 2022). See Figure 10 for evidence that the results are robust to alternative specifications.

4.2.3. Second Generation Identification Strategy. Equation (2) may suffer from selection bias if complaint-prone officers are more likely to be assigned to complaint-prone managers. Whereas we cannot rule this out entirely because officers and managers are not randomly assigned, we rely on contextual details and selection tests to address this threat to inference.

Because unit commanders are responsible for making officer–manager assignments, we first inquire into whether commanders use an officer's complaint history when making these assignments. An investigation by the Department of Justice revealed that information about an officer's complaint history is not used to assign officers to

managers each year. In fact, it appears as though commanders are not even aware that they have access to an officer's prior complaints. The Department of Justice (2017, p. 125) notes that commanders "believe they do not have the ability to know the histories of their officers," nor do they "take those histories into consideration when making [officer–manager] assignments." As this report was published at the end of our sampling period, it seems likely that commanders were not using the complaint histories of officers to make officer–manager assignments.

We also take several empirical steps to address the possibility that the assignment of officer–manager pairs is biased. First, we test whether an officer's lagged (one-year) misconduct predicts their *Manager's Complaints*. If misconduct-prone officers are assigned to misconduct-prone managers, we expect a positive correlation between these variables. However, in Online Table A2, we observe no significant correlations between a subordinate's lagged complaints and the *Manager's Prior Complaints*. Thus, we find no evidence of officer–manager assignments on the basis of misconduct. Second, we note that about 90% of officer–manager relationships are new every year (Rim et al. 2020). To remove the residual concern that repeat assignments are endogenous, we exclude any observations from officer–manager relationships that are not new. Third, we include subordinate officer fixed effects, which address any time-invariant officer characteristics that could drive selection into certain managers. Thus, our identification comes from within-officer changes to the manager. This means that,

even if there were positive selection of officers to managers, our identification comes from the same officer being assigned to different managers over a career. Fourth, to address the possibility that officer–manager selection is based on recent complaint rates, we also include flexible controls (dummies) for the number of officers' prior complaints in all second generation regressions, thereby closing the backdoor path. Finally, we point the interested reader to Rim et al. (2020) for further evidence of as-good-as-random assignment of managers and officers within the CPD.

5. Results

We now turn to our main results. In Models 1–4 of Table 2, we estimate Equation (1) to explore how early exposure to a subculture of misconduct affects an officer's subsequent misconduct. Model 1 suggests that a one standard deviation increase (recall that *Cohort Complaints* is standardized) in the officer's academy cohort complaints during training increases the officer's subsequent (postacademy) misconduct by about 5% over the baseline probability (0.0277/0.554). Note that Model 1 includes all observations from the officer's career after leaving training. Thus, this 5% increase is an average across the officer's full (observed) career in the CPD. Models 2–4 demonstrate that the estimate is largely unchanged by adding year, unit, and unit-year fixed effects, respectively. The results support a first generation imprinting effect such that the early exposure to a subculture of misconduct predicts an officer's misconduct over the officer's career. Figure 4 plots the effect an

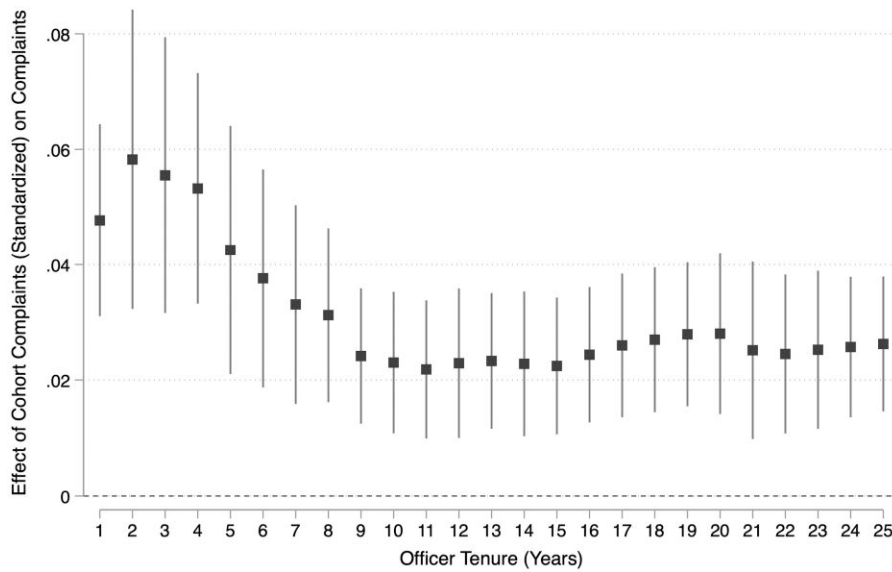
Table 2. The First and Second Generation Effects

Sample:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	First generation (1980–2017)				Second generation (2009–2017)			
Dependent variable:	Complaints				Subordinate's complaints			
Cohort complaints (standardized)	0.0277*** (0.0024)	0.0290*** (0.0061)	0.0259*** (0.0055)	0.0260*** (0.0072)	0.0274* (0.0132)			
Manager's complaints (prior five years, standardized)						0.0306*** (0.0082)	0.0308*** (0.0083)	0.0254** (0.0085)
Model	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Observations	228,467	228,467	228,465	228,056	14,245	20,835	20,835	20,657
Adjusted R^2	0.018	0.130	0.158	0.186	0.164	0.564	0.564	0.576
Mean of dependent variable	0.554	0.554	0.554	0.555	0.371	0.365	0.365	0.368
Percent change	5.0	5.2	4.7	4.7	7.4	8.4	8.4	6.9
Officer fixed effects	—	—	—	—	—	Y	Y	Y
Cohort year fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Year fixed effects	N	Y	Y	N	N	N	Y	N
Unit fixed effects	N	N	Y	N	N	N	Y	N
Unit-year fixed effects	N	N	Y	Y	Y	N	N	Y

Notes. Robust standard errors are clustered by cohort and year in Models 1–5 and by manager, year, and officer in Models 6–8. All regressions use OLS fixed effects estimators. The unit of analysis in the first generation is the officer-year. The unit of analysis in the second generation is the subordinate officer-year. The first generation sample includes the full career history in the CPD (1980–2017) for all officers who attended the police academy. The second generation sample includes the subordinates of all first generation officers who eventually became managers. The dependent variable in all models is equal to the number of complaints the focal officer received in the year.

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; + $p < 0.1$ (two-tailed).

Figure 4. Persistence of First Generation Imprinting Effect



officer's *Cohort Complaints* has on the officer's future complaints over the officer's tenure in the police department.⁴ The plot shows that the effects are largest earlier in an officer's career, diminish over the first decade, and then stabilize thereafter.

In Model 5 (Table 2), we replicate the first generation effect in the second generation sample. The estimate is strikingly similar to those obtained in Models 1–4 though the confidence intervals are larger given the significantly smaller sample size.⁵ Next, in Models 6–8, we estimate Equation (2) to investigate whether a manager's propensity for misconduct increases the likelihood that the manager's subordinates receive more complaints. Model 6 demonstrates that a one standard deviation increase in the number of complaints the manager received (in the five years before becoming the subordinate officer's manager) increases the subordinate's misconduct by 8.4% relative to the baseline probability when under that manager's supervision. Models 7 and 8 show that the effect is largely unchanged by the inclusion unit, year, and unit-year fixed effects. The results support a second generation managerial effect such that misconduct-prone managers increase the misconduct of their subordinates.

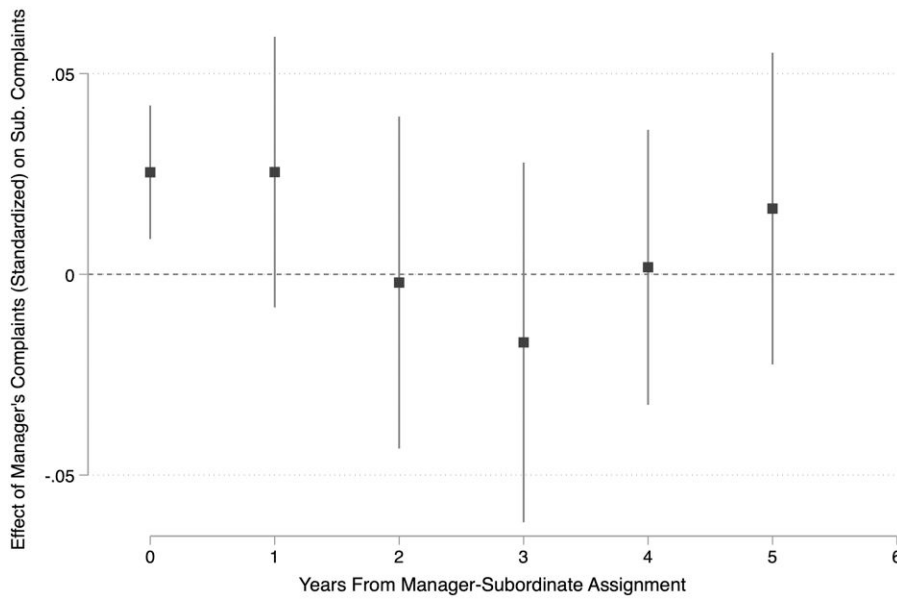
Notice that the magnitudes of the first (Models 1–5) generation effects are similar but somewhat smaller than the second (Models 6–8) generation effects. This suggests that, in a given year, the influence an officer's manager and the police academy cohort have on their propensity for misconduct are similar. However, it does not mean that the managerial effect is as influential as the academy cohort imprinting effect when predicting career misconduct. Recall that Models 1–5 estimate the effect of an officer's *Cohort Complaints* on the officer's misconduct for the

rest of the officer's (observable) career. However, Models 6–8 only estimate the effect of the manager in the year that the manager supervised the officer.

Next, we explore the persistence of the second generation effect in two ways. First, we examine how persistent this managerial effect is on the subordinates by reestimating Model 8 (Table 2) for a series of lags (zero to five years) on *Manager's Complaints*. Figure 5 plots the coefficients and 95% confidence intervals; the leftmost coefficient is equivalent to the year in which the manager and subordinate were assigned to one another (replicates Model 6 of Table 2). Periods 1–5 represent the number of years after the subordinate is no longer assigned to the manager. The results indicate that the effect is strongest when subordinates are under the direct supervision of their manager, whereas the effect falls somewhat and becomes insignificant after leaving their manager's supervision. Second, we then examine how persistent this managerial effect is over the manager's tenure as the manager supervises different subordinates. Figure 6 plots the coefficients and 95% confidence intervals of the effect that *Manager's Complaints* has on the subordinate officer's complaints over the manager's tenure, showing that the influence on the manager's subordinates persists for most of their career.⁶

Taken together, these results demonstrate the intergenerational transmission of misconduct within the CPD. Moreover, they provide strong evidence that this dynamic persists over time. Not only does the cohort imprinting effect persist over an individual's entire career, but the influence the individual has over subordinates once the individual becomes a manager persists over most of the individual's tenure as well.

Figure 5. Persistence of Second Generation Managerial Effect (on Subordinate)



5.1. Testing Mediation

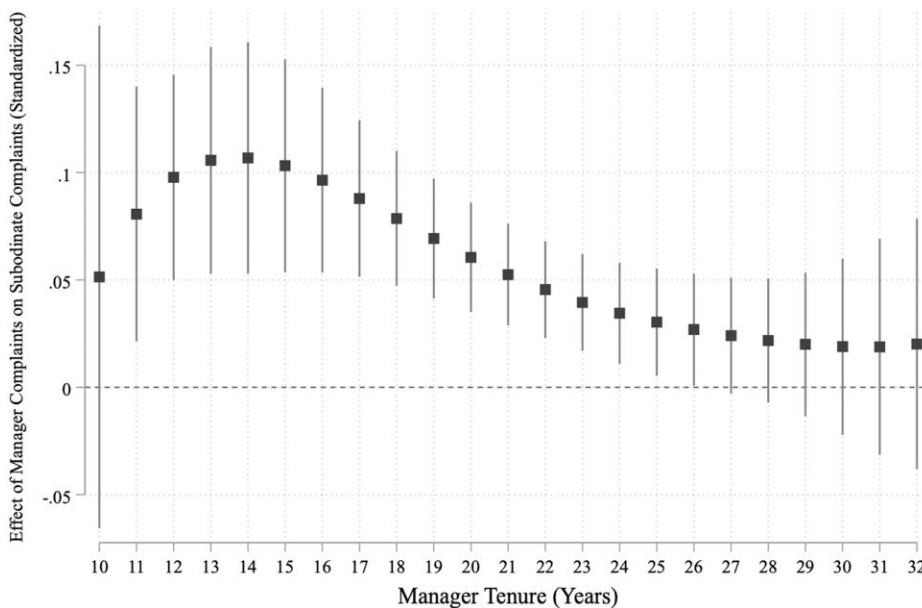
Our theory argues for a two-stage process of intergenerational transmission (see Figure 1), which implies that the manager’s imprinted beliefs about the normalcy of misconduct mediate the relationship between the manager’s early exposure to a subculture of misconduct and the manager’s future subordinate’s misconduct. In Table 2, we demonstrate each stage of this process by independently testing the first and second generation effects. Here, we go further to demonstrate that these two stages are interconnected using two approaches: reduced form and two-stage least squares estimation.

5.1.1. Reduced Form. We estimate a reduced form of the intergenerational transmission process with the following:

$$\begin{aligned}
 \text{Subordinate's Complaints}_{it} &= \beta_0 + \beta_1 \text{Manager's Cohort Complaints}_{it} \\
 &+ \delta X_{it} + \varepsilon_{it}, \tag{3}
 \end{aligned}$$

where *Subordinate's Complaints_{it}* is the number of misconduct complaints a subordinate officer, *i*, received in year *t*. *Manager's Cohort Complaints_{it}* is equal to the standardized number of complaints filed against members of

Figure 6. Persistence of Second Generation Managerial Effect (by Manager Tenure)



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the officer’s current manager’s training cohort (excluding the manager’s complaints) during the training period. As in Equation (2), X_{it} includes officer, manager cohort-year, year, unit, and/or unit-year fixed effects. Identification relies on the random assignment of managers to cohorts and quasi-random assignment of officers to managers as described earlier. Regressions use fixed effects OLS estimators. We cluster standard errors by the manager, subordinate officer, and year.

Models 1 and 2 of Table 3 are estimations of Equation (3). The coefficient in Model 1 implies that a one standard deviation increase in the misconduct of a manager’s police academy training cohort results in a 9.4% increase in the manager’s future subordinate officer’s misconduct. Model 2 demonstrates that the coefficients are slightly smaller (4.9%) with the inclusion of unit-year fixed effects. These results suggest that a manager’s increased exposure to a subculture of misconduct during the police academy increases the manager’s future subordinate’s misconduct.

5.1.2. Two-Stage Least Squares Estimation. Next, we follow the approach suggested by Shaver (2005) by estimating a system of equations to test for mediation. Specifically, we test whether *Manager’s Complaints* mediates the relationship between a *Manager’s Cohort Complaints* and the manager’s *Subordinate’s Complaints* by estimating a 2SLS regression, in which the first stage is

$$\begin{aligned} \text{Manager's Complaints}_{it} &= \beta_0 + \beta_1 \text{Manager's Cohort Complaints}_{it} \\ &+ \delta X_{it} + \varepsilon_{it}, \end{aligned} \quad (4)$$

and the second stage is

$$\begin{aligned} \text{Subordinate's Complaints}_{it} &= \beta_0 + \beta_1 \widehat{\text{Manager's Complaints}}_{it} \\ &+ \delta X_{it} + \varepsilon_{it}, \end{aligned} \quad (5)$$

where all terms in Equation (5) are the same as in Equation (2) except $\widehat{\text{Manager's Complaints}}_{it}$, which represents the predicted values of *Manager’s Complaints*_{it} from Equation (4).

Models 3 and 4 (first stage) estimate Equation (4), using different combinations of fixed effects. The results demonstrate that a *Manager’s Cohort Complaints* strongly predicts the manager’s subsequent complaints.⁷ This is similar to the findings in Models 1–4 of Table 2, which show that early exposure to misconduct increases subsequent misconduct. Models 5 and 6 estimate Equation (5) and show the results of a two-stage least squares estimation in which *Manager’s Complaints* are instrumented using the *Manager’s Cohort Complaints*. The results imply that the effect of a manager’s cohort complaints on the manager’s subordinates’ misconduct is mediated by the manager’s own prior misconduct. It is important to note that the first stage *F*-statistic is right at 10% Stock–Yogo weak instrument critical value, so the second stage estimate is imprecise.⁸

The interpretation of the estimate of *Manager’s Complaints* in Equation (5) relies on the untestable identifying assumption (exclusion restriction) that *Manager’s Cohort Complaints* has no direct effect on the subordinate’s propensity for misconduct except through the manager. We see little reason to doubt this assumption. A violation requires the manager’s cohort to affect the subordinate at

Table 3. Mediation Analysis

Sample:	(1)	(2)	(3)	(4)	(5)	(6)
	Second generation (2009–2017)					
	Reduced form		Two-stage least squared			
Dependent variable:	Subordinate’s complaints		Manager’s complaints		Subordinate’s complaints	
Manager’s cohort complaints (standardized)	0.0344*	0.0282 ⁺	0.172***	0.177***		
	(0.0117)	(0.0123)	(0.0335)	(0.0332)		
Manager’s complaints (prior five years, standardized)					0.200*	0.200*
					(0.0671)	(0.0671)
Model	OLS	OLS	1st stage (OLS)		2nd stage (2SLS)	
Observations	20,834	20,656	20,834	20,656	20,834	20,834
First-stage Kleibergen–Paap <i>F</i> statistic	—	—	21.16	21.16	21.16	21.16
Officer fixed effects	Y	Y	Y	Y	Y	Y
Manager cohort fixed effects	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	N	Y	N	Y	N
Unit fixed effects	Y	N	Y	N	Y	N
Unit-year fixed effects	N	Y	N	Y	N	Y

Notes. Robust standard errors, clustered by manager cohort, year, and subordinate officer in parentheses. Models 1–4 use OLS fixed effects estimators. Models 5 and 6 use two-stage least squares estimators. The unit of analysis is the subordinate officer-year. The sample includes the subordinates of all first generation officers that eventually became managers. The dependent variable in Models 1, 2, 5, and 6 is equal to the number of complaints the subordinate officer received in the year. The dependent variable in Models 3 and 4 is equal to the number of complaints the focal manager received in the five years prior to the focal calendar year. The Stock–Yogo weak ID critical values for the 2SLS models are 16.38 (10%), 8.96 (15%), and 6.66 (20%).

****p* < 0.001; ***p* < 0.01; **p* < 0.05; ⁺*p* < 0.1 (two-tailed).

least five years after the manager was in the police academy because officers are not eligible for promotion until they have five years tenure. We think it is unlikely that subordinates even know which cohort their manager was in. Further, because cohorts are divided among 25 different units after graduation from the academy, on average, only about 4% (1/25) of a manager's cohort members are assigned to the manager's unit. Moreover, even if subordinates were able to identify their manager's cohort members, misconduct complaints were not publicly available during the period of analysis, so it is difficult, if not impossible, for subordinates to know the misconduct histories of their manager's cohort members. Thus, we think the exclusion restriction is unlikely to be violated in this setting. Nevertheless, we test the sensitivity of our 2SLS results to a violation of the exclusion restriction in Online Figure A3 using partial identification methods developed by Conley et al. (2012).

5.2. Exploring Heterogeneity and Potential Mechanisms

In this section, we first explore different conditions under which subordinate officers may be most susceptible to the intergenerational transmission of misconduct. Model 1 (Table 4) shows that subordinates are more susceptible to their manager's corrupting influence when they too were trained in a high-misconduct academy cohort. This suggests that reforming onboarding processes may not simply reduce the officer's baseline propensity for misconduct (first generation effect), but may also blunt the effects of bad managers (second generation effect). Model 2 suggests that subordinates are also more susceptible earlier in their tenure.

Next, we explore potential mechanisms through which subordinates are susceptible to this intergenerational transmission of misconduct. Specifically, we examine whether formal mechanisms (e.g., incentives) are at play

Table 4. Heterogeneous Effects and Mechanism Tests

Sample:	(1)	(2)	(3)	(4)
	Second generation (2009–2017)			
Dependent variable:	Subordinate's complaints		Prereview complaints	Postreview complaints
Manager's complaints (prior five years, standardized)	0.0236* (0.0111)	0.0702*** (0.0172)	0.0251*** (0.0066)	0.00566 (0.0054)
Manager's complaints (prior five years, standardized) × Subordinate's cohort complaints (standardized)	0.0258* (0.0101)			
Subordinate tenure		0.00207 (0.0135)		
Manager's complaints (prior five years, standardized) × Subordinate tenure		−0.00315** (0.0010)		
Model	OLS	OLS	OLS	OLS
Observations	12,334	20,834	20,834	20,834
R ²	0.5670	0.5590	0.474	0.51
Mean of dependent variable	0.377	0.365	0.202	0.163
Officer fixed effects	Y	Y	Y	Y
Manager cohort fixed effects	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y
Unit fixed effects	Y	Y	Y	Y

Notes. Robust standard errors, clustered by manager, year, and subordinate officer in parentheses. The unit of analysis is the subordinate officer-year. The sample includes the subordinates of all first generation officers who eventually became managers. The sample for Model 1 is smaller because there are some subordinate officers for whom we cannot measure their cohort complaints. The dependent variable in Models 1 and 2 is equal to the number of complaints the manager's subordinate officer received in the year. The dependent variable in Model 3 and 4 is the number of complaints the subordinate officer received before and after, respectively, the manager's annual review was submitted. Manager's complaints is the number of complaints the manager received in the five years before the focal calendar year, standardized to have a mean of zero and a standard deviation of one. Subordinate tenure is equal to the number of years the subordinate officer has been a member of the Chicago Police Department, respectively. Prereview and postreview complaints are the sum of complaints that the subordinate officer received before and after the annual review, respectively.

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; + $p < 0.1$ (two-tailed).

by exploiting a unique institutional feature of the CPD’s annual performance review process that quasi-randomly assigns the timing of an officer’s annual review. Every January, officers are assigned new managers who are responsible for completing their annual performance review. The timing of this annual review is determined by the officer’s quasi-randomly assigned start date (see Online Figure A2). That is, each officer is assigned to receive an annual review in the quarter prior to the quarter of the officer’s entry date. Because officers are normally reviewed by a manager only once in their career, they have little incentive to change their behaviors to match their manager’s expectations after that manager has completed the annual review. Thus, if officers with misconduct-prone managers are engaging in more misconduct in hopes that it will improve their review, then we should expect the manager’s effect to be stronger before an officer receives the annual review compared with the period after the officer receives the review. Models 3 and 4 (Table 3) show that subordinates are, indeed, more susceptible to their manager’s influence prior to their manager performing their annual performance review but not after. Thus, we find some support for the notion that formal mechanisms are at play.

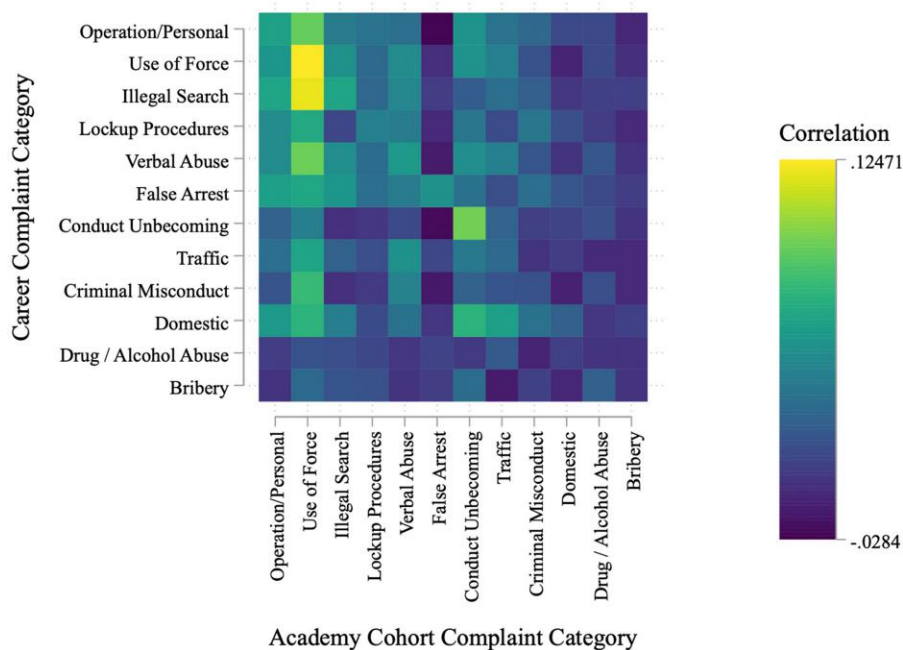
5.3. Decomposing Misconduct

This section explores heterogeneity in the types of misconduct that are perpetuated. There is significant variation in the nature of misconduct complaints, from improper uniform infractions to illegal search and seizure to excessive use of force. As such, in the first generation, one might wonder whether newcomers in the police academy are

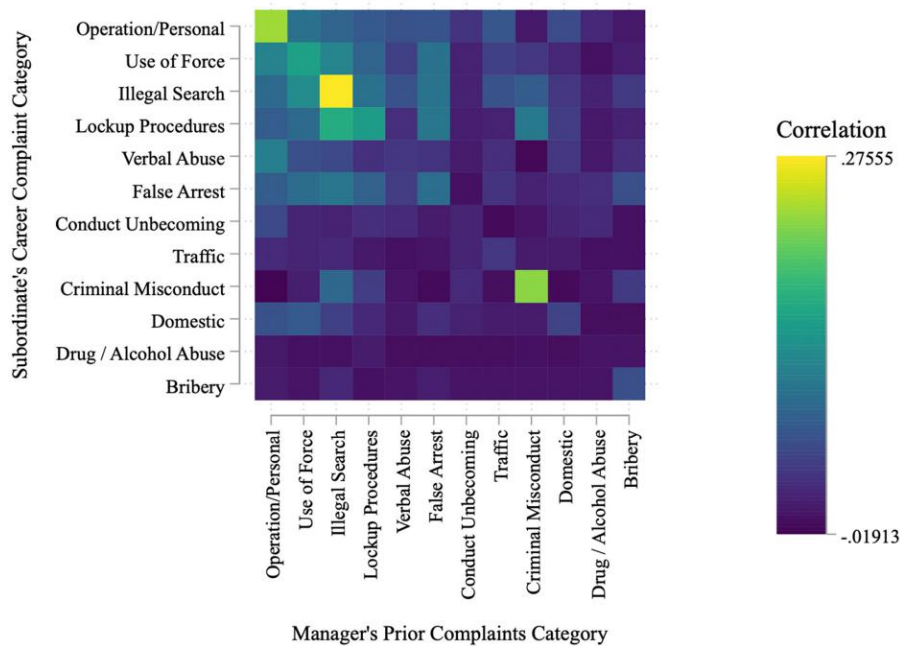
being imprinted to believe a specific type of misconduct (e.g., excessive use of force) is normal or that misconduct in general is normal. Figure 7 is a heat map showing the correlations between the types of misconduct in which an officer’s cohort engaged during the police academy and the types of misconduct in which officers engage after they leave the academy. The categories represent the 12 most common types of misconduct listed in descending order. Higher correlations along the diagonal imply that the cohort imprint concentrated on a specific type of misconduct, whereas higher correlations on the off diagonal indicate a more general imprint. We see some evidence for both specific and general imprinting. Specifically, exposure to cohorts with high numbers of use-of-force complaints increases an officer’s future use-of-force complaints over the remainder of the officer’s career. We observe a similarly high correlation in the conduct unbecoming an officer category. Interestingly, exposure to high levels of use-of-force complaints in the academy seems to increase an officers’ future misconduct across a variety of complaint categories, including illegal search and verbal abuse.

In the second generation, one might similarly wonder whether managers are influencing their subordinates to engage in specific types of misconduct or instead influencing a broad array of misconduct. Figure 8 presents the same heat map as before but for the second generation. Here the results indicate that manager’s effect on subordinates is less general and more specific to certain categories. Interestingly, illegal search and criminal misconduct show the highest levels of correlation.

Figure 7. First Generation Heat Map



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Figure 8. Second Generation Heat Map

Taken together, the results indicate that the nature of the first generation effects is somewhat general and diffuse, whereas the nature of the second generation effect is relatively more specific to certain types of misconduct (i.e., illegal search, criminal misconduct, and operations/personnel).

5.4. Alternative Explanations

One potential explanation for our main result is that misconduct complaints are simply the results of zealous policing. In other words, it may be that cohorts, officers, and managers who make more arrests or who are more proactive in their policing receive more misconduct complaints because of their higher levels of engagement with the public. If so, it may be that it is not misconduct that is being transmitted, but proactive policing procedures. To probe this alternative explanation, we replicate our main specifications from Table 2 but replace the dependent variable (complaints) with three measures of officer policing success: arrests, salary, and awards. Across all specifications in Online Table A3, the correlations are relatively small and insignificant. Thus, we find no evidence for the alternative explanation that misconduct is a mere consequence of active policing.

Another potential concern is that, by using complaints of misconduct as our dependent variable, we cannot observe misconduct that is not reported. This opens the possibility that cohorts and managers have no effect on officer misconduct but, instead, affect the officer's propensity to receive a complaint conditional on engaging in misconduct. For example, it is possible that some officers learn to threaten victims to avoid having a complaint

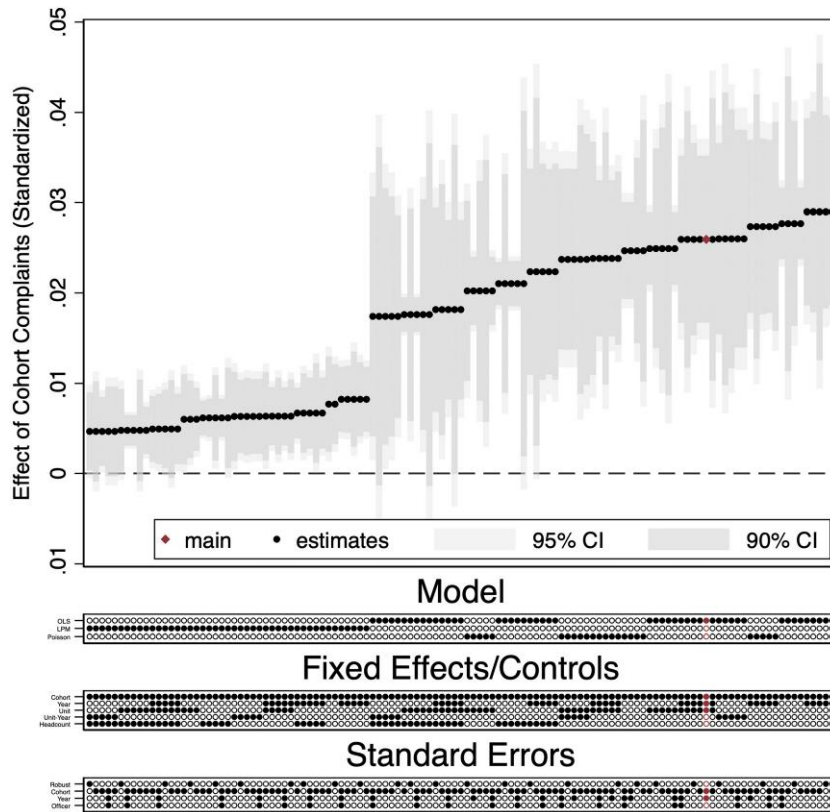
lodged against them or to engage in departmental politics to avoid having another officer file a complaint against them. To address this possibility, we replicate our main analysis using dependent variables of misconduct that come from three distinct sources: members of the public, other police officers, and the focal officer, themselves. In Online Table A4, we demonstrate that our results largely replicate for each of the three dependent variables.⁹ This casts doubt on the explanation that our results are driven by officers learning to avoid misconduct complaints.

5.5. Robustness Tests

We conduct a variety of robustness tests that largely support our findings. For the first generation results, we test whether our results are robust to using (a) a binary dependent variable with linear probability models; (b) Poisson regression; (c) various combinations of cohort-year, year, unit, and unit-year fixed effects as well as controls for the size of the officer's police academy cohort; and (d) other approaches to estimating standard errors including Eicker–Huber–White robust standard errors as well as clustering by cohort, officer, and year.

Figure 9 summarizes the robustness tests for the first generation specifications (found in Models 1–4, Table 2) by plotting the *Cohort Complaints* coefficient and associated 90% and 95% confidence intervals. The coefficient on *Cohort Complaints* is positive, significant, and relatively stable across the alternative specifications. We include cohort-year fixed effects in all models because our identification strategy relies on them. The variation in coefficient size is partially because of the dependent variable

Figure 9. First Generation Specification Curve (Robustness Checks)



Note. All variables under “Fixed Effects/Controls” are entered as fixed effects except Headcount, which is entered into the models as a linear control.

in the linear probability model (LPM) using a different scale.¹⁰

Figure 10 summarizes the robustness tests for the second generation specifications (found in Models 6–8, Table 2). We conduct similar robustness checks as those for the first generation, and we also show that results are robust to including subordinate officer fixed effects as well as to clustering by unit and manager. Again, the plotted coefficients and confidence intervals demonstrate that our results are largely robust to other reasonable specifications. The estimated coefficients are all positive and nearly all are significant. Moreover, our preferred specification is smaller than most of the plotted coefficients. The variation in coefficient size across the estimates in Figure 10 is likely because the dependent variables in the LPMs have a different scale. We also observe that all the largest estimates come from regressions that lack unit and year (or unit-by-year) fixed effects. Because officers are generally only assigned to managers in the same unit and officers have some discretion over their latter¹¹ unit assignments, we think second generation models that include unit fixed effects are likely less biased.¹²

Taken together, Figures 9 and 10 suggest that our results are not an artifact of a particular specification or functional form.

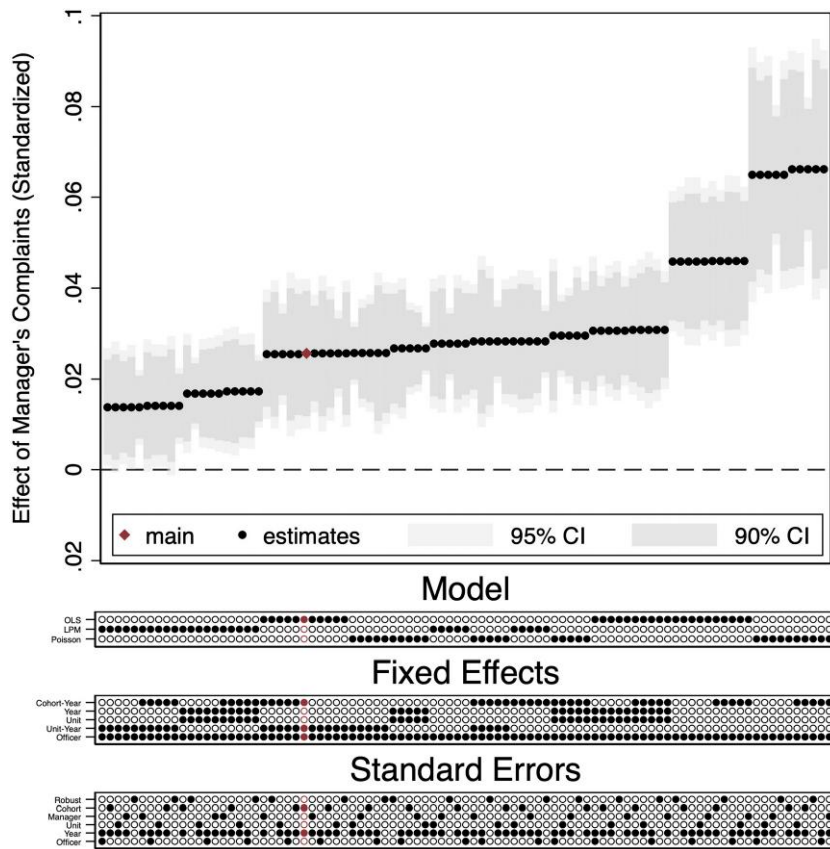
6. Discussion

This paper investigates how organizational misconduct is perpetuated through intergenerational transmission. Using longitudinal administrative data from the CPD, we demonstrate that new police officers who are assigned through a random lottery to a subculture of misconduct not only engage in more misconduct over the rest of their careers, but they carry this misconduct into managerial positions and influence their future subordinates to engage in more misconduct as well. These findings expand our understanding of how misconduct within an organization perpetuates itself, as well as sheds new light on the persistence of early career imprints across future generations. These findings also have important practical implications for police departments and organizations more broadly.

6.1. Contributions

Our findings offer several contributions. First, we demonstrate that early exposure to a subculture of misconduct can increase one’s misconduct over their entire career. Most of the prior research on misconduct focuses on short-term spillovers on an individual’s behaviors (e.g., Dimmock et al. 2018, Holz et al. 2019, Chan et al. 2020), which leaves unclear whether newcomers’ beliefs about misconduct might also change and persist over the

Figure 10. Second Generation Specification Curve (Robustness Checks)



long term (Vaughan 1999, Ashforth and Anand 2003, Greve et al. 2010). Imprinting scholars assume that these types of imprinted beliefs can persist, but they acknowledge that most “studies have not observed individuals repeatedly over a long period after their supposed sensitive period” (Marquis and Tilcsik 2013, p. 225). Our results thus offer strong evidence that newcomers imprinted with the belief that misconduct is normal maintain these beliefs for a long time as they continue engaging in misconduct over a full (observable) career in the CPD.

Second, we also show how this initial imprint has downstream or secondary effects on other individuals within the organization, thus offering a novel explanation for how misconduct in organizations persists. Whereas prior work argues that misconduct persists within the organization when newly socialized individuals replenish the corrupt system after older members leave (Ashforth and Anand 2003), our results show that the socialization of newcomers also helps misconduct persist by enabling these imprinted newcomers to influence others after being promoted into managerial positions. As such, imprinted managers can disseminate their influence among those they supervise regardless of organizational turnover. In this regard, our study is one of the first to demonstrate what some scholars call a

secondhand imprinting effect (Tilcsik 2014), in which one individual’s behavior is affected by another individual’s imprint obtained years or even decades before.

Third, these secondhand imprinting effects also shed new light on from where misconduct comes. Prior work argues that the context or environment can make good people do bad things (Ashkanasy et al. 2006). For example, misconduct can arise from incentives (Larkin 2014, Burbano and Ostler 2021), competition (Bennett et al. 2013), comparison with others (Edelman and Larkin 2015), and the ability to diffuse blame (Vardi and Wiener 1996, Wiltermuth 2011, Erat and Gneezy 2012). Similarly, other people in the environment, such as peers (Quispe-Torreblanca and Stewart 2019, Chan et al. 2020) and managers (Sims and Brinkmann 2002, Mayer et al. 2009), can also influence a person’s likelihood of engaging in misconduct. Our results expand our understanding of this managerial influence. Indeed, our paper shows that the source of influence on an individual might not just be their manager per se but their manager’s onboarding experience. In this sense, managers function as carriers of misconduct within the organization (e.g., Briley et al. 2000, Kensbock et al. 2022), transmitting to their subordinates the beliefs and behaviors that existed in the organization years or decades earlier.

Fourth, our findings also show how an organization's culture can perpetuate itself in a more heterogeneous manner than existing research might suggest. Prior work largely portrays the perpetuation of culture as a homogenous process (e.g., Van Maanen and Schein 1979), in which "socialization practices are common to all participants," thereby producing "common interpretations" among everyone in the organization (Ashforth and Anand 2003, p. 35). However, as Greve et al. (2010, p. 68) point out, such processes "may provide a good explanation of the average propensity of organizational participants to commit misconduct, but it cannot explain variation across participants" (see also Yenkey 2018). By leveraging the idea that organizations can have many different ethical subcultures (Weber 1995), our paper provides insight into how the perpetuation of misconduct occurs heterogeneously across different training cohorts and through different managers. This portrayal offers a more complete understanding of the perpetuation of misconduct (Pinto et al. 2008) by demonstrating the conditions under which imprinting effects and managerial effects occur as well as interact with one another.

Finally, by exploring how counter-normative beliefs about misconduct are passed down through generations, this paper also expands our understanding of the intergenerational transmission of culture. Whereas scholars in economics (Tabellini 2008, Lowes et al. 2017) and organizational studies (Zucker 1977) have long recognized that culture can be carried across generations, this work traditionally looks at the perpetuation of positive or neutral beliefs. Our study is the first we know of that examines the intergenerational persistence of counter-normative beliefs. Unlike positive and neutral beliefs, which are condoned and openly expressed by others, counter-normative beliefs are rarely talked about openly. Indeed, those who believe misconduct is normal tend not to openly discuss such beliefs but, instead, selectively disclose them only with people they trust (Sutherland 1947). The concept of selective disclosure thus helps explain why we do not often observe misconduct in an organization even when it is rampant (Sims and Brinkmann 2002, Ashforth and Anand 2003) and also why not observing misconduct upon entering an organization may not diminish one's beliefs about the normalcy of such behaviors, since they may assume others are selectively disclosing as well. In this way, our study is in line with existing work showing that culture can be transmitted across generations (Zucker 1977, Lowes et al. 2017), but is novel in its explanation of the persistence of counter-normative beliefs.

6.2. Limitations and Future Directions

This paper also has several limitations that offer opportunities for future research. First, even though our first generation imprinting effect is reasonably well-identified by

leveraging the CPDs random lottery to assign new recruits to cohorts, we are not able to precisely identify the source of the imprint. Indeed, the police academy is a complex training environment in which newcomers are likely influenced by different sources, such as their peers, managers, and other environmental factors. Given our background knowledge of the context (e.g., the fact that cohorts entering around the same time are exposed to the same set of trainers) and empirical approach (e.g., the inclusion of cohort-year fixed effects), we believe that a newcomer's peers are the most powerful and likely source of imprint in our setting. However, future qualitative work that explores these interactions within police academy training programs (e.g., Van Maanen 1975) would be especially useful to shed light on the precise causal mechanisms. Such qualitative efforts might also fruitfully explore the effects of different training reforms over the years, which may have changed how officers experience police academy (e.g., Hopper 1977).

Second, future work might also explore the persistence and potential boundary conditions of our second generation managerial effect. Because subordinate officers in the CPD rotate between supervising managers every January 1, we observed this downstream managerial effect holding only when subordinates were under their direct supervision. However, it is possible that, in other organizations, in which subordinates remain with the same manager for a longer period of time, this subordinate could experience a second imprint. The possibility that multiple imprints might layer on top of one another, producing more complex long-term beliefs, would be worthy of future exploration (see Marquis and Tilcsik 2013). Furthermore, scholars might also consider important boundary conditions of this intergenerational transmission. One particularly important future direction could be examining both the police officers' and complainants' race and/or gender (e.g., Ba et al. 2021).

Third, our findings are consistent with the idea that the selective disclosure of misconduct to a trusted few allows imprinted beliefs about the normalcy of misconduct to persist, but we acknowledge that we cannot observe officers' disclosure of their conduct to peers. Future experimental studies, a promising direction within misconduct research (e.g., Burbano and Chiles 2022), could probe this mechanism by testing how the level of disclosure affects the persistence of counter-normative belief. Relatedly, because cohort members may continue to associate with one another after they graduate from the police academy, we also cannot be sure that the first generation effect can be attributed solely to officers' experience in the police academy. It is possible, therefore, that some of the effect is driven by contemporaneous associations with misconduct-prone academy cohort members after their academy experience—something experimental evidence might also address.

Finally, because the nature of misconduct, intensity of peer engagement, and potency of managerial influence vary dramatically across and within organizations, our point estimates are unlikely to be generalizable outside of the CPD. Still, we think the context is sufficiently important to warrant investigation on its own terms. Indeed, better understanding what enables police misconduct to persist can help us address the waning trust in the very organizations established to protect the rights and safety of the public (Police Accountability Task Force 2016, Crabtree 2020, Ortiz 2020). However, systematic and persistent misconduct arises in other organizations too, from the financial schemes of Enron (Elkind and McLean 2003) and Madoff (Efrati et al. 2008) to the inappropriate behaviors in Hollywood (Luo and Zhang 2021), at Volkswagen (Hotten 2015), and at Wells Fargo (Corkery 2016). Although different processes may contribute to the persistence of misconduct within these organizations, we believe that the broad theoretical mechanisms that drive our results—the imprinting of beliefs during onboarding processes and the promotion of these imprinted employees to managerial positions—are relevant and generalizable to many, if not most, organizations.

6.3. Practical Implications for the Chicago Police Department

In this section, we explore the practical implications of our findings for the CPD. To begin, it is important to recognize the challenges involved in developing policy recommendations from empirical research in general, much less from a single study. Indeed, scholars show that large policy interventions can themselves create unexpected outcomes (Carrell et al. 2013). As such, the explanations for our results, which we observe using naturally occurring data from the CPD, may change when officers know they are part of a specific intervention. Given the possible unintended consequences of large-scale interventions, we caution against any widespread changes before smaller randomized control trials are conducted.

The first recommendation our findings suggest is to reform the CPD police academy training program. Specific reforms are recommended by the Department of Justice (2017, p. 156), such as revising academy curricula to “ensure consistency with CPD policy and current law” and ensuring that field training officers are high-quality and well-trained. A counterfactual analysis suggests that, if the officers who were originally exposed to the top 25% of most corrupt cohorts were instead in cohorts that are in the bottom 25%, the first and second generation effects would lead to an overall CPD misconduct of about 8%.¹³

There are, however, obstacles to relying on training reforms alone to rectify the CPD’s well-documented problems with police misconduct (Police Accountability Task Force 2016, Department of Justice 2017). For example, it is too late to reform the prior training of existing

officers and managers. Many have already had early exposures that led them to believe misconduct is a normal or expected occurrence in police life. Thus, reforms to the police academy training would likely take years or even decades before their consequences were fully realized. Furthermore, training reform is likely to be an imprecise and noisy approach to reducing police misconduct because many officers exposed to misconduct in their training period still go on to lead ethical careers.

The second recommendation, therefore, focuses on more direct and immediate interventions aimed at reducing the second generation managerial effect by either withholding promotions from officers with a long history of misconduct or reassigning the existing managers that have the highest levels of misconduct to nonsupervisory positions. Another counterfactual analysis suggests that, by reassigning managers in the top 25% of prior misconduct complaints to managers in the bottom 25%, the CPD would reduce misconduct by about 3%.¹⁴ Compared with training reform, this recommendation has several advantages. First, its effects are likely to be realized more immediately, whereas training reform may take generations before a meaningful reduction in misconduct is observed. Second, the process of removing managers with a history of misconduct from their supervisory duties seems more straightforward as access to information about prior misconduct is now readily available.

Despite these clear advantages, one’s history of prior misconduct appears to be largely ignored by the CPD when making most promotion decisions. For example, the Department of Justice (2017, p. 96) finds that after the training period, the percentage of officers the CPD deemed unqualified to join the force is “very close to zero.” At least 70% of sergeant promotions explicitly do not consider misconduct and are instead based solely on officers’ scores on an in-class examination. Whereas there may be reasons to avoid setting strict thresholds for the maximum number of misconduct complaints officers can receive before being disqualified from promotion, simply ignoring an officer’s history of misconduct when making these decisions seems imprudent.

7. Conclusion

This study investigates intergenerational transmission as an important and inertial dynamic that contributes to this systematic reproduction of misconduct in organizations. Although testing our theory in the context of the CPD offers important insights into the growing societal problem of police misconduct, we believe that our theory and practical recommendations apply to other types of organizations as well. Indeed, because all organizations tend toward cultural persistence (Van Maanen 1975, Zucker 1977, Hannan and Freeman 1984), this study reveals a more general dynamic by which organizational misconduct continues to perpetuate itself.

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Endnotes

¹ See <https://invisible.institute/police-data>.

² One exception to the random assignment is that military veterans and children of those who have died in active service are given priority.

³ Another potential source is academy instructors. However, in our setting, academy cohorts are rotated through the same set of instructors. Therefore, there is little or no variation between cohorts (that entered in the same year) in the instructors to which they are exposed.

⁴ The figure plots the coefficients and 95% confidence intervals from a fixed-effects regression similar to that in Table 2, Model 1, except that we interact *Cohort Complaints* with a vector of tenure dummy variables.

⁵ The sample is smaller than that in Models 6–8 because we are not able to reliably identify the academy cohorts for some officers. Examples include officers who transferred from other police departments or those who attended the police academy before 1980.

⁶ There is not enough statistical power to estimate a fully flexible functional form (interactions of *Manager Complaints* with tenure-year dummies) because the data are sparse for some years of *Manager Tenure*. Thus, Figure 6 is the result of a regression that interacts *Manager Complaints* with a fifth degree polynomial for *Manager Tenure* as well as officer, supervisor cohort year, and unit-year fixed (standard errors clustered at the officer, manager, and year levels).

⁷ The magnitude of the coefficient is five times the magnitude of the estimates from the first generation (Table 2, Models 1–4) because the dependent variable here is the number of manager complaints over the previous five years, whereas the dependent variable in Table 2 is the number of complaints in a single year.

⁸ This is likely the explanation for why the coefficients in Models 5 and 6 of Table 3 are about four times larger than those in Models 6–8 in Table 2. Another potential explanation is that the variation in a *Manager's Complaints* caused by the cohort has a more potent effect on subordinates than variation in a manager's misconduct from other sources.

⁹ One exception is that the results for internal complaints does not replicate in the second generation. We think this is likely because we lack the power to detect these relatively rare events.

¹⁰ The LPM models predict the likelihood of an officer receiving at least one misconduct complaint in a given year. In contrast, the OLS and Poisson models predict the number of misconduct complaints an officer receives in a year.

¹¹ Officers do not have influence on their first unit assignment but can request transfer to another unit. Requests for unit reassignments are prioritized based on tenure.

¹² Note that our primary second generation regressions presented in Tables 2–4 include unit and year, or unit-year, fixed effects.

¹³ This estimate is based on Model 3 of Table 2 and Model 4 of Table 3. For all counterfactual analyses, we compute $\frac{\sum \text{Complaints} - \sum \text{SimulatedComplaints}}{\sum \text{Complaints}}$, where *SimulatedComplaints* is estimated using Stata's "predict" function after replacing the upper decile values of the independent variable with the median value of the independent variable.

¹⁴ This estimate is based on Model 7 of Table 2.

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