Truce Structures:  
Examining Cross-Professional Coordination in the Wake of Technological and Institutional Change  

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Abstract  
This research examines the structures, processes, and mechanisms that facilitate cross-professional coordination during periods of technological and institutional change. My study draws on a 24-month ethnographic study, combined with historical data and quantitative analysis, of 911 emergency management organizations in the United States. In Chapter 2, I focus on the mechanisms to facilitate cross-professional coordination in conditions that are marked by protracted jurisdictional conflicts. My findings articulate the importance of truce structures—an ensemble of truce roles and organizational forms—that are intended to address protracted jurisdictional conflicts among symmetrical professions such as police officers and firefighters. I further find that the coevolution of truce roles and organizational forms resulted in the emergence of a specific truce profession—in this case, that of 911 Public Safety Telecommunicators. The truce profession serves to triage, direct, and channel contested tasks among the conflicting professions without bringing those professions into direct contact with each during the initial stages of coordination when the “definition of the situation” is getting worked out. In Chapter 3, I turn to examining how the truce professionals navigate what I call status-authority asymmetry in order to effectively coordinate with the focal professionals. Conducting within-shift comparisons of coordination encounters between 911 dispatchers and police officers, I identify that the bounded publicization tactic performed via the open radio channel allows dispatchers to generate peer knowledge about individual non-compliance. Through this process, dispatchers navigate the status-authority asymmetry and orchestrate effective cross-professional coordination. My focus in Chapter 4 shifts to examining how truce professionals respond to the public’s increased digital scrutiny, and consider the consequences for organizational accountability. My findings suggest that the public’s increased use of mobile phones and social media to monitor and report on organizations and their workers can, under some conditions, end up worsening accountability. I unpack the processes that generate this paradox of public accountability, showing how these processes reshape the work of truce professionals and produce a vicious cycle of coordination that worsens organizational accountability. I end with a concluding chapter that discusses the implications of my dissertation for research on cross-professional coordination, accountability, and technological change.  

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## TABLE OF CONTENTS

ACKNOWLEDGMENTS .......................................................................................................................... 6

CHAPTER 1 ........................................................................................................................................... 10

INTRODUCTION ................................................................................................................................. 10

Organization of the Dissertation ................................................................................................... 16

CHAPTER 2 ........................................................................................................................................... 22

INTRODUCTION ................................................................................................................................. 23

LITERATURE ON CONFLICT AND COORDINATION AMONG PROFESSIONS ........................................ 26

JURISDICTIONAL DISPUTES AMONG PROFESSIONS ........................................................................ 26

- Protracted Jurisdictional Conflicts among Symmetrical Professions ............................................. 27

RESEARCH METHODS ..................................................................................................................... 29

- Research Context ................................................................................................................................ 29
- Data Collection ................................................................................................................................. 30
- Data Analysis ...................................................................................................................................... 33

FINDINGS ............................................................................................................................................. 34

- Jurisdictional Disputes between Police and Fire: Narcissism of Minor Differences? ..................... 35
- Institutional Mandate to Establish 911: Disputes Turn into Protracted Jurisdictional Conflicts .41
- Emergence of a New Profession: Addressing the Protracted Jurisdictional Conflicts ................. 45
- The Elusive Status of “First Responder” ........................................................................................... 52

DISCUSSION ........................................................................................................................................ 56

- Truce Structure as a Mechanism to Address Protracted Jurisdictional Conflicts ......................... 56
- Contributions to the Literature on Cross-Professional Coordination ........................................... 60
- Contributions to the Literature on Status Attainment ..................................................................... 61

CHAPTER 3 ........................................................................................................................................ 84

INTRODUCTION ........................................................................................................................................ 85

FACILITATING COORDINATION ACROSS PROFESSIONAL BOUNDARIES ............................................. 88

- Status-Authority Asymmetry Confronted by Truce Professions ..................................................... 88
- Mechanisms to Facilitate Cross-Professional Coordination ............................................................. 89
- Coordination between 911 Dispatchers and Police Officers: Applicability of the Mechanisms .... 92

RESEARCH SETTING AND METHODS .......................................................................................... 94

- Research Setting: 911 Emergency Management Organizations ..................................................... 95
- Data Collection .................................................................................................................................... 97
- Data Analysis ..................................................................................................................................... 100

FINDINGS .............................................................................................................................................. 101

- Difficulties in Enacting Formal Authority .......................................................................................... 102
- Personalization Tactics through Private Communication Channel ............................................... 105
- Escalation Tactics through Private Communication Channels ....................................................... 110
- Bounded Publicization Tactics through the Open Communication Channel ................................... 113
- Unintended Consequences: Emotional Consequences for the Dispatchers .................................. 117

DISCUSSION ........................................................................................................................................ 120
Acknowledgments

10-42. Over and out. I am still trying to come to grips with the fact that two weeks from now, I will no longer be “officially” called a student. All my persistent attempts to evade and postpone entering the so-called adult life have come to an eventful end. While I very much look forward to moving to this new phase in my life, I am nevertheless feeling a bit sad. Student life was great, and I tried to stretch it as much as possible. For sure, it was a lot of fun, but more than that it provided me with the time and space to understand myself. I was able to read widely without any external pressure, reading just for the joy of reading and learning, and not worrying about what possible instrumental benefits that I might get out it. I was also able to participate in seminars and listen to lectures by prominent experts from different fields. From where I come from, all of these are real luxuries. In more than one way, it helped me figure out what evoked my natural curiosity, and what I was good at. I am very grateful for these life-defining opportunities, and more importantly, to all the people who made these opportunities possible.

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CHAPTER 1
INTRODUCTION

It is ten minutes to 1pm, and Tiara is busy finalizing the schedule and resource allocation for the upcoming 2pm shift. As one of the watch managers at the Delta Emergency Management Organization (hereafter, DEMO), she is responsible for estimating the expected call volume for a shift and determining how many call-takers she will need to answer those 911 calls.

Tiara has been at DEMO for more than 20 years. She started as a 911 call-taker at Delta City’s police department and worked there for 3 years. When DEMO was established as an organization distinct from the police department, she was part of the first cohort of 911 call-takers who moved to the new organization and its 911 operations floor. She continued working as a 911 call-taker at DEMO for the next 7 years, handling “all sorts of calls, from the crazy to the heart-wrenching.” The one call that she still remembers clearly was from a kid, around 8 or 9 years old, who asked if “she could ‘talk to an ambulance,’ as if the ambulance is a real person. It turns out that her dad had OD’ed and was having some kind of a seizure.” As a young mother at that time with a 6-month old daughter and a 3-year old son, Tiara was deeply affected by the call. As the call was primarily related to emergency medicine, she needed to transfer the call to the Fire/EMS call-takers who are on the other side of the 911 operations floor. Nevertheless, Tiara reports “[I] stayed on the call and listened to the girl answering the questions… it is one of the most innocent voices I have heard, and it keeps playing in my mind every now and then…The worse part is I don’t know what happened to the girl or to her dad after the call.”

After spending 10 years as a 911 call-taker at DEMO, Tiara was promoted to the role of the 911 dispatcher. A dispatcher’s main job is to assign the validated 911 calls (referred to as “jobs”) to the police officers who are nearest to the scene of the emergency and coordinate with those officers by providing them with additional information, while watching out for officer safety. The role of the 911 dispatcher, as Tiara noted, “…is more difficult than being a call-taker. Call-taking can be tough too, you need to deal with a lot of tense, angry, and sometimes unreasonable people, but it is nothing compared to dispatch, where you need to be on the toes all the time and handle a bunch of annoyed – and frankly, annoying – officers.” When
a slot opened up for the 911 evening shift supervisor role, Tiara applied for it and was promoted again. The role of the shift supervisor involves handling escalations by the 911 callers who are not happy with the 911 call-takers’ response, monitoring the performance of the 911 call-takers and dispatchers through “listening-in” to how they answer calls and dispatch jobs, and helping the watch managers with shift planning, scheduling, and resource management.

After working as a shift supervisor for 7 years, Tiara was promoted to watch manager for the 2pm – 10pm shift. In this role, she is responsible for all the operational aspects of the shift. The 911 operations center at DEMO functions round the clock, 24 hours a day and 7 days a week, following a three-shift model. The first shift – also called the first watch – is from 10pm to 6am. The second shift is from 6am to 2pm, while the third shift is from 2pm to 10pm. Except for Fridays and Saturdays where the bars and nightclubs are open till late into the night, the first shift is the quietest. The third shift, from 2pm to 10pm, is the busiest irrespective of the day of the week. During each 8 hour shift, the call-takers and dispatchers get a 30-minute break and a 60-minute lunch. But as these breaks are distributed across the shift hours, most DEMO workers will not be able to take their breaks at the same time, and they will often eat alone.

Back to Tiara’s day. She had arrived at DEMO an hour and a half early to make sure that the shift is adequately staffed. While shift scheduling and planning is done a day in advance, there may be last-minute surprises, such as the telephone call just received by Tiara’s administrative assistant from a call-taker “calling in sick.” So far, five 911 call-takers and two 911 dispatchers have called in sick or have used the FMLA (Family and Medical Leave Act). If one more call-taker is unable to make it today, then Tiara will fall short of the minimum staffing needed for the shift. As a precaution, Tiara sends a broadcast message (via DEMO’s internal messenger) to all the call-takers currently working the morning shift, asking if anyone is willing to sign-up for voluntary overtime for an additional 2 hours (for which the volunteers will receive 1.5 times their regular pay). None of the call-takers volunteer for the additional 2 hours and so Tiara calls Kea, one of the shift supervisors on the morning shift, to her office. Tiara asks Kea to “go around the floor, and see if anyone drinks the Kool-Aid [volunteer].” As this is a familiar routine for Kea, she walks back to the 911 operations floor and tries to personally persuade the 911 call-takers to stay for another 2 hours.
As Kea is trying to recruit volunteers for overtime, Tiara's assistant receives another phone call from a call-taker explaining that she will not be able to make it to the evening shift due to a family emergency. Hearing the news, Tiara goes to the Operations floor herself, trying to find some volunteers for overtime, but with no luck. Tiara goes back to her office, looks at the call-taker overtime roster, and searches for a call-taker who has not done overtime in the past week, and decides to enforce “mandatory overtime” on that call-taker. Tiara observes, “I hate to twist someone’s arm and make them do mandatory [overtime], I’m tired of this shit. But I don’t have any other option. I don’t blame them [call-takers], they are always asked to do overtime every week, we need more bodies [call-takers], but we’re still waiting on it, and hope they [pointing to the upper floor where the senior managers sit] get the money soon so that we can make the hire.” Tiara then asks Kea to deliver the news of the mandatory overtime to the 911 call-taker.

It is almost 1:30pm, and the call-takers and dispatchers for the 2pm shift have arrived and scattered around the main hall in front of the operations floor. The light blue uniforms (the 911 call-takers) have assembled in groups of 3 or 4, chatting amongst themselves, while the dark blue uniforms (the 911 dispatchers) have assembled in groups of 2, by their zone. Those on the operations floor look out to see how many call-takers and dispatchers are present for the 2pm shift, so that they can mentally prepare for any additional mandated overtime.

Tiara walks out of her office to the main hall, with a printout and a binder in hand. She asks the call-takers and dispatchers to assemble around her. She first reads out the order of the day: traffic diversions, City events, police units discharged for training or other special activities, amber alerts, and such. This is followed by roll-call and then announcements of any special news within DEMO and the Delta Police department: weddings, newborns, line-of-duty deaths, deaths of immediate family members. After a brief moment of mourning, Tiara assigns the call-takers and dispatchers to their respective seats and informs them of their individual breaks and lunch times. She then assigns a couple of “relieving dispatchers” who are expected to cover for a dispatcher when s/he is off for lunch. Finally, she informs them in a resigned voice that some of their lunches or breaks (either one but not both) are canceled due to staff shortages. Those unlucky call-takers and dispatchers let out a brief sigh and are visibly disappointed, but they do not
say anything to Tiara in front of others. The 911 call-takers and dispatchers of the 2pm shift then walk onto the operations floor.

The 911 operations floor is an open space lined with rows and rows of terminals, no enclosures, windows, pillars, or walls in-between. At one end, there is an LED display with statistics about the volume of 911 calls currently being handled and the number of calls waiting in queue. When a call is held in queue for more than 12 seconds, a shrill “double beep” is initiated that is heard across the floor. When the double beep becomes a regular occurrence, Tiara walks onto the Operations floor near the call-taker area, and frowns on those who are taking too much time between calls. At the other end of the operations floor is a large screen with CNN projected in mute. Right next to the screen are the desks of the shift supervisors, slightly elevated from the ground so that they can watch the work of the call-takers and dispatchers. A taped line on the floor marks the boundary between the Police side and the Fire/EMS side of the operations floor. At the edge of each cubicle occupied by the 911 call-taker or 911 dispatcher is an emergency light system (red, yellow, green, white) that the call-takers and dispatchers can use when requesting help from their supervisors.

The DEMO 911 operations floor may be thought of as a laboratory for hearing and observing the ebbs and flows of collective human behavior at a large scale around the clock and across the year. As one 911 call-taker described: “When the City of Delta sneezes, we are the first to know. We know what time and day do people typically go crazy. We know when couples get into a fight... We know when accidents happen and at what months of the year do people commit more suicide... We know the city, its pulse.” A cynic may rather describe the place as an amalgam of all things dreary and dismal that characterize the human condition. Whether it is a mom crying for help to rescue her 5-year old from being mauled by a dog, an active-shooter incident at a nearby high-school, or a vehicle collision involving multiple deaths, the DEMO call-takers and dispatchers have “heard” it all.

When the call-takers and dispatchers – collectively referred to as 911 Public Safety Telecommunicators (PSTs) – of the 2pm shift walk to the operations floor, there is a brief period of commotion as the PSTs from the morning shift hand-off to the incoming shift, move their chairs, pack their bags, and leave the
operations floor. Moments after this, a strong smell of hand sanitizer fills the entirety of the air-conditioned operations floor. The incoming call-takers and dispatchers use a tissue and hand sanitizer to clean their desk, the armrests of their chair, and their mouse and keyboard. As food is not permitted inside the operations floor, the terminals and cubicles are generally clean and well-maintained, but this cleansing ritual is regularly observed by many of the call-takers and dispatchers. While the hand-sanitizer ritual makes sense (as a way to avoid catching any germs that may be passed on by a rotating workforce within a confined space), to an outsider such as me, it became a symbol of the deficit in trust that permeates DEMO.

During my fieldwork, I was party to the various challenges that DEMO and its PSTs routinely face. Mandatory overtime and lunch/break cancellations became a regular feature of the work of 911 call-takers and dispatchers due to the increase in 911 call volume. This resulted in lower employee morale. In addition, the 911 call-takers feel that the nature of calls that they are handling has also changed. Specifically, they point to certain types of calls that are of personal importance to the 911 caller (i.e., an “urgency”), but which are not necessarily considered 911-level “emergencies” as per the criteria defined by DEMO. The 911 call-takers refer to such calls as “bullshit calls” (Seim, 2017). Although bullshit calls have long existed (Bittner, 1974, 1990), being present during the era of landlines, the volume and variety of these calls have substantially increased due to the habitual use of mobile devices by the public. Call-takers note that more than half of the calls they handle each day on their shifts are bullshit calls. Apart from the increased call volume and inflow of bullshit calls, scandals about 911 call-takers and dispatchers reported on social media platforms such as Twitter have become frequent. There is a shared sentiment among the PSTs that they are often “thrown under the bus” by management as a way to manage the social media scandals, even though they were not at fault and just doing their jobs.

At the same time, there is also increasing mistrust between the 911 call-takers and the 911 dispatchers. The dispatchers feel that the call-takers are not doing their job properly, that they are allowing non-emergencies into the system, thereby increasing the dispatch workload, which is eroding their job quality and making their interactions with the police officers difficult. There is a visible sense of limited trust and strained relations between the light blue (911 call-takers) and dark blue (911 dispatchers) uniforms. Such
tensions are manifest in the form of increased absenteeism and turnover, which significantly impacts shift scheduling and resourcing within DEMO and more importantly, the dispatchers’ ability to coordinate with police officers and dispatch emergency calls on-time.

Why have things come to be the way they are at DEMO? Answering this question led me to probe more deeply into how the profession of 911 PSTs emerged in the first place.

The number 911 has long been associated with “trouble” and “emergency” of some kind within the United States. 911 calls are a well-established part of popular culture and literary lore. Quite a few short stories and novels have been written about incidents surrounding or leading up to a 911 call, and its aftermath. A Hollywood movie has been made about a 911 emergency dispatch center (The Call in 2013 starring Halle Berry), where the protagonist is a 911 call-taker working in the Los Angeles Emergency Center who suffers from critical-incident stress syndrome after taking a traumatic call. More recently, Fox TV is producing a drama series entitled 9-1-1 that narrates the story of a 911 dispatcher and her interactions with the Los Angeles police officers and firefighters. But until 1968 – the year when 911 got instituted – there was no single nationwide emergency number within the United States. The public reported emergencies by calling the telephone number of their local police station or by using a call box installed on the street. So how did a new profession of 911 PSTs come to be? And can their entangled history with other professions such as police officers and firefighters tell us anything about the underlying reasons for the work challenges that the 911 PSTs are currently facing?

From prior research, we know that professions play an important role in the accomplishment of complex, interdependent work within and across organizations (Anteby, Chan, and DiBenigno, 2016; Barley, 1986; Bechky 2003; Bailey, Leonardi, and Chong, 2010; Kellogg, 2014; Schakel, van Fenema and Faraj, 2016). Their importance is heightened in the context of fast-response organizations such as DEMO, where stakes are high, and where “decisions must be made rapidly and where errors can be fatal” (Faraj and Xiao, 2006, p.1155). In these settings, professions are expected to effectively coordinate with each other in an ongoing manner. However, organizational life is also ridden with conflicts among different professional groups (DiBenigno, 2017; Pondy, 1967). Such conflicts can become especially apparent during periods of
technological and institutional changes, which can negatively influence coordination processes and outcomes (Beane and Orlkowski, 2015; Kellogg, 2009).

This, then, became the focus of my 24-month ethnographic study of 911 emergency management organizations in the United States (complemented with historical data and quantitative analysis). I unpack the history of 911 and the emergence of the 911 PST profession, examine the everyday accomplishment of 911 call-taking and dispatch work, and how the challenges of new roles, practices, and technologies are significantly influencing coordination practices and outcomes. My research generates a number of insights about the structures, processes, and mechanisms that can facilitate effective cross-professional coordination during periods of technological and institutional change.

Organization of the Dissertation

I discuss my research in the following four chapters. In Chapter 2, I focus on how the 911 PST profession emerged and the ongoing issues it faces with respect to status attainment. More specifically, I examine the history of jurisdictional disputes between police officers and firefighters in the United States, and consider how these disputes turned into protracted jurisdictional conflicts following an institutional mandate to establish 911 as the “nationwide emergency number.” My findings articulate the importance of what I am calling truce structures—an ensemble of truce roles and organizational forms—that are intended to address protracted jurisdictional conflicts among symmetrical professions. I further find that the coevolution of truce roles and organizational forms in the jurisdictional conflicts between police officers and firefighters resulted in the emergence of a specific truce profession—in this case, that of 911 Public Safety Telecommunicators. The truce profession serves to triage, direct, and channel contested tasks among the conflicting professions without bringing those professions into direct contact with each. This is especially important during the initial stages of coordination when the “definition of the situation” is getting worked out. Through this orchestrating process, truce professions facilitate coordination among the competing symmetrical professions. We thus see here the structural emergence of a new profession (i.e., 911 PSTs) as a “truce” to address the jurisdictional conflict between the focal professions (i.e., police
officers and firefighters). This new truce profession is formally assigned authority over the very tasks that the existing symmetrical professions were contesting. My findings here and the articulation of the concept of truce structures explains how organizations can facilitate cross-professional coordination and implement change in conditions that are marked by protracted jurisdictional conflicts. These insights can be analytically valuable in other contexts, such as pre-sales engineers in software services firms, science diplomats in environmental policy organizations, patient healthcare advocates in hospitals, and development executives in creative industries.

I discuss the implications of my findings for theory on professions and jurisdictional conflicts during periods of technological and institutional changes. Specifically, I identify a new form of jurisdictional settlement, different from the ones identified in prior research (Abbott, 1988; Galperin, 2017), which advances our understanding of how protracted jurisdictional conflicts among symmetrical professions are addressed. This research also makes a contribution to the emerging stream of work that argues for organizations as the setting and breeding ground for the emergence of new professions. This study also contributes to the theory on role creation (Lounsbury, 2001) by unpacking how, when, and under what conditions managers change older role-structures and establish newer ones within organizations. Finally, this research has implications for status attainment theory, highlighting the challenges that truce professions have to deal with when coordinating with higher-status professions.

While truce structures and truce professions are helpful in managing structural coordination problems, there are other processual coordination problems that emerge during the everyday flow of work between truce professionals such as 911 dispatchers and focal professionals such as the police officers. One such processual issue is the challenge that 911 dispatchers face in enacting their formal authority during their day-to-day interactions with the police officers. The 911 dispatchers need to navigate what I term status-authority asymmetry, which arises when a profession characterized by higher formal authority and lower professional status needs to coordinate and get work done by another profession with higher professional status and lower formal authority. In Chapter 3, I thus examine how the 911 dispatchers effectively navigate the status-authority asymmetry. Conducting within-shift comparisons of coordination encounters between
911 dispatchers and police officers, I identify a set of practices entailing communication media (open or private radio channels) and tactics (escalation, personalization, bounded publicization) that 911 dispatchers use to orchestrate cross-professional coordination. I find that while the escalation and personalization tactics performed through the private radio channel lead to negative coordination outcomes, the bounded publicization tactic performed through the open radio channel results in more effective coordination outcomes. Through the bounded publicization tactic, dispatchers manage the common information space to generate peer knowledge about individual non-compliance. In doing this, dispatchers steer self-disciplining and compliance among police officers whose professional standing is on the line in front of their peers. This process enables the 911 dispatchers to effectively navigate the status-authority asymmetry and orchestrate cross-professional coordination.

The outcomes from this study also highlight the limits of relational work. Specifically, the study shows that relational work performed within a context marked by status-authority asymmetry creates the preconditions for higher-status/lower-formal-authority professionals to take the lower-status/higher-formal-authority professionals for granted. This is because the very act of performing relational work is interpreted by the focal professionals as a pathway to renegotiate and keep pushing the boundaries of formal authority. Consequently, the more relational work a lower-status truce professional performs, the more the higher-status focal professionals take the rules that undergird the coordination process as malleable and not set in stone.

In Chapter 4, I focus on the contemporary challenges that the 911 PSTs face due to the public’s increased digital scrutiny, and examine the consequences for organizational accountability. Findings from my study suggest that the public’s increased use of mobile phones and social media to monitor and report on organizations and their workers can, under some conditions, end up worsening accountability. My study unpacks the processes that generate this paradox of public accountability — front-line truce professionals’ increased risk aversion, undermined role identities, strained role relations, and resource lock-up. Together, these processes reshape the work of truce professionals and produce a vicious cycle of coordination that worsens organizational accountability. I synthesize these findings and develop a model of the paradox of
public accountability. This research generates insights into the ways in which organizational accountability is being reconfigured in the digital age through the shifting work practices of front-line professionals responding to increased public scrutiny. More specifically, this study contributes to the accountability literature through highlighting how accountability is enacted through the coordination practices of truce professionals, who themselves are working under increased public scrutiny and monitoring via smartphones and social media. Consequently, the “always on” digital era characterized by ever-increasing external pressures can challenge the meanings, relations, and identities of front-line truce professionals, significantly restrict their capacity to coordinate work, and diminish their accountability for organizational outcomes. This study also makes a distinction between internal (or managerial) and external (or public) locus of accountability, and examines the organizational consequences of the shift in the audience for accountability.

This research also makes a contribution to the coordination literature by examining how use of digital technologies by the public is creating significant uncertainty in organizational work, and negatively influencing internal coordination within and between professional groups. My study shows that digital technologies such as smartphones and social media, while not deliberately designed for surveillance and monitoring purposes, are increasingly being used to monitor and report issues that the public have about an organization and its workers. While prior work on technology-based monitoring examined how such surveillance tools have an effect on individual work and productivity, this study sheds light on how technology-based monitoring by the public can negatively influence collective work by disrupting acts of coordination among professional groups within organizations.

In Chapter 5, I discuss the broader implications of my dissertation for research on cross-professional coordination, accountability, and technological change. In particular, my dissertation research makes the following contributions: (1) develops new organizational theory on truce structures and truce professions, and how these can facilitate cross-professional coordination during periods of change; (2) unpacks the processes and mechanisms used to navigate status-authority asymmetry and orchestrate effective cross-professional coordination; and (3) examines how technological change, as manifest in the public’s increased digital scrutiny of an organization and its workers, can negatively influence the discretionary work of truce
professionals and their capacity to coordinate, thus lowering their morale and worsening organizational accountability.

This research also contributes to the broader conversation on reform implementation in the emergency management and law enforcement domains. Existing approaches that diagnose the ongoing crises faced by 911 emergency management organizations, police departments, and law enforcement professionals in the United States mostly employ the theoretical lenses of implicit bias, institutional racism, or psychological profiling ("a few bad apples"). My study suggests that there is value in examining how the nature and structure of work performed by these professions (i.e., the 911 PSTs) have significantly changed over the past two decades — due in part to institutional and technological changes — and how these changes might impact reform implementation.
REFERENCES


CHAPTER 2
THE EMERGENCE OF TRUCE STRUCTURES:
ADDRESSING PROTRACTED JURISDICTIONAL CONFLICTS AMONG PROFESSIONS
DURING PERIODS OF CHANGE

ABSTRACT
Prior research suggests that when jurisdictional disputes among professions arise during periods of technological and institutional change, these disputes impede the cross-professional coordination needed to implement the changes within organizations. The ecological theory of professions proposes that such jurisdictional disputes will be eventually reconciled through “jurisdictional settlements.” But this theory does not account for cases where jurisdictional disputes become protracted and persistent over many years and sometimes even decades. Such protracted jurisdictional conflicts are especially pronounced among symmetrical professions due to ambiguity about their relative social rank. This raises the question, what mechanisms can facilitate effective cross-professional coordination and implement change in conditions marked by protracted jurisdictional conflicts? I examine this question by studying the history of jurisdictional disputes between police officers and firefighters in the United States, with a particular focus on how these disputes turned into protracted conflicts following an institutional mandate to establish 911 as the “nationwide emergency number.” My findings articulate the importance of what I am calling truce structures – an ensemble of truce roles and organizational forms – that are intended to address protracted jurisdictional conflicts among symmetrical professions. Truce roles serve to absorb the contested tasks and insulate the conflicting professions from them, while truce organizational forms provide the needed resources and legitimacy for people in truce roles to exercise their formal authority over the conflicting professions. I further find that the coevolution of truce roles and organizational forms in the jurisdictional conflict between police officers and firefighters resulted in the emergence of a specific truce profession – in this case, that of 911 Public Safety Telecommunicators. The truce profession serves to triage, direct, and channel the tasks among the conflicting professions without bringing those professions into direct contact with each during the initial stages of coordination when the “definition of the situation” is getting worked out. Through this orchestration process, truce professions facilitate coordination among the conflicting professions. I discuss the implications of these findings for theory on professions and jurisdictional conflicts during periods of technological and institutional change.
INTRODUCTION

Contemporary organizations are increasingly dominated by professions, who make up the “largest and fastest growing proportion of the labor force in the United States” (Kellogg, 2014, p.913; see also Brint, 1996, Gorman and Sandefur 2011). As a result, the implementation of most technological changes and institutional reforms will require the help and coordination of professions (Heimer and Gazley, 2012; Kalev, Dobbin, and Kelley, 2006). Yet, it is precisely during such periods of change that jurisdictional disputes among professions often arise (Abbott, 1988; Dobbin and Kelley, 2007; Edelman, 1992; Starr 1982) and these may undermine the implementation of change within organizations.

The ecological theory of professions proposes that jurisdictional disputes will eventually be reconciled through “jurisdictional settlements” (Abbott, 1988). But this theory does not account for cases where jurisdictional disputes turn into protracted jurisdictional conflicts that persist over many years and sometimes even decades (Azar, 1990; Wright, 2009). Such protracted jurisdictional conflicts are especially pronounced among professions occupying symmetrical positions, for example, diplomats and intelligence officers in embassies; army, navy, and air force pilots in combat zones; or scientists and policymakers in environmental policy agencies. Conflicts arise here because of the ongoing ambiguity about the relative social rank of the symmetrical professions (Gould, 2003), where each profession (or individual within the profession) tries to assert its dominance and status vis-à-vis the other groups (or individuals) when they come into contact. This pattern produces persistent and pervasive discord over time. Moreover, when these professions perceive that some intended change could influence core aspects of their professional identity, the jurisdictional disputes turn into protracted jurisdictional conflicts (cf. Fiol, Pratt, and O’Connor, 2009) with each profession unwilling to alter the status quo through conceding to some shift in jurisdictional boundaries. Therefore, jurisdictional conflicts in such situations are not resolvable using the existing types of jurisdictional settlements (Abbott, 1988).

This raises the research question I consider here: what mechanisms can facilitate effective cross-professional coordination and implement change in conditions marked by protracted jurisdictional conflicts? I examine this issue within the professional field (Anteby, Chan, DiBenigno, 2016) of emergency
response, focusing specifically on police officers and firefighters. These two professions are core actors within emergency response in the United States, and have historically occupied symmetrical positions. Moreover, both these professions strongly identify with being first responders.

I examine how early jurisdictional disputes between police officers and firefighters turned into a protracted jurisdictional conflict after 1968 when there was an institutional mandate to establish 911 as the “nationwide emergency number.” Before the establishment of 911, the members of the public would report emergencies by calling the telephone number of their local police station or firehouse, or by triggering the alarm call box in the street. But the new institutional reform to establish 911 as the universal number for reporting emergencies — and the technological changes that were initiated through this reform — significantly challenged the professional identities of both police officers and firefighters as the first responders to emergencies. As a consequence, the jurisdictional disputes between police officers and firefighters in the United States became protracted, continuing for over two decades. Core to such protracted jurisdictional conflicts was the question “Who is primarily responsible for handling 911 calls?” That is, who gets to take the call first, do the triage, determine the type and severity of the emergency, and initiate an emergency response — the police officers or the firefighters?

My findings articulate the importance of what I am calling “truce structures” — an ensemble of truce roles and organizational forms — that are intended to reduce jurisdictional conflicts among symmetrical professions (such as police officers and firefighters) during periods of change. In my case, the truce role that was established (by city officials) was that of the 911 dispatcher. The 911 dispatchers\(^1\) absorbed the contested tasks (specifically, answering 911 calls and doing triage, determining the type and severity of the emergency, initiating an emergency response, and coordinating with the first responders) and insulated both the police officers and firefighters from those tasks during the initial stages of coordination. It is during these initial stages of coordination that the definition of the situation — the nature and type of emergency

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\(^1\) Initially when the new role was created, 911 call-taking and 911 call-dispatch were performed by the same person, and that person was referred to as the 911 dispatcher. Over time, distinct roles of 911 call-taker and 911 dispatcher emerged as a way to structure and handle the workload.
and whether it is primarily a police incident or a fire incident — is up for grabs and needs to be worked out. Once the definition of the situation is determined, the 911 dispatchers continue to remotely orchestrate the coordination on the scene of the emergency.

In practice, however, the 911 dispatchers (who were housed in either police or fire headquarters) were often co-opted by the senior police officers or firefighters who supervised them. Consequently, they were unable to exercise their formal authority to perform their coordinating role across the two professions. This situation led to the creation of a truce organizational form – the 911 emergency management organization. This organization was established as an independent entity separate from the police and fire departments, and serving to provide material resources and legitimacy for the 911 dispatchers who needed to exercise their formal authority over the police officers and firefighters. Over time, the coevolution of the truce role and organizational form resulted in the emergence of a specific truce profession – in this case, that of 911 Public Safety Telecommunicators (PSTs).

My use of the term “truce profession” is not intended to suggest that the truce profession engages in negotiation and diplomacy among the conflicting professions so as to bring about a truce. Rather, it is the structural position of the truce profession itself that establishes a truce in the jurisdictional conflicts among the symmetrical professions. In this sense, truce professions act as “orchestrators” (cf. Fernandez and Gould, 1994; Gould and Fernandez, 1989; Kellogg, 2014) through triaging, directing, and channeling tasks among the conflicting professions without bringing those professions into direct contact with each other during the initial stages of coordination. The new truce profession is thus formally assigned authority over the very tasks that the existing symmetrical professions were contesting (cf. Fayard, Stigliani, and Bechky, 2016; Nelson and Irwin, 2014). Through this process, truce professions address the protracted jurisdictional conflicts and orchestrate effective cross-professional coordination.

I discuss the implications of my findings for theory on professions and jurisdictional conflicts during periods of technological and institutional changes. Specifically, I identify a new form of jurisdictional settlement, different from the ones identified in prior research (Abbott, 1988; Galperin, 2017), to advance our understanding of how protracted jurisdictional conflicts among symmetrical professions are addressed.
This research makes a contribution to the emerging stream of work that argues for organizations as the setting and breeding ground for the emergence of new professions. This study also contributes to theory on role creation (Lounsbury, 2001) by unpacking how, when, and under what conditions managers change older role-structures and establish newer ones within organizations. Additionally, this research has implications for status attainment theory, highlighting the challenges that truce professions need to navigate when coordinating with higher-status professions. Finally, the articulation of the concept of truce structures can be analytically valuable in other contexts, such as pre-sales engineers in software services firms, science diplomats in environmental policy agencies, patient healthcare advocates in hospitals, and development executives in creative industries.

**LITERATURE ON CONFLICT AND COORDINATION AMONG PROFESSIONS**

Professions play an important role in implementing institutional reforms and technological changes inside organizations (Barley, 1990; Kellogg, 2009; Beane and Orlikowski, 2015). Their role becomes even more prominent when the change initiative necessitates coordination across different professions. For example, to implement healthcare reform that would benefit the low-income population, health center doctors need to coordinate with legal aid lawyers (Kellogg, 2014). To implement safety and environmental reform in scientific labs, safety experts need to coordinate with scientists (Silbey, Huisng, and Coslovsky 2009). To implement new technology such as diagnostic medical imaging within hospitals, radiologists need to coordinate with technologists (Barley, 1990).

**Jurisdictional Disputes among Professions**

Periods of institutional and technological change can trigger jurisdictional disputes among professions (Abbott, 1988; Dobbin and Kelley, 2007; Edelman, 1992; Starr 1982) and undermine the implementation of changes within organizations for two possible reasons. First, the new change initiative might reconstitute the structure and allocation of tasks within the organization, impacting professional jurisdictions — the quintessential “link between the profession and its work” (Abbott, 1988, p.823) — thus disrupting the status
quo with respect to the professional division of labor (Durkheim, 1933; Kahl, King, and Liegel, 2016). For example, the change initiative might require a profession to take up additional tasks that would require it to deal with “nonprofessional issues or irrelevant professional issues” (Abbott, 1981, p.20). This, in turn, could compromise professional status. Second, the new changes might eliminate or redistribute existing tasks that are within the jurisdiction of one profession — especially tasks that are considered core to its professional identity — to another profession. In both these scenarios, jurisdictional disputes are likely to emerge among the professions.

The ecological theory of professions proposes that jurisdictional disputes that emerge among professions may eventually be reconciled through one of five types of jurisdictional settlements (Abbott, 1988; Galperin, 2017). These include full jurisdictional control by one profession (e.g., fighter pilots have full jurisdictional control over operating fighter jets in combat zones), subordination of one profession under another (e.g., nurses are subordinate to surgeons), shared jurisdiction among the professions through division of labor (e.g., architects and civil engineers in construction, or accountants and tax attorneys in corporations) or client differentiation (e.g., corporate lawyers and family lawyers cater to different clientele), intellectual control of a domain by one profession (e.g., psychiatrists retain intellectual control of diagnoses in psychoanalytic therapy, but allow therapeutic practice by other professions such as social workers and psychologists), and advisory function held by one profession in a domain when another profession operates as the main actor (e.g., the role of clergy in medicine, or lawyers in banking). While these five types of jurisdictional settlements cover considerable territory, they do not account for those cases where the discord among the professions becomes protracted and pervasive.

**Protracted Jurisdictional Conflicts among Symmetrical Professions**

The ecological theory of professions, thus, does not explain what happens when jurisdictional disputes turn into protracted jurisdictional conflicts that persist over many years and sometimes even decades (e.g., Wright, 2009). I argue that such protracted jurisdictional conflicts are especially pronounced among professions occupying symmetrical positions within the same field. This is because there is ongoing ambiguity about the social rank of the symmetrical professions, leading to extensive conflicts among them.
As Gould (2003, p.17) describes, “human conflict occurs when relations involving (social) rank are ambiguous or under challenge... in situations in which some exogenous event alters the prospects for continued precedence of one person over another.” By extension, conflicts are “most likely to occur in relatively symmetrical relations in which there is ambiguity between actors concerning relative social rank, that is, asymmetries in perception could be contested” (Bearman, 2003, in Gould (2003)).

By applying Gould’s (2003) theory of social conflict to the context of professions, I argue and provide substantiating evidence that jurisdictional disputes that emerge among symmetrical professions may turn into protracted jurisdictional conflicts. When symmetrical professions coordinate during periods of change and uncertainty, it is unclear whose “definition of the situation” (Perrow, 1986; March and Simon, 1958; Van Maanen, 1978) holds more weight, and who is ultimately in charge of the situation. Such disputes are especially pronounced when exogenous events such as a technological change or an institutional mandate are forced upon the professions. In such situations, each profession wants to reassert its dominant social rank in relation to the other profession so as to establish that it is “in charge.” Moreover, when the exogenous event is perceived to threaten the core aspects of professional identity, the jurisdictional disputes can quickly turn into protracted jurisdictional conflicts (cf. Fiol, Pratt, and O’Connor, 2009) as each profession wants to maintain the status quo in jurisdictional boundaries. Such conflicts intensify when the professions come into contact with each other, resulting in verbal slights, insults, and pervasive discord. These undermine cross-professional coordination and negatively influence the implementation of change within organizations. For example, Wright (2009) describes how jurisdictional conflicts between the FBI and CIA intensified during the late-1990s when they were brought into contact with each other through a counterterrorism taskforce.

Given these conditions, where jurisdictional settlements are difficult to achieve between symmetrical professions, an important question becomes: what mechanisms can facilitate effective cross-professional coordination and implement change in conditions marked by protracted jurisdictional conflicts? Before addressing this question, I describe my research setting and methods for data collection and analysis.
RESEARCH METHODS

I employed an inductive research approach, using a combination of archival and field-based methods, to examine my research question (Yates, 2014). Inductive research is particularly useful to reevaluate existing concepts and theories in light of new evidence (Edmondson and McManus, 2007; Eisenhardt and Graebner 2007; Sutton and Hargadon, 1996). In the sub-sections below, I provide more details about the research context, the analytical strategy used for data collection, and the procedures followed for data analysis.

Research Context

The field of emergency response serves as the research context for this study. Emergency response constitutes a professional field (Anteby, Chan, DiBenigno, 2016) that is made up of different professionals including police officers, firefighters, emergency medical technicians and paramedics, HazMat (Hazardous Materials) experts, and more. Within the emergency response field in the United States, the police officers and firefighters are the two core actors, which is why I focus specifically on them. Both these professions strongly identify as first responders. Moreover, these two professions occupy a symmetrical position and have a history of jurisdictional disputes and conflicts (Kochan, 1976; Kochan and Baderschneider, 1978; Kochan et al., 2010; Loewenberg and Joseph, 1970).

At the root of the jurisdictional disagreement is the question of “who is in charge” of 911 – that is, who gets to first answer the 911 call, determine the type and severity of the emergency, and initiate an emergency response: the police department or the fire department? I examine how and why the institutional mandate to establish the 911 national number led to protracted jurisdictional conflict among the police officers and firefighters, and how it got addressed. Toward that end, I focus on the emergence and evolution of a new profession – the 911 Public Safety Telecommunicators (PSTs) – and how this helped minimize the jurisdictional conflicts between the two conflicting professions. I explore how the new role of 911 dispatcher got established within the major metropolitan cities of the United States, and unpack when and how this new role was institutionalized and became a profession. I explore how the emergence and coevolution of a new organizational form – the 911 emergency management organization – provided the
resources and legitimacy for the 911 dispatchers to exercise their formal authority and evolve into a profession.

**Data Collection**

I collected both historical data obtained from archives and field-based qualitative data in the form of observations and semi-structured interviews with retired and senior police officers, firefighters, 911 PSTs, and 911 senior managers.

**Archival Materials.** I employed historical methods to collect and analyze substantial amounts of archival data on the coevolution of the 911 profession and the 911 emergency management organization in the United States. Since AT&T Corporation was heavily involved in the development and implementation of 911, including proposing the use of 911 as the nationwide emergency number, I collected historical data from its corporate archives in Warren, New Jersey and San Antonio, Texas. To facilitate my research, archivists at AT&T made public the internal documents and confidential memos regarding the emergence and implementation of 911 in the United States, including the role that AT&T played in the process. In my visits to the Warren and San Antonio archives, I examined all the materials provided by the archivists. This constituted over 45 boxes of technical reports, legal and political analysis, newspaper articles related to 911, strategic analysis on the feasibility and viability of establishing a nationwide emergency number, cost estimations, and mails and memos between federal agencies (such as the FCC) and AT&T concerning implementation issues.

As I was working through the documents, I became especially intrigued by a confidential memo titled “Alarm Industry versus AT&T Litigation” that was prepared by the Legal Support Group of AT&T Communications in 1985. This memo documented the role played by AT&T in implementing 911 as the nationwide emergency number, as well as the barriers it faced in this process due to resistance from police and fire departments. The memo referenced several other documents and reports about the disputes between the police and fire departments, and how these disputes were significantly delaying the implementation of 911. This led me to focus my data collection on examining the nature of the disputes between police and fire departments, and how the 911 public safety telecommunicator profession emerged as a consequence.
When I was unable to find a referenced document in the boxes, I asked the archivists to search for it using their internal search tool. In this way, I was able to access not just the newspaper articles and clippings about the establishment of 911 dispatchers and emergency management centers within the United States, but also the internal discussions about challenges documented within AT&T memos and reports.

I narrowed the corpus of materials to a set of documents that were pertinent as follows: (a) dealt with the initial impetus for establishing 911 and the role played by AT&T in implementing 911 across the United States; (b) reported on delays in the implementation of 911, with a specific focus on the jurisdictional disputes between police and fire departments; (c) described the emergence and diffusion of the 911 dispatcher role within the police and/or fire departments; and (d) discussed the establishment of the 911 emergency management organizations in various US cities and towns. These documents, which ran over 4000 pages of archival materials, became the core source of data for this study.

In addition to the materials gathered from the AT&T archives, I collected publicly-available materials from the web to understand the emergence and evolution of the 911 profession. These include materials from two of the largest 911 professional associations: the Association of Public-Safety Communications Officials (APCO), and the National Emergency Numbers Association (NENA). In addition, I used keywords (such as “911,” “911 emergency,” “911 dispatchers,” “911 call takers,” “911 public safety”) to programmatically search the online archives of national news outlets (The New York Times and Washington Post), as well as consolidated news databases such as ProQuest. I sorted and synthesized these materials to create a chronology of events (Van de Ven and Poole, 1990) related to the historical emergence and evolution of the 911 emergency management profession, the 911 emergency management organization, and the role these organizing structures played in addressing the protracted jurisdictional conflicts between police and fire departments.

**Interviews and Observations.** I also conducted semi-structured interviews with retired and senior police officers, firefighters, 911 PSTs, and 911 senior managers in 4 cities within the United States (Beta, Delta,
Epsilon, and Zeta). These interviews were helpful in gathering similarities and variations in how each of these professions saw the other within those cities. The interviews also helped me to contextualize and deepen the understanding that I had garnered from the archival documents about the nature of the jurisdictional disputes. For example, interviews with the senior police officers, firefighters, and 911 managers helped me understand why the jurisdictional disputes between police and fire departments became protracted conflicts, how and when the 911 dispatcher role emerged within their respective departments, why the 911 emergency management organization was established (or not), and with what outcomes. I followed naturalistic interview guidelines (Lincoln and Guba, 1985) to formulate the interview protocol, crafting it to ensure a balance between open-ended and close-ended questions so as to elicit grounded responses from the participants (Schultze and Avital, 2011). Altogether, I conducted 64 interviews (18 senior/retired police officers and 12 senior/retired firefighters who were involved in 911 dispatch in a supervisory or administrative role, 11 senior managers within 911 EMOs, and 23 senior 911 PSTs with over 20 years of experience) within the police, fire, and 911 organizations.

In addition to interviews, I conducted observations to examine how police officers and firefighters respond to emergencies and to understand differences between the police and firefighting cultures — especially in terms of their views on emergency response, their staging procedures during the emergency response, and their different priorities when responding to emergencies. While I was not able to observe and perform ride-alongs with the police and fire departments in all 4 cities, I was able to do so in 2 cities (Beta and Delta). Altogether, I conducted over 160 hours of observations on the police side and 110 hours of observations on the fire side. In parallel, I conducted observations to examine how the 911 dispatch process is performed in practice. This was done as part of a larger study, and involved more than 1,000 hours of observations of the 911 call-taking and call-dispatching process.

These multiple sources of data enabled triangulation (Jick, 1979) and generated an understanding of the phenomena of emergency response and jurisdictional conflicts from different vantage points.

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2 Names of the cities and their respective police, fire, and emergency management departments are pseudonyms for the purpose of protecting the identity of the study participants.
Data Analysis

Data collection and analysis unfolded in an iterative manner (Strauss and Corbin, 1997) over three phases. Specifically, I followed Charmaz’s (2006) approach to data coding of the field notes, interview transcripts, and archival data. In the first phase, I browsed through the archival materials, marked the documents that I found to be pertinent to the research question, and then did a closer read of those documents. At that stage, I performed “initial coding” to understand the nature of jurisdictional disputes between the police and fire departments. It is here that I discovered the prominence of the first responder identity held by both police officers and firefighters. As new insights emerged from the archival documents, I did further data collection in that direction, and modified the initial codes to identify themes (Miles and Huberman, 1994). For instance, I became aware of how the institutional mandate from President Lyndon B. Johnson’s administration to establish 911 as the “nationwide emergency number” challenged the first responder identity of police officers and firefighters, and how police and fire departments of that era reacted in response. I collected further data to understand these issues. At this stage, I also synthesized the materials to create an expanded chronology of events (Van de Ven and Poole, 1990) related to the history and implementation of 911.

In the second phase, I performed “focused coding” to examine how the jurisdictional disputes between the police and fire departments turned into protracted jurisdictional conflicts, and how these different departments addressed such conflicts. This phase highlighted the importance of the 911 dispatcher role in separating the conflicting professions from each other. This phase also led me to examine when, why, and how 911 emergency management organizations were established (or not) in different cities, and the role these played in providing resources and legitimacy to the 911 dispatchers. I used this understanding to design interview protocols for the senior police officers, firefighters, and 911 professionals. These retrospective interviews enabled me to document the challenges faced by the 911 dispatchers in facilitating emergency coordination, and how the establishment of the 911 emergency organization helped address those challenges. At this stage, I also wrote descriptive memos detailing the processes for dealing with protracted jurisdictional conflicts, focusing specifically on the coevolution of the 911 dispatching role and
911 organization in establishing a “truce” in the jurisdictional conflicts between police officers and firefighters, as well as documenting the variation in the sequence of events and outcomes related to implementing 911 within different cities in the U.S.

In the third phase, I wrote theoretical memos to organize my emergent findings into different categories and themes. I also engaged with relevant literature, in particular, the sociology of professions (Abbott, 1988; Anteby et al, 2016; Freidson 2001; Galperin, 2017), research on conflict and brokerage (Fernandez and Gould, 1994; Gould, 2003; Gould and Fernandez, 1989; Kellogg, 2014), and studies of coordination (Bechky, 2003; Faraj and Xiao, 2006; O’Mahony and Bechky, 2008). This iterative process helped me organize the findings in terms of truce structures — an ensemble of truce roles and organizational forms, including truce professions — that emerge to address protracted jurisdictional conflicts among symmetrical professions.

FINDINGS

In this section, I first provide an overview of the jurisdictional disputes between the two symmetrical professions – police officers and firefighters – in the field of emergency response within the United States, and how such disputes are rooted in differences between police and fire cultures. I then describe how the public used to report emergencies during the 1950s and early 1960, and how police and fire departments responded to those emergencies before the establishment of 911. I trace the events that led to the initial impetus for establishing 911 as the “nationwide emergency number” within the United States, and the institutional mandate that followed. Using the case of Delta City’s police and fire departments as an illustrative example, I show how police officers and firefighters resisted the 911 mandate, and describe how the jurisdictional disputes turned into protracted jurisdictional conflicts. Following this, I discuss how the new role of 911 dispatcher was introduced within Delta City to manage the jurisdictional conflicts, and the importance of the 911 emergency management organization in providing material support and legitimacy to the new role, shaping the emergence of a new profession – the 911 public safety telecommunicators (PSTs). I show how and why the 911 PSTs engage in triaging, directing, and channeling of the contested
tasks to the police officers and firefighters while keeping these professionals apart during the initial stages of coordination, and in the process, help address the protracted jurisdictional conflict between them. I conclude this section by providing an account of the status attainment issues that the 911 PSTs face in the emergency response field.

**Jurisdictional Disputes between Police and Fire: Narcissism of Minor Differences?**

Historically, the relationship between police officers and firefighters in the United States has been complex and tumultuous in nature, marked by pervasive tensions and discord (Stinchomb and Ordaz, 2007). Both professions share the protective mission of safeguarding the public and their property from harm. Both are considered to be first responders – officially as per the federal bureaucratic codebook (such as the Standard Occupational Classification, the SOC) as well as unofficially as per popular public perception. Yet, the relational bases of these two professions have been characterized – and continue to be characterized – by ongoing jurisdictional disputes. Firefighters often find themselves “dealing with law enforcement issues, whether it is in responding to emergency medical calls or investigating suspicious fires,” while police officers tend to “take command of incidents that go far beyond just criminal activity and encroach on what has typically been the domain of fire departments” (Willing, 2015). Such encroachments into each other’s jurisdiction lead to disputes, and sometimes even end up in arrests. For instance, Captain David Wilson of the Fire Department in Robertson, Missouri was arrested after “refusing a Hazelwood police officer’s order to move a fire truck parked at the scene of a motor vehicle accident” (Varone, 2009). These disputes can occasionally lead to physical violence, such as the case depicted in a *New York Times* article where a police officer and a firefighter got into a fight when “trying to free a burglar who was stuck in the chimney of a Queens restaurant” (Correal, 2014) during which the police officer “allegedly shoved and injured a firefighter during an argument over access to the dual crime/rescue scene” (Adwar, 2014).

While such jurisdictional disputes are pervasive and ongoing, and could be viewed as a form of “narcissism of minor differences” (Blok, 1988; Freud, 1930), it has deeper historical roots in how the two professions emerged and evolved within the United States, developing distinct cultural differences in training and socialization (Bittner, 1990; Manning, 1977; Van Maanen, 1973, 1975).

35
Early American police were “authorized by local municipalities” (Kelling and Moore, 1988), and were entangled with the local political machinery. They were expected to do the bidding of the municipal ward politicians and local businessmen (Fogelson, 1977). Until the 1930s, the responsibilities and jurisdictions of the police officers were unclear. Police officers “ran soup lines; provided temporary lodging for newly arrived immigrant workers in station houses and assisted ward leaders in finding work for immigrants” (Kelling and Moore, 1988, p.4). Police departments were responsible not just to prevent crime but also to control deviant behavior, including to “suppress vice... control narcotics, censor motion pictures, curb juvenile delinquency, and infiltrate trade unions and left-wing groups” (Fogelson, 1977, p.106).

The police reform initiatives implemented from the 1930s to the 1960s were aimed at narrowing the functions of the police to enforcing the law. As the local politicians wanted to maintain the status quo, they obtained support from the public to question the reform initiatives, asking if “everything from murdering a relative to kidnapping a child, robbing a bank, spitting on the sidewalk, playing cards on a train, selling ice cream on Sundays, and kissing in public were considered a crime, what purpose would it serve to insist that the police focus exclusively on preventing crime?” (Fogelson, 1977, p.109). The urban reformers, in turn, drew a distinction between controlling criminal activity and curbing deviant behavior, and made the case that the jurisdiction of the police should be restricted to the former. These reforms succeeded in narrowing the responsibility of the police.

Successive police reforms tried to professionalize the police force by bringing it under the “civil service” umbrella and making it a part of the criminal justice system. This was done to minimize political interference through establishing police as an independent agency of the urban government, siting it away from the municipal headquarters and the City Hall. More importantly, the urban reformers established the “principal bases of police legitimacy... in criminal law” (Kelling and Moore, 1988, p.5) and in the police’s “monopoly over the capacity to use force” (Bittner, 1967). This monopoly over the use of force became a distinguishing aspect of the role of police in society, as compared to other emergency response professions. However, most police-public encounters “do not involve the use of force by the police... Conflict let alone violence is thankfully rare” (Waddington, 1993; p.10). But it is the potential for the use
of force that became important and served as the foundation on which “police authority ultimately rests” (Waddington, 1993; p.10; see also Sykes and Brent, 1983).

The police reforms leading up to the 1960s professionalized the police force and clarified their role as enforcers of the law. Nevertheless, the everyday practice of policing involved not just law enforcement and crime fighting, but also order maintenance – the “unacknowledged craft of police work… to restore order informally by warning, advising or threatening those causing a nuisance, [using] his [sic] legal powers as resources for maintaining the peace, not for arresting minor criminals” (Waddington, 1993, p.4; see also Bittner 1967, 1983) – and service that involved activities such as regulating traffic and responding to community problems (Brown, 1988; Rumbaut and Bittner, 1979; Wilson, 1968). The police officers looked at such service derisively as a form of social work that was dumped on them, observing along the following lines: “If only we didn’t have to do social work, we could really do something about crime” (Kelling and Moore, 1988, p.6). The tensions among the law enforcement, order maintenance, and service roles of the police were manifested during their response to emergency incidents, especially when they interacted with members of other public safety agencies such as the firefighters.

Firefighters in the United States had a different institutional trajectory to that of the police. The history of firefighting in America can be traced back to the 17th century after the 1631 fire in Boston (Tebeau, 2012). Benjamin Franklin founded the first volunteer fire company in Philadelphia in 1736, and since then, volunteer companies composed of civilian firefighters have been the primary organizational model of firefighting in the United States (McChesney, 2015). The American founding fathers and revolutionaries, such as George Washington, Alexander Hamilton, and Samuel Adams, all served as volunteer firefighters. The firefighting service was a quintessential social organization embedded in the local community, and funded initially by insurance companies. But many homes in the mid-19th century were not insured. When responding to a fire emergency, the firefighters could differentiate between homes that were insured and those that were not from the fire insurance marks located on the front door. This, in turn, led to differential emergency response and outcomes, as the firefighters knew that they would not be paid by the insurance companies for their efforts with respect to uninsured homes (Ruth and Sroka, 1998).
Consequently, reform efforts unfolded in the mid- to late-19th and early 20th centuries to professionalize the firefighters, clarify their responsibilities, and delineate their jurisdictions. As a part of this reform, the first fully paid and professional fire department was established in Cincinnati, Ohio in 1853. The professionalized firefighters were structured around fire companies, firehouses, engines, and ladders (Tebeau, 2012, p.36). The National Fire Protection Association (NFPA) estimates that as of 2015, there are approximately 1,160,450 local firefighters in the United States, of which 345,600 (30%) are career firefighters, and 814,850 (70%) are volunteer firefighters (NFPA, 2017).

Initially, the jurisdiction of the firefighters was limited to taking control of the firehose, supplying water to an emergency situation, locating, confining, and extinguishing the fire, and search and rescue. Over time, these functions were extended to structural ventilation and overhaul, securing utilities, as well as providing basic emergency medical services that could stabilize a victim before the EMTs arrived. The type of firefighting also expanded from dealing with structural fires and high-rise fires to confined-space firefighting, airport firefighting, and HazMat firefighting.

Prior to the introduction of 911, members of the public called the telephone number of the local police station, the firehouse, or triggered the call boxes installed on street corners. When the police officers and firefighters arrived at the scene of an emergency, jurisdictional disputes often arose in dual-category incidents: those emergencies involving both a law-enforcement and a rescue dimension. Motor vehicle collisions were one such example, as were suspicious fires and arson. In such situations, questions emerged about who is primarily in charge of the emergency scene, that is, “who is authorized to give a lawful order, and who is duty bound to follow that order” (Varone, 2009). This question is jurisdictionally tricky because “neither firefighters nor police officers have the authority to self-declare themselves to be the ultimate ‘in charge’ person or agency at an emergency scene. Rather, any authority to be in charge exists as a result of a complex interrelationship of state and local law.” (Varone, 2009; see also Swinhart, 2009). Due to the peculiarities in the law from state to state, and even county to county, there were no general rules in the

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3 This was before the mid-1960s when the “smoke detector” had not yet been commercialized beyond industrial settings, and was not widely diffused and installed in households.
U.S. concerning who is operationally in charge for what types of emergency incidents. Those decisions were usually provisional settlements negotiated between the police and fire departments in the area where the incident took place. Sometimes, it depended on who arrived first to the scene of an emergency. At other times, it was based on the report timestamp, that is, to which department the emergency is first reported [by the callers]. In a few other instances, the provisional settlement was based on the type of the incident: some incidents are clearly fire-related, while other incidents are clearly police-related. This continues to be the case even today.

Beyond the question of who was in charge, jurisdictional disputes take many other forms due to the differences in police and fire cultures (refer to Table 1 for the sources of disputes in emergency response between police officers and firefighters). One such is the method for staging vehicles in response to an emergency. Police officers are trained to be “mindful of the impact that traffic delays cause, including the potential for secondary accidents. Their training and socialization require them to minimize traffic disruptions whenever possible and keep the traffic flowing” (Varone, 2009). This results from their order-maintenance orientation (Wilson, 1968), as the police officers are aware that traffic delays can cause disorder on the street in the form of road rage and fights among drivers stuck in traffic, which will then “come back to bite them.” They thus stage their vehicles so that they will not block traffic, and they expect the firefighters to do the same. Firefighters, on the other hand, have been trained and socialized so as to ensure that they and their team are not run over by commuters when they are on the street and responding to emergencies. Thus, their staging of vehicles is done to intentionally block traffic and make the scene safer for them to operate, including the ability to unload their gear and equipment, and then later, to rescue and resuscitate victims without being disturbed by the traffic. To avoid being told what to do and how to properly stage vehicles, each department wants to own the incident so that they get to do things “their way.” All of these provoked a contest about who should be in charge of emergency incidents, resulting in jurisdictional disputes.

--- Insert Table 1 here ---
Another source of tension emerged due to the differing priorities of the police officers and firefighters. As enforcers of the law, one of the main responsibilities of police officers was to perform investigations, question witnesses, and, if possible, collect evidence from crime scenes especially for minor crimes that do not need forensic analysis or specialized detectives. This responsibility also included questioning injured victims about the nature of the crime or collecting material evidence from their body and/or property. Police officers place special attention on this activity because among the three roles of the police (order maintenance, law enforcement, and service), it is this role of law enforcement that “gets reinforced and rewarded within the organization” more than the others (Wilson, 1968; Van Maanen, 1974). Firefighters, on the other hand, focused on stabilizing the victims through search, rescue, and resuscitation efforts, and see the police officers’ evidence collection procedures to be a “dangerous distraction.” In turn, police officers perceived firefighters as “evidence eradication teams” (Swinhart, 2009) who undermined their ability to question witnesses, make arrests, collect evidence, and turn the arrests into convictions. These differences further provoked jurisdictional disputes about who controls the scene and in what ways.

A final source of tension is the firefighters’ assumption that they are exempt from the reach of police officers (and the law, more broadly) during emergency response, and that the local laws regarding parking, vehicle collision, and co-operating with evidence gathering did not apply to them. In spite of their safety-oriented staging practices, when responding to an actual fire, the firefighters relied more on individual heroics in the form of skipping or short-changing procedures to be fast and/or get as close to the fire as possible. Such heroics also became the marker of status within the profession. In response to a suggestion made by a firefighter for more training and education to avoid line-of-duty deaths, a fire lieutenant responded: “Firefighters have to get killed; it’s part of the job.” (Clark, 1976). On the other hand, police officers, due to their need to maintain a demeanor of authority as the enforcers of order, found the firefighters’ behavior to be a visible threat to their authority as the living-and-walking manifestations of the law (Van Maanen, 1978) in front of the public. This difference too contributes to jurisdictional disputes regarding who gets to take charge of the scene.
Institutional Mandate to Establish 911: Disputes Turn into Protracted Jurisdictional Conflicts

Prior to the 1930s, the police installed call boxes on streets and in public places to report emergencies. The first police call box was installed in Chicago in 1880, followed by several other cities such as Boston, Washington D.C., and Detroit. The call boxes included “a rotary dial feature that signaled, via telegraph, a code with a specific message. Some of the messages included: police wagon required, accident, murder, disorderly (drunkard) and others.” (Borelli, 2015). Until 1968, there was no single telephone number to report emergencies within the United States. Each public safety agency had a distinct telephone number (Kertz, 1968). Police departments were organized around zones and districts, with a specific set of officers assigned to a neighborhood and asked to go on the beat. Members of the public were accustomed to calling their local police departments to report emergencies from their homes. For instance, Los Angeles County had 50 different numbers for reporting police emergencies, while St. Louis had 32 numbers for reporting police emergencies and 57 for fire emergencies. Fire departments were organized around fire districts and fire stations. In addition to a telephone number for reaching the local fire station, alarm boxes were installed on streets for reporting a fire. Prior to the diffusion of residential smoke detectors during the late 1960s and 1970s, alarm boxes and heat detectors were used to report fires.

Due to the profusion of telephone numbers for various public safety agencies, the “traditional means for reporting emergencies” were considered by city officials to be inefficient and “close to anarchy” (Shawhan and Gershon, 1985, p.3), causing severe delays in emergency response. During this period, the fire departments perceived that the police were gaining control of many emergency incidents (Shawhan and Gershon, 1985, p.4). In 1957, the National Fire Chief’s Association of the United States suggested the use of a single number for reporting emergencies as a way to streamline the emergency response process. The idea of a single emergency number grew in prominence, reflecting in part such usage in other countries — for example, the United Kingdom had been using a national emergency number (999) to report emergencies since 1937. However, at that time there was a lack of political will within the United States to implement such an idea.
This began to shift in the 1960s. In 1962, the Cuban Missile Crisis popularized the idea of a "hotline," as one was established between the White House and the Kremlin. Natural catastrophes, such as the Good Friday Earthquake (1964) and the Palm Sunday Tornado Outbreak (1965), highlighted the need for a better emergency response system. The murder of Kitty Genovese in March 1964 was another important catalyst for establishing a single emergency number, as the multiple people who allegedly heard her cries for help failed to report the incident. In 1966, the National Academy of Sciences issued a report titled "Accidental Death and Disability: The Neglected Disease of Modern Society" which included a recommendation for "active exploration of the feasibility of designating a single nationwide telephone number to summon an ambulance" (NAS, 1966).

The crime wave of the mid-1960s, followed by riots and civil disorder in Newark, NJ and Detroit, MI, prompted President Lyndon B. Johnson’s Commission on Law Enforcement to release a report in 1967 that recommended a "single number should be established nationwide" for reporting emergency situations. This was intended to provide a nationwide telephone number to give members of the public fast and easy access to a Public Safety Answering Point (PSAP), which served as dispatch and communication centers (these evolved to become emergency management organizations). In November of that same year, the Federal Communications Commission (FCC) decided to partner with American Telephone and Telegraph Company (AT&T) to evaluate the technical feasibility of a nationwide emergency number and decide what that single number should be. The Defense Commissioner of the FCC got in touch with the top officials of AT&T and "strongly urged AT&T to make every effort to find a means of establishing a universal emergency number that could be put into effect as quickly as possible and then take steps to see that this was done" (AT&T Memo, 1985). At that time, AT&T was embroiled in anti-trust lawsuits, which gave the Federal government and the FCC leverage over it to accomplish the implementation of a nationwide emergency number that would be "simple, easy to remember... and provide simplified direct access to safety agencies" (AT&T Memo, 1985).

In 1968, AT&T proposed that 911 should be used as the new universal emergency telephone number, as that number met the "long range numbering plans and switching configurations of the telephone
industry.” (AT&T 911 Product Team Report, 1977), and was not already in use as an office code, area code, or service code. Soon after, the U.S. Congress agreed to support 911 as the emergency number standard and passed the legislation to make “911 the exclusive number for any emergency calling service.” On February 16, 1968, Alabama Senator Rankin Fite made the first 911 call in Haleyville, Alabama (refer to Figure 1). By the end of 1976, the 911 number was serving about 17% of the population of United States. Figure 2 depicts the timeline of 911 implementation within the United States, and Table 2 elaborates on the details of that timeline.

--- Insert Figures 1, 2 and Table 2 here ---

Initially, members of the public resisted calling 911 as they were used to calling the local police department with whom they were familiar. For instance, Commissioner Francis “Mickey” Roache of Boston said that even after the City of Boston instituted 911 in 1972, Bostonians “persisted in calling ‘their’ police – the district station” (Kelling and Moore, 1988, p.15). The Federal Government together with AT&T and the FCC launched a national communications campaign to establish 911 as the nationwide emergency number. Complicating the implementation were the technical difficulties associated with re-routing a 911 call to the appropriate or nearest public safety agency. Telephone exchange boundaries, the smallest manageable unit for 911 purposes, were determined by various economic and geographic considerations. Public safety agency boundaries were generally determined by various historical considerations. Consequently, the telephone exchange and public safety agency boundaries did not coincide in many cities and towns within the U.S., which presented a considerable problem with regard to call re-routing and implementation of 911 (Kertz, 1968). To elaborate, in providing 911 services to any community, a number of telephone exchanges were potentially involved. For those exchanges that coincided fully within a geographic community, there was no particular problem. But some exchanges spilled over into adjacent communities. Citizens in an adjacent community but in the same telephone exchange area would dial 911 during an emergency and reach the police department of another town or city, rather than their own.

4 The specific details of how 911 shifted from a “number that no one wanted to call” to being institutionalized as the “nationwide emergency number” are beyond the scope of this chapter.
Inevitably, this would cause delays in adequate response because of the distance between the department and the location of the emergency (AT&T Memo, 1985). In situations such as these, inter-jurisdictional cooperation between police departments and fire departments became paramount because a process needed to be established to handle calls received from another community (e.g., what is the maximum number of police officers or police cars a police district can send to another district at any given point in time.)

The most prominent source of resistance to the nationwide emergency number came from the local police and fire departments, who felt that 911 was an intrusion into their jurisdiction that robbed them of the discretionary rights they needed to perform their job well. Police and fire departments were thus unwilling to yield control on who should own and manage 911, specifically, who should answer the 911 calls first, ascertain whether the emergency is a police or fire or dual incident, take control of the incident, and determine what type and gradient of response was needed for the emergency (AT&T Memo, 1968). Such resistance to 911 was shared across many of the police and fire departments in the major metropolitan cities in the U.S., including Delta City (AT&T Memo, 1977, 1985). As this senior police administrator from Delta City recollected:

That came as a big shock to us, we all felt that we have been taken for a ride, and no one even asked us what we wanted. We are used to our system, it was a well-oiled machine and we know who to trust, we knew the community, we even knew, not always, but often, who is calling and what they want... So this concept of 911 was new to us. But we were willing to work with it as long as we answer it – or someone from the department. Not the fire department. What do they know about police work?

The police officers thus resisted giving up control on first response. The firefighters, who were used to taking orders from their fire station, similarly perceived the centralized process as a challenge to their discretionary decision rights and jurisdiction. As this retired firefighter from Delta City reflected:

We have one of the best infrastructures to detect fires... the maximum number of alarm boxes installed all over, more than any other city in America. We know the building codes and districts like the back of our hands, so just leave it to us... Do not ‘steal our fire’ because you all wouldn’t know what to do with it.

These negative responses by police and fire departments led to pervasive confusions and jurisdictional disputes about who was in charge of incidents. Prior to 911, such jurisdictional disputes used to be provisionally settled at the scene of the emergency. Now, due to the reporting of emergencies via 911, decisions about the nature and type of emergency and who was to be in charge needed to be determined
ahead of time and recorded in the dispatch system. But neither the police nor the fire department wanted an integrated system that would handle both police and fire-related incidents, resulting in protracted jurisdictional conflicts about the ownership of 911. Both of them wanted to handle 911 independently of each other. For the next decade, the police departments in many cities continued to operate their own dispatch system in their headquarters, and the fire departments continued to rely on its alarm boxes and the fire telegraph system. This was especially so in Delta City, where the fire department insisted on using their own internal system to handle and dispatch 911 calls. All of these countered the notion of a single emergency number to report emergencies, and even led to redundant reporting that caused delays in emergency response.

**Emergence of a New Profession: Addressing the Protracted Jurisdictional Conflicts**

Despite millions of dollars in federal funding and increasing pressure from the Executive Branch, the implementation of 911 as the nationwide emergency number proceeded slowly, in part due to the jurisdictional conflicts between the police and fire departments within the U.S. This conflict became “more severe, more emotional and more apt to retard 911 planning and implementation efforts” (AT&T Memo, 1985), delaying the execution of integrated emergency response by two decades.

The White House’s Office of Telecommunications issued a national policy statement on March 1973, elaborating the benefits of 911 and encouraging the nationwide adoption of 911. In addition, it established a Federal Information Center to assist local governments in 911 planning and implementation. Despite these efforts, the implementation of an integrated 911 emergency response system for handling police and fire/medical emergencies continued to be slow. By 1979, only 26% of the United States population had 911 service, with nine states having enacted the 911 legislation. By the mid-1980s, only 50% of the US population had access to 911 emergency service. This delay proved a vexing challenge for federal agencies such as the FCC as well as for AT&T who were responsible – officially and unofficially – for “making it happen” and implementing 911 across the United States (AT&T Memo, 1988).

Consider for example, New York City, the first major city within the U.S. to enable and provide access to 911 in 1972. Given deep historic rivalries, the New York Police Department (NYPD) was unwilling to
give any control of the emergency system to the Fire Department of New York (FDNY), thus delaying the implementation of 911 city-wide. While there were a number of issues that impacted the delay, including the reluctance of NYC politicians to add further expenses to their budget, the issue that significantly impacted the delay on the ground was the interagency jurisdictional conflict between NYPD and FDNY. As this was a matter of command and protecting turf, neither side wanted to yield and agree to institute a PSAP for handling 911 calls that were independent of their respective department. When such jurisdictional conflicts occurred, the proposed policy at that time to address those conflicts was the following:

> When the situation arises where agencies cannot reach an agreement on the location of the PSAP, the agencies that will participate, or which agency will control its operations, the ICC [Proposed Independent Body for Arbitration] will have to settle the matter. The Telco [AT&T] role is not to arbitrate in disputes, but to provide consultation and assistance for the telephone portion of the 911 system [AT&T 911 Product Team Report, 1977]

But such attempts at arbitration by independent bodies failed to resolve the issue. Both NYC police officers and firefighters wanted to directly take the 911 calls that were rerouted to them by the telephone exchange based on the preconfigured mapping (that did not always correspond to who was nearest to the scene of the emergency), leading to delays in response time. Similar issues were prevalent in other major metropolitan cities within the U.S., including Delta City.

**911 Dispatcher Role.** In Delta City, 911 was introduced in the mid-1970s. Until then, members from the police and the fire department attended the emergency calls that the public made to their local telephone numbers. As described earlier, police departments assigned this role to officers who were near retirement, or more typically to the “cabbages”—officers who were “devoid of drive or ambition, or who seem to want nothing to do with the work involved in police work” (Van Maanen, 1979, p.10). The same arrangement continued even after the introduction of 911. This way, the police department controlled the police-related 911 calls, while using the cabbages within their department to answer the calls made to 911 (Bell, 1977).

Such tussles between the police and fire departments in the Delta City, however, led to delays in emergency response. There was increasing political pressure from the Mayor’s office to resolve the conflicts and reduce the response time for 911 calls. City officials (especially from the Department of Planning and Development) were asked to intervene. These officials first individually met with the Chiefs
of the Delta public safety agencies, suggesting the need for an integrated emergency response system that could handle police, fire, and medical emergencies. But those initial attempts failed. Consequently, the city officials suggested an alternative arrangement to improve response time: the introduction of a civilian 911 dispatcher role to handle the calls made to it (Bell, 1982).

At first, Delta City’s Fire department resisted this idea, but they subsequently agreed that as long as the new recruits to this 911 dispatcher role were civilians, and not retired or existing police officers, they would go along with the arrangement. They believed that civilians would be relatively more neutral than the police officers in assessing and categorizing the 911 calls. The Delta Police Department also agreed to the new arrangement, but insisted that the new 911 dispatchers be located within the police department’s headquarters. A compromise was reached, and with the approval of Delta City’s Office of Management and Budget (OMB), the agencies hired and trained civilian 911 dispatchers in both police and fire emergency protocols over the next 2 years (AT&T Memo, 1988).

These 911 dispatchers were able to handle the 911 calls for both police and fire, perform triage to determine the type of call, and then direct those tasks to the appropriate police station or firehouse. In doing so, they were able to absorb those tasks that the police and fire departments were contesting. Moreover, the role of 911 dispatch avoided the situations where sergeants of police districts and lieutenants of fire stations tussled directly over the type of emergency and who would be in charge of the emergency scene in the case of dual-category incidents. More generally, the 911 dispatchers were, in theory, expected to take control of the contested jurisdictions during the early stages of emergency coordination when the nature and type of emergency were being determined.

However, in practice, the newly hired dispatchers faced two significant challenges. First, their immediate supervisors were police officers. Second, they were situated within the Delta police headquarters. This led to challenges in their ability to be neutral in determining the nature of the 911 call and initiating a graduated response. Sometimes, the police supervisors would push them to categorize a particular 911 call as a police incident. At other times, even when a call was clearly a fire incident, the supervisors would insist on sending police backup. Moreover, some of the supervising police officers were
rude to the civilian dispatchers as a tactic to make them fall in line. One senior 911 dispatcher at Delta City, who is now a trainer, recollected:

I learnt a lot from them [officers]... but they can be very mean to all of us. There were these two officers, one day they walked in with a pin [button badge] that had the slogan “I Hate Civilians.” Another one used to greet us saying “Hey, phone monkeys” and in even more colorful terms... They were very nasty to us, humiliate us in front of the whole floor if we make any mistakes – or even if we don’t do or just deviate slightly from what they want us to do... I get PTSD not from taking the calls but from trying to remember those days.

As a result, the newly hired civilian 911 dispatchers at Delta City were co-opted by the senior police officers who supervised them. Consequently, they were unable to fully perform their job of determining the nature and type of emergency, and dispatching it to the appropriate public safety agencies.

**911 Emergency Management Organization.** Research reports from AT&T claimed that the main factor preventing the implementation of 911 in cities was the lack of agreement among public safety agencies, that in turn prevented the establishment of a “common answering and dispatching center” (AT&T Report, 1989). The report documented that the implementation of 911 had gone faster in cities that had established a 911 dispatch center separate from both the police and fire departments. For instance, the city of San Francisco had introduced 911 in 1981 and created a 911 dispatch center shortly after. The 911 dispatch center was independent from police and fire departments. It hired 12 civilians and trained them as 911 dispatchers, situating them within the San Francisco Hall of Justice, and putting them in charge of answering 911 calls and dispatching the appropriate field unit to the location of the emergency. The cities of New York (see Figure 3) and Phoenix similarly established 911 dispatch centers that were distinct from their police and fire departments. At those cities, once a separate 911 call center was established, the Fire Department Regional Dispatch Center automated its dispatching services from a manual process to a Computer Aided Dispatch system (“CAD” for short), and united with the police department to create a single emergency system, thus avoiding jurisdictional conflicts.

--- Insert Figure 3 here ---

The 911 dispatchers at Delta City took notice of these developments, and as they were not part of Delta City’s police union, they formed their own “Public Safety Employees” union. This allowed them to negotiate with the Police Chief and the City’s OMB, while also sending representatives to the Mayor’s
office, urging Delta City to follow the lead of other cities and establish a 911 emergency management organization that would be separate from the DPD and DFD. This argument was aided by the rising volume of 911 calls that was making it difficult for individual agencies to handle and dispatch on time. During the early 1990s, the Delta police department was answering only 60% of all calls within 12 seconds or less. Publicizing these delays in call-taking and dispatch time in local newspapers led to further pressure on the city officials.

In 1994, the Mayor’s office concurred with the proposal of the 911 dispatchers to establish a separate emergency management organization. Around $200 million in obligation bonds were used to fund the new dispatch center, which was posited to eliminate conflicts and duplication through a single integrated dispatch operation. A new director was appointed to take charge of the 911 Emergency Dispatch Center — also referred to as the Delta Emergency Management Organization (DEMO) — with the goal of answering 90% of all 911 calls within 12 seconds or less. The 911 center was opened and became operational in the late 1990s, and was given the responsibility to manage emergency operations for all of Delta City, independent of the police and fire departments, and physically miles away from the police and fire department headquarters.

The new 911 emergency organization played two important roles for the 911 dispatchers. First, it provided them with legitimacy as independent professionals, while also providing their own chain of command, training, rules and regulations that were different from those of the police and fire departments. More importantly, it signaled that in day to day emergency operations, the 911 dispatchers were the command center for all of Delta City. This meant that the City had formally accorded them the authority to give orders and direct the police officers and fire fighters during an emergency. In addition, the 911 dispatch center provided material resources — in the form of salaries and bonuses that were not tied to police or fire pay structure, open layout space with large cubicles and multiple computer terminals, comfortable chairs and desks, advanced Computer Aided Dispatch systems, and shift scheduling systems — that made them relatively independent of the existing public safety agencies within Delta City. As this senior 911 dispatcher at Delta City reflected:
When we were initially asked to move to DEMO, we were thrilled but we were also warned by the officers that we are now all by ourselves and that there will be no one to mentor us and watch our back... It is true in some sense, the supervisors [police supervisors of 911 dispatchers] – they may be assholes – but they are knowledgeable and can work the politics... But after moving here, the big relief we had was that now finally, FINALLY, we can just do our job without getting bullied and insulted and treated like shit. We felt like a community, doing important life-saving work, and able to do that work individually... and not out of fear. That was a great feeling.

Many other cities and towns in the U.S. established a 911 emergency center as an independent organization, distinct in its role and command structure from the other public safety agencies within the city. For example, Boston established the 911 emergency line in 1972, but created an integrated 911 emergency center only in 1994 due to jurisdictional conflicts between police and fire departments. As a result of these conflicts, the only areas with available 911 coverage were within the Boston city limits, but not in the suburbs. The establishment of an integrated 911 emergency center in 1994 addressed this issue. All calls were sent to the same 911 emergency dispatch center, which would then dispatch units all around the city between the agencies as well as in neighboring areas. Similarly, Washington D.C. also ran into complications in the implementation of 911. In 1981, the first 911 calls were placed, but many of them were for non-emergencies. The city’s police departments were in charge of answering the calls, but were unsure how to handle and reroute the calls. In 1987, a woman called 911 to report a fire, but was told by the responding police officer to call the fire department instead. Due to this, there were substantial delays in emergency response. In 1999, a Public Safety Communications Center combined Police and Fire dispatching functions into a single facility (instead of police dispatching conducted at Metropolitan Police headquarters and Fire/EMS dispatching performed at the old Fire/EMS Department building.) The new 911 center brought the 911 call-takers, dispatchers and their supervisor onto the same operational floor, facilitating coordination between the public safety agencies. Many other cities within the U.S. followed similar trajectories. Please refer to Table 3 on how the organizational form of 911 emergency centers spread across the U.S. All of these processes shaped the emergence of a new profession – the 911 public safety telecommunicators (911 PST) – as a truce to address the protracted jurisdictional conflict between the police officers and firefighters

--- Insert Table 3 here ---
In a few cities such as Epsilon and Zeta, the role of 911 dispatch failed to evolve into a profession. At Epsilon, although civilians were hired as 911 dispatchers, an independent emergency management center was not established. At Zeta, existing police officers were retrained and deployed as 911 dispatchers in the newly established emergency center. Consequently, the new 911 PST profession did not take hold or fizzled out within the first few years. In the case of Epsilon, this was due to the co-optation of the 911 dispatchers by the police supervisors, as well as the lack of resources for professional training and development. In the case of Zeta, this was due to the lack of legitimacy on the part of the police dispatchers as neutral actors in assessing and dispatching 911 calls.

Nevertheless, the 911 PST profession was widely established due to their prominent presence in many of the major metropolitan cities within the United States. In addition to an existing professional association called APCO, a new professional association - National Emergency Numbers Association (NENA) - was formed, with the following mission:

NENA serves the public safety community as the only professional organization solely focused on 9-1-1 policy, technology, operations, and education issues. With more than 12,000 members in 48 chapters across North America and around the globe, NENA promotes the implementation and awareness of 9-1-1 and international three-digit emergency communications systems.

NENA works with public policy leaders; emergency services and telecommunications industry partners; like-minded public safety associations; and other stakeholder groups to develop and carry out critical programs and initiatives;... and to establish industry leading standards, training, and certifications.

Due to successive changes in the technological and institutional environment, the 911 call-takers and dispatchers became responsible for a wider array of tasks that had traditionally been done by police officers and firefighters. 911 PSTs now “play a greater role during emergencies by gathering information and giving advice that can make the difference between life and death” (APCO, 2016), including giving medical instructions for first aid and CPR. Advanced training and certification standards for the PSTs have also been established by the professional associations in areas such as emergency medical dispatch, active shooter scenarios, and crisis negotiation.

By 2009, cellphones were used more frequently than landlines to call 911. The growth and diffusion of mobile services, including cellphones, smartphones, multi-band and encrypted first responder radios,
vehicle telematics, and public alerting systems, have significantly impacted the work of 911 PSTs. The way that 911 PSTs work with police officers has also changed. PSTs have access to technology to observe when a police vehicle stop has been made and if the officer’s weapon is drawn. At some emergency management organizations, PSTs also have access to CCTV camera feeds. This enables the dispatchers to further interact with the police officers on the ground. Moreover, technologies such as gunshot detection, police body-worn cameras, and real-time location tracking have further increased the jurisdiction of 911 PSTs.

The Elusive Status of “First Responder”

Despite securing and expanding their jurisdiction over a variety of public safety tasks, the 911 PSTs were unable to gain the valued status within the broader field of emergency response. Specifically, their categorization as first responders proved to be elusive. Although the 911 PSTs are technically the first responders to emergencies of various kinds (i.e., they are the first contact for the 911 callers facing an emergency before the police officers or firefighters) and perform a complex range of public safety tasks from guiding the administration of cardiopulmonary resuscitation (CPR) over the phone to handling active shooter incidents, they are not considered as first responders – either at the inter-professional level by the police officers and firefighters or at the official level by federal government agencies such as the Office of Management and Budget (OMB) that controls the Standard Occupational Classification (SOC).

APCO, one of the main professional associations for the 911 PSTs, claims that the profession has “transformed from a clerical role to the lifesaving” (APCO, 2016) due to the changing nature of emergency response as well as advancements in emergency response procedures and technologies (such as their access to vehicle telematics data from police cars and video feeds from CCTV cameras) that these professionals need to master. Moreover, the 911 PSTs have more formal authority than the police officers and firefighters during emergency dispatch. Yet, their professional status claims to be designated as first responders remain unsuccessful.

The 911 professionals launched a public campaign urging the Federal OMB to change their categorization to “Protective Service” and formally refer to them as “public safety telecommunicators” (refer to Figure 4 for the text of the campaign.) Such a change in categorization has both a symbolic
significance in elevating the professional status above office support or administrative personnel, and a material significance in terms of increased pay structure and benefits. The petition, titled “9-1-1 Professionals Should be Recognized for Protecting and Saving Lives,” was circulated among multiple 911 dispatch centers and to the public, emphasizing the following:

In the United States, children are taught to call 911 because the public trusts 911 professionals will be there to take appropriate action to protect them. The federal government’s classification system... must be updated to recognize these professionals for their dedication and the lifesaving nature of their work. Sign this petition to ensure 911 professionals receive the recognition and respect they deserve for the work they do.

In a similar vein, the 911 professional associations such as APCO and NENA lobbied the U.S. Congress to ask the OMB for the following: (a) move their SOC from “Office and Administrative Support” to “Protective Service,” and (b) relabel them from “Police, Fire, and Ambulance Dispatchers” to “Public Safety Telecommunicators.” In the 2010 SOC, the 911 Professionals were classified as Police, Fire, and Ambulance Dispatchers under the Office and Administrative Support major group:

<table>
<thead>
<tr>
<th>43-0000 Office and Administrative Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>43-5000 Material Recording, Scheduling, Dispatching, and Distributing Workers</td>
</tr>
<tr>
<td>43-5030 Dispatchers</td>
</tr>
<tr>
<td>43-5031 Police, Fire, and Ambulance Dispatchers</td>
</tr>
</tbody>
</table>

The 2010 SOC’s description for “Police, Fire, and Ambulance Dispatchers” is as follows: “Operate radio, telephone, or computer equipment at emergency response centers. Receive reports from the public of crimes, disturbances, fires, and medical or police emergencies. Relay information to law enforcement and emergency response personnel. May maintain contact with caller until responders arrive.” Not satisfied with this description, APCO proposed the following change to the SOC:

<table>
<thead>
<tr>
<th>33-0000 Protective Service Occupations (existing major group)</th>
</tr>
</thead>
<tbody>
<tr>
<td>33-9000 Other Protective Service Workers (existing minor group)</td>
</tr>
<tr>
<td>33-9090 Miscellaneous Protective Service Workers</td>
</tr>
<tr>
<td>33-9094 Public Safety Telecommunicators</td>
</tr>
</tbody>
</table>

APCO was able to successfully convince some members of Congress, especially Rep. Norma Torres from California who used to work as a 911 dispatcher, to exert their influence and write letters to the
administrators of OMB and Office of Information and Regulatory Affairs (OIRA), asking them to re-categorize the 911 profession under Protective Service and treated on the same footing as other “first responders” such as police officers and firefighters (refer to Figures 5 and 6). Multiple members of Congress wrote to the Administrator of OIRA, urging him to relabel the profession as Public Safety Telecommunicators, as it “better captures the complex and technical nature [of the job] … [and] acknowledges the distinction from non-emergency dispatchers.” They also urged him to re-categorize the 911 professionals under the Protective Service SOC code, so that they can be recognized “as professionals who share the same protective mission as police officers, firefighters, transportation security screeners, crossing guards, lifeguards… The current classification within the “Office and Administrative Support” major group is not consistent with the specialized training and life-saving nature of the tasks performed by the Public Safety Telecommunicators.”

--- Insert Figures 4, 5, and 6 here ---

The OMB, however, rejected the need for such re-categorization and in response, provided the following rationale for it:

_The work performed is that of a dispatcher, not a first responder._ Most dispatchers are precluded from administering actual care, talking someone through procedures, or providing advice. Moving… to the Protective Services major group is not appropriate and separating them from the other dispatchers [such as taxicab dispatchers] would be confusing. _Also, dispatchers are often located in a separate area from first responders and have a different supervisory chain_” (OMB, 2017, emphasis added)

In response, the 911 professionals launched another campaign and initiated a White House petition, but it failed to garner adequate support. Rep. Norma Torres wrote to OIRA, expressing her “disappointment in the recent recommendation by the Office of Management and Budget… As a former 911 dispatcher, I know that public safety telecommunicators are professionals who are critical partners to our first responders and I urge the Office of Management and Budget to classify these public safety workers as a Protective Service Occupation in the final SOC structure.” She continued in the letter:

Public safety telecommunicators are required to receive specialized training and must either obtain national certification, state certification, or a combination of the two…these training requirements clearly demonstrate that dispatchers must possess a level of knowledge and education that far exceeds what is generally required of

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5 OIRA is an agency in the Executive Office of the President responsible for overseeing the implementation of government-wide policies.
I know firsthand that public safety telecommunicators are not just support staff, but are integral members of the first responder teams who do far more than answer a phone and send help... During critical incidents such as large fires, civil unrest, or weather related incidents, telecommunicators are mobilized just like police or fire personnel... in the immediate aftermath of the San Bernardino shooting, it was a 911 dispatcher who took the initial emergency call and helped law enforcement track down the shooters.

Despite these attempts, the 911 PSTs and their professional associations have been unable to convince the OMB to re-categorize them under Protective Service and attain the status of first responders. An important barrier they faced – and continue to face – is the lack of support from the higher-status and more powerful professionals they interact with: the police officers and firefighters. This is especially notable given that the police officers and firefighters, more than anyone, are aware of the complex work that the 911 PSTs perform (for example, handling emergency calls, guiding the administering CPR, managing active-shooter incidents, and even hostage negotiations.) Additionally, several other professions ranging from fish and game wardens, animal control workers, crossing guards, and TSA agents are categorized under the Protective Service SOC.

Interviews with multiple police and fire personnel at Delta City suggest that although they recognize the complex work that the 911 PSTs perform, they also believe that such work is not in the same league as the work they do. As this police officer remarked:

I get it, it is hard work and they need to do 10 things at once and be focused. It could get stressful and all that, I get it, I can imagine. Yeah, I can imagine that. But what they do is not the same as what we do. No fucking way. Being out on the street, seeing an asshole trouble-maker eye to eye, that’s a whole different game, at a different level... So we are the ones [first responders], why should they [911 PSTs] be called that? First responder, my ass... I’m not gonna support them. Why should I? In fact, I’m not okay with that at all [Interview, Police Officer, #PO22]

When I pressed this police officer further, asking if game wardens, animal control workers, and TSA agents are categorized under Protective Service and referred to as first responders, why not the 911 PSTs, he replied:

Look man, I don’t give a shit about TSA’s or wardens chasing squirrels, I don’t fucking care about who they are or what they do. Because it doesn’t fucking matter to me. Dispatchers, that’s a different story. We radio them all the time... they bust our ass, we bust their ass. And so [stops for a few seconds], how can they be called first responders - or protective service or whatever - when we are the first responders [stops again for a moment]. You hear me, it doesn’t make sense alright. Let’s just leave it at that [Interview, Police Officer, #PO22]

Similar sentiments were expressed by the firefighters, who noted that they value the service the 911 professionals provide, but that the 911 PSTs are not the ones “jumping into [a] fire and getting their ear...
burned.” Most of the firefighters and fire department administrators I interviewed were not supportive of the bid by the 911 PSTs to be categorized as first responders. This suggests that insofar as the 911 PSTs continue to try to position themselves alongside the focal professionals with whom they interact, their status attainment efforts will prove challenging, as such acts will trigger resistance from the higher-status focal professions. As a consequence, despite the PSTs increased professionalization and expansion of jurisdiction, the first responder status remains elusive to them.

DISCUSSION

I began this paper by asking what mechanisms can facilitate effective cross-professional coordination and implement change in conditions marked by protracted jurisdictional conflicts. Drawing on my findings, I propose a model that theorizes how and why truce structures can help address protracted jurisdictional conflict, and discuss its theoretical implications. I then elaborate the contributions of my findings to the literature on cross-professional coordination, jurisdictional conflicts, and status attainment.

Truce Structure as a Mechanism to Address Protracted Jurisdictional Conflicts

My findings identify the importance of what I am terming truce structures – an ensemble of truce roles and organizational forms – that address protracted jurisdictional conflicts among symmetrical professions. I draw on the findings to develop a model, shown in Figure 7, that explains how truce structures can help address protracted jurisdictional conflicts, facilitate cross-professional coordination, and implement institutional reforms and technological changes inside organizations.

--- Insert Figure 7 here ---

As shown in Figure 7, when there is ambiguity about the relative social rank of professions and when such symmetrical professions have competing claims over the core aspects of their professional identity, exogenous events (such as institutional reforms or technological changes) intensify the jurisdictional disputes among them, turning them into protracted jurisdictional conflicts. When symmetrical professions are required to coordinate during periods of change, it is unclear which profession’s “definition of the situation” (Perrow, 1986; March and Simon, 1958; Van Maanen, 1978) holds more weight (in this case, the
nature of the emergency and the type of response needed). In such contexts, each profession wants to reassert its dominant social rank in relation to the other profession by imposing its definition of the situation, and making claims that it is “in charge.” If these jurisdictional disputes are not resolvable through the five types of jurisdictional settlement identified by prior research (Abbott, 1988), they will turn into protracted jurisdictional conflicts that are further exacerbated when these professions come into contact with each other (Wright, 2009). All of these undermine cross-professional coordination, and jeopardize implementation of changes within organizations.

The findings from this empirical case suggest that street-level bureaucrats (Lipsky, 1983; Watkins-Hayes, 2009) — semi-agentic actors who “make policy... by exercise[ing] wide discretion... and autonomy from organizational authority” (Lipsky, 1980, p.13) — can intervene by instituting a new role that insulates the conflicting professions from each other by absorbing and handling the very tasks that the professions are contesting (in this case, the City Hall officials). Over time, a new role — what I refer to as the truce role — is established with distinct decision rights and jurisdiction. But for this to happen, two important boundary conditions need to be considered. First, is the truce role occupied by newcomers, or by employees hired from one of the conflicting professions? Second, is the truce role housed independently, or does it continue to be situated within the physical premises of one of the conflicting professions? When the truce role is occupied with existing members from one of the professions (in this case, members of the police or fire department), or if the truce role is housed within the physical premises of either one of these professions (in this case, police or fire headquarters), then the individuals occupying the role will either be co-opted and become subordinate to members of one of the professions, or they will lose their decision rights to independently make work-related judgements (in this case, to assess the nature and type of reported emergencies). Insofar as individuals who belong to neither of the professions are hired to occupy the truce role, and the truce role is housed separately from the physical premises of the conflicting professions, then the decision rights and jurisdiction of the truce role will be constructed and reinforced over time.

It is in such circumstances that a new organization established as an independent entity — what I refer to as the truce organizational form — becomes important. The truce organizational form (in this case, the
911 EMO or dispatch center) provides the needed resources and legitimacy for individuals in the truce role to exercise their formal authority over members of the conflicting professions. As a separate entity with a distinct chain of command, rules, processes, personnel, and systems, the truce organization is able to protect the truce role from being coopted and becoming subordinate to one of the conflicting professions. Moreover, physical distance from the premises of the conflicting professions (in this case, the police or fire department headquarters) enables the truce organization to protect its jurisdiction from external influence, which in turn signifies their symbolic distance from these professions. In this way, the truce organization provides a safe container for the construction and maintenance of the truce role’s jurisdiction.

The notion of truce organizations is distinct from that of “boundary organizations” (Guston 1999, 2001; O’Mahony and Bechky, 2008). A boundary organization serves as an intermediary that enables different professions with divergent interests to “substantively collaborate by building a bridge between divergent worlds that allows collaborators to preserve their competing interests” (O’Mahony and Bechky, 2008, p.426). This occurs through “enrolling actors on the basis of their convergent interests” (p.426; see also Latour, 1987), allowing them to collaborate and organize around those interests. While the truce organization also performs as an intermediary, it — unlike the boundary organization — isolates the professions from one another, especially during the initial stages of coordination where the “definition of the situation” is still getting worked out. In this sense, the intermediation keeps the conflicting symmetrical professions apart from one another. By taking ownership of the contested tasks through an orchestration brokering process, the truce organization is able to reduce the jurisdictional conflicts.

In my case, the coevolution of the 911 dispatch truce role and 911 EMO truce organization resulted in the emergence of a specific truce profession — that of 911 Public Safety Telecommunicators. A truce profession performs triage (e.g., Is this a valid emergency? What type of an emergency is this incident?), direction (e.g., Initiating a line of response and assigning the emergency jobs to police officers and/or firefighters), and channeling (e.g., Given the available resources and their location, whom should the agencies send to the scene of the emergency?) of tasks among the conflicting symmetrical professions without bringing those professions into direct contact during the initial stages. Over time, truce professions
develop their own professional codes, rules and regulations, standard operating procedures, and training programs. Professional associations are also formed, setting the standards for education and certification. These enable the truce profession to forge a distinct professional identity. It is important to note that a truce profession does not engage in negotiation and diplomacy among the conflicting professions to bring about a truce. Rather, it is the structural position of the truce profession as lower-status “stranger” (Simmel, 1908; see also Bearman, 2009) — newcomers to the field who are unaffiliated with either of the conflicting professions and who do not pose a status threat to those professions — that produces a truce in the jurisdictional conflicts among symmetrical professions. In that sense, truce professions may be seen to perform a specific type of brokerage role (cf. Fernandez and Gould, 1994; Gould and Fernandez, 1989) — which I term orchestrator. Distinct from the existing types of brokerage roles (coordinator, itinerant broker, gatekeeper, representative, liaison⁶) identified in prior research (Fernandez and Gould, 1994), the orchestrator does the following: (a) occupies the structural position of a lower-status stranger; (b) isolates the higher-status groups from interacting directly with one another; and (c) coordinates those professions through triaging, directing, and channeling (refer to Figure 8). In this way, orchestrators are create new boundaries while at the same time ensuring that the subgroup boundary of the higher-status professions remains secure. This, in turn, reduces the identity threat and jurisdictional conflicts experienced by those professions.

--- Insert Figure 8 here ---

Truce professions share similarities with the “brokerage professions” (Kellogg, 2014) identified in prior work. Both truce and brokerage professions are typically lower-status professions that buffer the existing higher-status professions from each other. Both professions exist in the interstices between the higher-status professions and in the process, carve out a distinct jurisdiction for themselves. However, the brokerage profession consists of existing workers within an organization, who take on additional tasks and responsibilities. The truce profession, in contrast, is a new and emerging profession. While the brokerage

⁶ Unlike the “middleman minority” (e.g., Blalock 1967; Bonacich, 1973) who mediate transactions between professional groups with a status gap, orchestrators buffer the professional groups without any such status gap.
profession facilitates coordination in situations where existing professions want to “hive off” certain lower-status tasks so as avoid performing them, the truce profession facilitates coordination in situations where the existing professions had previously competed to perform the same tasks that they considered to be core to their professional identity.

I label the ensemble of truce role and organizational form, along with the resulting truce profession, as *truce structures* because they are structural arrangements that produce a truce among conflicting professions. I argue that truce structures can help to address protracted jurisdictional conflict among symmetrical professions, and in doing so facilitate coordination and implement institutional reforms and technological changes inside organizations.

**Contributions to the Literature on Cross-Professional Coordination and Jurisdictional Conflicts**

This study makes several contributions to the literature of cross-professional coordination and jurisdictional conflicts. First, this study applies Gould’s (2003) theory on social conflict to the context of professions to theorize how and why jurisdictional disputes between symmetrical professions can turn into protracted jurisdictional conflicts. Second, this study identifies a new type of jurisdictional settlement: the emergence of truce professions. Prior research has identified specific types of jurisdictional settlements (full jurisdictional control, subordination, shared jurisdiction through division of labor and client differentiation, intellectual control, advisory function) but these were unable to address protracted jurisdictional conflicts. My identification of the truce profession offers an important contribution to the literature on how cross-professional coordination may be facilitated in conditions of jurisdictional conflicts.

Third, the idea of truce profession adds to the recent research that seeks to understand and categorize different professions based upon the structural (as opposed to functional) roles they play within organizations (e.g., Kellogg, 2014). But going further, this study unpacks the processes through which *truce structures* — including truce role, truce organization, and truce profession — emerge. Starting as truce roles established by street-level bureaucrats, aimed at handling the contested tasks and insulating the conflicting professions from those tasks, it obtains legitimacy through a separate organizational form, and becomes a distinct profession. These insights contribute to the emerging stream of work that examines how
organizations can be the setting and breeding ground for the emergence of new kinds of structures and professions (Galperin, 2012).

Finally, by theorizing truce professions as orchestrators, this research identifies a new brokerage role that can address protracted jurisdictional conflicts and facilitate cross-professional coordination by keeping the conflicting professions apart. This research also contributes to theory on role creation (Lounsbury, 2001) by unpacking how, when, and under what conditions managers can effectively change older role-structures and establish newer ones within organizations. More generally, this research contributes to calls to conceptualize professions as a “field” (Anteby et al., 2016) and analyze them as a “system” rather than treating them in isolation. As Abbott (2016) recently remarked, “System of Professions with its 2,700WoS [Web of Science] citations has not had the impact one might imagine. Everybody cites the book, but very few pay any attention to its major argument, which is that it doesn’t ever make sense to analyze professions’ histories one-by-one. In fact, most articles about professions still write about their histories one by one.”

Through examining the emergency response professional field, and by focusing on the conflicts that emerged among the core actors in that field (i.e., police officers and firefighters) that resulted in the emergence of a new truce profession (i.e., 911 PSTs), this study makes progress towards analyzing professions as a system. Findings from this study are analytically generalizable to other contexts involving conflicts among symmetrical professions and where a truce profession has emerged – for example, the case of pre-sales engineers in technology firms (emerged as a form of truce to settle the protracted jurisdictional contest among sales, marketing, and engineering groups, but later the profession itself expanded in scope and got institutionalized), development executives in the entertainment industry (instituted to address the protracted conflicts among screenwriters, directors, and producers), and technology evangelists in software product and consumer electronic firms (emerged as a truce to settle the jurisdictional contests among developers and marketers).

**Contributions to the Literature on Status Attainment**

This study also makes contributions to the literature on status attainment. First, it highlights how the 911 PSTs, despite securing and expanding their jurisdiction over a range of public-safety and law-enforcement
tasks, were unable to gain the status of first responders within the emergency response field. Although 911 PSTs are technically the first first responders to emergencies of various kinds and perform a range of complex tasks (e.g., administering CPR over the phone, handling active shooter incidents or hostage negotiations), they are not considered as first responders – both officially by the federal government agencies such as the Office of Management and Budget that controls the Standard Occupational Classification, as well as informally by police officers and firefighters. Even the 911 PSTs’ lobbying efforts to reclassify their profession have failed to produce the intended outcomes. This is because when a truce profession tries to elevate its status to that of the other professions that it interacts with – or even tries to position itself within the same professional classification code – resistance from the higher-status professions is triggered. As the truce and higher-status professions occupy the same arena and perform interdependent work, the latter do not want to lose their distinction by being equated with the lower-status truce professions.

Second, contrary to the existing ecological theory of professions, the findings from this study suggest that physical presence on the ground and “effective contact with disorder or nonorder” (Abbott, 1981, p.819) is used as a marker by the professionals for assigning status to other professionals. This is why police officers and firefighters did not show any resistance to TSA agents in airports and lifeguards on beaches being categorized and referred to as first-responders, but resisted the idea of referring to 911 PSTs by the same label. TSA agents and lifeguards have stakes in the game due to their physical presence and contact with disorder, that is, they are perceived to be putting their lives on the line and to sharing in the protective mission of police officers and firefighters, while the profession of 911 PSTs are physically removed from the scene of action.

Finally, this study indicates why truce professionals, even as they are granted more formal authority than they are expected to exercise, often find it difficult to enact their formal authority over the higher-status focal professionals due to the asymmetry in their status and authority. How the truce professionals overcome such status-authority asymmetry to enact their formal authority in practice and orchestrate cross-professional coordination is the focus of the next chapter.
REFERENCES


AT&T Memo. 1968. 911 Universal Emergency Number Information Program, AT&T Information Department. Box 56/Loc 56 – 11 02 02. AT&T Archives, Warren, NJ.

AT&T Memo. 1977. 911 Universal Emergency Number: Update. Box 18/Loc 12 – 14 03 06. AT&T Archives, Warren, NJ.


### TABLES AND FIGURES

**Table 1.** Sources of Disputes between Police and Firefighting Professions*

<table>
<thead>
<tr>
<th>Sources</th>
<th>Police</th>
<th>Fire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assumptions</td>
<td>Considers firefighters to be subordinate in authority and emergency response capabilities</td>
<td>Exempt from the reach of law enforcement while on emergency runs</td>
</tr>
<tr>
<td>Staging</td>
<td>Minimize public disruptions during emergency response to make way for traffic</td>
<td>Responder safety is paramount during emergency response at the time of staging, so traffic can wait</td>
</tr>
<tr>
<td>Scene of Action</td>
<td>Rely on precaution and backup</td>
<td>Rely on individual heroics</td>
</tr>
<tr>
<td>Priorities</td>
<td>Investigation, collecting evidence, and making arrests</td>
<td>Tame the situation so as to bring the emergency under control</td>
</tr>
<tr>
<td>Posture</td>
<td>Maintain the demeanor of authority needed to enforce order</td>
<td>Maintain an informal, team-oriented demeanor</td>
</tr>
<tr>
<td>Approach</td>
<td>Proactive</td>
<td>Reactive</td>
</tr>
<tr>
<td>Language</td>
<td>Law Enforcement language</td>
<td>Public safety language</td>
</tr>
</tbody>
</table>

[* - Data gathered from the following sources: Bittner, 1967; Clark, 1976; Fogelson, 1977; Kelling and Moore, 1988; Swinhart, 2009; Varone, 2009; Wilson, 1968]
<table>
<thead>
<tr>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1957</td>
<td>National Association of Fire Chiefs recommends use of a single number for reporting fires in the U.S.</td>
</tr>
<tr>
<td>1963</td>
<td>Cuban missile crisis. The notion of a hotline becomes popular after it is established between White House and Kremlin following the 13-day crisis.</td>
</tr>
<tr>
<td>1966</td>
<td>The National Academy of Sciences publishes the report “Accidental Death and Disability: The Neglected Disease of Modern Society,” which includes a recommendation for the &quot;Active exploration of the feasibility of designating a single nationwide telephone number to summon an ambulance.&quot;</td>
</tr>
<tr>
<td>Feb. 1967</td>
<td>President Lyndon B Johnson’s Commission on Law Enforcement and Administration of Justice recommends that a &quot;single number should be established&quot; nationwide for reporting emergency situations.</td>
</tr>
<tr>
<td>Nov 1967</td>
<td>FCC meets with AT&amp;T officials to find a way to establish a universal emergency number.</td>
</tr>
<tr>
<td>1968</td>
<td>911 is chosen as the nationwide emergency number. The nation's telephone companies agree to make this three-digit sequence unavailable as an exchange number.</td>
</tr>
<tr>
<td>Feb 16, 1968</td>
<td>Alabama State Representative Rankin Fite completes the first 911 call made in the U.S. in Haleyville, Alabama.</td>
</tr>
<tr>
<td>Feb 22, 1968</td>
<td>Nome, Alaska implements 911 service, becoming the second installation site.</td>
</tr>
<tr>
<td>Early 1970s</td>
<td>AT&amp;T pilots a program in Alameda County, California with the “selective call routing” feature.</td>
</tr>
<tr>
<td>March 1973</td>
<td>White House's Office of Telecommunications issues a national policy statement which recognizes the benefits of 911. It encourages the nationwide adoption of 911, and establishes the Federal Information Center to assist local governments in 911 planning and implementation.</td>
</tr>
<tr>
<td>1976</td>
<td>AT&amp;T works on Enhanced 911 (E911). Chicago becomes the first major American city to use an Enhanced 911.</td>
</tr>
<tr>
<td>End of 1976</td>
<td>911 serves about 17% of the United States population.</td>
</tr>
<tr>
<td>End of 1979</td>
<td>911 serves about 26% of the United States population, growing at a rate of 70 new system implementations per year. Nine states enact 911 legislation.</td>
</tr>
<tr>
<td>End of 1987</td>
<td>911 serves about 50% of the United States population.</td>
</tr>
<tr>
<td>Year</td>
<td>Event</td>
</tr>
<tr>
<td>------</td>
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<tr>
<td>1998</td>
<td>Wireless Phase I system (displays wireless caller's phone number and address of receiving antenna tower) implemented</td>
</tr>
<tr>
<td>1999</td>
<td>93% of the United States population is served by some type of 911 service, with 95% of that coverage being Enhanced 911. Approximately 96% of the geographic US is covered by some type of 911. Public Safety Act makes 911 the nation's official emergency number. President Clinton signs Senate Bill 800, which institutionalizes 911 as the &quot;nationwide emergency telephone number.&quot;</td>
</tr>
<tr>
<td>2002</td>
<td>The U.S. Secretary of Transportation launches the Enhanced 911 (E911) initiative at the Department of Transportation. A Technology Innovation Roundtable is held in Silicon Valley to articulate the Next Generation 911 (NG911) vision.</td>
</tr>
<tr>
<td>2003</td>
<td>U.S. DOT releases Wireless E911 Priority Action Plan. DOT provides funds to the National Emergency Number Association (NENA) to develop a wireless deployment profile database - primary way to measure state-by-state progress in establishing location-enabled wireless Phase I &amp; II across the United States.</td>
</tr>
<tr>
<td>2004</td>
<td>US DOT NG911 Initiative starts and establishes a model for the transition of 911 systems to digital communication. This initiative's efforts were focused on two areas: (a) research required to produce a design for a next-generation 911 system, and (b) a transition plan that provides options for addressing issues related to its deployment. The goal is to design a 911 system that is capable of using voice, data, and video transmission from different types of communication devices and sharing this digital information among 911 emergency centers and emergency responders. Congress recognizes the critical importance of the 911 system in protecting public safety and security with the passage of the Enhanced 911 Act of 2004.</td>
</tr>
<tr>
<td>2009</td>
<td>Release of NG911 system transition plan, with 911 Grants awarded to 30 states.</td>
</tr>
<tr>
<td>2010</td>
<td>AT&amp;T announces that Tennessee has approved a service to support a text to 911 trial statewide, where AT&amp;T users will be able to send text messages to 911 public-safety answering points. The National 911 Resource Center is established, providing an information clearinghouse, a technical assistance center, and the development of a national 911 profile database.</td>
</tr>
<tr>
<td>2014</td>
<td>AT&amp;T, Sprint, T-Mobile, and Verizon commit to providing text-to-911 service in all areas served by their networks where 911 call centers are prepared to receive texts.</td>
</tr>
</tbody>
</table>
### Table 3. Early 911 Emergency Management Organizations

<table>
<thead>
<tr>
<th>City</th>
<th>Date 911 Initiated</th>
<th>Initial Department</th>
<th>Date of Separation</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York, NY</td>
<td>1972 — first city to start using the number.</td>
<td>Police Department. But the firefighters resisted, adding significant delays in implementation.</td>
<td>1995 — when all emergency departments merged into one emergency number to call.</td>
</tr>
<tr>
<td>Washington D.C</td>
<td>1981.</td>
<td>Police Department.</td>
<td>1999 — Public Safety Communications Center combines police and fire/EMS call-taking and dispatching functions in a single facility instead of police dispatch conducted at Metropolitan Police headquarters and Fire/EMS dispatching performed at the old Fire/EMS Department building. The new facility brings call-takers, dispatchers, and their supervisors onto the same operational floor.</td>
</tr>
<tr>
<td>Chicago, IL</td>
<td>1976. But the Illinois Commerce Commission did not authorize the telephone service provider Illinois Bell to offer 911 to the Chicago suburbs until 1981.</td>
<td>Independent system. But fire alarm boxes remained on the street corners and the Fire Department continued to use its century-old fire telegraph system called the Joker. In 1979, the fire commissioner complained that 90 percent of the alarms from corner boxes were caused by children pulling them to see what would happen. Workers began removing the 3,600 boxes and added a radio-based system.</td>
<td>1998 — in order to relieve the pressure upon 911, operators in the city instituted 311 service for non-emergencies and the number became the only emergency number in the city.</td>
</tr>
<tr>
<td>Location</td>
<td>Year</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Philadelphia, PE</td>
<td>1974</td>
<td>Independent system from the start — a primary and a secondary PSAP were created straight away to avoid any conflicts or confusions.</td>
<td></td>
</tr>
<tr>
<td>Houston, TX</td>
<td>1983</td>
<td>Legislation implementing 911 across the state was passed in 1987. Independent systems — 911 became a number people would call, but call centers and emergency departments were still independent and did not communicate much as their systems were completely independent of one another.</td>
<td></td>
</tr>
<tr>
<td>Phoenix, AR</td>
<td>1982</td>
<td>Independent from the start -- it started as a manual process but was quickly changed to a computer one.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1990 — the Pennsylvania General Assembly passed Act 78, The Public Safety Emergency Telephone Act of 1990, which provided for a statewide emergency number, 911, for any individual within this Commonwealth to gain rapid, direct access to emergency aid.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prior to September 2003, Houston had three emergency communications centers for 911: Neutral Public Safety Answering Point, Police Department Emergency Communications Division, and Fire Department Emergency Communications Operations. Each agency had separate answering centers, computer networks, and technical support. The development of the state-of-the-art Houston Emergency Center (HEC) consolidates all of these efforts.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1982 — the Phoenix Fire Department Regional Dispatch Center (PFRDC) automated its dispatching services going from a manual process to using a Computer Aided Dispatch system or “CAD” for short and united with the police department to create one emergency system.</td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Year</td>
<td>Description</td>
<td>Year</td>
</tr>
<tr>
<td>---------------</td>
<td>-------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Boston, MA</td>
<td>1972</td>
<td>Because of overlapping boundary problems, New England Telephone had to carefully design a public information program to advise callers where 911 was effective: within the city limits of Boston, but not in many of the commuting areas.</td>
<td>1994</td>
</tr>
<tr>
<td>San Diego, CA</td>
<td>1982</td>
<td>Fire department was in charge until 1997.</td>
<td>1997 — 911 became the only emergency number when the fire department aligned with the police department and the hospital ambulances.</td>
</tr>
<tr>
<td>San Antonio, TX</td>
<td>1979</td>
<td>Calls were answered by San Antonio police dispatchers and then relayed to the appropriate law enforcement, fire or emergency medical service.</td>
<td>1989</td>
</tr>
</tbody>
</table>
Figure 1. Picture of the First 911 Call Made in the U.S.

From the Sunday, Feb. 18, 1968 issue of the "Daily Northwest Alabamian"--state Rep. Rankin Fite placing the first-ever 911 call from the mayor's office--that's Mayor James Whitt behind him.

Figure 2. Historical Timeline of 911 as the “Nationwide Emergency Number” in the United States
Figure 3. 911 Emergency Management Organization – New York City
Figure 4. Campaign by 911 Professionals Urging the Congress to Recognize them as First-Responders

9-1-1 Professionals Should be Recognized for Protecting and Saving Lives

Created by M.R. on April 07, 2017

In the United States, children are taught to call 9-1-1 because the public trusts 9-1-1 professionals will be there to take appropriate action to protect them. The federal government’s classification system describing occupations in the United States must be updated to recognize these professionals for their dedication and the lifesaving nature of their work. Sign this petition to ensure 9-1-1 professionals receive the recognition and respect they deserve for the work they do.

Learn more about this issue at www.scoopville.org/50.

Signature Count

This petition has been archived because it did not meet the signature requirements. It can no longer be signed.
Dear Administrator Shelanski:

As Co-Chairs of the Congressional Next Generation 9-1-1 Caucus, we write to urge you to update the classification of 9-1-1 call takers and dispatchers as part of the revisions to the Standard Occupational Classification (SOC).

The SOC is a valuable tool for federal statistical agencies that helps classify workers into useful occupational categories and provides an accurate picture of the American workforce. The business community and government agencies depend on this information to be up to date and reliable. The ongoing revision process to SOC announced in May 2014 provides an opportunity to more accurately reflect the role of 9-1-1 call takers and dispatchers.

In the current version of the SOC, 9-1-1 call takers and dispatchers are labeled “Police, Fire, and Ambulance Dispatchers.” We support updating the detailed occupation name to “Public Safety Telecommunicators,” which better captures the complex and technical nature of these occupations and acknowledges the distinction from non-emergency dispatchers. Public Safety Telecommunicators are not just dispatchers. In some cases their job can entail simultaneously questioning the caller, dispatching first responders, and using advanced technologies to retrieve caller location, medical information, and pertinent location history.

The SOC should also be revised to recognize the public safety role played by Public Safety Telecommunicators through categorization with other “Protective Service Occupations.” Public Safety Telecommunicators perform tasks that share the same protective mission as law enforcement officers, firefighters, transportation security screeners, crossing guards, lifeguards, wardens and other occupations in the Protective Service Occupations major group. The current classification within the “Office and Administrative Support” major group is not consistent with the specialized training and life-saving nature of the tasks performed by Public Safety Telecommunicators.

Public Safety Telecommunicators receive calls from people in need of urgent help and their actions can mean the difference between life and death. We urge you to make these changes to accurately reflect the nature of their profession in the SOC. We also urge you to act quickly to publish the recommendations of the SOC Policy Committee in the Federal Register to provide sufficient time for public feedback before the anticipated publication of the final version of the revised SOC in the summer of 2017.
The Honorable Shaun Donovan  
Director  
Office of Management and Budget  
725 17th Street, NW  
Washington, D.C. 20503

The Honorable Howard A. Shelanski  
Administrator  
Office of Information and Regulatory Affairs  
725 17th Street, NW  
Washington, D.C. 20503

Dear Director Donovan and Administrator Shelanski:

I write to express my disappointment in the recent recommendation by the Office of Management and Budget (OMB) to classify public safety telecommunicators as an “Office and Administrative Support Occupation” in the draft Standard Occupational Classification (SOC). As a former 9-1-1 dispatcher, I know that public safety telecommunicators are professionals who are critical partners to our first responders, and I urge the Office of Management and Budget (OMB) to classify these public safety workers as a “Protective Service Occupation” in the final SOC structure.

Public safety telecommunicators are required to receive specialized training and must either obtain national certification, state certification, or a combination of the two. National dispatcher certification associations often require advanced coursework to complete certification. For example, the Association of Public Safety Communications Officials (APCO) offers an emergency medical dispatcher (EMD) certification which requires courses in anatomy and physiology, legal and liability issues, and stress management. These are rigorous subjects that virtually no administrative support personnel in any field is required to learn or understand. Additionally, dispatchers often have to take additional exams offered by their potential employers, including a written exam to ensure knowledge of local law enforcement rules and procedures. Dispatchers also are tested regularly by their departments for knowledge of local, state, and federal laws. Initial and ongoing training is a vital part of a 9-1-1 dispatcher’s career, and these training requirements clearly demonstrate that dispatchers must possess a level of knowledge and education that far exceeds what is generally required of administrative personnel. OMB must take this training into account if it hopes to develop an accurate occupational classification structure.
I know firsthand that public safety telecommunicators are not just support staff, but are integral members of first responder teams who do far more than answer a phone and send help. During critical incidents such as large fires, civil unrest, or weather related incidents, telecommunicators are mobilized just like police and fire personnel. My fellow dispatchers also work in life-or-death situations, often talking to callers in their greatest hour of need. As a former dispatcher I know firsthand that on any given day, they may take a call from an individual on the brink of committing suicide or must gather key information if a crime is in progress to be later be used in court. In fact, conversations between dispatchers and suspects are often Miranda exempt, and testimony from dispatchers can serve as critical evidence in court proceedings. I also know that too often dispatchers may be forced to act as hostage negotiators and, in some instances, they may even have to provide life-saving first aid until first responders can arrive. Furthermore, the decisions dispatchers make can impact not only the lives of callers, but also the lives of many others. For example, in the immediate aftermath of the San Bernardino shooting, it was a 9-1-1 dispatcher who took the initial emergency call and helped law enforcement track down the shooters. Just as other first responders, our public safety telecommunicators must remain calm and use their training to think quickly about how best to respond to an emergency, and without the unique skills and abilities of our dispatchers, first responders would simply be unable to do their jobs.

It is clear that our dispatchers do not simply provide administrative support but are an important part of the first responder community. This is a specialized occupation that requires professionals to think critically and use skills and training that are vital to the lifesaving efforts of first responders. I sincerely hope OMB will take these factors into account as it adopts its revised SOC and therefore urge you to categorize public safety telecommunicators appropriately as a “Protective Service Occupation.”

Thank you for your attention to this request.

Sincerely,

Norma J. Torres
Member of Congress
Figure 7. Model of Truce Structures in Addressing Protracted Jurisdictional Conflicts

Symmetrical Professions

- Ambiguity in Relative Social Rank
- Competing claims over core aspects of professional identity

Profession A

Profession B

Produce

Jurisdictional Disputes

Generate

Protracted Jurisdictional Conflicts

Failed Jurisdictional Settlement

Truce Role
- Absorb the Contested Tasks
- Insulate the Conflicting Professions from each other

Truce Organizational Form
- Bestow Legitimacy to Exercise Formal Authority
- Provide Material Resources

Emergence of Truce Profession

Outcomes

Protracted Jurisdictional Conflict is Addressed

Cross-Professional Coordination is Facilitated

Institutional Reforms and Technological Changes are Enabled

Periods of Changes:
- Institutional Reforms
- Technological Changes
Figure 8. Truce Profession as Orchestrator

Types of Brokerage

- Coordinator
- Itinerant Broker
- Gatekeeper
- Representative
- Liaison

From Fernandez and Gould (1994)
Solid points represent actors
Ellipses correspond to subgroup memberships
CHAPTER 3
NAVIGATING STATUS-AUTHORITY ASYMMETRIES:
MANAGING COMMON INFORMATION SPACES TO ORCHESTRATE
CROSS-PROFESSIONAL COORDINATION

ABSTRACT
Truce professions hold higher formal authority than focal professions but occupy a lower status position in the professional order. They thus confront a status-authority asymmetry that challenges their ability to coordinate with and get work done by the focal professions, which in turn influences the accomplishment of organizational goals. This raises the important question, how do truce professionals navigate status-authority asymmetry in order to orchestrate effective cross-professional coordination? To answer this question, I examined the coordination between truce professionals (911 dispatchers who are civilians, the majority of whom are women and from minority communities) and focal professionals (police officers who are “sworn,” the majority of whom are white men). I found that despite the asymmetries in status and authority, some dispatchers were able to enact effective cross-professional coordination with the police officers. Conducting within-shift comparisons of coordination encounters between 911 dispatchers and police officers, I identify a set of practices entailing communication media (open or private radio channels) and tactics (escalation, personalization, bounded publicization) that 911 dispatchers use to orchestrate cross-professional coordination. I find that while the escalation and personalization tactics performed through the private radio channel led to negative coordination outcomes, the bounded publicization tactic performed through the open radio channel resulted in more effective coordination outcomes. Through the bounded publicization tactic, dispatchers manage the common information space to generate peer knowledge about individual non-compliance. In doing this, dispatchers steer self-disciplining and compliance among police officers as the non-compliant individuals’ professional standing is on the line in front of their peers. Through this process, dispatchers navigate the status-authority asymmetry and orchestrate effective cross-professional coordination. I discuss the implications of these findings for research on status-authority asymmetry and cross-professional coordination.
In the previous chapter, I explored how the emergence of truce professions (such as 911 dispatchers) helped organizations implement change in contexts marked by protracted jurisdictional conflict among symmetrical professions (such as police officers and firefighters). Truce professions, however, confront a challenge: the structural position they occupy that gives them formal authority also generates difficulties in enacting that authority in practice due to their lower status in the professional order. In this chapter, I examine how truce professions confront such status-authority asymmetry, and how they navigate the asymmetry to get work done and orchestrate effective cross-professional coordination.

INTRODUCTION

Truce professions help address protracted jurisdictional conflicts that emerge among existing professions (hereafter, “focal professions”) during periods of technological and institutional change. They do this through absorbing the contested tasks and insulating the competing professions from those tasks. The truce organization that employs the truce professionals provides the resources and legitimacy for them to exercise their formal authority (Weber, 1978) over the focal professions. Yet, enacting such formal authority in practice is far from straightforward. As Huising (2015) describes, “scholars rarely consider professionals’ struggles to enact authority over the people they advise, treat, or regulate” (p.264).

Enacting formal authority in day-to-day work is difficult due to the challenge that the truce professions confront. On the one hand, they occupy a structural position of lower-status “strangers” (Simmel, 1908; see also Bearman, 2009) who do not pose a positional threat to the focal professions. This is the very reason why focal professions agreed to “let go” of the contested tasks and have them be performed by the truce professions, generating the basis for the truce professions’ formal authority (cf. Barley and Bechky, 1994; Crozier, 1964). On the other hand, the very structural position that the truce professions occupy as lower-status strangers generates difficulties in enacting their formal authority during everyday work. This is because focal professionals are not always willing to comply and take orders from those who are lower status in the professional order (Dobbin and Kelley, 2007; Kalev, Dobbin, and Kelly 2006; Kellogg, 2012; Whyte, 1949). As a consequence, the focal professionals can exhibit acts of disregard and non-compliance
in following orders from the truce professionals as a way to reassert their dominant position in the status hierarchy and to trigger deferential behavior from the truce professionals (cf. Heimer and Stevens, 1997; Silbey, Huising, and Coslovsky 2009). Thus, truce professions hold higher formal authority than focal professions but occupy a lower status position in the professional order. I refer to this as a *status-authority asymmetry*, and argue that this challenges the ability of the truce profession to coordinate with and get work done by the focal professions, which in turn influences the accomplishment of organizational goals.

Status-authority asymmetry poses critical challenges to coordinating across professional boundaries and accomplishing overarching organizational goals. Status-authority asymmetry is prevalent across organizational contexts as varied as air-traffic control involving cross-professional coordination between higher-status pilots and lower-status air-traffic controllers (Vaughan, 2014), product development that necessitates coordination between higher-status engineers and lower-status designers (Kellogg et al., 2006), healthcare reform that requires coordination between higher-status doctors and lower-status administrators (Kellogg, 2012, 2014), and restaurant food ordering that involves coordination between higher-status cooks and lower-status waitresses (Whyte, 1949; Porter, 1962). Across these settings, lower-status professionals who are expected to enact their formal authority over the higher-status professionals find it difficult to do so. Even in command and control contexts involving an incident command system (Bigley and Roberts, 2001), navigating status-authority asymmetry is found to be riddled with difficulties, which in turn undermines coordination and the attainment of organizational goals (Roberts et al., 2005).

Prior research suggests several mechanisms for overcoming inter-professional conflicts in contexts involving status differences across professional boundaries: (a) workplace objects that can connect or buffer the professional groups with differential status from one another (Bechky, 2003a; Carlile, 2004; Whyte, 1949); (b) boundary spanners who can help facilitate coordination across professional groups through performing a connecting or a buffering function (Fernandez and Gould, 1994; Kellogg, 2014; Levina and Vaast, 2005; Lingo and O’Mahony, 2010; Obstfeld, 2005); (c) occasions for face-to-face social interaction among the coordinating professionals (Hinds and Cramton, 2013); (d) opportunities for one of the professional groups to perform “scut work” and generate relational authority over the other professional
group (Huising, 2015); and (e) cross-cutting demographics among the coordinating professionals that provide them with dyadic toolkits to elicit cooperation (DiBenigno and Kellogg, 2014).

However, in the empirical setting where I examined cross-professional coordination between 911 dispatchers (truce professionals) and police officers (focal professionals), the mechanisms identified above had limited applicability: (a) mediating objects such as workplace artifacts produced differential outcomes based on how they were used by the truce professionals; (b) there were no boundary spanners to facilitate coordination between the two professional groups; (c) the coordinating professionals were geographically distributed with no scope for face-to-face social interactions, and there were no institutionalized avenues – either formal or informal – to facilitate such interactions; (d) there were limited means available for the lower-status professional group to perform scut work and generate relational authority over the other higher-status professional group (even in the few instances when the lower-status truce professionals were able to perform scut work, it ended up undermining their formal authority); and (e) there was considerable demographic heterogeneity among the coordinating professionals — the 911 dispatchers are civilians, majority women, and African-Americans or Hispanics, while the police officers are “sworn” and majority white men.

Given these conditions, the existing theory on cross-professional coordination would predict that coordination would most likely fail. However, I find that some 911 dispatchers were able to enact their formal authority over the police officers and orchestrate effective cross-professional coordination. I sought to explain how they accomplished this, and focused my study on examining the following research question: *How do truce professionals navigate status-authority asymmetry in order to orchestrate effective cross-professional coordination?*

Conducting within-shift comparisons of coordination encounters between 911 dispatchers and police officers, I identified a set of practices entailing communication media (open or private channels) and tactics (escalation, personalization, bounded publicization) that 911 dispatchers used to navigate the status-authority asymmetry and orchestrate cross-professional coordination. I found that while the escalation tactic (reporting a noncompliant, unresponsive, or bullying police officer to a supervising patrol officer or
sergeant) and personalization tactic (engaging in relational work and personalizing the call-dispatch process as per the preferences of the individual police officer) led to negative coordination outcomes, the bounded publicization tactic performed through the open radio channel resulted in more effective coordination outcomes. Through this bounded publicization tactic, dispatchers leverage the common information space to generate *peer knowledge* about individual non-compliance. In doing this, dispatchers steer self-disciplining and compliance among police officers as the non-compliant individuals’ professional standing is on the line in front of their peers (i.e., the unit). I elaborate on the practices that culminated in the 911 dispatchers’ generating lateral influence over the higher-status police officers. Via lateral influence, 911 dispatchers control not just the trajectory of the immediate encounter with the police officer, but also the overall interactional order that unfolds over the duration of the shift. Through this process, they navigate the status-authority asymmetry and orchestrate effective cross-professional coordination.

**FACILITATING COORDINATION ACROSS PROFESSIONAL BOUNDARIES**

**Status-Authority Asymmetry Confronted by Truce Professions**

Scholars of work and professions have shown how status differences among professional groups can hinder cross-professional coordination, as the higher-status professions seek to “hive off” impure work (Abbott, 1988) to lower-status professions who are in a subordinate position to them (Bechky, 2003a; Kellogg, 2012; Vallas, 2001), impeding information sharing and undermining effective coordination. But what happens when the lower-status profession is not in a subordinate position to the higher-status profession, but rather occupies a lateral position that is accorded more formal authority by senior management? In such situations, the lower status professionals are expected to “give orders” to the higher-status professionals who in turn are expected to comply and follow the orders. This generates what I refer to as a *status-authority asymmetry*, where a profession characterized by higher formal authority and lower professional status needs to coordinate with and get work done by another profession with higher professional status and lower formal authority. Prior research has demonstrated that coordination encounters
that involve cross-profession asymmetries are marked with simmering tensions among the coordinating parties that tend to manifest in the form of verbal insults, breakdowns, and conflicts (e.g., Whyte, 1949).

Truce professions, too, confront a status-authority asymmetry, primarily due to the structural position they occupy in the professional order. To elaborate, the truce professions' emergence and acceptance by the focal professions is due to the fact that they are lower-status "strangers" (Simmel, 1908; Bearman, 2009) who do not pose a positional threat to the focal professions. Even though senior management has granted the truce professions higher formal authority including decision rights to command (e.g., Wrong, 1979), it is actually the zone of acceptance (cf. Barnard, 1938) by the focal professions that provided the basis for the truce professions' formal authority. While the truce professions are expected to exercise their formal authority through assigning tasks to the focal professions, their enactment of formal authority during everyday work is riddled with challenges due to their position of lower status (Heimer and Stevens, 1997; Silbey, Huisings, and Coslovsky 2009). For one, higher-status focal professionals exhibit acts of disregard and non-compliance in taking orders from the lower-status truce professionals (Dobbin and Kelley, 2007; Kalev, Dobbin, and Kelly 2006; Kellogg, 2012; Whyte, 1949). They do this to demonstrate and reassert their dominant position in the status hierarchy as well as to trigger deferential behavior from the truce professionals. Such acts of non-compliance are exacerbated when there are further differences in demographics (such as race and gender) between the coordinating professionals (DiBenigno and Kellogg, 2014).

**Mechanisms to Facilitate Cross-Professional Coordination**

Scholars of cross-professional coordination, while not directly dealing with the question of navigating status-authority asymmetry, have examined the mechanisms that can help address inter-professional conflicts in contexts involving status differences. Specifically, they have identified five such mechanisms.

**Workplace Objects.** Scholars have examined how the presence of workplace objects can facilitate coordination across professional boundaries (e.g., Bechky, 2003a; Nicolini, Mengis, and Swan, 2012; Seidel and O'Mahony, 2014; Whyte, 1949). Objects mediate the relationship between professional groups with status differentials through performing a connecting or buffering function. Bechky (2003a) describes
the connecting function played by workplace objects such as engineering drawings. These objects included embedded knowledge and were helpful in joint problem solving, mediating the relationship among the professional groups (engineers, technicians, and assemblers), and facilitating their coordination.

The classic example of objects playing a buffering function is described by Whyte (1949) in his article about the social structure of a restaurant in the post World War II era. During that time, waitresses in restaurants noted down food orders from customers, shouted out the order to the cooks in the kitchen, and then returned to the dining area to take the next order from customers. The cooks working in the kitchen did not want to be “ordered around” by lower-status waitresses, especially during rush hours when the waitresses would urge the cook to hurry-up if orders were not being completed. Over time, such interactions led to verbal arguments, the exchange of slights and insults, selective inattention, and escalation to the restaurant manager. A solution was found through placing a rotating metal spindle at the interface between the customer dining area and the kitchen: higher-status cooks in the kitchen were buffered from the lower-status waitresses who were expected to give orders to the cooks. Waitresses wrote detailed written orders from the customers and placed them on the spindle. Cooks then read those orders from the spindle, prepared the food, and placed them on the tabletop counter. By using the metal spindle to eliminate verbal communication between professional groups with differential status, the restaurant was able to reduce inter-professional conflicts and facilitate coordination.

**Boundary Spanners.** Similar to workplace objects, boundary spanners can help facilitate coordination across professional groups through performing a connecting (*tertius iungens*) or buffering function (*tertius gaudens*) (Kaplan, Milde, and Cowan, 2014; Levina and Vaast, 2005; Lingo and O’Mahony 2010; Obstfeld 2005). Boundary spanners can connect different professional groups by acting as conduits of information transfer (Fernandez and Gould, 1994) as well as by eliciting mutual understanding via “transferring, translating, and transforming” knowledge from one epistemic community to another (Carlile, 2004; Knorr-Cetina, 2009). For example, Levina and Vaast (2005) describe how boundary spanners helped connect and translate knowledge between the local sales teams and the headquarter-based marketing team of a French insurance company, and in the process, facilitated effective coordination across boundaries and
accomplished organizational goals. Similarly, boundary spanners can also act as buffers among professional jurisdictions, carving out their own jurisdiction and performing brokerage, and in the process facilitating coordination (Heimer and Stevens, 1997; Kellogg, 2014; Lingo and O’Mahony 2010). For instance, Kellogg (2014) describes how community health workers buffered the doctors and lawyers from one another through managing their professional information, meanings, and interests in everyday work, and in the process, helped to implement medical-legal partnership reform within a community health center.

**Site Visits.** Prior research has shown how “site visits” can provide an avenue for face-to-face social interactions between higher-status (e.g., “onsite” engineers) and lower-status professionals (“offshore” developers) who are geographically distributed from one another (Koppman, Mattarelli, and Gupta, 2016; Metiu, 2006). Site visits can improve common understanding and minimize conflicts among the coordinating parties (Hinds and Cramton, 2013; Olson and Olson, 2000). Site visits also enable professional groups to “become more familiar with one another’s communication and work styles, capabilities and interests, personalities, work and social roles, and the cultural context in which they are embedded” (Hinds and Cramton, 2013, p.794). These can help the coordinating parties develop situated familiarity with each other’s work styles and preferences, which has been shown to improve coordination in significant ways (Grinter, Herbsleb, and Perry, 1999).

**Scut Work.** When there are status differences between the professional groups, opportunities for one of the professional group to perform “scut work” can help facilitate coordination. Scut work is work that is menial in nature and requires “additional interaction … in which the professional is observed doing work that is physically, socially, or morally difficult or dirty work” (Huising, 2015, p.267; see also Hughes, 1958). It allows a lower-status professional group (such as health physicists who oversee and inspect the storage, use, and disposal of radioisotopes in university scientific laboratories) to gain entry into the workspaces of a higher-status professional group (such as the professors, scientists, and lab managers). The performance of such work enables the lower-status professional group to interact more and in different ways with the higher-status professional group, to acquire more situated knowledge about them and their work, and to expand the basis of their relationship (Majchrzak, More and Faraj, 2012). In the process, scut
work facilitates the generation of relational authority that can elicit voluntary compliance from the higher-status professionals and improve coordination across professional boundaries.

**Cross-cutting Demographics.** The presence of cross-cutting demographics among the professional groups with differential status has been shown to improve coordination (DiBenigno and Kellogg, 2014). Cross-cutting demographics put the coordinating professionals at “a web of group affiliations that exert diverse and often counteracting pressures” (Blau and Schwartz, 1984, p.83-84). Consequently, cross-cutting demographics weaken the hold that any one group affiliation (e.g., the profession or organization/department) will have on its members’ actions and loyalties, and enhance perspective-taking across the professional groups (Pettigrew and Tropp, 2006). When members of the higher-status professional group (such as nurses) share some demographic characteristics with another lower-status professional group (such as patient care technicians), it enables the members to draw on social identities (such as race, age, nationality, and immigration status) during their interaction, facilitating intergroup liking and trust among the coordinating dyads (Byrne, 1971; Tsui and O’Reilly, 1989; Reagans, 2005). Such demographics provide the coordinating members with dyadic toolkits based on non-occupational/non-professional social identities that allow the coordinating professionals to gain access to an alternative set of “expertise, shared meanings, status rules, and emotional scripts” (DiBenigno and Kellogg, 2014, p.378) that they can use to move beyond their professional differences and achieve effective cross-professional coordination.

**Coordination between 911 Dispatchers and Police Officers: Applicability of the Mechanisms**

The above mechanisms identified by prior research are valuable in understanding how professional groups can overcome their status differences and perform effective cross-professional coordination to achieve overarching organizational goals. However, in my empirical setting where I examined cross-professional coordination between 911 dispatchers and police officers, these mechanisms had limited applicability.

First, in this setting, there were no buffering objects that eliminated the need for verbal communication and screened the lower-status professionals from the higher-status professionals. The lower-status 911
dispatchers in my context are accorded higher formal authority and their core role is to command, communicate, and give verbal orders to the higher-status police officers. While there are connecting objects (such as the police radio), the presence of such objects alone did not help in generating common understanding and facilitating effective coordination. In fact, the ways and tactics in which the connecting objects were used by the 911 dispatchers produced significant variations in coordination outcomes.

Second, there were no boundary spanners who facilitated coordination between the 911 dispatchers and police officers, either through acting as information conduits who translate knowledge between the professional groups or through acting as buffers between the two groups. Although there are formally assigned liaisons between the police department and the 911 emergency management organization, their interactions took place at the senior management level and not with the 911 dispatchers or 911 supervisors on the operations floor.

Third, although 911 dispatchers and police officers reside within the same city they are geographically distributed, with the 911 emergency management facility located several miles away from the police department’s headquarters. Consequently, there is little scope for site visits that facilitate face-to-face social interactions, and no institutionalized avenues – either formal or informal – to facilitate such interactions. A decade ago, police sergeants, patrol officers, and district commanders would periodically visit the 911 organization to informally interact with the 911 dispatchers in their zone. When a dispatcher did a good job during a sensitive or high-priority emergency response incident, the patrol officer would visit the 911 organization with a box of donuts to commend the dispatcher in front of their peers and supervisor. However, such site visits have become rare or non-existent over the past decade, due to the increased workload faced by police officers and increased call-volume handled by 911 dispatchers.

Fourth, and related to the third, there are now limited forums available for one of the professional group to perform scut work. That is, since there are few or no opportunities for social interaction between the two professional groups, there are also limited avenues for the lower-status professional group – the 911 dispatchers – to gain entry into the higher-status professional groups’ workspaces (i.e., access to the local police departments or the police headquarters), acquire more situated knowledge about the cops and their
work, and in the process, expand their relationship basis to elicit cooperation. Even in the few instances when the 911 dispatchers were able to perform scut work (such as running a license plate or filing reports on behalf of the police officers), it actually ended up undermining their formal authority over the police officers, as the officers took the formal authority of the 911 dispatchers for granted. As a result, the 911 dispatchers were unable to generate relational authority over the police officers and facilitate effective coordination.

Finally, there is very little cross-cutting demographics among the coordinating professionals: the 911 dispatchers are civilians, over 85% of them are women and African-Americans or Hispanics, while the police officers are “sworn” and a majority of them are white men. As a consequence, the coordinating dyads are unable to draw on their shared social identities, such as race and gender, during their interactions. This, in turn, does not improve intergroup liking and trust among the professional groups, and further constrains cross-professional coordination.

The puzzle, then, is how do the lower-status professionals with higher formal authority (the 911 dispatchers) navigate status-authority asymmetry so as to orchestrate effective cross-professional coordination with the higher-status professionals (the police officers)? Before turning to my findings to address this question, I describe my research setting and methods of data collection and analysis.

RESEARCH SETTING AND METHODS

I employed an inductive research approach, using ethnographic data collection, to address the research question (Locke, 1996). Inductive research is particularly useful to examine understudied phenomena (Edmondson and McManus, 2007; Eisenhardt and Graebner, 2007) as well as to develop alternative insights about existing theories (e.g., Sutton and Hargadon, 1996) using a logic of discovery. This research is based on 24 months of fieldwork in emergency management organizations (EMOs) conducted between May 2015 and May 2017. My primary ethnographic fieldwork occurred at Delta City’s emergency management organization and the associated Delta City police department. In the sub-sections below, I provide more
details about my research site, the context of emergency management organizations, and the procedures I followed in data collection and analysis.

**Research Setting: 911 Emergency Management Organizations**

Emergency management organizations (EMOs), also referred to as emergency communication centers, public safety answering points or 911 dispatch centers, play an essential role in the functioning of a city (Athey and Stern, 2000; Desmond, Papachristos, and Kirk, 2016; Manning 1988; Seim, 2017). These organizations employ 911 call-takers and 911 dispatchers — the truce professionals — who orchestrate the coordination among police, fire, and emergency medical services during an emergency response (Roberts, Yu, Desai and Madsen, 2008).

The primary work of EMOs involves call-taking and call dispatching. Call-takers answer 911 calls from the public, gather required information about the incident from the caller as well as from surveillance camera feeds and geolocation technologies, synthesize the information from multiple sources to make sense of the situation, evaluate whether the incident is a valid emergency or not, and if so, what type and category, while concurrently entering all details into the Computer Aided Dispatch (CAD) system. Once the information is entered into the CAD, it is automatically transferred to the appropriate 911 dispatcher based on the location of the emergency incident. This information then appears on the dispatchers’ CAD dashboard queue, and s/he assigns the incident to the relevant available first-responder (e.g., police or fire) who is nearest to the scene of the emergency.

My research was centered in the Delta Emergency Management Organization (DEMO), an integrated agency that manages emergency coordination among police, fire, and EMS. The 911 operations floor at DEMO is divided into two sides – the “Police” call-taking and dispatch side and the “Fire” call-taking and dispatch side. The operations floor is managed by civilians who work as full-time employees of DEMO and not for the police or the fire departments. DEMO employs approximately 220 call-takers and 190 dispatchers. The majority of the call-takers and dispatchers are women and members of minority communities (particularly African-American and Hispanic). Work at DEMO is conducted over three shifts per day (referred to as “watches”), with each shift overseen by three to five supervisors (who directly
monitor the 911 call-takers and dispatchers and handle escalations), and one watch manager who is responsible for managing the floor and planning the schedule and staff rotation for the next day.

All incoming 911 calls to DEMO are first attended by the call-taker on the police side, who determines whether the call is a police or a fire/medical issue. If the latter, then the call is transferred to the call-taker on the fireside. If the former, then the call-taker asks a series of questions to assess whether the incident is a valid emergency or not, collects information on the location, type, and severity of the emergency, and enters these details in the CAD system. The work of the 911 call-takers involves significant discretionary decision making, because deciding whether or not a call is a valid and legitimate emergency and determining what priority level the call should be assigned is far from straightforward.

Once an incoming call is coded as a valid and legitimate emergency, and a priority level (from 1 to 8, with 1 being the highest priority) has been assigned to the call, it is transferred to the 911 dispatchers on the police side. The 911 dispatchers at DEMO are organized by 13-zones. Some zones cater to two police districts, while others handle one police district that is busy and has many emergency incidents. This arrangement ensures that workload is distributed in a relatively fair and equal manner across the dispatch zones.

While the DEMO call-takers work individually, DEMO dispatchers on the police side work in pairs – designated as a primary and a secondary. The primary dispatcher is responsible for looking at the “jobs” dashboard, further prioritizing the jobs, dispatching them within a certain pre-defined time-period (based on the type and severity of the emergency), providing information and coordinating with police officers in the field, and ensuring officer safety. The secondary dispatcher is responsible for entering the requests for service into the CAD system, updating the jobs when new information becomes available from the officers, and completing “paperwork” through completing digitized forms in the case of critical emergencies. While the CAD system does part of the prioritization among incoming requests for service (i.e., the “jobs”) based on the incident type and category assigned by the 911 call-taker, dispatchers use their discretion to perform further prioritization among the jobs, checking for the nearest available first-responder, assigning the emergency to them, coordinating with them in order to track their progress, and watching out for their safety.
until they “clear the job.” Figure 1 illustrates the 911 coordination workflow at DEMO. In this study, I specifically focused on the coordination between 911 dispatchers (lower-status professionals with higher formal authority) and police officers (higher-status professionals with lower formal authority).

--- Insert Figure 1 here ---

**Data Collection**

My primary source of data includes longitudinal and embedded observations of the 911 dispatch process and interviews with 911 dispatchers at DEMO. I also visited 7 other EMOs across various parts of the United States, and interviewed the 911 dispatchers at each of these EMOs. In order to understand how responding to 911 calls for service feels from the “other side,” that is, from the lived experiences of the police officers, I conducted observations and ride-alongs with them as well. I also interviewed police officers, supervising patrol officers, and sergeants. Table 1 provides a summary of the data sources.

--- Insert Table 1 about here ---

My data collection included 24-months of longitudinal observations of the 911 dispatch process, specifically focusing on the remote coordination encounters between 911 dispatchers and police officers. For the overall study, I conducted observations of the 911 dispatch process at 82 morning shifts (6am – 2pm), 86 evening shifts (2pm – 10pm), and 78 night shifts (10pm – 6am). In this paper, I draw on the data gathered from the evening shifts as these are the rush hours that constitute the busiest time on the 911 operations floor. This further allows for within-shift comparisons and reduces the influence of such factors as resource availability, traffic, call volume, etc., that might influence the coordination process. I conducted approximately 670 hours of observations of the 911 dispatch process during the evening shift. In order to ensure that there were equal hours of observations across the different days of the week, I maintained an observation calendar that equally distributed the observation period across the days of the week.

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7 My analysis found that the dispatch process and status-authority asymmetry experienced by the dispatchers was the same across the three shifts. The volume of calls handled by the dispatchers varies from shift and shift, and there are fluctuations in the patterns of call in-flow (e.g., on Friday and Saturday nights, the dispatchers working the night shift need to handle an increased inflow of calls). However, the overarching dynamic of call-dispatch and interaction with the police officers remains the same.
When I began my research study, I enrolled in an online training program on 911 emergency communication to learn about the 911 dispatch policies and protocols. I also participated in the in-house training and dispatch simulation exercise that DEMO provides to its new 911 dispatchers. Part of the training was to get familiarized with the use of police radio channels and the police codes (such as 10-0: Caution; 10-1: Reception poor; 10-4: Message received, understood; 10-7: Out of service; 10-9 Repeat message; 10-10: Off-duty; 10-23: Stand by; 10-35: Time check; 10-71: Shooting; 10-72: Gun involved). Appendix A lists details of the police codes in use in Delta City. During observations, I kept a copy of the police radio codes in front of me to make sure I could understand and follow the terms used by dispatchers and the police officers.

During my initial period of observation (which lasted for 4 months), I focused on how 911 dispatchers performed their work, how they used police radio channels, and how they interacted with the police officers during the duration of their shift. In this process, I noticed the tensions and conflicts that emerged between the dispatchers and the police officers, including how the dispatchers handled and responded to non-compliant police officers.

During the rest of the observation period, my unit of analysis became the “coordination encounter” between the 911 dispatchers and police officers. I sat next to the primary 911 dispatchers and listened to their interactions with the police officers via a headphone. I noted instances when the police officers were not complying with the dispatchers’ directives. Specifically, I took notes of instances when police officers did the following: (a) did not respond after a dispatcher assigned them a call for service and referred to their ID number twice; (b) failed to provide an update to the dispatcher after the dispatcher requested an update on their current 911 call (twice); (c) did not update the dispatcher when they took or returned from a break; and (d) responded to the dispatcher in a rude and/or bullying manner. I also observed the dispatchers’ practices – specifically their use of communication channels (open or private police radio) and tactics – and the variations in how officers responded to those practices, and with what outcomes in terms of dispatch time for 911 calls. Finally, I observed the emotional toll these interactions had on dispatchers by noting
their visible expressions of frustration in the form of “sighs” and “gasps,” and their use of swear words immediately following a coordination encounter.

As the remote coordination was happening between the dispatcher and police officer, I used short-hand notations to record in a notebook the communication media and tactics used by a dispatcher, and the corresponding type of response from the police officer (cooperative, non-responsive, etc.) Within a 24-hour period, I transcribed the hand-written field notes into Microsoft Word, and assigned codes to the dispatcher tactics and officer responses.

In total, I compared 1,830 coordination encounters between 911 dispatchers and police officers in the evening shift across a 20-month period. I also did an additional 120 hours of observations of the 911 dispatch process at three other emergency management organizations to understand the similarities and differences in the nature of conflicts between 911 dispatchers and police officers, and to assess the generalizability of my findings.

In addition to observations, I conducted 48 “real-time” interviews (Barley and Kunda, 2001) with the 911 dispatchers in the downtime between dispatches or during their break times. These real-time interviews were helpful in allowing me to ask clarification questions on a recent 911 dispatch or to understand the interpretive significance that the dispatchers attached to their coordination practices. I also conducted 35 semi-structured interviews in a private conference room with the 911 dispatchers at DEMO, as well as 12 semi-structured interviews with the 911 supervisors. For the semi-structured interviews, I followed naturalistic interview guidelines (Lincoln and Guba, 1985) to formulate the interview protocols. I crafted the interview protocols to ensure a balance between open-ended and close-ended questions to elicit grounded responses from the participants (Schultze and Avital, 2011).

To supplement this data, I sought to understand how police officers experienced the 911 calls for service. Through ride-alongs, informal interviews, and observations, I examined police officers’ responses and reactions to 911 calls for service. In total, I was involved in 34 ride-alongs with officers from different police districts totaling over 160 hours of observations. I conducted 52 informal interviews with the police officers responding to 911 calls, and 28 interviews with the sergeants and supervising patrol officers.
Finally, I obtained quantitative data in the form of 911 call-logs from DEMO, consisting of repeated cross-sectional data (~5 million calls per year over a 4 year period). I used this dataset to calculate the dispatch time for individual 911 calls organized by dispatcher ID, average dispatch time for a dispatch zone, and average dispatch time for a shift. These multiple sources of data enabled triangulation (Jick, 1979) and generated an understanding of 911 dispatch and emergency coordination from different vantage points.

**Data Analysis**

Data collection and analysis unfolded in an iterative manner (Strauss and Corbin, 1997) over three phases. I used the constant comparative method (Glaser, 1965) to analyze the data, and followed Charmaz’s (2006) approach to data coding of the field notes, transcripts, and memos. In the first phase, I performed “initial coding” to understand dispatch practices and police officer responses. At this step, I focused on the conflicts and tensions that arise during the remote coordination between the 911 dispatchers and the police officers. Responses were coded on the basis of “in vivo” codes — phrases and terms offered by the informants. As new observations emerged, I revised the codes and categories to identify themes (Miles and Huberman, 1994).

In the second phase, as new themes and puzzles emerged based on previous analysis, missing pieces of information became apparent. This lead to further focused data collection and analysis. For example, this phase highlighted the importance of dispatchers’ practices (Feldman and Orlikowski, 2011), especially for how dispatchers used the police radio channels to coordinate with the police officers. I consequently focused the data collection efforts on documenting how these police radio channels were used by the dispatchers, and with what outcomes. At this stage, I also wrote descriptive memos detailing the dispatch practices and police officer responses, noting down the variation in outcomes for different dispatch practices.

In the third phase, I wrote theoretical memos to strengthen the emergent findings, organize them into different activities, and categorize those activities that were recurrent into a set of theoretical themes. At this stage, I also engaged with relevant literature, particularly research on cross-professional coordination (Bechky, 2003a; Beane and Orlikowski, 2015; Faraj and Xiao, 2006; Okhuysen and Bechky, 2009), the
sociology of professions (Abbott, 1988; Anteby et al, 2016; Van Maanen and Barley, 1982), and inter-professional conflicts involving status differences (DiBenigno and Kellogg, 2014; Whyte, 1949). While the existing research was helpful in unpacking the nature of the inter-professional conflict, it was less helpful in explaining the variation in dispatch outcomes. For instance, neither the dispatcher’s tenure or experience within DEMO, nor their relational workstyle alone explained why some dispatchers were more effective in coordinating with the police officers than others. Instead, I noticed the role that the interactional space played – specifically the use of open versus private radio channels – and the tactics that the dispatchers used in disseminating messages within these spaces in enacting formal authority and orchestrating coordination. I thus decided to focus my data collection and analysis in that direction, which then allowed me to observe and analyze the combination of communication media and tactic that dispatchers used to navigate the status-authority asymmetry so as to coordinate with the police officers. This process generated insight into the important role of two communication media (open and private radio channel) and three tactics (personalization, escalation, and bounded publicization) in the coordination between dispatchers and police officers.8

FINDINGS

In this section, I first describe the difficulties that dispatchers encounter in enacting their formal authority while coordinating with the police officers. I then elaborate on the practices entailing communication media (open and private radio channel) and tactics (personalization, escalation, bounded publicization) that dispatchers use during their coordination with police officers, and the respective outcomes. I show how and why the personalization and escalation tactics performed through the private radio channel led to dispatchers having difficulties enacting their formal authority and resulting in negative coordination.

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8 Overall, I identified 5 practices used by dispatchers (personalization using the private radio channel, personalization using the open radio channel, escalation using the private radio channel, escalation using the open radio channel, and bounded publicization using the open radio channel). Among these 5 practices, two of them (personalization using the open radio channel and escalation using the open radio channel) were used infrequently and also produced the least variation in outcomes. I consequently focus on the 3 practices that were used most frequently (personalization using the private radio channel, escalation using the private radio channel, and bounded publicization using the open radio channel) and which had the most variation in outcomes.
outcomes, while the bounded publicization tactic performed through the open radio channel resulted in more effective coordination outcomes. I conclude this section by describing the emotional toll that the different tactics generate for the dispatchers, and with what consequences for the individuals.

**Difficulties in Enacting Formal Authority**

As described above, the DEMO 911 dispatchers are organized by 13-zones. Some zones cater to two police districts, while others handle one particularly busy police district that has many emergency incidents.\(^9\) While there may be hourly variations in the volume of calls handled by the dispatch zones, on average, the call volume is equally distributed across the dispatch zones. The 911 call that is validated and prioritized by the upstream call-taker is automatically routed to the appropriate dispatch zone as per the zip code and is displayed on the dispatchers’ dashboard terminal. The job of the 911 dispatcher is to assign the validated 911 calls – also referred to as “jobs” – to one or more police officers who are nearest to the scene of the emergency. While the Computer-aided Dispatch (CAD) system does part of the prioritization among incoming requests for service, dispatchers use their discretion to perform further prioritization among the jobs, checking how many police officers need to be dispatched depending on the nature of the call, coordinating with those officers in order to track their progress, and “watching out” for their safety until they have returned safely from the emergency location. Dispatchers need to handle multiple jobs in parallel. During peak hours, the dispatchers’ dashboard is filled with as many as 60 jobs (including the backlogs from the previous shift) that need constant monitoring and coordinating with the police officers. One of the main responsibilities of the 911 dispatcher is to “clear the board,” that is, to dispatch the jobs from their dashboard as soon as possible within a pre-defined time-period based on the type and severity of the emergency, and to do so in an effective manner without any mistakes.

Within the 911 call-dispatch process, dispatchers are assigned the formal authority to direct the police officers. Officers are expected to follow these directions, respond to the dispatchers when they call out the officer’s ID# over the police radio, update the dispatcher about the location and progress of their job,

\(^9\) In addition to the 13 zones, there are some dispatchers who handle city-wide services. I have excluded them from analysis as these dispatchers interact with a wide variety of City, State, and Federal agencies, not just the Police.
including when they “clear the job” so that the dispatcher knows that they are now available to be dispatched to the next job. According to the dispatch protocol, only the supervising patrol officer and/or the sergeant of a police unit can override a request coming from dispatchers. One 911 dispatch supervisor described the rationale for the 911 dispatch procedure:

We have more information about an [emergency] incident and have an overall picture of who is available and who is not. So when we take a dispatch decision in a certain way, the officers need to go with it...with our judgment. That’s why we are the command center. If an officer keeps questioning our decision or not follow along, then we wouldn’t be able to dispatch any jobs. So the way we have designed the dispatch procedures – and it is not just here, but at other emergency centers as well – is to let the dispatcher make the decision and give out directions, and the officer to just follow it. Of course, they can ask us to provide more info or clarify something that they didn’t understand, but they got to go with our decision. Only the sergeants or the district commanders can override us if they think they are resource constrained or if some other stuff – like special activities or some form of training – is going on in their district. And even there, we want them to inform us ahead of time. [Interview, 911 Shift Supervisor, #SS4]

Although police officers are in principle mandated to follow the orders coming from the dispatchers, in practice this does not always happen. First, the police officers occupy a higher-status position in the professional order than the 911 emergency dispatchers, and are thus higher on the public safety and law enforcement totem pole. Second, officers have a “sworn” (and thus more prestigious) status than the dispatchers who have a “civilian” status. Third, there are also differences in nominal characteristics such as race and gender. Over 85% of the DEMO 911 dispatchers are women, and African-American or Hispanic, while the majority of the police officers are White men.

So, while the dispatchers have higher formal authority during the process of emergency dispatch, the police officers occupy a higher-status position that they signal in multiple ways. For instance, when a dispatcher calls out the ID# of an officer, the officer may take his time to respond. The dispatcher may then call out the ID# multiple times, or try to reach the police officer privately, or ping the officer via the mobile data terminal [MDT] in the police car, all of which put the dispatcher in a deferential position vis-à-vis the police officer. Similarly, an officer may fail to update the dispatcher about the status or completion of a job. As this 911 dispatcher described:

The most frustrating thing with this job is when they [officers] don’t answer [the radio]. It’s so frustrating. I can’t tell you how frustrating it is. I keep calling out their ID, but there is nothing on the other end. Not even a simple 99 or 10-4 [message received, understood]. I understand they may be busy or the signal is not clear, but can’t they just give me a 10-23 [stand-by] or even a 10-9 [repeat message]. I will be happy to do that, repeat the job to them. But they don’t do any of that. It’s like this: that I am not even acknowledged, [I am] not even recognized
as a person. As if I don’t even exist anymore to them. Infuriating. In the end, I am responsible for officer safety. So when I ask for an update, I am not trying to screw their happiness and kick them out of Dunkin Donuts [laughs]. I am just trying to do my job, make[ing] sure that they are ok and the jobs are dispatched on time. So next time [pointing at the headset and the monitor] when I call-out, answer me. [Interview, 911 Dispatcher, #DP18]

Likewise, officers may fail to follow what is referred to as “radio discipline” by interrupting and cutting-off the dispatchers during the job-assignment process. Some police officers also interrupt the dispatchers with questions when the dispatchers are in the process of handling a job with another officer. This is partly because the police officers often overlook the fact that dispatchers are handling multiple 911 calls, and that the job that they are responding to is just one among the many that the dispatchers are keeping track of. But regardless, the officers expect their request to be prioritized and answered immediately by the dispatchers. As a consequence, dispatchers feel that the police officers behave like “assholes” “dicks” and “whining mama’s boys” who have a tough time following “any protocol or radio discipline.” As this 911 dispatcher observed:

Officers can sometimes be total dicks… They won’t listen. Or they will talk too fast. Or they will keep cutting off each other. Or will refuse to update us. I mean, they can be complete assholes. But you gotta handle them. That’s part of your job. You can’t shout at them. But you need to control them, otherwise you won’t be dispatching any job… They dislike going to certain types of calls. They really hate it, but what can we do about it? We are just doing our job, but the Officers are thinking we are out here just to make their life difficult. No, we can’t help it, we are just sending out what we are getting. We can’t send it back [to the call-takers] … So all day long, we got to deal with the asshole officers. Of course, not all of them are like that, but a lot of them are, you know what I mean? [Interview, 911 Dispatcher, #DP12]

Finally, police officers may neglect to update the dispatcher when they are taking a break, going for lunch, or as soon as they have returned from lunch. This requires the dispatcher, who has limited resources at hand to clear the board, to keep checking with the police officers about whether they are ready to be assigned to the next job.

Police officers often feel that they are inundated with too many 911 calls, and that the workers at DEMO are not competent enough to separate the legitimate emergencies from the non-emergencies. Since they see the dispatchers assigning them jobs they perceive to be non-emergencies, police officers misdirect their anger and frustration at the dispatchers. As a result, the police officers often disregard and fail to comply with the orders and requests coming from the dispatchers. They do this as a way to reassert their dominant position in the status hierarchy as well as to trigger deferential behavior from the dispatchers. All of this
leads to simmering tensions between the dispatchers and police officers, especially in terms of dispatchers’ ability to enact their formal authority in practice, and effectively coordinate with the police officers to dispatch emergency jobs.

I did, however, observe that some dispatchers were able to avoid these tensions and enact their formal authority with relative ease, thereby coordinating effectively with the police officers. The dispatchers’ age or tenure within DEMO did not explain why some of them were able to coordinate effectively, nor did any overlap in demographic characteristics such as gender or race between the dispatchers and police officers. Rather, I found that it was the particular practices that these dispatchers enacted – specifically their use of communication media and tactics – that helped to explain the variation in coordination outcomes. Dispatchers have multiple media that they can use to communicated with the police officers: the department-wide radio channel (that every officer, sergeant, and district commander can tune into), the open radio channel (that the officers within a particular zone can listen to), and a private radio channel that dispatchers can use to transmit a message or interact with certain police officers. Furthermore, I found that dispatchers can use a range of tactics to communicate with the police officers, and that certain combinations of communication media and tactics used by the dispatchers led to more effective coordination outcomes.

Below, I first describe the combinations that led to negative coordination outcomes (personalization and escalation tactics performed through the private communication channel), and then elaborate on the combination that led to effective coordination outcomes (bounded publicization tactic performed through the open communication channel).

**Personalization Tactics through Private Communication Channel**

When a police officer does not acknowledge and respond promptly to a dispatcher’s call-assignment (i.e., calling out the ID# of an officer through the police radio channel), or when an officer fails to provide an update to the dispatcher when she asks for one, the dispatchers may follow the personalization tactic via the private radio channel to reach the police officer. These dispatchers try to remember the dispatch preferences of individual police officers, and modify the dispatch process to match those preferences. For example, some officers prefer to provide an update regarding taking a break or clearing a job through using...
the internal messenger on the mobile data terminal (MDT). The formal protocol is to provide such updates via the open radio channel of that unit. But dispatchers engaging in the personalization tactic will accommodate such requests from police officers. Once they receive the update through the messenger, they manually enter the information into the CAD so that the update gets reflected in the system, and then send an acknowledgment to the officer.

Likewise, when police officers do not acknowledge and respond to their ID being called out, the dispatchers who follow a personalization tactic will reach out to them through the private radio channel that they are tuned into, rather than calling out their ID multiple times in the open channel. Also, when the officer finishes attending a job but fails to provide an update, the dispatcher will track the location of the police car to infer whether the officer is done with the job and/or already returned to base. The dispatcher then checks with the police officer via the private radio channel to confirm, and then updates the system accordingly. The exchange below illustrates this process:

10 Dispatcher (DP) [on open channel]: 5432, are you at 200 block of 19th St?

Police Officer (PO): [No response]

DP: 5432, I see that you’re at 200 block of 19th?

PO: [No response]

DP: 5432, Officer do ya copy that?

PO: 99

DP: Should I clear?

PO: [No response]

DP: [switches to the private channel] 5432, Officer do ya copy that? Are you at 200 block of 19th?

PO: 844, copy that.

DP: [waits for a response] 5432, what’s your status? Are you still 10-8? Or should I clear?

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10 These exchanges illustrate the interactions that unfolded between the police officers and dispatchers. Radio codes and phrases that are specific to DEMO have been replaced with general codes (see Appendix A for an explanation of the radio codes).

11 The first part of the dispatcher’s message includes the ID # of the police officer.

12 The first part of the officer’s message includes the radio ID #.
PO: Light my lamp [phrase for clearing an officer from a previous job so that the officer can be assigned to the next job]

DP: 10-9?

PO: [no response]

DP: 5432, 10-9, can you repeat that?

PO: 844, sure go ahead.

DP: [pauses, and lets out a sigh]. 10-4, copy that. [assigns a new job] 1263 N Main, block party and 4 people in fist fight.

PO: [interrupts] Check message. [message sent through the MDT to update a report from the previous job]

DP: Checking

PO: 844, 10-73, you got that?

DP: [stops dispatching the other job, reads the message from the job, and asks the secondary dispatcher for the RD number] 5432, Updated it. RD is DPD102857344

PO: Standby. 10-22 [cancels the request]. Check new message

DP: 10-4. Thanks! Are you still 10-8?

PO: [no response]

When an officer interrupts a dispatcher during the call dispatch process with questions, these dispatchers accommodate such interruptions, respond to the officer, and then continue with the dispatch process instead of asking the officer to “clear the air” and hold off on the questions. These dispatchers also customize the dispatch lingo as per the preferences of the individual police officers. One of the dispatchers referred to this as putting on a “girlfriend’s voice” to get work done from the police officers. Finally, some police officers prefer to hive off menial work such as filing a report after a database is accessed to the dispatchers, although it is the officer who is responsible for filing such reports. Dispatchers who follow the personalization tactic take up such menial work although they are not required to do so. These dispatchers do so with the expectation that “the officers will not give me a hard time when I take care of such things. I do understand that officers are on the street all day, dealing with crazy people and all of that gets to them, so I feel those little gestures matter and it is important to be flexible” [911 Dispatcher, #DP17].
I found, however, that the dispatchers who followed the personalization tactic through the private radio channel experienced more difficulties in interacting with the police officers. For one, police officers repeatedly failed to comply with the emergency dispatch protocols. As described in Table 2, an increasing percentage of the police officers did not respond after a dispatcher enacted a personalization tactic to assign a new call for service and referred to their ID number twice. Further, police officers did not provide an update to the dispatcher after the dispatcher checked on them twice to request an update on their current 911 job or verified their availability. They also failed to update the dispatcher when they took or returned from lunch breaks.

--- Insert Table 2 here ---

Interviews with the police officers in those dispatch zones suggested that they did not interpret the formal authority of the dispatchers in the expected manner. They recognized that dispatch is the command center, but they felt that they could not always follow the dispatcher's commands in all situations and that the dispatch protocols should be adjusted as per their situational demands. These officers also felt that it is the responsibility of the dispatcher to make such adjustments so that the emergency response process can unfold smoothly. For instance, some of the officers mentioned that it was acceptable to give an update to the dispatcher via text message, or to ask the dispatcher to fill out a form or run a license plate on their behalf. Similarly, they felt that as they sometimes could not immediately respond to the dispatcher’s request because they were interacting with citizens on the street, it is a good idea for the dispatcher to ping them through the MDT or to check with them privately about their availability. As this police officer described:

They [dispatchers] are sitting out there, in a nice air-conditioned room. I’m here, slogging my ass off moving from one [911] job to another. So why not let them do such stuff [fill the report or run a license plate]. I don’t even want to run the plates myself although I can do it from here, but I want them to do that.... Also, I cannot always respond right away because I may be talking to someone or checking off some things, or maybe I’m in a sketchy neighborhood... So they can just hold-off or check back with me later, in a few minutes, and I am not going anywhere. Is that so hard to do? [Interview, Police Officer, #PO13]

These views establish certain expectations among the police officers for the dispatchers and their work. If the dispatcher tries to push back and not accommodate the idiosyncratic style of the police officer, then
tensions between them arise, as described by the police officer above. The exchange below illustrates this dynamic further:

Dispatcher (DP) [on open channel]: 5432, what's your status?
Police Officer (PO): [No response]
DP: 5432, Officer are you 10-8?
PO: [No response]
DP: [switches to the private channel] Officer, are you in service at 1031 N Main?
PO: [after some time] Can you repeat that? 10-9
DP: Are you in service at 1031 N Main? What's your status?
PO: Affirmative
DP: Affirmative what? You at 1031 N Main? Can you confirm location, officer?
PO: No, I am 10-17 and then returning to station. Can you also put a lunch ticket in my slot for 14:30? And then a 10-19?
DP: So you clear at 1031 N Main? Can you confirm 10-20?
PO: 99
DP: And how long will you be at the station? Can you inform the Sarge?
PO: Negative. You update it to 10-19, and talk to Sarge. Also, ask Sarge to approve my report in DIRA.

DP [takes her foot away from the dispatch pedal so that the officer will not be able to hear, looks at the secondary dispatcher, and calls the officer a dick. Then, presses the pedal]: 10-4.
PO: Check message. I'm now 10-17. Signing off now. Don't forget DIRA.
DP: 10-4
PO: [No response]
DP: You're welcome.

As a consequence of these issues, the dispatchers who enact this personalization tactic take longer to dispatch jobs. These dispatchers occupy the bottom percentile in terms of the number of jobs they can dispatch per shift as well as their average dispatch time (see Table 2). All of this negatively influences cross-professional coordination in the 911 dispatch process.
Escalation Tactics through Private Communication Channels

While the dispatchers enacting a personalization tactic modify the dispatch process to cater to the preferences of the individual police officer, other dispatchers choose to play “by the book” and not repeatedly modify the dispatch process as per the idiosyncratic needs of the police officer. When a police officer is persistently non-compliant to the dispatch protocol, the dispatchers enacting an escalation tactic raise the issue to the supervising patrol officer or sergeant via the private radio channel. As this dispatcher described:

I don’t have any other choice at that point than to inform the Sarge [Sergeant] of that officer’s attitude. Because that is the protocol. I cannot shout at them [officers], neither am I allowed to do that… So I tell the Sarge to take care of it. And even there, I don’t call-out publicly, but first ping the Sarge and then put in a word. I feel that is the right thing to do, and let him [Sarge] do what it takes to discipline the officer [Interview, 911 Dispatcher, #DP4]

The dispatchers escalate the issue in a couple of different ways. Some of the dispatchers reach out to the sergeant through the MDT inquiring about a police officer, and then use the interactional opportunity to raise the issue of non-compliance. A few other dispatchers reach the sergeant directly through the private radio channel, and inform them of the non-compliant behavior of a police officer. The sergeant then responds to the escalation by either informing the dispatcher that he will talk to the respective police officer about the complaint, or by calling out the ID of the police officer and asking him to join their private radio channel. Once the officer joins, then the sergeant describes the nature of the escalation to the officer and asks for an explanation. If satisfied with the explanation, the sergeant will let go of the matter. If he is not satisfied, the sergeant will issue an informal warning and ask the officer to not repeat such behavior. Only in the rarest of cases will a more severe formal warning (that goes into the officer’s record) be issued or remedial action be proposed to the officer. Sergeants are reluctant to “write up” and discipline police officers based on dispatcher complaints for a number of reasons, as this sergeant explained.

[I do not want to evoke suspicion] …that I am trying to play favorites or just lashing out because I have a grudge against one of them. I mean, I don’t. But that’s how it would look, and like it or not, the word would spread and I want to avoid that… And also this is more like “he said, she said” right? Each of them will have a story, and I’m not saying that one is right and the other is wrong. Or maybe, one of them is right, I don’t know. So you just got to cool it off, de-escalate it as much as possible, and then things will become alright over time. The more you engage, the more dirty it becomes.” [Interview, Sergeant, #PS8]
In addition, the sergeants are dependent on the police officers to “do their bidding,” that is, to manage the workload of the district, handle contingencies, as well as for handling the menial work such as filing reports. Consequently, sergeants prefer to not take action based on complaints received from dispatchers. Even if warnings or remedial actions are proposed to the individual police officer, they are typically under-enforced. As another sergeant described:

I am caught between them [officers and the dispatcher] and I got to handle it carefully. I can’t just shrug off the dispatcher. I need to listen to them, of course. But I cannot just suspend the officer for that. I might ask them something like “what’s up with the attitude” or ask them to keep their temper under control. But anything beyond that, it will be difficult. Of course, on extreme cases I have written them up and taken action. That is very rare, though. I need these guys, if I piss them off then my job becomes all the more difficult. And I don’t want to end up in that situation. It is not good for the unit, not good for the department, and not good for dispatch either [Interview, Sergeant, #PS6]

Police officers who become aware of an escalation from a particular dispatcher often feel “betrayed” by that dispatcher, believing that the issues should have been “discussed and sorted out between us, like adults, than taking it up to the teacher. That’s what school kids do.” [Interview, Police Officer, #PO11]. Some officers interpret the escalation as resulting from a personal grudge the dispatcher has held towards them for “quite some time, not sure why. She got to remember that it’s just the heat of the moment, and not personal. Nothing personal, I promise you. But the moment you take it personal, that’s a whole different ballgame. You are not acting like a professional anymore.” As the police officer continued:

You can tell from their voice that if someone is happy or not... Most of them are professionals, I got to give it to them, they do their job well, but then there are a few who are always annoyed or have no energy to do this job at a level that is expected. So they constantly crib and complain. They are the Debbie Downers. They just can’t be professional enough and discuss if something is wrong. Instead they want to create an issue out of everything. I get it, this is a tough job, but it is not personal. You can’t keep holding a grudge. That’s not cool. So when I interact with the Debbies, I just go matter-of-fact. Just boom boom boom. That’s it. Nothing more, nothing less. And if they screw up, of course I am going to call them out. It’s fair game. [Interview, Police Officer, #PO3]

Dispatchers who escalate issues to a sergeant become labeled by the officers as “incompetent,” “clueless,” “not a team player,” “Debbie Downers,” and at the extreme, as “bitches.” Police officers mentioned that they can no longer trust those dispatchers who have gone behind their backs to complain about them. Consequently, the relationship between the police officer and the dispatcher – as observed through their interactions – becomes more strained. Immediately after an escalation, the officers reply to the dispatchers in a rigid tone and ceremonially comply with the dispatcher’s messages for a short time.
Subsequently, the police officer keeps looking for any mistake that the dispatcher may make or if she even slightly deviates from the formal dispatch protocol. At those instances, the police officer will point out those deviations and respond in a rude manner. Over the duration of the shift, the officer will then increase his non-compliance through repeatedly interrupting the dispatcher with clarification questions, or by not updating the dispatcher. The following exchange illustrates this interactional process after a dispatcher escalated the behavior of an officer to a sergeant:

Dispatcher (DP): 5460 Officer, are you clear to take a 5-Zebra [code for a person with mental issues] at 1560 Eliot?

Police Officer (PO): Negative

DP: Are you still 10-8?

PO: 10-4, with 5465. I sent an update 10 minutes ago, at 19:08

DP: Stand-by. Any info on robbery at 454 Franklin?

PO: 5465 entered it. Check the updates.

DP: Is there a weapon involved?

PO: [in a mocking tone] They took a shot, we updated to 10-72, so yeah, weapon is involved I guess. Check CAD. Sarge, do you copy that?

DP: Calm down … calm yourself down

PO: Party’s out in 5 and you have been advised. Update when you feel like, 10-7. Sarge, 5460, copy that? Dispatch will update and give it out whenever…

DP: Calm down

PO: Dispatch, you pull yourself together. Party’s out and you have been advised.

DP: Sure I would, 10-4

The dispatchers who follow the escalation tactic through the private communication channel thus experience subsequent difficulties in interacting with the police officers, especially when the officers become aware of or can take an informed guess about the identity of the dispatcher. As described in Table 2, an increasing percentage of police officers did not respond after a dispatcher who enacted an escalation tactic requested an update on a current 911 job, or checked their availability. The officers also failed to update the dispatcher when they took or returned from breaks (see Table 2).
An alternative option that the dispatchers have is to escalate the issue to their 911 dispatch shift supervisor (as opposed to the sergeant on the officers’ side), and request that their shift supervisor handle the issue with the non-compliant police officer. But this option is rarely exercised by the dispatchers. Even if used, the 911 shift supervisors tend not to take any action as they are unwilling to become involved in a conflict with the sergeants in the police department. Furthermore, shift supervisors believe that it is a core responsibility of the dispatcher to deal with issues involving police officer behavior. Shift supervisors view the ability of the dispatchers to “work the radio” and handle non-compliant police officers as a sign of job competence. As one shift supervisor described:

I am supportive [of the dispatchers] most of the times. You have seen this, dispatching is a stressful job and I always stand behind them when they are facing a situation. But once I have shown them the rope, they are on their own. Remembering all the codes is important, but that is just a small part of the job. Working the radio and the human side of it is a lot more important. They need to learn how to handle the cops and keep clearing their board. That’s what they are paid for. Work the radio, work the cops. Work the radio, work the cops... I know that the officers can be difficult at times, but they [dispatchers] need to learn how to deal with them. I cannot always jump in and get into an argument with the officer or the Sarge. It doesn’t look good. In fact, it might blow-up the whole situation. [Interview, 911 Shift Supervisor, #SS1]

As a consequence of these issues, the dispatchers who enact the escalation tactic take relatively longer to dispatch jobs (see Table 2), resulting in ineffective cross-professional coordination.

**Bounded Publicization Tactics through the Open Communication Channel**

When a police officer does not acknowledge and respond promptly when the dispatcher calls out the ID# of an officer through the police radio channel, or when an officer fails to provide an update to the dispatcher when she asks for an update, the dispatchers who enact the bounded publicization tactic first try to ignore such non-compliant behavior. They do not personalize the dispatch process as per the preferences of the individual police officers. For example, when an officer fails to provide an update about their job, or sends them via an internal MDT message asking the dispatcher to manually update them in CAD, the dispatcher will ignore those messages and not respond to the officer. However, when the officer is persistently non-compliant, then these dispatchers enact the bounded publicization tactic by using the open radio channel – the radio frequency that the immediate peer group (i.e., the unit) of that officer is tuned into – to disseminate information about the officer’s non-compliance. And they do so in a humorous, bantering tone rather than an angry or escalatory tone. The dispatchers referred to this as putting on a “mommy’s
voice,” and mentioned that is analogous to disciplining the “cranky kid throwing a tantrum, playing video games and not doing the homework” by “embarrassing him in front of his siblings.” The exchange below illustrates this dynamic:

Dispatcher (DP): 5525, what’s your status?

Police Officer (PO): [No response]

DP: 5525, what’s your status? Back from Code 7? [meal break]

PO: [No response]

DP: [checks the location of the police car of 5525] Barbeque any good at [restaurant name]? Heard their pulled pork is dope. And the potato chips...

Other PO’s: [laughter on the channel] You go girl


DP: [laughs] Sure you did. Right at 15:35.

Other PO’s: [more laughter] 15:30

Other PO’s: [more laughter] 15:00

DP: Alright, enough. 5525, y’all ready to talk to a downer [man or woman who is down]? A beer bottle Betty? [phrase for a drunk woman by the sidewalk]

PO: 10-4, sure I do. What’s the location?

DP: 124 S State? Might be a frequent flier too [phrase for a missing person]. Rack up the miles.

PO [laughs]: On my way.

This exchange happened via the open radio channel of the zone and not through a private radio channel or the city-wide radio channel where messages are sent to members of the entire police force of Delta city. In this way, the dissemination of information is bounded to the peer group, that is, the Unit. As observed in the exchange above, this bounded publicization tactic produced better outcomes for the dispatcher for the particular 911 job. But more than just this one encounter, the tactic shapes the dispatcher’s subsequent interactions with that police officer during the rest of the shift. Below is another exchange with the same police officer:

PO: 832, Dispatch, clear from 124 S State and will take a quick 8 [code for restroom break] and then back

DP: 10-4, anything on betty?
PO: 832, Dispatch, all clear. She was just passed out

DP: Got it.

PO: 832 Dispatch, back now and 10-8, location at 300 block of Eliot and Main, at 16:50. What do you got for me.

DP: 5525, you’re invited to a party at 39 Eliot. Multiple complaints about loud noise. Will send backup right away, 5530 is 1500 away from 39 Eliot.

PO: 10-4

DP: Go break it [the party]. And for y’all, there is pizza at the station, thanks to 5525.

[After PO 5525 returns from that job]

PO: 832 Dispatch, clear from 39 Eliot, now returning to station, 17:25. 10-7.

DP: 10-4. Took the boom box [from 39 Eliot]?

PO [laughs]: I wish. Ok, signing out and will update Sarge with the DIRA report

As we notice from this exchange, the officer resists interrupting the dispatcher, anticipates the information that the dispatcher might need and provides it, complies with the direction that the dispatcher issues, and preconfigures his interaction in such a way that further embarrassments are avoided. In this way, the interaction order between the officer and dispatcher has been reshaped so that the dispatcher can now enact her formal authority without defiance or acts of disregard.

But given that the officer needs to be embarrassed in front of his immediate colleagues, why does the bounded publicization tactic work? Interviews with police officers suggest that they are all aware of their own ways of working-around the dispatch protocol so as to get some “cool-off” time, and they are also aware that others too have ways of working-around the dispatch protocol. But they described being “called out on the radio” as similar to “getting caught with pants down... it is a gotcha moment that you want to avoid.” One police officer continued:

In this line of work, you got to build some time off or [else] you are burnt out before you know it. So we [the police officers in the unit] all do that. Take little breaks here and there. Once in a while, have a nice lunch and a good laugh... But we don’t overdo that, we do it in moderation. And each one of us have our own way [of how to get around the dispatcher]. But the important thing here is when there is a need, we all step-up our game and work hard and long hours... We also know if someone is trying to take a break or is just not willing to take up any work. And when they [dispatchers] start outing an officer through the radio, we take a note of that, and that is a good thing, because we know that officer will start to behave. As a unit, that is good for us. [Interview, Police Officer, #PO5]
In other words, police officers are aware that each one of them is trying to build some slack time into their work routines, but if one of the members tries to slack-off too much and shirk the responsibilities given to them by “being difficult with the dispatchers,” then the extra unfulfilled work will be distributed to the rest of the police officers of the zone. The dispatcher’s action in “outing an officer through the radio” thus does not get interpreted as a personal grudge or score-keeping on the part of the dispatcher. Rather, the dispatcher’s action is viewed as a way to reinforce order and discipline within the unit, but done in a non-threatening way. That is, the dispatcher’s action is viewed as something that positively benefits the unit.

It is important to note here that the dispatchers are not directly informing the sergeant or the supervising officer about a non-compliant officer, or sending a broadcast message with the ID of the officer. While the sergeant may be tuned into the radio frequency of the unit, the dispatcher’s message (about the non-compliant police officer) is not directed toward the sergeant. Moreover, the bantering tone also helps to remove the interaction strain when a dispatcher points out the non-compliant behavior of a police officer. The bantering tone also signals to the police officer that the dispatcher is not trying to enforce her command and show who is in charge, but rather pointing out the common ploys shared by the cops of similar rank.

As this police officer noted:

Some days can be very tiring, so stuff like that [referring to the dispatcher’s banter] keeps it alive. We just pull each other's leg and laugh about it. Good fun in spotting the slacker in us [laughs]. I mean, we all do that at some point or another, so we are all slackers that way. But we pitch in when someone else is not feeling well or if there is a citywide event going on and you get a ton of calls, so on those days, we are hyperactive. On other off-days, it is ok to take it a little light. We all get it, but we pretend that we are trying to call each other’s bluff and not overdo it. [Interview, Police Officer, #PO3]

The police officers therefore try to minimize their non-compliance to reduce the risk of further exposure. But given that the officers are aware that such non-compliance is common and practiced by other officers as well, why do they care about exposure to their peer group? They care because repeated non-compliance is viewed by other officers within the police unit as a sign that an officer is not dependable, shirking his responsibilities, and unloading his work onto others. In this way, although the tone of exposure is often humorous and evokes laughter within the unit, the trustworthiness and “street cred” of the officer is being
assessed – and will be cumulatively and negatively influenced if that officer is repeatedly non-compliant.

A senior police officer explained:

You don’t want shirkers in your unit. They will not hurt you today, but sometime in the future, they will. We don’t put on this blue uniform because we want to make money. We put on the uniform because it is a commitment. To the profession. To your district. To your unit. When I walk into a secluded neighborhood or knock on the door of a creepy guy’s [home], I want to be assured that there is someone else who got my back. A shirker, from my experience I can tell you for sure, is not that person who will have your back... If that officer keeps getting called-out and doesn’t change, then you know that guy is a shirker and I try to be careful with them. And I tell my folks to be careful. [Interview, Police Officer, #PO28]

These dynamics shape how the police officers interact with the dispatchers. As described in Table 2, an increasing percentage of the police officers promptly responded after a dispatcher enacting a bounded publicization tactic assigned them a new call for service and referred to their ID. Very few of those police officers failed to respond promptly. Similarly, they promptly responded after the dispatcher requested an update on their current 911 job. The police officers also voluntarily provided a status-change update to the dispatcher when they took or returned from breaks. Consequently, the dispatchers who enact this bounded publicization tactic had the least average dispatch time compared to other dispatchers. These dispatchers occupy the top percentile in terms of the number of jobs they can dispatch per shift as well as the lowest average dispatch time, indicating more effective cross-professional coordination between them and the police officers.

Unintended Consequences: Emotional Consequences for the Dispatchers

The practices that the dispatchers use to coordinate with the police officers have unintended consequences for the morale, well-being, and identity of the individual dispatchers. Irrespective of the nature of tactics or type of communication media, all generate emotional toll on the dispatchers. The extent of emotional toll varies depending on the type of tactic used. I observed this variation in terms of the following: (a) the number of offline swear words (i.e., not expressed through the radio) used after a coordination encounter with a police officer; (b) the number of “under the breath” expressions of frustration in the form of “sighs” and “gasps” right after a coordination encounter; and (c) the extent of absenteeism in terms of number of sick leaves taken by dispatchers and the number of times they invoked the FMLA [Family and Medical Leave Act] for unplanned leave. While some of this variation may be accounted for
by individual differences in the processing and expression of emotions, the dispatchers are explicitly trained (during their formal training when they are promoted from the 911 call-taker role to the 911 dispatcher role) to verbally vent their emotional strain and stress so that they can remain functional within the shift.

The dispatchers who enacted an escalation tactic had, on average, the least emotional strain as observed by the number of swear words and sighs/gasps used. Escalation helped them avoid the dialogical drama of having to exert their authority and get work done by the police officers. As one dispatcher noted, such performances are “far more exhausting” than facing the consequences of escalation from the police officer.

Look, at one point I decided I am not going to take any of this... I will make their life difficult if y’all [they all] try to make mine difficult. I tried to be nice to them [officers], did the song-and-dance and made them do stuff that they are anyway supposed to do. Enough with that, because that didn’t get me anywhere and I was so tired after my shift that I wanted to go home and crash. So one day, I decided to take them on and just inform the Sarge, and let them deal with it. It [the issue] doesn’t disappear and they still act like assholes, but at least now I'm not tired and pissed off anymore. [Interview, 911 Dispatcher, #DP4]

Escalation provided these dispatchers with a break from ongoing moment-to-moment performances that they felt were “fake” and over-and-above their professional mandate. Compared to other dispatchers, these dispatchers had taken the fewest number of sick leaves. They have also had least used the FMLA provision as compared to other dispatchers.

The dispatchers who used the bounded publicization tactic had comparatively more emotional strain than those who used the escalation tactic. They mentioned that the extent of “acting” they need to do while interacting with the officers, including the use of different types of voice to sound “funny,” is the hardest part of their job. As a dispatcher mentioned, “…it need not be this tiring. It could be more straightforward. I tell them to give me an update, and they’all give me an update. It should be that simple. Why do I need [to do] all this to get an officer to talk?” [Dispatcher, #DP11]. These dispatchers visibly expressed their anger “backstage” in the form of swear words, and did so frequently after using the open radio channel to interact “frontstage” with a non-compliant police officer. Sometimes, the swear word was directed at the non-compliant police officer but said to the secondary dispatcher. At other times, the dispatchers uttered the swear word under their breath. While it could be argued that the verbal expression of emotion could positively impact the well-being of the dispatchers by being cathartic, these dispatchers also exhibited
comparatively more absenteeism in the form of sick leaves and invoking the FMLA. As another dispatcher remarked:

Our supervisors think that we are used to this and that we are good at it [working the radio and handling the officers.] But what they are missing – or they just don’t want to know – is that it is painful to keep doing this... Trying to be this funny “cool girl,” I mean come on. It is exhausting. If you all [officer] be an adult and just let me do my job - let me do my fucking job - it will be better for both of us. But I don’t have that [option] anymore, and I am just sad. And mad. [Interview, 911 Dispatcher, #DP7]

The dispatchers who used the personalization tactic suffered the most emotional strain. These dispatchers mentioned that even to accomplish basic work from the police officers, they needed to “put on a mask,” to “sweet talk” the police officers and “be nice to them.” As the police officers take these dispatchers for granted and tend to disobey them and/or not follow their requests, it puts them under additional emotional strain. Moreover, the need to show their competence as independent problem-solvers to the sergeants (as well as to their shift supervisors) also negatively impacted their morale. These dispatchers exhibited the most absenteeism in the form of sick leaves and invoking the FMLA, leading to relatively more turnover in this category of dispatchers. As one such dispatcher described:

When I was promoted to a dispatcher, a lot of my seniors warned me on how hard it is to work the radio and talk to the officers. I thought they were exaggerating but I had no idea that it will be this bad. I go over-and-above my way to make sure the officers can focus and do their job. As I told you, I fill out the forms. Run the [license] plates. Check some addresses. I have even dialed the caller and asked them to be at their door for the officer. I do whatever it takes that will make their [officers’] job easier. But even then, they continue to be dicks to me... They dump all their shit on me. Every day is a struggle and I am not feeling motivated at all to get up from my bed and be back at my desk. [Interview, 911 Dispatcher, #DP2]

In summary, the various dispatch practices enacted by dispatchers had a consequential effect on their well-being. Although the escalation tactic led to negative coordination outcomes, it generated less emotional strain on the individual 911 dispatchers. Similarly, although the bounded publicization tactic led to better coordination outcomes, it produced substantial emotional strain for the dispatchers. And as we saw, the personalization tactic was the least effective in terms of coordination while also generating the most emotional toll and negative impact on the well-being of the individual 911 dispatchers.
DISCUSSION

I began this paper by asking how truce professionals navigate the status-authority asymmetry, and orchestrate effective cross-professional coordination. I situated my research within 911 EMOs, where I examined cross-professional coordination between 911 dispatchers (truce professionals) and police officers (focal professionals). I found that despite the challenges of enacting authority from a position of lower professional status, some dispatchers were able to effectively coordinate with the police officers. I further found that the mechanisms identified by prior research (workplace objects, boundary spanners, face-to-face interactions, scut work, and cross-cutting demographics) did not explain how these dispatchers were able to coordinate effectively and enact their formal authority in practice. To unpack this empirical puzzle, I conducted comparisons of coordination encounters between 911 dispatchers and police officers, and identified a set of practices entailing communication media (open or private channels) and tactics (escalation, personalization, bounded publicization) that 911 dispatchers use to navigate the status-authority asymmetry and orchestrate cross-professional coordination. I found that while the escalation and personalization tactics performed through the private radio channel led to negative coordination outcomes, the bounded publicization tactic performed through the open radio channel resulted in more effective coordination outcomes. I now discuss the theoretical implication of these findings, and elaborate the contributions to research on cross-professional coordination and status-authority asymmetry.

Facilitating Cross-Professional Coordination in the Presence of Status-Authority Asymmetry

This study advances our understanding of cross-professional coordination by identifying a practice through which a structurally disadvantaged professional group can generate lateral influence over another professional group and facilitate coordination. Such lateral influence enables the lower-status professional group to enact its formal authority in practice and get work done by the higher-status professional group.

This study also identifies the practices and tactics that can backfire and undermine coordination. For instance, the personalization tactic performed by the dispatchers through the private radio channel, where they engage in relational work (Zelizer, 2007) and modify the dispatch process according to the individual preferences of the police officer, further undermined coordination and led to negative coordination
outcomes. Existing research on relational work would predict that modifying the interactional process to match the preferences of higher-status actors would facilitate the transfer of fine-grained information and build the relational bases for performing coordination under contingent situations (Bandelj, 2012). Yet, the outcomes from this study show the limits of relational work. Specifically, the study shows that relational work performed within a context marked by status-authority asymmetry creates the preconditions for higher-status/lower-formal-authority professionals to take the lower-status/higher-formal-authority professionals for granted. This is because the very act of performing relational work is interpreted by the focal professionals as a pathway where one can renegotiate and keep pushing the boundaries of formal authority. Consequently, the more relational work a lower-status truce professional performs, the more the higher-status focal professionals take the rules that undergird the coordination process as malleable and not set in stone. In this way, the higher-status professionals undermine the formal authority of the lower-status professionals doing the relational work, which in turn weakens cross-professional coordination.

Similarly, the escalation tactic performed by the dispatchers through the private radio channel also led to negative coordination outcomes. I found three interrelated reasons for this. First, when the dispatchers report a noncompliant police officer to a supervising patrol officer or sergeant, that escalation is often interpreted by the police officer as an extra-professional act. Police officers believe that if any disagreements arise between them and the dispatchers, those disagreements need to be sorted out between them inter-professionally. Escalation to the supervising patrol officer or sergeant is viewed by the police officers as a form of personal score-keeping and therefore, beyond the professional realm. This, in turn, leads to a breakdown of trust between the police officers and dispatchers, which undermines the lateral relationship needed to enact coordination. Second, the supervising patrol officer and sergeants who receive complaints about the police officers under their watch need to act on those complaints and propose remedial action. However, they are reluctant to do so because they do not want to be seen to be, or even suspected of, “playing favorites” among the police officers. Moreover, the sergeants are dependent on the officers to manage workload, handle contingencies, and to keep order on the streets within the police zone that they are charged with managing (Van Maanen, 1983, 1984). Consequently, while sergeants do talk to and
sometimes even warn the police officers about whom they receive complaints, remedial actions are typically under-enforced. Third, when dispatchers escalate issues to their shift supervisors within the 911 EMO, the supervisors view such escalations as a sign of incompetence or lack of independence on the part of the dispatchers. Shift supervisors do not want to be pulled into a tussle with their rank-equivalent peers in the police department should they act on dispatchers’ complaints. Rather, they prefer the dispatchers to “deal with” such issues themselves. Indeed, they view the dispatchers’ ability to deal with and sort out the issues with the police officers as a core competency required for the job. As a result, escalation tactics lead to ineffective cross-professional coordination.

It is the bounded publicization tactic performed via the open radio channel that enabled the dispatchers to enact effective cross-professional coordination. Through the bounded publicization tactic, acts of non-compliance by individual police officers are brought to the awareness of their peer group (the police unit), not their sergeants or the entire police department (cf. Adut, 2008; Chwe, 2001; Huising, 2014). The individual officers are aware that their peer-group is exposed to their non-compliance as the dispatcher’s message is transmitted via the open radio channel. This puts the professional standing of that officer on the line in front of their police unit. Dispatchers are able to steer self-disciplining and compliance among police officers through managing what gets transmitted — and to whom — in the common information space. As higher-status professionals care about their standing within their peer group – the bounded publicization tactic done through managing the common information space helps dispatchers generate lateral influence (as opposed to upward influence) over the police officers and thus enact their formal authority in practice (Goffman, 1956; Van Maanen, 2010). Prior research suggests that professionals gauge members within their group while performing routine tasks in a rule-bound manner as a marker of their trustworthiness during other emergency situations involving high levels of uncertainty (Pratt, Lepisto, and Dane, 2018). Similarly, police officers within the unit interpret the acts of non-compliance by other police officers as a signal of their lack of trustworthiness, especially considering the potential emergency situations where they may be teamed together. In this way, dissemination of information about a non-compliant officer through the unit’s open radio channel creates peer-knowledge of non-compliance which in turn compels that
individual police officer to self-correct and avoid such behavior in the future (cf. DiBenigno, 2017). Moreover, since the message dissemination about non-compliance is done in a bantering rather than an escalatory tone, it is not interpreted by the police officer as “personal score-keeping” — or more broadly, as extra-professional behavior — on the part of the dispatcher.

Thus, through the bounded publicization tactic, dispatchers are able to generate lateral influence over the police officers. As described in the findings, through lateral influence dispatchers can control not just the trajectory of the immediate encounter with the police officer, but also the overall interactional order that unfolds over the duration of the shift (and even beyond). Lateral influence enables the dispatchers to navigate the status-authority asymmetry and enact their formal authority in practice. This, in turn, improves cross-professional coordination between the dispatchers and police officers.

I draw on these findings to develop a model of navigating status-authority asymmetry, shown in Figure 2, that explains how and when a profession with higher formal authority and lower professional status can effectively coordinate with another profession characterized by higher professional status and lower formal authority. As described in the model, the personalization tactic performed through the private communication channel can undermine the formal authority of the lower-status profession as the higher-status profession interprets the rules-of-the-game that form the basis for such formal authority as malleable and something that can be defied. This leads to ineffective cross-professional coordination. Similarly, the escalation tactic performed through the private communication channel can undermine the lateral relationship of the coordinating professionals, as the higher-status profession views the escalatory act as extra-professional, and as a form of personal score-keeping.

In contrast to these two tactics, the bounded publicization tactic creates peer knowledge about non-compliance. Since peers monitor each other and use acts of non-compliance as a way to judge the trustworthiness of their colleagues, such bounded dissemination of information about non-compliance steers self-disciplining and voluntary compliance. Through managing the common information space — including what information gets disseminated and to whom — the lower-status/higher-formal-authority
professionals are able to generate lateral influence over the higher-status/lower-formal-authority, and orchestrate effective cross-professional coordination.

--- Insert Figure 2 here ---

Yet, we also find that the everyday use of these tactics to orchestrate coordination has a significant emotional toll on the lower-status/higher-formal-authority professionals (Hochschild, 1979). Even to achieve simple work (from the focal professionals) using the decision rights that come with their job description, the truce professionals have to exert considerable emotional labor to gain the trust of the focal professionals as well as signal their competence as independent problem-solvers to their supervisors. Such emotional labor diminishes their morale, impacts their physical well-being, and undermines their identity as public safety professionals (Ashforth and Humphrey, 1993). Specifically, the dispatchers who espoused the personalization tactic experienced the most negative impact (observed in terms of the number of sick leaves they took and how often they invoked the FMLA), followed by the dispatchers who used the bounded publicization tactic.

**Broader Implications**

The findings from this research are analytically generalizable to other contexts that involve status-authority asymmetry among professional groups. For example, air-traffic controllers need to navigate status-authority asymmetry and coordinate with the higher-status pilots (Vaughan, 2014). Similarly, designers need to manage the status-authority asymmetry and coordinate with the higher-status engineers during early stages of technology product development (Kellogg et al., 2006). In each of these scenarios, formal authority is bestowed upon the lower-status professional group, but enacting such authority in practice is found to be far from straightforward (Bechky, 2003b; Huising, 2015; Zetka, 2001).

Ideally, broader structural and organizational reforms are needed to create the preconditions where the lower-status disadvantaged professional groups can enact their formal authority without any fear of retaliation and blowback. Yet, such structural reforms need a longer time duration to be implemented in practice; even if implemented, the regulatory professional groups can get redirected with their own agenda.
My research points to practices that lower-status professionals can perform in the short- and medium-term to enact their formal authority and accomplish work. While the specific practices may vary from setting to setting, the broader mechanism concerning the use of common information spaces to generate peer knowledge about non-compliant individuals that compels self-disciplining may be a possible way to navigate the status-authority asymmetry. In the context of 911 EMOs, the common information space was the radio channel. In other contexts such as product development, this could include the use of email listserv and task management tools (such as Slack) for generating peer knowledge about non-compliant individuals without entailing escalation or personalization. For example, during the initial stages of product development, the lower-status designers can enact their formal authority over the higher-status engineers through publicizing the behavior of a non-compliant engineer to other engineers within the peer group. This could be achieved using the product group’s email listserv for engineers as well as using task management sub-groups that the engineers use to communicate. More broadly, insofar as the common information space is managed to disseminate information that risks undermining the professional standing of the non-compliant individuals before their immediate peer group (and not the supervising managers), then self-correction on the part of the individual should be triggered. This, in turn, enables the lower-status professionals to generate lateral influence and navigate the status-authority asymmetry.
REFERENCES


### Table 1. Summary of Data Collection

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DEMO</strong></td>
<td><strong>Observations</strong> Approximately 670 hours: observing the call-dispatching process by being embedded in a dispatch unit and listening in to the police radio channel via a headphone; shadowing the 911 dispatchers, observing training sessions and real-time “simulation” sessions for new 911 dispatchers.</td>
</tr>
<tr>
<td></td>
<td><strong>Real-time Interviews</strong> 48 interviews: probing the 911 dispatchers to reflect on a specific incident that I had just observed during the dispatching process.</td>
</tr>
<tr>
<td></td>
<td><strong>Semi-structured interviews</strong> 35 semi-structured interviews with the 911 dispatchers 12 semi-structured interviews with the 911 supervisors</td>
</tr>
<tr>
<td></td>
<td><strong>Quantitative data</strong> 911 call logs from 2011-2014</td>
</tr>
<tr>
<td><strong>DPD</strong></td>
<td><strong>Observations</strong> 160 hours: ride-alongs to observe beat cops’ responses to 911 calls for service</td>
</tr>
<tr>
<td></td>
<td><strong>Interviews</strong> 52 interviews with police officers responding to 911 calls 28 interviews with sergeants and supervising patrol officers</td>
</tr>
<tr>
<td><strong>Other EMOs (Gamma, Beta, and, Zeta)</strong></td>
<td><strong>Observations</strong> 120 hours of total observation of the 911 dispatch process, spending 3 to 5 days at each site.</td>
</tr>
<tr>
<td></td>
<td><strong>Interviews</strong> 45 real-time interviews with the 911 dispatchers 24 semi-structured interviews with the 911 dispatchers 19 semi-structured interviews with the 911 supervisors</td>
</tr>
</tbody>
</table>
Table 2. Navigating Status-Authority Asymmetry to Orchestrate Cross-Professional Coordination

<table>
<thead>
<tr>
<th>Tactics</th>
<th>% of times when officers did not respond to initial job assignment [called out twice] by dispatchers</th>
<th>% of times when officers did not respond to a status update check [called out twice] by dispatchers</th>
<th>% of times when officers failed to update the dispatchers on their availability</th>
<th>Dispatch time(percentile)</th>
<th>Overall Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personalization</td>
<td>68%</td>
<td>58%</td>
<td>74%</td>
<td>Highest average dispatch time</td>
<td>Additional work for dispatchers</td>
</tr>
<tr>
<td></td>
<td>Bottom 30 percentile among the DEMO evening shift dispatchers in dispatch performance</td>
<td></td>
<td></td>
<td>Formal authority of the dispatchers is undermined</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ineffective cross-professional coordination</td>
<td></td>
</tr>
<tr>
<td>Escalation</td>
<td>52%</td>
<td>44%</td>
<td>65%</td>
<td>High average dispatch time</td>
<td>Breakdown of inter-professional trust</td>
</tr>
<tr>
<td></td>
<td>30-60 percentile among the DEMO evening shift dispatchers in dispatch performance</td>
<td></td>
<td></td>
<td>Lateral relationship between the police officers and dispatchers are undermined</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ineffective cross-professional coordination</td>
<td></td>
</tr>
</tbody>
</table>

13 Dispatch Performance measured in terms of overall number of 911 jobs dispatched and the average dispatch time
| Bounded Publicization | 24% | 17% | 42% | Lowest average dispatch time  
Top 20 percentile among the DEMO evening shift dispatchers in dispatch performance | Self-disciplining of police officers  
Generation of peer knowledge about non-compliance  
Relatively more effective cross-professional coordination |
Figure 1. Coordination between 911 Dispatchers and Police Officers
Figure 2. A Model of Navigating Status-Authority Asymmetry

<table>
<thead>
<tr>
<th>Initial Condition</th>
<th>Tactics</th>
<th>Mechanisms</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Profession A</strong></td>
<td><em>Personalization</em></td>
<td><em>Undermined Formal Authority</em></td>
<td><em>Ineffective Cross-Professional Coordination</em></td>
</tr>
<tr>
<td>Lower Professional Status and Higher Formal Authority</td>
<td><em>Engaging in relational work</em></td>
<td></td>
<td><em>Difficulty in enacting formal authority</em></td>
</tr>
<tr>
<td>Professional Status</td>
<td><em>Personalizing the coordination process as per the preferences of the higher-status profession</em></td>
<td><em>Interpret the rules-of-the-game as negotiable</em></td>
<td><em>Unintended consequence: Experience significant emotional toll</em></td>
</tr>
<tr>
<td><strong>Profession B</strong></td>
<td><em>Undermined Formal Authority</em></td>
<td><em>Dissemination of Peer Knowledge about Non-Compliance</em></td>
<td><em>Effective Cross-Professional Coordination</em></td>
</tr>
<tr>
<td>Higher Professional Status and Lower Formal Authority</td>
<td><em>Engaging in bounded publicization work</em></td>
<td><em>Professional standing on-the-line in front of their peer group</em></td>
<td><em>Ability to enact formal authority</em></td>
</tr>
<tr>
<td></td>
<td><em>Acts of non-compliance brought to the notice of the peer group</em></td>
<td><em>Mutual recognition of non-compliance</em></td>
<td><em>Unintended consequence: Experience moderate emotional toll</em></td>
</tr>
<tr>
<td></td>
<td><em>Generation of lateral influence through managing common information space</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Profession A</strong></td>
<td><em>Ineffective Cross-Professional Coordination</em></td>
<td><em>Escalation</em></td>
<td><em>Ineffective Cross-Professional Coordination</em></td>
</tr>
<tr>
<td>Lower Professional Status and Higher Formal Authority</td>
<td><em>Engaging in escalatory work</em></td>
<td><em>Interpret escalation as a form of &quot;keeping score&quot;</em></td>
<td><em>Difficulty in enacting formal authority</em></td>
</tr>
<tr>
<td>Professional Status</td>
<td><em>Acts of non-compliance brought to the notice of immediate supervisor</em></td>
<td><em>Break down of trust between the coordinating professionals</em></td>
<td><em>Unintended consequence: Experience low emotional toll</em></td>
</tr>
<tr>
<td><strong>Profession B</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Higher Professional Status and Lower Formal Authority</td>
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</tr>
</tbody>
</table>

Initial Condition

Profession A

Lower Professional Status and Higher Formal Authority

Profession B

Higher Professional Status and Lower Formal Authority

Generates Status-Authority Asymmetry
APPENDIX A: Police Scanner Codes

10-0 Caution
10-1 Reception poor
10-2 Reception good
10-3 Stop transmitting
10-4 Message received, understood
10-5 Replay message
10-6 Change channel
10-7 Out of service
10-7A Out of service, home
10-7B Out of service, personal
10-8 In service
10-9 Repeat message
10-10 Off duty
10-10A Off duty, home
10-12 Visitor(s) present
10-14 Citizen w/suspect
10-17 Request for gasoline
10-19 Return(ing) to station
10-20 Location
10-22 Disregard last assignment
10-23 Stand by
10-24 Request car-to-car transmit
10-26 Clear
10-28 Registration request
10-29 Check for wants
10-29F Subject wanted, felony
10-30 Doesn't conform to regulations
10-34 Assist at office
10-35 Time check
10-36 Confidential information
10-37 Identify operator
10-39 Can () come to the radio?
10-40 Is () available for phone call?
10-50 Under influence of drugs
10-51 Drunk
10-59 Security check
10-60 Lock-out
10-61 Miscellaneous public service
10-62 Meet a citizen
10-62A Take a report from a citizen
10-62B Civilian standby
10-63 Prepare to copy
10-64 Found property
10-66 Suspicious person
10-67 Person calling for help
10-68 Telephone for police
10-71 Shooting
10-72 Gun involved
10-73 How do you receive?
10-86 Any radio traffic?
10-88 Assume post
10-95 Need ID tech unit
10-97 Arrived at scene
10-98 Available to assign
Code 2 Urgent - no light or siren
Code 3 Use lights and siren
Code 4 No further assistance needed
Code 5 Stakeout
Code 6 Stay out of area
Code 7 Meal break

Code 8 Restroom break

11-10 Take report
11-40 Advise if ambulance needed
11-41 Ambulance needed
11-42 No ambulance needed
11-44 Deceased person (Coroner Req'd)
11-48 Furnish transportation
11-51 Escort
11-52 Funeral detail
11-54 Suspicious vehicle
11-55 Officer being followed by auto
11-56 11-55 W/dangerous persons
11-57 Unidentified auto at assignments
11-58 Radio monitored, use phone
11-65 Signal light out
11-66 Defective signal light
11-79 Accident - Ambulance sent
11-80 Accident - Major injuries
11-81 Accident - Minor injuries
11-82 Accident - No injuries
11-83 Accident - No detail
11-84 Direct traffic
11-85 Tow truck required
11-94 Pedestrian stop
11-95 Routine traffic stop
11-96 Checking suspicious vehicle
11-97 Time/security check on patrol
11-98 Meet:
11-99 Officer needs help!
99 - Affirmative
187 Homicide
207 Kidnapping
207A Kidnapping attempt
211 Robbery
211A Robbery alarm
211S Robbery alarm, silent
217 Assault with intent to murder
240 Assault
242 Battery
245 Assault with a deadly weapon
246 Shooting at inhabited dwelling
288 Lewd conduct
390 Drunk
390D Drunk, unconscious
415 Disturbance
417 Person with a gun
417A Person with a knife
459 Burglary
459A Burglar alarm
459S Burglar alarm, silent
470 Forgery
480 Hit and run - Felony
481 Hit and run - Misdemeanor
484 Petty theft
487 Grand theft
488 Petty theft
502 Drunk Driving
503 Auto theft
504 Tampering with a vehicle
CHAPTER 4

TRUCE PROFESSIONALS IN THE WAKE OF INCREASED PUBLIC SCRUTINY: EXAMINING THE PARADOX OF PUBLIC ACCOUNTABILITY

ABSTRACT

Digital technologies such as smartphones and social media are enabling increased monitoring, reporting, and online dissemination of issues that members of the public may have about organizations and its workers. How do front-line truce professionals respond to the public’s increased digital scrutiny, and with what consequences for organizational accountability? As organizations care about regaining the reputation lost due to such negative reporting, prior research predicts that the public’s use of such technologies to voice their concerns and demand more accountability should improve organizational accountability. However, findings from my 24-month ethnographic study of emergency management organizations suggest that the public’s increased digital scrutiny of organizations and its workers can, under some conditions, paradoxically end up worsening accountability. My study unpacks the processes that generate this paradox of public accountability — front-line truce professionals’ increased risk aversion, undermined role identities, strained role relations, and resource lock-up. Together, these processes reshape the work of truce professionals and produce a vicious cycle of coordination that worsens organizational accountability. I synthesize these findings and develop a process model of the paradox of public accountability. This research generates insights into the ways in which organizational accountability is being reconfigured in the digital age through the shifting work practices of front-line professionals responding to increased public scrutiny.
In the previous chapter, I examined how truce professions navigate the status-authority asymmetry in order to facilitate effective cross-professional coordination. In the digital age marked by constant connectivity, where the public have ready access to mobile devices and social media to voice their concerns and demand more accountability from emergency management organizations, it is the truce professionals on the front-line (i.e., 911 call-takers) who typically bear the brunt of increased public scrutiny. In this chapter, I examine how front-line truce professionals respond to such increased public scrutiny, and with what consequences for organizational accountability.

INTRODUCTION

Organizational accountability has emerged as a prominent category of concern over the past two decades (Espeland and Vannebo, 2007; Jensen, 2006; Lerner and Tetlock, 1999; Miller and Rose, 2008; Power, 1996; Roberts, 1991). Indeed, it is in part the “capacity to project accountability” (Freeland and Zuckerman, 2018, p.148) that explains the prevalence of formal organizations in society (Weber 1958; Hannan and Freeman 1984; Kreps 1990) over other organizational forms such as pop-ups (Demetry, 2017), flash organizations (Valentine et al., 2017) and similar temporary forms of organizations (Meyerson et al. 1996), despite the lower transaction costs afforded by the latter.

While scholars of organizational accountability have examined issues such as the impact of managerial political ideology on accountability (Tetlock et al., 2013) and the effect of accountability failures on client defections and dissolution of inter-organizational relationships (e.g., Bergsteiner, 2012; Chaney and Philipich, 2002; Jensen, 2006), they have paid relatively less attention to understanding how organizational accountability is achieved in practice. More specifically, we know little about what work is needed to enact accountability in everyday organizational life? This question is particularly salient in the digital age, where members of the public have access to digital technologies such as mobile devices (e.g., smartphones) and social media that enable them to scrutinize an organization and its workers, and express their concerns in an emotionally charged manner (e.g., Victor and Stevens, 2017). Such public gaze and voice are especially
directed toward the front-line professionals whom the public deals with during a product or service transaction (Brodkin, 2011; Lara-Millan, 2014; Lipsky, 1983; Maynard-Moody and Musheno, 2003).

I argue that organizational accountability is enacted through the everyday coordination work performed by the front-line professionals who interact directly with different stakeholders and initiate lines of action. Given this, it is important to direct our empirical focus to understanding how these professionals respond to and cope with increased public scrutiny, and with what organizational implications. This forms the overarching motivation for this research study.

Mobile devices (such as cell phones) and social media platforms enable members of the public to engage in the ongoing monitoring, instant reporting, and widespread dissemination of issues that they have with an organization and its workers. Since organizations care about regaining the reputation lost due to negative reporting (Cheng et al., 2017; Donnell and King, 2013; King, 2008), prior research predicts that the public’s use of such technologies to voice their concerns and demand more accountability should improve organizational accountability (Kim, Lim, and Brymer, 2015; Levy, Duan, and Boo, 2013; Luo, Zhang, and Duan, 2013; see also Imbellino, 2017). However, in my empirical setting, I find on the contrary that the public’s use of digital technologies ends up worsening organizational accountability.

Drawing on 24 months of ethnographic fieldwork, supplemented with historical and quantitative analysis, I examine this empirical puzzle and ask: how do front-line truce professionals respond to the public’s increased digital scrutiny, and with what consequences for organizational accountability? I situated my research within an extreme case – that of 911 emergency management organizations (EMO). Extreme cases help isolate and focus on processes that are otherwise difficult to observe in regular settings. This helped me develop novel theoretical insights into how front-line truce professionals cope with and respond to intensified public scrutiny, and with what organizational consequence. The findings from my study advance our understanding of organizational accountability in the digital age.

I find that the public’s use of mobile devices and social media to demand more accountability enacts a set of dynamics that increases truce professionals’ risk aversion, undermines role identities, strains role relations, and locks up available resources. This happens under two specific conditions — when the
organizational work involves multi-stage sequential coordination and the front-line truce professionals initiating the coordination require significant discretion in decision making. Together, the above processes generate a **vicious cycle of coordination that ends up worsening organizational accountability over time**.

This study contributes to the literature on organizational accountability by highlighting how accountability is enacted through the coordination practices of front-line truce professionals, who see themselves as working with a knife hanging over their head due to increased public scrutiny. Consequently, the “always on” digital era characterized by ever-increasing external pressures can challenge the meanings, relations, and identities of front-line professionals, significantly hinder their willingness to take ownership of their discretionary decision rights in order to coordinate work, and be accountable for organizational outcomes. This study further makes a distinction between internal (or managerial) and external (or public) locus of accountability, and examines the organizational consequences when there is a shift in the audience for accountability.

This research also makes a contribution to the coordination literature by examining how the **external** use of digital technologies by the public is creating significant input uncertainty to organizational work, and negatively influencing **internal** coordination within- and between- professional groups. My study shows that digital technologies such as smartphones and social media, while not deliberately designed for monitoring purposes, are increasingly being used to monitor and report issues that the public have about an organization and its workers (cf. Sutton and Galunic, 1996). While prior work on technology-based monitoring examined how managerial monitoring tools have an effect on **individual** work and productivity (e.g., Bernstein, 2012; Hubbard, 2000; Sewell, Barker, and Nyberg, 2012; Staats et al., 2017), this study sheds light on how technology-based monitoring by the public can negatively influence **collective** work by disrupting the acts of coordination among professional groups within organizations.

In the following sections, I discuss these findings in more detail, develop a process model of the paradox of **public accountability** and describe the chain of unintended consequences and organizational changes that emerge as external monitoring and reporting intensify via the public’s use of mobile devices and social media.
ORGANIZATIONAL ACCOUNTABILITY IN THE DIGITAL AGE

The prominence of accountability in the popular discourse has “transformed it from a ‘culturally innocuous term’ to a ‘cultural keyword’” (Dubnick, 2014, p.23). The term was initially conceptualized at the individual level as “the implicit or explicit expectation that one may be called on to justify one’s beliefs, feelings, and actions to others” (Lerner and Tetlock, 1999, p.255). However, since accountability necessitates actors to “explain and justify their decisions and behaviors to other actors within the social system” (Jensen, 2006, p.99; see also Scott and Lyman, 1968), the notion of accountability has been applied to the organizational realm as well (Ohmann, 2000; Sauder and Espeland, 2016). Defined as “patterns of how organizations conduct, implement, and monitor policies and practices in relation to the demands of various stakeholder groups” (Frink et al., 2008, p.186), organizational accountability is considered critical not just for strengthening the organization-stakeholder relationship, but also for attaining positive performance outcomes (Brown and Moore, 2001; Crane and Livesey, 2003; Hannan and Freeman, 1984; Unerman and Bennett, 2004).

Demands for Accountability

Scholars have theorized about why the demand for accountability from customers, prospects, and other stakeholders explains the preponderance of formal organizations in capitalist economies (Weber 1958; Hannan and Freeman 1984; Kreps 1990). The capacity to project accountability by formal organizations signals to the exchange partners that “commitments to following promised and/or reasonable procedures are credible” (Freeland and Zuckerman, 2018, p.148; emphasis added).

Two recent trends have made the demand for organizational accountability even more salient. First is the “audit explosion” (Power, 1997) and the global spread of an audit culture, as reflected in the pervasiveness of “technologies of audit and accountability” (Shore and Wright, 1999, p.57) including various forms of metrics, rubrics, quantitative indicators, and reporting tools (Espeland and Sauder, 2016; Strathern, 2000; Suchman, 1994). Indeed, there is increasing impetus to render more and more aspects of an organization “auditable” (Jeacle and Carter, 2009; Pentland, 2000). As a consequence of the availability of such quantified metrics, the meaning of accountability is now associated with tracking and monitoring
the performance of organizational actors (Espeland and Vannebo, 2007, p.22). This includes not just financial performance, but also various other forms of performance indicators such as customer satisfaction score, response time, and issue resolution time. As a result, when customers and stakeholders refer to decreased organizational accountability, they are referring to some form of organizational performance decline, and the lack of initiative and ownership on the part of the organizational actor to take remedial action in a credible manner and improve performance (Espeland and Sauder, 2016).

The second trend points to the high-profile organizational crises occurring over the past two decades, including the BP oil spill (Kanter, 2010), the 2008 financial meltdown (Sorkin, 2009), and corporate wrongdoings in firms such as Enron, Worldcom, Arthur Andersen, and Volkswagen (Lerner and Tetlock, 1999; Patil, Viedier, and Tetlock, 2012). Such scandals suggest ongoing organizational malfeasance due to a lack of governance measures and problematic managerial practices that are largely hidden from the purview of the stakeholders. Consequently, there is an increased demand for accountability from stakeholders so that such organizational crises can be avoided in the future.

In the face of these two trends, organizational accountability has emerged as a prominent category of concern. Recent research has addressed a number of interesting issues with respect to organizational accountability, including the mechanisms through which organizations can be held to account by activists and NGOs (McDonnell and Werner, 2015), the tactics and media that these external constituents use toward those ends (King, 2008), and the performance implications of accountability deficits (Bergsteiner, 2012; Chaney and Philipich, 2002; Jensen, 2006; Krishna, 2005; Miller and Rose, 2008).

**Role of Front-line Professionals in Accountability**

Despite the growing body of research on organizational accountability, relatively less attention has been paid to understanding how organizational accountability is enacted in practice (Dubnick, 2005). Yet, as Frink et al. (2008, p.203) observe, “regardless of the formality of the accountability mechanisms, the means of enactment may vary… at the heart of accountability is the notion that it is enacted…” Thus an important research question remains, what work is needed to enact accountability in everyday organizational life?
I argue that organizational accountability is enacted through the everyday coordination work performed by the front-line professionals. These professionals enact accountability in practice via initiating a line of action in response to the customer/stakeholder concerns and coordinate complex interdependent work within and across organizations (Bailey, Leonardi, and Chong, 2010; Evans, 2011; Kellogg, 2014; Lipsky, 1983; Schakel, van Fenema and Faraj, 2016, Watkins-Hayes, 2009). Laboratory studies have examined a number of different cognitive coping strategies (such as strategic attitude shifting, preemptive self-criticism, and defensive bolstering) that organizational actors use to deal with accountability demands (e.g., Tetlock, Skitka, and Boettger, 1989). But we do not know much about how and in what ways these actors change (or not) their practices in response to increased accountability pressures.

One way to address this lacuna is to move our focus from examining when and through what mechanisms accountability is enforced to understanding how accountability is enacted in everyday organizational life through observing the moment-to-moment flow of practices of the front-line professionals. Put differently, while existing research has addressed “how organizations are being held to account by various constituencies,” we lack an understanding of how front-line professionals working in these organizations “hold themselves to account in response” (Scott and Orlikowski, 2012, p.7) and with what results.

Advent of Increased Digital Scrutiny by the Public

The digital age has made the issues of enacting organizational accountability even more complex. Beyond the stakeholders, government regulators, and NGOs, the public too can now demand that organizations be accountable for their actions due to the capabilities afforded by digital technologies. Armed with the constant connectivity of digital technologies such as smartphones and social media, the public can easily monitor, report, and widely disseminate the concerns they have about a focal organization and its front-line workers (Leonardi and Vaast, 2016; Turco, 2016), and they can do so in an emotionally charged manner (e.g., Victor and Stevens, 2017).

Such forms of public accountability, considered the “hallmark of modern democratic governance” (Bovens, 2005, p.182), are nevertheless creating significant challenges for organizations (Miller and Power,
2013; Sutton and Galunic, 1996) and producing consequential outcomes (Jeacle and Carter, 2011). As Scott and Orlikowski (2012, p.39), through their study of the use of social media platform TripAdvisor by a distributed and largely anonymous crowd, note: “how and where accountability is performed online is thus a critical ongoing empirical question… while new and different forms of accountability inspire new ways to conduct practices, these innovations are not without material consequences” (p.39).

Continuing this line of inquiry, I further specify my research question to ask: how do front-line truce professionals respond to the public’s increased digital scrutiny, and with what consequences for organizational accountability? As I discussed above, digital technologies such as mobile devices and social media enable increased public scrutiny of organizations and its front-line workers. As organizations care about regaining the reputation lost due to such negative reporting (Donnell and King, 2013; King, 2008; McDonnell and Werner, 2015; see also Cheng et al., 2017 for related arguments on reputation as a “meta-resource” that allows organizations to acquire other resources), prior research predicts that the public’s use of social media to voice their concerns and demand more accountability would improve organizational accountability and performance (Kim, Lim, and Brymer, 2015; Luo, Zhang, and Duan, 2013; Levy, Duan, and Boo, 2013). For example, studies done in the travel and restaurant industry show that the use of social media platforms by customers to scrutinize an organization and its workers makes the focal organization more responsive to those concerns, which has a positive impact on the organization’s subsequent performance and accountability (Kim et al., 2015; Levy et al., 2013). Popular media commentaries also reflect this line of argument:

Without a doubt, executives from United Airlines, Uber, political figures, and all those in a position of leadership have learned the hard way their days of operating with impunity have come to a bitter end. With the explosive growth of social media in modern times comes the day and age where social accountability is no longer something that corporate, political, and others in a position of leadership can simply hide from… our modern world driven by digital media is forcing the world’s leaders to hold themselves to a higher standard, or suffer the consequences as a result of their misdeeds. (Imbellino, 2017)

In my empirical setting, however, I find that the public’s use of mobile devices and social media to demand accountability ends up paradoxically worsening organizational accountability. To examine this empirical puzzle, I draw on a “practice perspective” (Feldman and Orlikowski, 2011; Schatzki, 2001) to understand
how accountability is enacted in practice through the coordinative work of front-line truce professionals. A practice perspective directs attention to the everyday “doings” and “sayings” of actors within organizations. Specifically, I focus on the doings and sayings of front-line truce professionals in work practices, how they perform their work identities and role relationships, and how these change in response to increased digital scrutiny by the public.

**RESEARCH SETTING AND METHODS**

I employed an inductive research approach, using ethnographic data collection techniques at multiple sites to address the research question. Inductive research is particularly useful to examine understudied phenomena (Edmondson and McManus, 2007; Eisenhardt and Graebner 2007) as well as to develop alternative insights about existing theories (e.g., Sutton and Hargadon, 1996). This research is based on 24-months of fieldwork in emergency management organizations (EMOs) conducted between May 2015 and May 2017.

Given that EMOs are facing several challenges due to the public’s use of mobile devices and social media, emergency management served as a particularly useful “extreme case” that allowed for the observation of processes that are otherwise difficult to observe in regular contexts (Eisenhardt, 1989). While my larger project involved data collection at 8 EMOs across the United States (4 on the east coast, 2 in the midwest, and 2 in the west coast), I conducted the primary ethnographic fieldwork at Delta City’s emergency management organization (DEMO) and the associated Delta police department (DPD). In the sub-sections below, I provide more details about my research site, the context of emergency management organizations, the procedures I followed in data collection and analysis, and an overview of the coordination workflow within my primary research site.

**Research Site**

Emergency management organizations (EMOs), also referred to as emergency communication centers, public safety answering points or 911 dispatch centers, play an essential role in the functioning of a city (Athey and Stern, 2000; Desmond, Papachristos, and Kirk, 2016; Manning 1988; Seim, 2017). These organizations employ 911 call-takers and 911 dispatchers — together officially referred to as public safety
telecommunicators — who orchestrate the coordination among police, fire, and emergency medical services during emergency response (Roberts, Yu, Desai and Madsen, 2008).

In 1957, the National Fire Chiefs’ Association of the United States advocated the use of a single number for reporting emergencies. Their recommendation became one of the early catalysts for establishing 911 as the nationwide emergency telephone number. In 1967, President Lyndon B. Johnson’s Commission on Law Enforcement and Civil Disorders released a report recommending that a "single number should be established nationwide" for reporting emergency situations. The emergency number was intended as a nationwide telephone number to give the public fast and easy access to a Public Safety Answering Point, which over the years evolved to become 911 emergency management organizations (EMOs). In the past thirty years, 911 EMOs have undergone many changes, especially due to the transition from landlines to mobile phones. Today, over 240 million calls are made to 911 in the United States each year and over 70% of those calls are placed from mobile devices.

The primary work of EMOs involves call-taking and call dispatching. Call-takers answer 911 calls from the public, gather required information about the incident from the caller as well as from surveillance camera feeds and geolocation technologies, synthesize the information from multiple sources to make sense of the situation, evaluate whether the incident is a valid emergency or not, and if so, what type and category, while concurrently entering all details into the Computer Aided Dispatch (CAD) system. Once the information is entered into the CAD, it is automatically transferred to the appropriate 911 dispatcher based on the location of the emergency incident. This information then appears on the dispatchers’ CAD dashboard queue, and s/he assigns the incident to the relevant available first-responder (e.g., police or fire) who is nearest to the scene of the emergency.

My research was centered in the Delta Emergency Management Organization (DEMO), an integrated agency that manages emergency coordination among police, fire, and EMS. The 911 operations floor at DEMO is divided into two sides – the “Police” call-taking and dispatch side and the “Fire” call-taking and dispatch side. The operations floor is managed by civilians who work as full-time employees of DEMO and not for the police or the fire department. DEMO employs approximately 220 call-takers and 190
dispatchers. The majority of the call-takers and dispatchers are women and members of minority communities (particularly African-American and Hispanic). DEMO work is conducted over three shifts each day (referred to as “watches”), with each shift overseen by three to five supervisors (who directly monitor the 911 call-takers and dispatchers and handle escalations), and one watch manager who is responsible for managing the floor, and planning the schedule and staff rotation for the next day.

One way to think of the DEMO 911 operations floor is to envision it as a laboratory to hear and observe the ebbs and flows of collective human behavior at a large scale – around the clock and across the year. As this 911 call-taker described: “When the City of Delta sneezes, we are the first to know. We know what time and day do people typically go crazy. We know when couples get into a fight... We know when accidents happen and at what months of the year do people commit more suicide... We know the city, its pulse.” A cynic would rather describe the place as an amalgam of all things dreary and dismal that characterize the human condition. Whether it is an 8-year old kid calling 911 with a plea to “talk to an ambulance” so that her dad who is having a seizure from a drug overdose can be saved or a mom crying for help to rescue her 5-year old from being mauled by a dog, the DEMO call-takers and dispatchers have “heard” it all.

All incoming 911 calls to DEMO are first attended by the call-taker on the police side, who determines whether the call is a police or a fire/medical issue. If the latter, then the call is transferred to the call-taker on the fireside. If the former, then the call-taker asks a series of questions to assess whether the incident is a valid emergency or not, collects information on the location, type, and severity of the emergency, and enters these details in the CAD system. The work of the 911 call-takers involves significant discretionary decision making, as deciding whether or not a call is a valid and legitimate emergency and determining what priority level the call should be assigned is far from straightforward.

Once an incoming call is coded as a valid and legitimate emergency, and a priority level (from 1 to 8, with 1 being the highest priority) has been assigned to the call, it is transferred to the 911 dispatchers on the police side. Unlike the call-takers who work individually, dispatchers on the police side work in pairs – designated as a primary and a secondary. The primary dispatcher is responsible for looking at the “jobs”
dashboard, further prioritizing the jobs, dispatching them within a certain pre-defined time-period (based on the type and severity of the emergency), providing information and coordinating with police officers in the field, and ensuring officer safety. The secondary dispatcher is responsible for entering the requests for service, updating the jobs when new information becomes available from the officers, and completing “paperwork” through completing digitized forms in the case of critical emergencies. While the CAD system does part of the prioritization among incoming requests for service (i.e., the “jobs”) based on the incident type and category assigned by the 911 call-taker, dispatchers use their discretion to do further prioritization between the jobs, check for the nearest available first-responder, assign them to that emergency, keep coordinating with them in order to track their progress and watch out for their safety till the first-responder “clears the job.” Figure 1 illustrates the 911 coordination workflow at DEMO.

--- Insert Figure 1 here ---

Data Collection

I followed a relational ethnographic approach (Desmond, 2012) for this study, tracking the phenomenon across multiple field sites. My primary source of data includes longitudinal and embedded observations and interviews at DEMO. I also visited 7 other EMOs across various parts of the United States, and interviewed the 911 call-takers, dispatchers, supervisors, and senior management at each of these EMOs. I supplemented the ethnographic data with qualitative analysis of archival materials about 911 EMOs and quantitative analysis of 911 call logs (both national 911 call trends as well as local 911 call log data from 6 EMOs.) These multiple sources of data enabled triangulation (Jick, 1979) and generated an understanding of the phenomena of “911 calls” and “emergency response” from different vantage points. Table 1 provides a summary of the data sources.

--- Insert Table 1 about here ---

*Interviews and Observations.* My data collection included approximately 1,200 hours of observations of the 911 call-taking, call-dispatch, and shift supervision process – including observing the call-taking process by sitting next to a 911 call-taker and listening in to the 911 calls via a headphone, observing the call-dispatching process through being embedded in a dispatch unit and listening in to the police radio
channel, shadowing the 911 call-takers, dispatchers, supervisors and watch managers, and finally, observing training and real-time “simulation” sessions for new 911 call-takers and dispatchers.

My object of analysis is the “911 call” and the subsequent “request for service” ticket that is created as a result of the call. My unit of analysis is the “coordination encounter” that emerged as a consequence of the 911 call. Specifically, I focus on three types of coordination encounters: between the 911 caller and the 911 call-taker, between the 911 call-taker and the 911 dispatcher, and between the 911 dispatcher and the police officer in the field.

In addition to observations, I conducted 142 “real-time interviews” (Barley and Kunda, 2001) and 65 semi-structured interviews with the 911 call-takers and 911 dispatchers, as well as 18 semi-structured interviews with the DEMO supervisors, watch managers and senior managers. For the semi-structured interviews, I followed naturalistic interview guidelines (Lincoln and Guba, 1985) to formulate the interview protocols. I crafted the interview protocols to ensure a balance between open-ended and close-ended questions to elicit grounded responses from the participants (Schultze and Avital, 2011).

To supplement this data, I sought to understand how responding to 911 calls for service feels from the “other side,” that is, from the lived experiences of the police officers. Through ride-alongs, informal interviews, and observations, I examined police officers’ responses and reactions to 911 calls for service. In total, I was involved in 34 ride-alongs with beat cops from different police districts and over 160 hours of observations.

Finally, I employed a snowball sampling technique and interviewed residents of a mixed-income neighborhood in Delta, Beta, and Gamma cities so as to understand their perspective on emergencies. I deliberately did not ask about 911 or smartphones and social media, but inquired generally about situations when residents confronted emergencies, the nature of those emergencies, and what actions they took to resolve them. If the interviewees answered that they dialed 911, I then asked a set of follow-up questions concerning their experiences in interacting with the 911 call-takers and first-responders.

Archival materials. In addition to interviews and observations, I employed historical methods to collect and analyze considerable amounts of archival data on the evolution of the 911 emergency system,
organization, profession, and, processes in the United States (Yates, 2014). Since the AT&T Corporation was heavily involved in the development and implementation of 911, including proposing the use of 911 as the nationwide emergency number, I collected historical data from its corporate archives in Warren, New Jersey and San Antonio, Texas. I also obtained historical data from two of the largest 911 professional associations: the Association of Public-Safety Communications Officials [APCO], and National Emergency Numbers Association [NENA]. Finally, I collected publicly-available materials on 911 from the web to understand the contemporary issues and challenges faced by this profession. In that regard, I used keywords (such as “911,” “911 emergency,” “911 response time,” “911 smartphones,” “911 wireless,” “911 + mobile phones,” “911 + social media,” “911 + Twitter,” “911 + lawsuit” and their combination) to programmatically search national news outlets (The New York Times and Washington Post), consolidated news databases such as ProQuest, as well as social media (specifically, Twitter, Facebook, and YouTube). Using Python scripts, I obtained the discussion threads from the APCO online forums, which is where 911 professionals across the United States discuss the issues, challenges, and frustrations they encounter at work. This helped me to understand not just the concerns of these professionals, but also how they viewed and reacted to those concerns.

I synthesized these materials to create a chronology of events (Van de Ven and Poole, 1990) related to the evolution of 911 emergency management, and the historical as well as contemporary challenges confronted by the 911 profession. Finally, I also had access to an excel sheet maintained by DEMO that included formal complaints filed by Delta residents via paper forms versus informal complaints and hashtag escalations made by them through Twitter (that DEMO tracked), whether any follow-up actions were taken by DEMO senior officials and if so, date when the follow-up action was initiated, the DEMO employees who were assigned as responsible for resolving the complaint, whether the issue got resolved or not, and if so, date when the issue got resolved.

**Quantitative Data.** I obtained national-level 911 call data as well as local-level 911 call log data from DEMO and 5 other EMOs (obtained from the Computer-aided Dispatch and PhoneStat systems). I analyzed these data to understand patterns in call volume, call type and call origination (i.e., landline or wireless) at
the EMOs over the years. The 911 call-logs from DEMO were more fine-grained than information from the other EMOs, and consisted of repeated cross-sectional data (~5 million calls per year over a 4-year period) with information pertaining to the time of call-origination, whether the call was categorized as a valid emergency or not by the 911 call-taker, priority level assigned to the call if coded as a valid emergency, type of call, and response time. This dataset was especially useful to understand changes to the call-categorization practices of 911 call-takers before and after complaints were posted to social media by the public.

**Data Analysis**

Data collection and analysis unfolded in an iterative manner (Strauss and Corbin, 1997) over four phases. I used the constant comparative method (Glaser, 1965) to analyze the data. Specifically, I followed Charmaz’s (2006) approach to data coding of the field notes, transcripts, memos, and archival data. In the first phase, I performed “initial coding” to understand the changing practices within DEMO in the light of increased call volume, and the public scrutiny of the 911 professionals through social media. At this step, responses were coded on the basis of “in vivo” codes — phrases and terms offered by the informants. It is here that the significance of terms such as “bullshit calls” and the impact that these bullshit calls have on the 911 profession became evident. As new observations emerged, I revised the codes and categories to identify themes (Miles and Huberman, 1994). For instance, I observed how even experienced 911 call-takers cynically referred to their work in terms of “customer service.” This prompted me to focus the data collection efforts in these directions.

In the second phase, as new themes and puzzles emerged based on previous analysis, missing pieces of information became apparent. This led to further focused data collection and analysis. For example, this phase highlighted the importance of how emergency technologies such as CAD systems were used to augment the risk-averse behavior of the 911 call-takers. I also repeatedly encountered rhetoric around “playing it safe” and “covering your ass” in processing and dispatching emergency calls. I consequently focused the data collection efforts on documenting the specific ways coding schemas embedded in
emergency technologies were used toward these ends— including call prioritization and call categorization—and how they influenced the way in which the 911 professionals made sense of their work.

In the third phase, I wrote descriptive memos detailing the changing work practices, role identities, and role-relations within as well as across DEMO. When writing these descriptive memos, I drew on detailed retrospective interviews with multiple experienced call-takers, dispatchers, and supervisors to reconstruct the practices within DEMO in the 1990s before the profusion of mobile/smartphones and social media platforms. I compared these accounts with observations of the current practices within DEMO. Additionally, as 911 calls are still dialed by the public from landlines, I could observe, compare, and contrast how the 911 call-takers respond to calls made from landlines as compared to mobile devices. I also observed how the public’s use of social media to audit and report on the work of 911 call-takers impacted the work of these professionals.

In the fourth phase, I wrote theoretical memos to strengthen emergent findings, organize them into different activities, and categorize those activities that were recurrent into a set of theoretical themes. At this stage, I also engaged with relevant literature, particularly on organizational accountability (Jensen, 2006; Lerner and Tetlock, 1999; Miller and Rose, 2008; Power, 1996; Roberts, 1991; Scott and Orlikowski, 2012), coordination (Bechky, 2003; Beane and Orlikowski, 2015; Faraj and Xiao, 2006) and the sociology of professions (Abbott, 1988; Anteby et al, 2016; DiBenigno and Kellogg, 2014; Van Maanen and Barley, 1982). This iterative process allowed me to identify the key processes that generate the paradox of public accountability, as discussed below.

**FINDINGS**

The overarching finding of this study is that under two specific conditions — when the organizational work involves multi-stage sequential coordination and the front-line professionals initiating the coordination require significant discretion in decision making — increased digital scrutiny by the public to demand more accountability ends up worsening accountability. In this section, I unpack the underlying processes that produce this paradox of public accountability, specifically through increasing front-line truce professionals’ risk aversion, straining role relations, undermining role identities, and locking up available
resources. I then show how these dynamics create a vicious cycle of coordination and challenge organizational performance. I begin by showing trends in data related to the increasing use of digital technologies by the public to call 911 on their mobile phones, and to comment on their experiences through social media.

**Public’s Use of Mobile Devices to Report Issues**

My analysis of the national-level 911 data and EMO-level 911 call logs found that in 2016, ~70% of 911 calls were dialed from mobile devices, compared to 28% from landlines. The percentage of calls received from mobile devices are on the rise (refer to Figure 2). In addition to these changes in the source of call origination, there has also been a substantial increase in the volume of 911 calls received by DEMO (refer to Figure 3 and 4). This pattern is consistent both at the national level as well as across multiple EMOs within the United States.

--- Insert Figures 2, 3, and 4 here ---

Interviews with 911 callers coupled with analysis of the 911 calls I observed in the field suggest that the pervasive diffusion and use of mobile devices in the United States is enabling people to make emergency calls more easily and from wherever they are located. As an unintended consequence, what the public notices and deems as “emergency” has also changed. As a 911 caller described:

Yeah, I think I do call 911 more often now. Why? I don’t know. I have my phone with me all the time, when I drive, when I take my dog out for a walk. So when I see something, I call. Better to be safe than sorry, you know. And a lot of times, I don’t call for myself, but for others. I saw a garbage fire and I called 911, because it could get bigger, you know... I saw some guys doing graffiti near the bus stop, saw a bike gang going in circles around the neighborhood, and I called 911. [911 caller CL18]

On further questioning the above 911 caller on whether he was concerned with keeping bike gangs and graffiti artists “out of his neighborhood,” the caller replied: “No, even if I am somewhere else and happen to see such things, I will call. In fact, I have called and reported on another bike gang who were creating a scene near my friend’s place. My friend and I were getting ready to go to a ballgame and those guys were making a lot of noise, so I called 911.”

The above example suggests a link between increased call volume, mobility (i.e., people walking in the street or driving their car), and access to mobile devices. The constant connectivity of mobile devices
enables actors to notice and report various types of incidents. While part of this empirical pattern might be driven by the post-9/11 national campaigns on public safety and security (e.g., “See something, Say something”), further analysis shows that the rise in call volume is ongoing, and not limited to the 5 year period following 9/11 (see Figure 4). More importantly, the types of calls received by 911 emergency organizations such as DEMO have also significantly changed. For example, calls reporting disturbances such as “neighbors playing loud music,” and incidents such as “bar fights,” “public brawls” and “suspicious person strolling in front of a school or public park” have become more common. Similarly, complaints about homeless people “camping in front of my home” have also substantially increased. Out of the 214 unique types of incidents reported in 2013 at DEMO, the top 10 incidents constitute 50% of total calls for that year, and a significant portion of these calls are non-emergencies or lower-priority emergencies (see Figure 5).

--- Insert Figure 5 here ---

Consider another example of a 911 caller who reported an accident on a highway. When I asked the caller what had made her dial 911 given that many other people would have noticed the same accident, she responded:

I don’t know, maybe it is the right thing to do? It was a pretty bad crash and I was worried for the driver... Yeah it is true that others would have noticed [the accident], but... how many would have actually cared to call. I just wanted to call and make sure the medics arrived soon. It is a basic human thing to do, I guess. [911 caller CL16].

When many observers make the same choice to report an accident by dialing 911, it changes the temporal inflow of work received by DEMO and leads to congestion. For instance, when incidents such as a fire or vehicle collision happen in a public setting (e.g., highway, downtown), there is a sudden “burst” of 911 calls within a short span of time — as many as 25 to 60 calls within a 5-minute period — where callers report the same incident using their mobile devices. Since 911 emergency organizations are legally mandated to answer every call that they receive (or that is routed to them by another agency), these dynamics generate considerable call congestion and significantly impact the temporal flow of work handled by the 911 call-takers, and as we will see below, the work of the down-stream emergency professionals.
There are additional types of incidents reported to EMOs that are of personal importance to the 911 caller (i.e., an “urgency”), but are not necessarily considered 911-level “emergencies” as per the criteria defined by the EMO. The 911 call-takers in DEMO refer to such calls as “bullshit calls.” Although bullshit calls have long existed (being present even during the era of landlines; cf. Bittner 1974, 1990), the volume and variety of these calls have substantially increased due to the habitual use of mobile devices by the public. Call-takers note that more than half of the calls they handle each day on their shifts are bullshit calls.

I was able to independently verify these claims through my longitudinal observations of the call-taking process and listening in to the 911 calls. In short, bullshit calls have become a prominent aspect of call-taking work. An experienced call-taker at DEMO describes some of these calls:

“We get all kinds of calls these days... People have become stupid, and they can’t keep their fingers off their phone... They call 911 just like taking a selfie of themselves while walking on the sidewalk. I don’t get it... A guy called last week, and said his refrigerator is not working! Another one called around 7pm and said he is lost and couldn’t get to his friend’s place. I thought he was in some bad neighborhood, and so I asked him, “where exactly?” and he said “Downtown.” What an idiot...can’t he ask some people right there in Downtown? Another lady called, and she was like, “my kitchen sink is blocked.” I mean, really? Call the apartment maintenance, lady. Not 911. I told her that, and she started shouting back at me. [Senior 911 call-taker, CT8]

In addition to the habitual calls, mobile devices also engender impulse calls. The volume of such calls goes up especially during evenings, nights, and weekends, but the majority of them de-escalate before an officer arrives on the scene.

You kinda know when you will get those type of [impulse] calls... Things could get more serious, you don’t really know what is going on, so you do have to dispatch for this and send an Officer out... But when the Officer shows up, things got cooled off and so there is nothing much for the Officer to do... You get a lot of such calls now. And many repeat callers, who use 911 as a form of threat... But you never know, some of the domestics could actually be a serious abuse situation, so you absolutely got to send an Officer for this. [911 call-taker, CT23]

Finally, mobile devices – smartphones especially – have increased the volume of pocket dials. Because smartphones have an emergency button that automatically dials 911 even when the phone is locked, the volume of pocket dials have significantly increased over the past decade. In 2015, approximately 32% of the total volume of calls received by DEMO were pocket dials. The caller is often unaware that pocket dials are occurring and the call-takers hear an open line with background noise similar to shuffling or muffled talking. Due to legal requirements and also to avoid liability issues, the DEMO call-taking policy mandates that the 911 call-takers answer each incoming call and not disconnect the line before the caller herself
disconnects. When there is a missed call due to a pocket dial (or any missed call, in general), call-takers are required to call the number back twice to check if there is a problem and then leave a voice-mail before they can attend the next call.

In the midst of bullshit calls and pocket dials are the higher-priority calls that report incidents such as cardiac arrests or criminal acts. Likewise, there could be a call about a domestic disturbance that has the potential to escalate fast and become life-threatening for the caller. In the age of mobile devices where call volume and bullshit calls are on the rise, a critical aspect of the 911 call-taker’s work is to sort and separate the non-emergency calls from the valid emergencies, and to initiate a suitable response that is appropriate to the type and severity of the emergency.

Public’s Use of Social Media to Escalate and Disseminate Concerns

The advent of social media has given the public a new avenue to voice concerns when they are dissatisfied with the response of 911 call-takers, for example, if the call-taker considers the reported incident to not constitute a valid 911 emergency. Not only can the public now express, escalate and disseminate their grievances to a wider audience in multiple ways (e.g., tweets, pictures, audio/video recordings) but the probability of such reporting going “viral” has increased in the digital age. These dynamics contribute to new forms of external monitoring and reporting on EMOs and their employees, including the posting of recorded 911 calls via Twitter, Facebook, and YouTube videos, naming-and-shaming the 911 call-takers on those platforms, complaining about interactions with 911 call-takers during the reporting of emergencies, and criticizing emergency response times.

It might well be the case that the people who dial 911 are facing the “worst day of their life.” Yet, what might be an urgency for them might not be categorized as an emergency – especially a 911-level emergency – as per institutionalized criteria set by EMOs. For example, if a robbery happens and the perpetrator has fled the scene and is no longer in the vicinity, that incident is not considered a 911-level emergency. In such cases, callers will be asked to file a report at the nearest police station. Some 911 callers get angry hearing
such a response, and with the advent of social media may turn to this channel to voice their dissatisfaction.

Consider the following exchange\textsuperscript{14} that I observed at DEMO:

911 caller has an emergency due to carjacking. 911 Call-taker (Operator Jordan) attends the call.

Caller reports the incident, but is frustrated when Operator Jordan asks him questions about the location of the emergency and whether the perpetrator is on the scene.

Caller answers in the negative.

Operator Jordan asks the caller whether he has any identification information (such as whether the perpetrator is White/Black/Hispanic).

Caller says that he didn’t see the perpetrator as he had already fled the scene.

Operator Jordan responds that the caller needs to go to the nearest police station and file a police report, as that is the protocol for incidents where the perpetrator is no longer on or near the scene.

Caller becomes furious, shouts back at Operator Jordan, and hangs-up. Then, he tweets about the incident, discloses the name of the call-taker (as call-takers are supposed to mention their last names when attending the call), and uploads the audio of portions of the 911 call (which he had recorded using an iPhone app).

Incident gets picked-up on social media. It escalates to the senior management of DEMO.

[From field notes]

In this situation, the 911 call-taker was acting according to the protocols and guidelines provided by DEMO on what constitutes a valid and legitimate 911 emergency. However, the posting to social media takes the actions of the call-taker out of context and disseminates the exchange to a wider audience. Such naming-and-shaming of the call-takers on social media deeply diminishes the morale of the 911 professionals at work. It also quickly spills over to their personal life. Operator Jordan noted:

When I joined DEMO, I was warned that one should develop a thick skin to survive in this job. Callers can get mean and very abusive. I can take that, I know they have [are having] a bad day, so that’s fine. But going to social media and blaming us for doing our job, THAT is something else... No one wants to be the news story, that too on Twitter... [It is] true that Delta is a big city, but word gets out so quickly... your family, your neighbor, and even your babysitter asks about it next day... It sucks and I feel like not getting out of my bed for the next two days... Next time, I will be more careful, will just do my job, and get out of here quickly.

As illustrated in the exchange above, if the callers’ requests are not resolved to their satisfaction, they name-and-shame the 911 call-taker and sometimes even upload the audio of the call to social media. To the social media audience, the call-taker’s suggestion to “file a police complaint by going to the nearest police

\textsuperscript{14}Names described in the vignettes here and in other examples of social media controversies are changed. Specific details of these calls are abstracted and modified to ensure participant anonymity and caller confidentiality.
station" sounds as if the 911 call-taker is being unhelpful and avoiding responsibility, but the call-taker is simply following the DEMO protocol to ensure that first-responders are available for other higher-priority requests. The exchange below illustrates this further:

911, this is Operator Morgan, what is your emergency?
I don’t know what happened really, but I think a bee stung my kid and she is crying
You said a “bee,” mam?
Yes, a bee.
Are there any swellings or marks that you could notice?
Not that I could see. But she is still crying...
Mam, we cannot dispatch for this... Please apply some ice on where the bee had stung her and keep it for a few minutes
You said, ICE?
Yes mam.
You fucking bitch. I know to apply ice. I don’t need to call you people for it... Jesus, APPLY ICE!

The caller follows through with a blog post about the incident, criticizing Operator Morgan for being callous and labeling DEMO as an inefficient organization that is not worth taxpayers’ dollars, and then tweets the URL of the blog post. Since the incident involved a young child, it evoked further angry comments from the public on social media.

While the 911 call-takers try to move beyond these complaints by referring to such incidents as “mean,” “trivial,” and without “any substance,” it does diminish their morale in the workplace. While the above two incidents did not have a long shelf-life, there are other incidents that evoked stronger outrage from the public on social media, forcing the senior management of DEMO to signal that they are taking remedial action. During the period of data collection, one such incident occurred, where the identities of the victim and the perpetrator were confused. The news about the incident was widely disseminated on social media, resulting in public outrage and a major scandal about DEMO. The DEMO management ended up suspending the call-taker and dispatcher who were involved in the call on the grounds that they did not
collect the information that was needed (by the police officer) to distinguish between the victim and the perpetrator.

**Increased Risk-aversion of 911 Call-takers at DEMO**

Subsequent to this incident, the risk-aversion of the 911 call-takers at DEMO increased significantly, in that they categorized significantly more incoming calls as valid emergencies (refer to Figure 6). Among the total calls received by DEMO, the average percentage of calls categorized as valid emergencies rose from 52% to 78% in the two weeks following the incident, and remained at that level for the next twelve weeks. As social media-driven controversies about DEMO and its workers became a more frequent occurrence, the normalization of such controversies eventually brought the percentage down, but it nevertheless moved to a “new normal” of 66% (above the earlier average of 52%). As a senior 911 call-taker remarked:

> Nowadays, we are sending a lot more calls than before. If every call is an emergency, then nothing is... I used to think that my job is important, that every minute matters, and that I am saving lives... now we get so many of them [non-emergency calls] now that I don’t even know what work I am doing... So I am unable to talk to the callers in a manner that I used to. This is not what I signed up for. [911 Call-taker, #CT34]

--- Insert Figure 6 here ---

During my observations of the call-taking process, I noted that the call-takers categorized more incoming calls as emergencies, including some of the “bullshit calls” that they had previously disparaged, and assigned higher-priority codes (with a priority level 3 or 4) to incidents that they had previously assigned priority levels of 5, 6, or 7. During a break in one observation session, I asked a call-taker about this pattern, and she replied:

> Nobody likes to do this [i.e., categorizing more incoming calls as emergencies], but nobody likes us either. Look at what they have been writing about us... It is painful. We are the ones to be first thrown under the bus. Mistakes happen, this is a stressful job, but this is not the way to treat us. We used to think we are the “first” first responders... even before the cops or the medics come in, we are the first to talk to a victim... but I don’t feel like it anymore. This is just a job, like any other job, or even worse than any other job, I am just going to get through my watch [shift] without an issue, and that’s all I care about right now. [911 call-taker, CT12]

While the DEMO 911 workers — including the 911 supervisors who are responsible for the call-taking process and overall performance of the operations floor — were aware of what was going on with respect to the over-coding of calls as emergencies, they resisted taking corrective action. One of the 911 supervisors, whose job includes monitoring and listening to the call-takers (e.g., how they answer the calls,
do they ask the right questions, how they categorize the calls, and how they interact with the caller) and evaluating their performance, noted:

I know what is going on [among the call-takers], that’s my job [to know]. But I don’t feel like calling them out on this... I try to tell them not to put everything as an emergency... But as their boss, I also want to make sure they are safe and protected, so all I tell them is this: “Don’t screw it up. Don’t jinx it.” Because I care about them and I don’t want some Twitter troll to abuse them. Or worse, their voice ending up in a YouTube video, and then in the national news. That’s a far bigger disaster for us. And we can’t afford it. [911 supervisor, SP4]

The 911 supervisors thus subtly sanction the call-takers’ risk-aversion through phrases such as “don’t screw it up.” In that sense, supervisors settle on suboptimal outcomes as long as negative external exposure generated by social media scandals and controversies are avoided, as these are seen as potentially far bigger problems for DEMO and the 911 professionals working in it.

Similar patterns of a persistent increase in risk-aversion by the front-line professionals after a social media scandal were not observed in the EMO in Zeta City (ZEMO), as the organizational work in ZEMO did not involve multi-stage sequential coordination. That is, at this EMO, the same front-line professional took the 911 calls and also dispatched them to the police officers; there were no distinct roles for 911 call-taking and call-dispatching. Thus, unlike the 911 call-takers at DEMO who decided to play it safe and “pass the buck” to the next person in the coordination chain (i.e., the 911 dispatchers), the 911 call-takers at ZEMO were unable to perform such buck-passing. This is because they deal directly with the police officers on the ground who give them immediate (and negative) feedback when non-emergency requests are categorized as valid emergencies and dispatched to the officers.

Figure 6 also provides a summary of alternative explanations concerning the increased risk-aversion of the 911 call-takers. The first of the alternative explanation is whether the increased risk-aversion is triggered primarily due to suspensions of the 911 workers as opposed to the social media scandal? There were previous suspensions of the DEMO 911 call-takers and dispatchers that happened for other reasons (e.g., absenteeism, repeated late arrival to a shift) not related to social media scandals. The “blue dots” in Figure 6 connote those suspension events. However, we do not observe a similar empirical pattern concerning the persistent increase in the risk-aversion of 911 call-takers. The second alternative explanation is whether the increased risk-aversion is primarily triggered by scandals that emerge and escalate through social media
such as Twitter as opposed to the news media. The “purple dots” in Figure 6 are the scandals about DEMO that got initiated through mainstream news media (e.g., newspapers, local TV channels). Here again, we do not observe an increase in the risk-aversion of 911 call-takers. One of the reasons for this could be due to the editorial vetting and cross-checking that mainstream news organizations perform before broadcasting a news story. Consequently, as opposed to the social media scandals, the types of scandals that emerge on news media are perceived to have some legitimacy and substance and are not viewed as unfairly targeting the 911 professionals at DEMO.

**Undermined Role Identities and Strained Role Relations**

As discussed above, one of the consequences of the increased risk-aversion of the 911 call-takers is that far more non-emergency calls are let into the emergency system, producing a cascading effect across the coordination chain. This has the effect of undermining the valued role identities of the 911 professionals: the 911 call-takers no longer see themselves as “diagnosticians” but as “customer service reps,” the 911 dispatchers have altered their sense of self from “orchestrators” to “hagglers,” and the 911 supervisors perceive that their role has moved from “counsellors” to “predictors.” Table 2 provides a summary of these shifts with supporting quotes.

--- Insert Table 2 here ---

Historically, the training given to a 911 call-taker required them to ensure that the panicked 911 callers (who may be facing the worst day of their lives) are “calmed down,” before asking questions about the nature of the emergency. In that sense, the role identity of the 911 call-takers was that of “diagnosticians” who first counsel the callers and then initiate a line of action. Now, with the influx of 911 calls, the call-takers’ work practices and role identities are reshaped. Instead of calming down the panicked call-takers and allowing them to release some emotion before any information is collected, the 911 call-takers are now required to follow what is referred to as “call control.” Under this protocol, the trajectory of the call is controlled by asking the caller a series of specific questions aimed at obtaining the location of the incident and basic details about the emergency, including interrupting the caller if necessary. The call-takers’ prior
role-identity of diagnosticians has been undermined and reshaped to what the call-takers characterize as “customer service representative.” As one 911 call-taker, with more than 20 years of experience, described:

I don’t feel like coming to work these days. I feel no connection with any of this... There is a certain way to talk to the callers, we used to be good at that. We know exactly when to speak, when to let them speak. Our job is to listen and then reply. Not the other way round. Now, you have these bunch of questions that you have to shove down their [callers] throat. When I first joined DEMO, I was taught that my main responsibility is to reassure the caller that things will be alright, that help is coming. Nowadays when I see how the newbies take the call, I am like, “Jesus what have we done... You can’t cut the caller like that.” Yes, you need to make sure they don’t go on and on, but there is a proper way to do that. Not like “I don’t care what your problem is, just give me your fucking address and shut the fuck up.” [911 call-taker, CT3]

As a consequence of these changes in the roles and actions of the 911 call-takers upstream in the coordination chain, the work practices and role-identity of the 911 dispatchers downstream are also changed. Indeed, it is the 911 dispatcher who coordinates with the police officers on the ground and assigns them the bullshit calls and non-emergency requests. The 911 dispatchers need to keep track of multiple emergency service requests at the same time. During peak hours (e.g., Friday nights, Saturday nights, Summer holidays), this could amount to tracking 60-80 requests at the same time. Most of the 911 dispatchers are women, African-American or Hispanic, non-sworn civilians, who are considered lower-status in the law enforcement totem pole. The people they coordinate with (e.g., Police Officers, Sergeants), on the other hand, are usually White men, sworn officers, who are considered higher-status. Nevertheless, the 911 dispatch function is the “command” center. Dispatchers navigate this status-authority asymmetry so that they can remotely keep tabs on the police officers, making sure that officers are following orders and not “slacking off.” They also need to constantly check on the progress of a particular job (i.e., a 911 call dispatched to an officer) and watch out for the safety of the police officer. Historically, the dispatchers’ role-identity used to be that of an “orchestrator” who handles multiple police officers and 911 requests in a police district. But due to the profusion of non-emergency calls, the dispatcher’s role-identity has become that of a “haggler” who needs to deftly handle the annoyed and irritable police officers who are not pleased to handle such calls. As this senior 911 dispatcher described:

Officers can sometimes be total dicks... They won’t listen. Or they will talk too fast. Or they will keep cutting off each other. Or will refuse to update us. I mean, they can be complete assholes. But you gotta handle them. That’s part of your job. You can’t shout at them. But you need to control them, otherwise you won’t be dispatching any job... They dislike going to certain types of calls. They really hate it, but what can we do about it? We are just doing our job, but the Officers are thinking we are out here just to make their life difficult. No,
we can’t help it, we are just sending out what we are getting. We can’t send it back [to the call-takers] … So all
day long, we got to deal with the asshole officers. Of course, not all of them are like that, but a lot of them are,
you know what I mean? It used to be much better, but now it is all a shit-show. I can handle it though but I am
not sure how the new dispatchers are going to handle it. I am really worried [Interview, Senior 911 Dispatcher,
#DF12]

With the increase in bullshit calls, police officers too feel that they are over-loaded with 911 requests
for service, and that responding to bullshit calls is beneath the dignity of their job. Since the dispatchers
assign them these requests for service, police officers misdirect their anger and frustration to the dispatchers.

As one police officer described:

Oftentimes I feel like I am a call-chaser. Most of what I do is this… Neighbors playing loud music and smoking
weed, “Officer go stop it.” … Sometimes I feel like screaming back at the dispatcher. Like, “who do you think
I am?” … I am the one who is risking my life and going to wherever the dispatchers ask me to go, so I need to
fully trust them and just follow their directions, but I am no longer able to [do that]. I am not even sure if the
dispatchers understand what we do here and how much is at stake [Real-time interview during ride-along, #PO13]

Similarly, dispatchers feel that the police officers have become very rude and behave like “assholes”
dicks and “whining mama’s boys” who have a tough time following “any protocol or radio discipline.”

The police officers expect the dispatchers to work around their preferences, especially in following radio
discipline (i.e., how and when to use the police district radio channel for communication). As this 911
dispatcher described:

… As a dispatcher, I am responsible for officer safety. If I get a 10-1 [Code for Police Officer under Attack],
that is a nightmare situation. So I don’t want that to happen. But the Officers need to update me on where the
fuck they are when I dispatch them on a job. Often, they don’t! But you can’t ask them “hey, are you there at the
location yet?” That’s asking for trouble, and Officers take offense to such questions. So you need to ask
differently. [Real-time interview, #DP6]

Finally, the 911 supervisors, whose job is to counsel the call-takers and dispatchers, are now required to
estimate the call-volume for their next shift and staff accordingly so that the response time does not go up.

Given this new requirement, they are no longer able to informally talk to and offer support to the 911 call-
takers and dispatchers, who may have just attended an emotionally difficult call and are dealing with issues
related to stress and PTSD. As one supervisor described:

This is a stressful job, and my job used to be to take care of them [call-takers and dispatchers]... Now, DEMO
Management says that we [911 supervisors] are responsible for predicting call-volume. It is crazy, right? What
are we, some sort of wizards? If we can’t predict call volume and if there is call wait time, then the “utilization
rate” goes down which affects response time, and so we get shouted at. But how can we predict call-volume? If
there is an accident in a public place, hundreds of people will see it and they all have a mobile phone, and they
all call. What the management sees is the total number of calls per day & by the hour. But what they don’t
understand is this - within 2 minutes, there could be 200 calls... How can you predict that? And even if you
predict, how can you ever staff for that? Like what, have 200 call-takers for a shift? That is insane... We are unable to handle all this... And our utilization rate is sliding down, our overall response time is shooting up. This is tough to fix. [911 Supervisor, SP]

These dynamics have led to strained role-relations between the call-takers and dispatchers as well as between the dispatchers and police officers. Participants refer to this as the “battle of the blues,” referring to the conflict among those who wear different shades of the blue uniform (i.e., the call-takers wear a light-blue uniform, the dispatchers a dark-blue uniform, and the police officers, a lighter shade of blue). The 911 dispatchers believe that the call-takers are ill-trained and not sufficiently judicious in categorizing the incoming calls. But since they cannot send jobs back to the call-takers or refuse to dispatch a call that is categorized as a valid emergency, they resort to micro-aggression. For instance, dispatchers grumble about the spelling and grammar mistakes made by the call-takers in their description of the call (where they provide more details about the 911 call, information about the incident, details about the victim and the perpetrator) and circulate them in the DEMO internal messenger to other dispatchers. Sometimes, messages with mistyped addresses are broadcast to the entire operations floor. During roll-calls and breaks, some dispatchers even make jokes and snarky comments about the call-takers, and use terms such as “lazy,” “sloths” and “slackers” to describe the call-takers. As this junior 911 call-taker described:

It was such a shock to me that people can be this mean to us... They have no clue how much work we have. At least they can take breaks, they are relieved by the rotating dispatcher at least once. But we are constantly at our desk, talking and typing for hours and hours. And they [dispatchers] complain that we are making typos? Seriously? I can type really slow and make sure there are no typos, instead of attending the next call. But that is such a waste of time. They got to stop [complaining], this is really hurting us. Now when I am getting some important info from the caller, all I am thinking is ‘am I spelling this right?’ [911 call-taker, CT25]

The dispatchers feel that the police officers do not trust them enough and do not follow the appropriate “radio discipline” needed to accomplish effective coordination. Some police officers do not respond to the first or second attempt by dispatchers to contact them. And those that do respond, often do so in a nonchalant manner. Dispatchers also complain that the police officers do not respect the communication protocols on when and where to intervene, especially when a dispatcher is giving instructions to another police officer. As the dispatcher continued:

...they [police officers] don’t realize that we have 60 other jobs [i.e., 911 requests for service] waiting [to be dispatched], and our clock is ticking. So give us the update code and shut the fuck up... Also, they [officers] are like little kids. I mean, there might be a hot pursuit going on and some officer will be like “Squad, can I go for
lunch?" Seriously? Don’t you listen to your fuckin radio? But you cannot say to them “shut up!”... So I say
things like “Clear the air, everyone” or “Go ahead if you want to interrupt the Squads’ emergency... At the end
of the day, they need to trust us that we are doing our job, so that we can trust them that they are doing theirs.
But that is not happening. And that is very frustrating. [Real-time interview, #DPs]

More generally, since the downstream professionals need to handle the lower-priority incidents let
through by the upstream, front-line professionals, they attribute the increase in work volume and erosion of
job quality to the “poor” and “shabby” work of the upstream subgroup. This leads to a loss of trust and
strained relations between the upstream and downstream professionals across the coordination chain.

**Resource Lock-up**

The changes in risk aversion, role identities, and role relations also significantly influence the allocation
of resources at multiple stages of the coordination chain. First, there is resource lock-up at the front-end
stage of call-taking. Compared to previous years, only 78% of the calls handled by DEMO are being
answered within 10 seconds or less, leading to a service level that is well below the 90% standard (where
90% of incoming 911 calls need to be answered within 10 seconds or less) espoused by DEMO (and many
EMOs across the U.S.)

Since 22% of calls are not answered within 10 seconds or less, those callers often disconnect the call,
requiring the 911 call-takers to follow the “call-back the number twice and leave a voicemail” protocol. But
the callers often dial 911 immediately after disconnecting, leading to a further inflow of calls that need to
be answered. As this senior 911 call-taker described:

> You can literally hear it these days, the beeper going on and on constantly [referring to the instrument that creates
a shrill beep when calls are waiting for more than 10 seconds], it drives me crazy, it makes me nervous... People
call and because they are panicked they hang-up before one of us can pick the call, and then they call again, and
again hang-up, and again call. And now it is waiting, waiting, waiting, the beeper sound, I am desperately trying
to end the previous call, enter the info into the CAD, I want to take that call as it is routed to me, and just as I am
about to take it, the caller hang-up again. Now I need to call back but I know it will be busy as that person is
trying to call us back. [911 Call-taker, CT]

Second, there is resource lock-up at the middle stage of the coordination chain. The 911 dispatchers,
whose job it is to assign the calls categorized as valid emergencies by the call-takers to the appropriate first-
responders nearest to the location of the incident, are now overloaded with multiple parallel jobs. During
peak hours, the dispatchers’ dashboard is filled with over 60–80 jobs that they need to monitor and
coordinate. Although the CAD system helps the dispatchers by suggesting which police unit is nearest to
the location of the incident and which jobs need to be assigned first, dispatchers still need to use their judgment and discretion to ensure that an adequate level of response is provided to the right kind of emergency. For example, based on the descriptions of the emergency provided by the call-takers, the 911 dispatchers need to decide if some jobs require more than two police cars or not. But with the increase in the number of 911 calls categorized as valid emergencies and with shifts in call type, the dispatchers are unable to allocate the required time needed to analyze each job, determine how many and what type of first-responder resources are needed, and initiate an appropriate response. Since both lower-priority as well as higher-priority calls are inscribed with the maximum time-to-dispatch, the dispatchers need to ensure that they do not go beyond that time limit. As both these types of calls compete for attention, the constant switching back and forth between the lower priority calls (higher in volume) and the higher priority calls (lower in call volume) impacts the pace and quality of the dispatchers’ work. As this dispatcher reflects:

I consider myself to be hyper. Most people in this role are Type-A personalities, otherwise one can’t survive. But even for me, this is becoming too much... My board keeps growing and growing and the scroll down button [bar] becomes smaller and smaller, you see the red highlight coming on, you know you got to dispatch things fast. I start with the high-priority ones, but the other jobs too need to be dispatched at some point. So I try to scroll down and check, and just then I get a new job, so I need to focus on that. Then I remember that I need to check back on the previous job that I sent 20 minutes back, so I do try to do that, and then there is another red job that needs to be dispatched in 90 seconds, and a third one with lower-priority that I have put on the back burner for a while, that is also shouting for attention. So what should I do now? What should I do? For a couple of seconds, I freeze, don’t know what to do next. I try taking a deep breath and get my focus back, and just about to prioritize and then I see a new job coming in. I am tired and my heart is beating so fast that I don’t know what to do... I just give up but I know I need to get back soon [Interview, #DP10]

Third, due to the call-takers’ increased risk aversion, more calls are let into the emergency system, and these calls need to be dispatched. Yet, the number of resources, in terms of the available police officers or EMTs/paramedics, are limited. This produces resource lock-up at the final stage of the coordination chain, where the higher-priority calls wait for resource deployment since the available first-responders have already been allocated to servicing earlier lower-priority requests. Between 2013 and 2016, there was a 24% increase in the overall average response time for all types of calls categorized as valid emergencies. Among these calls, there was a 36% increase in the overall response time for higher-priority emergencies with priority-levels 2 and 3. A senior police administrator at the DPD’s Bureau of Patrol observed:

We had hit a limit last year and we tried everything to make sure every district had enough officers, sergeants, police cars... There are so many [911] jobs, that the Officers don’t have time to do anything else.... Our Officers
are always busy, always attending to something... We are trying everything to bring response time back to normal levels, but we need more money to hire and train new people. But that alone is not enough. Sergeants need to step up their game and do more 19-SAMs [police code to override the dispatcher decision and not attend the calls that they consider as non-emergencies, denoting that they are not taking up the call or redirecting it to Alternate response]. But they are hesitant to do that. The Officers too are frustrated but they just don’t want to say no as it is risky.

In summary, the above dynamics lead to resource lock-up and decreased responsiveness, thus making it difficult for DEMO to improve the very outcomes that the public is scrutinizing and holding them accountable for. Analysis of the complaints database (that included formal complaints filed by Delta City residents via paper forms versus informal complaints and hashtag escalations made by them through Twitter) further strengthened the findings concerning worsened accountability: Of the paper-based complaints filed by the Delta City residents (i.e., formal complaints filed through paper forms), 62% led to some form of accountable action where a DEMO official or a group of senior DEMO employees were assigned to take follow-up action and resolve the complaints (although this process was slow and bureaucratic). Social media complaints (i.e., informal complaints and hashtag escalations made on Twitter that the DEMO officials tracked and recorded), on the other hand, led to increased and instantaneous visibility. But only 8% of social media complaints led to some form of accountable action, where a DEMO official was assigned to take follow-up action and resolve the complaint. This is because very few DEMO officials were willing to be associated with social media complaints. Many of them do not want to be associated with resolving the social media complaints due to the fear of potential blowback. As this DEMO Watch Manager described:

They [senior management] tried to put me in charge of a [social media] complaint, but I told them I have too many things on my plate and can’t take any more unless they provide me a backup [for doing the shift scheduling.] I can’t handle those types [of complaints], they are a pain in the butt, and in case you make one wrong move, then shit hits the fan and the trolls will be at it. [they] will come after me, will come after all of us. And I can’t handle such stupid shit anymore [911 Watch Manager, WM3]

**Vicious Cycle of Coordination**

Viewed together, the processes of increased risk aversion, undermined role identities, strained role relations, and resource lock-up produce a vicious cycle of coordination that ends up worsening organizational accountability over time. To summarize, as the public’s use of mobile devices increases, the total volume of 911 calls as well as the number of non-emergency requests increases. This changes the
work of 911 call-takers who now need to sort and separate the non-emergency requests and lower-priority emergencies from the higher-priority emergencies and initiate an appropriate response that is in line with the type and severity of the emergency. The rise of social media offers Delta city residents an avenue to publicly voice their concerns if they are not satisfied with the response of the 911 call-takers. Such social media reporting generates online shaming and controversy that increases the risk-aversion of the 911 call-takers. After experiencing such disruptive publicity, the 911 call-takers shift their call-categorization practices, evaluating and categorizing significantly more incoming 911 calls as valid emergencies and assigning higher-priority levels to lower-priority incidents. Since the 911 dispatchers, who are next in the coordination workflow, need to dispatch those calls to the first-responders, a cascading effect across the coordination chain is produced, leading to loss of trust and strained role relations between the dispatchers and the police officers. More generally, as the work of the upstream professionals in the coordination chain increases the volume and type of work done by the downstream professionals, coordination is constrained between the professional groups. These dynamics have a consequential effect in terms of resource allocation. The higher-priority calls wait for resource deployment since the available first-responders were allocated to servicing the earlier lower-priority requests. This in turn further triggers the affected 911 callers to resort to social media to voice their complaints, resulting in periodic public outrage and eruption of scandals, thus further reinforcing and perpetuating the vicious cycle of constrained coordination (refer to Figure 7).

--- Insert Figure 7 here ---

These dynamics promote scapegoating, evident in the suspensions given to the 911 employees and a constant blame-game between DEMO and DPD. More importantly, these processes inadvertently make it more difficult for DEMO to improve the very outcomes that the public is holding them accountable for. These dynamics in turn shape the generation of a cynical “customer service rhetoric” within the 911 profession, where the “public” is reframed as “customers” requesting a service. As this 911 call-taker described:
I have come to terms with this. Do not think too much, it will only get you in trouble... just take the call, get the info, send it out, take the call get the info send it out, take the call get the info send it out. That’s ALL there is to it. Ever tried rebooking a flight and listened to that bland voice on the other side of the line? I am just that person now. I am sure she will never get into any trouble, I will be her, and answer the callers the way she does. There is nothing more to it... The folks who call are customers, I am there to take the call and give them what they need. This is no emergency management, and I am no longer in the public safety profession. [Real-time interview, #CT 2 6]

These changes have spill-over effects for the work of the DPD police officers, especially the beat cops, who now spend a large percentage of time responding to 911 calls in a reactive manner. Moreover, these changes temporally hinder the police officers from participating in initiatives such as “community policing” and “walk-and-talk” programs that are aimed at relationally re-embedding law enforcement professionals into their local communities. As this DPD police officer mentioned:

There used to be shitty work before, we used to complain about that, but that was NOTHING, I mean, NOTHING compared to what we are going through right now. I mean, it is getting beyond [what] any of us can handle. The new Chief [of DPD] wants us to walk the street, go to local events and community policing meetings with the Deputies and get to know the people, but we are so overworked that we can’t do any of those things... I don’t understand what people want these days. They call for all sorts of things, and the DEMO ladies are sending everything to us, we have no time to even file reports. So we go to each job [911 call] like we are the AC repair guys [laughs]... and ask “sir...mam... what can we do for you?” We just do that, free of charge of course [laughs again], and then we go to the next call that is asking for something equally shitty. [Interview, #BC 6]

These dynamics have not only led to a strained relationship between the DEMO and DPD, but also impacted the police-community relationship, with ongoing contestations about the meaning of emergency in the digital age. As this DEMO Watch Manager described:

I don’t know what an emergency is these days. Like seriously, what is it? There used to be a definition – on what is a 911 emergency, what is a 311 emergency, stuff like that. But now, everything is an emergency to the people, they want to be serviced right away ... Few years ago, it used to be at least like [they are] ‘ordering a pizza’ and expect it to arrive in 30 minutes. Now, it is like they are calling for an Uber. And they want it right now. Uber for everything... So you tell me, what is an emergency? Can we even define it? And even if we did, do you think the people will accept it? They will complain, say nasty things on Twitter, CityHall will ask us questions, ask for the [response time] numbers, and so we got to dispatch for most things to avoid such blowups. Our hands are tied. I know we cannot go on like this, but I also do not know what to do either. I am here [at DEMO] for 24 years now. 4 more to go, I have started counting already [Interview, #WM 2]

DISCUSSION

I began this research by asking how front-line truce professionals respond to public’s increased scrutiny via digital technologies, and with what consequences for organizational accountability? As organizational accountability is enacted through the everyday coordination practices performed by front-line truce professionals, I specifically focused on understanding how these professionals responded to external
accountability pressures, and with what outcomes. I situated my research within the extreme case of 911 EMOs. I found that the public’s use of mobile devices to report issues, and postings on social media platforms to voice their concerns paradoxically ends up worsening accountability.

To further understand this paradox of public accountability, I identified the processes that were generating the paradox of public accountability: the increase in front-line truce professionals’ risk aversion, the undermining of role identities, the straining of role relations, and the locking up of resources. Together, these processes enact a vicious cycle of coordination that degrades organizational accountability over time. I further articulated how these dynamics promote the development of a customer service rhetoric within the 911 profession, where “the public” in need of help is reframed as “the customer” requesting service, and where the meaning of emergency is becoming increasingly ambiguous and unclear.

**Contributions to Research on Organizational Accountability**

This study advances our understanding of organizational accountability in the digital age by identifying processes through which paradoxical consequences are generated as public scrutiny intensifies. Building on these findings, I identify and elaborate on the *paradox of public accountability* to articulate how in the “always on” digital era marked by constant connectivity and visibility, increased digital scrutiny by the public via mobile devices and social media can inadvertently worsen accountability through impeding coordination and undermining organizational responsiveness (refer to Figure 8).

-- Insert Figure 8 here (Paradox of Public Accountability: A Process Model) --

Underlying the paradox of accountability are dual processes, one unfolding externally in the environment and another internally within the organization. In the external environment, the widespread diffusion, adoption and use of mobile devices increase the volume of reported incidents while also influencing the types of incidents reported. That is, with a mobile device at hand, there is a non-trivial change in what the public notices and recognizes as an “incident.” Not only has the threshold for what the public considers worthy of reporting changed significantly, but the distinction between “urgency” and “emergency” has become blurred. As a result, front-line truce professionals who are responsible for processing the reported incidents suffer from information overload; they also need to sort and sift through
the increased noise among the received information (e.g., “bullshit calls”). With ready access to social
media platforms, the public’s capability to disseminate concerns – especially when they are dissatisfied
with the response of the front-line professionals – and instantaneously escalate issues have also changed
considerably. More than the dissemination of information that increases visibility to a widespread audience
(i.e., what everyone knows), the use of social media platforms facilitates the construction of “common
knowledge” (i.e., what everyone knows that everyone knows) through disruptive publicity (Chwe, 2001).

As Adut (2012, p.245) notes,

We should not confuse publicity with communication... Publicity is not the serial transmission of information or
something being known by a lot of people. It is also different from publicness - simply being in a public space.
By publicity, I mean attention on a focus by a public - a collectivity consisting of strangers who realize each other
as the spectators of the same thing: for example, the members of a crowd watching an accident on the street or
readers who read about a controversy in the newspaper.

Even if disruptive publicity does not reveal new or hidden facts about an incident, the common
knowledge it generates enrolls the “unknown audience” to talk more about the incident, thereby imparting
collective focus and attention on the incident. That is, disruptive publicity not only increases visibility to a
broader audience (cf. Leonardi and Vaast, 2016; Majchrzak, Faraj, Kane, and Azad, 2013; Treem and
Leonardi, 2012) but also accentuates spectatorship, rendering users into participants, and constituting (and
then disbanding) an “outraged” public in the process. In this sense, disruptive publicity via social media
has a möbius strip quality to it: (a) the scrutiny is done in the (virtual) public sphere which generates
common knowledge about the incident, and (b) this common knowledge creates awareness of mutual
spectatorship that in turn enrolls other social media users into the conversation, thereby re-constituting the
public in real-time. This mutually reinforcing relationship between the social media public sphere (as a
virtual space) and the public (as transient entities constituted, disbanded, and re-constituted in real-time)
generates disruptive publicity over time and explains why escalations generate disproportionate diffusion
and coverage.

Disruptive publicity poses a challenge to an agreement on the “definition of a situation” (Perrow, 1986;
March and Simon, 1958; Van Maanen, 1978), which is important for achieving coordination within and
across organizations. In this case, it is the definition of what constitutes a valid “911-level” emergency. As
Freeland and Zuckerman (2018, p.165) argue, “a situation cannot be defined if anyone can speak publicly to define it.” Due to the advent of social media, organizations are no longer able to shape the public discourse as they wish to; even if they can control voice rights (i.e., who can speak on behalf of the organization), they are unable to control the public’s voice, especially as it pertains to agreement about the definition of a situation at hand (cf. Turco, 2016). Since such agreement is critical for coordination, the external processes constrain coordination *internally* and produce a number of organizational consequences.

The first of these consequences is that the dynamics unfolding in the external environment have a cascading effect across the coordination chain within the organization. Due to the fear of social media scandals, the front-line truce professionals fail to separate the wheat from the chaff, that is, the valid 911 emergencies from the non-emergencies. Instead, they evaluate and categorize more incidents as valid emergencies and assign higher-priority levels to lower-priority incidents. Since the downstream truce professionals (such as the 911 dispatchers) need to handle the increased noise (i.e., non-emergency incidents) let through by the front-line (upstream) truce professionals, they attribute the erosion of job quality to the “shabby” work of the upstream truce professionals. These shifts in turn lead to a loss of trust and strained role relations between the upstream and downstream truce professionals (e.g., between 911 call-takers and 911 dispatchers; between 911 dispatchers and police officers). All of these dynamics have a detrimental impact on resource allocation. The higher-priority incidents wait for resource deployment as available resources were allocated to servicing prior lower-priority requests. Consequently, there is an increase in response time. This in turn further triggers the affected public to file more complaints and increase the escalation of their grievances via social media, leading to even more disruptive publicity. All of these processes generate a vicious cycle of coordination internally that produces negative outcomes and worsens organizational accountability.

The second of the consequences is that the above dynamics decrease organizational responsiveness as they hinder the ability of front-line truce professionals to effectively coordinate work and take ownership of their discretionary decision rights. This results in more buck-passing and strained relationships among the professionals along the coordination chain. Third, it also leads to decreased employee morale in the
workplace and increased turnover. Fourth, these changes worsen the inter-organizational relationships between the coordinating organizations (e.g., EMOs and Police departments), and also increase debates about the meaning and definition of phenomena (e.g., what is a 911 emergency). Finally, these processes engender the development of a cynical customer service rhetoric among the truce professionals, where “the public” in need of help is reframed as “the customer” requesting service.

Synthesizing these findings, this study makes a distinction between an internal (or managerial) and an external (or public) locus of accountability and unpacks why the external locus of monitoring, created in part by the public’s use of mobile devices and social media, is marked with significant uncertainty about the subject (i.e., who is accountable for what and to whom), object (i.e., what is accounted for), and process (i.e., when and how is it accounted for) of accountability. For instance, who is accountable for the increased response time: the front-line 911 call-takers, the downstream 911 dispatchers, or the police officers who are further downstream in the coordination chain? Or should the 911 supervisors who are responsible for monitoring the practices of the 911 call-takers be held accountable? Or the Head of the Bureau of Patrol of the police department? Symmetrically, to whom are these professionals accountable to? The senior management of the 911 EMO, to City Hall, or to the public? Likewise, what are the criteria and metrics that are accounted for? Is it the appropriate matching and allocation of first-responders as per the type and priority of the emergency request? Or is it overall response time? If the criteria are any of the above, then what are the processes needed to evaluate the nature of the problem, implement corrective action, and accomplish accountability? Should the processes be ongoing and instantaneous, reported and vetted through informal channels such as social media? Or should they be episodic and done through formal channels such as the City’s public-safety governance boards? In the face of the public’s increased digital scrutiny, it is increasingly unclear who is accountable for what, to whom, and how.

Related to the distinction made between internal and external loci of accountability, this study also makes a contribution by furthering our understanding of how accountability processes unfold when the focal audience is known (i.e., the beliefs and preferences of the audience are known) versus unknown (i.e., the beliefs and preferences of the audience are not known). Existing research predicts that accountability to
a known audience will promote strategic attitude shifting among employees, (where the employees try to minimize their effort through second-guessing and strategically aligning their attitudes with the expectations of the audience), while accountability to an unknown audience will enable the employees to focus more on the problem at-hand (than focusing on the audience) and come up with integrative solutions (Tetlock, Skitka, and Boettger, 1989). Contrary to these findings, my study shows that accountability to an unknown audience may not always lead to positive outcomes, as the unknown audience can pose a critical challenge to agreeing on the “definition of a situation,” which can hinder coordination and (as shown) end up worsening accountability. All of these dynamics produce adverse outcomes through reshaping the framework of responsibility (Heimer and Staffen, 1998) and inadvertently making it difficult for an organization to improve the very outcomes that the public are scrutinizing them for.

Contributions to Research on Coordination and Technological Change

This study also contributes to our understanding of coordination in the wake of technological changes. Prior research has examined how the internal implementation of technologies within organizations shapes coordination processes and outcomes (Barley, 1982; Bechky, 2003; Beane and Orlikowski, 2015; Leonardi, 2015). Less research has focused on how the external use of technologies such as smartphones and social media (by the public or customers) can shape coordination among professional groups within organizations. Unlike technologies that are used within organizations to improve work-related processes (e.g., Orlikowski, 2000), the external use of technologies such as mobile devices and social media are not directly related to the work performed inside organizations. Yet, the widespread diffusion and use of such technologies across society are creating significant input uncertainty (Argote, 1982) for organizational work, and as shown in this study, this is influencing internal coordination through imposing a threat of scrutiny on the discretionary work of front-line professionals. In response, these professionals “pass the buck” to subsequent actors in the organizational coordination chain, leading to more noise entering the system and a loss of trust both within the profession (i.e., between the 911 call-takers and 911 dispatchers) as well as across professions (i.e., between the 911 dispatchers and police officers). These shifts, in turn, further constrain organizational coordination.
This research also contributes to the literature on the unintended consequences of technology on professions and organizations. For example, since most people carry a cell phone with them most of the time, their observing a prominent incident (e.g., accidents) in a public place leads them to report those incidents by calling 911. While on the one hand such increased public vigilance and awareness is a positive factor and can lead to the reversal of the "bystander effect" (Darley and Latane, 1968; Latane and Nida, 1981), on the other hand when multiple people start to report the same incident it can also lead to clogging of the public-safety system, as other emergency calls wait in queue for a response. This in turn disrupts organizational coordination and influences the effective allocation of emergency response resources.

Moreover, while much of the existing literature has considered how technological changes can shape cross-professional coordination (e.g., Barley, 1986), the consequences of those changes for within-professional coordination remain undertheorized. One reason for this is that much of the coordination literature treats professions as more or less homogenous entities (for exceptions, see Truelove and Kellogg, 2016). My research highlights the heterogeneity that can exist within professional groups (e.g., 911 call-takers and 911 dispatchers within the emergency management profession). Indeed, professional groups themselves entail internal task distributions (e.g., Bailey, Leonardi, and Chong, 2010) as well as distinct expertise (e.g., Metiu, 2006). By recognizing that professional groups are not homogeneous entities, this research shows how within-profession coordination challenges can arise when one subgroup feels that the volume and quality of their work are getting adversely influenced by the actions of another subgroup. When these professional subgroups anchor around distinct role identities (as opposed to the overarching professional identity), new faultlines are created which can further constrain coordination.

My research also contributes to our understanding of how technology-based monitoring and reporting shape coordination. The advent of technology-based monitoring (e.g., RFID tags, workplace cameras) has led to a renewed interest in how these tools influence employees’ work practices. This line of research, however, is mostly focused on how monitoring technologies influence individual employee’s work practices, autonomy, and productivity (Bernstein, 2012; Hubbard, 2000; Staats et al., 2017), with less attention being paid to how the use of these technologies influences collective work. My study shows that
digital technologies such as mobile devices and social media are increasingly being used to scrutinize and report on issues that the public has about an organization and its employees, and this in turn is producing problematic consequences for both individual work and collective coordination. Since most organizations involve coordination of one form or another, this finding sheds light on how the use of digital technologies can produce a cascading effect across the coordination chain, lead to disturbances in relational systems (Kahn, Barton, and Fellows, 2013), and strain role relations among coordinating professionals.

**Broader Implications**

The findings from this research are analytically generalizable to other organizational settings that involve multi-stage sequential coordination, and where the work of the front-line professionals involves significant discretion. For example, firms like United Airlines and Uber are confronting similar dynamics from the public’s increasing use of smartphones and social media (Henderson, 2017). Future research could examine how front-line professionals within different kinds of organizations respond to external accountability pressures, and with what short-term and long-term consequences.

This research also contributes to the broader conversation on public safety and criminal justice reforms. Existing approaches that diagnose the ongoing crises faced by EMOs, police departments, and law enforcement professionals in the United States are mostly viewed through the theoretical lenses of implicit bias (Banaji, 2013), institutional racism (Anthias, 1999; Holdaway and O’Neill, 2006), or psychological profiling (“a few bad apples”) (Arthur, 2018). My study suggests that in addition to those approaches, there is value in examining how the nature and structure of work performed by public safety professionals have significantly changed over the past two decades in response to technological changes, and how these changes might inform reform implementation. Through conducting organizational analysis, and by redirecting our attention to the work performed by front-line professionals, especially focusing on the interactions between the upstream and downstream professionals in the coordination chain, we can further understand the deeper processes at work in these settings that are leading to an erosion of trust among public safety professionals, the communities they serve, and the public.
REFERENCES


Christin, A 2016. The hidden story of how metrics are being used in courtrooms and newsrooms to make more decisions. *Ethnography Matters, Co-Designing With Machines*, Special Issue.


TABLES and FIGURES

Table 1. Summary of Data Collection

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DEMO</strong></td>
<td><strong>Observations</strong></td>
</tr>
<tr>
<td><strong>Action Interviews</strong></td>
<td>Probing the call-takers and dispatchers to reflect on a specific incident that I had just observed during their call-taking or call-dispatching process across 142 observational sessions.</td>
</tr>
<tr>
<td><strong>Semi-structured interviews</strong></td>
<td>65 semi-structured interviews with the 911 call-takers and 911 dispatchers; 18 semi-structured interviews with the 911 supervisors, watch managers and senior managers.</td>
</tr>
<tr>
<td><strong>Quantitative data</strong></td>
<td>911 call logs from 2011-2014; call-answering metrics; workforce utilization data.</td>
</tr>
<tr>
<td><strong>Archival data</strong></td>
<td>911 call-taking and dispatch training materials; 911 employees’ performance assessments reports; public complaints data; follow-up reports.</td>
</tr>
<tr>
<td><strong>DPD</strong></td>
<td><strong>Semi-structured interviews</strong></td>
</tr>
<tr>
<td><strong>Observations</strong></td>
<td>Ride-alongs to observe beat cops’ responses to 911 calls for service; CompStat meetings; Community policing meetings.</td>
</tr>
<tr>
<td><strong>Other EMOs (Alpha, Beta, Epsilon, Gamma, Zeta, Kappa, Lambda)</strong></td>
<td><strong>Observations</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Interviews</strong></td>
</tr>
<tr>
<td><strong>911 Callers</strong></td>
<td><strong>Semi-structured interviews</strong></td>
</tr>
<tr>
<td>Role</td>
<td>Role-identity (old)</td>
</tr>
<tr>
<td>------</td>
<td>--------------------</td>
</tr>
<tr>
<td>911 Call-Takers</td>
<td>Diagnosticians</td>
</tr>
<tr>
<td>911 Dispatchers</td>
<td>Orchestrators</td>
</tr>
</tbody>
</table>

Table 2. Shifts in Role-Identities and Work Practices
Clearing the dashboard. "Handling" the Cops.

Validated by call-takers).

Workaround police officers’ preferences.

Keep track of response time.

Clear the dashboard.

“Handling” the Cops.

 Officers, it is this: I am just sending what I am getting. If I get these bullshit calls, I have no option but to send it to you... You can ask your Sarge to 19-SAM [need to explain what this is] that, but my job is to send what I get as soon as possible. So don’t get cranky, don’t curse me... I am not plotting here from my desk on what I should next to make your watch absolutely difficult. I am just doing my job, just like how you are doing your job, except that you aren’t when you constantly bark back at me. It is so tiring. I have 3 kids that I put to bed before coming to work, so I don’t want to handle 13 more kids at work. So stop doing this, we are all professionals.” [911 Dispatcher, DP3]

“Officers are busy, I understand, but when I call out a Unit’s name, they should at least respond. [They should] Acknowledge with a 10-4. Or should at least say they are finishing up right now but will get back to me. But this radio silence is really not helpful. If you are clear from a job or finished lunch, update us. I can’t always be coming after you, I have so many jobs to take care of.” [911 Dispatcher, DP1]

| 911 Supervisors | Counselors | Predictors | Estimate call-volume for the upcoming shift. Estimate adequate staff needed for the next | Acting as a buffer between the City and Police department. | “I don’t have time to talk to every call-taker or dispatcher, I have so many other things to take care of...I need to compare the call volume for the day and shift that we got last
shift; make sure “utilization rate” does not go below the threshold set by management.
Randomly monitor call-takers and dispatchers through remote listening.

Monitoring scandals and controversies that break out through social media.
Setting up internal processes aimed at avoiding scandals.

week, two weeks back, and last year, to estimate the call volume. Need to figure out how many call-takers I need tomorrow. In between all these, I also need to handle escalations and social media complaints. There is only so much I could do.

I ask the call-takers to take care of themselves, to not get into any trouble. If there is an issue, we will be the first to be thrown under the bus, so make sure there are no issues to begin with.” [911 Supervisor, SP₈]

“Call-takers are being super careful now, which is good. I do listen to the calls and see how they are answering. It is what it is. The dispatchers are complaining that there is more work to them, but at least we are free from trouble the past few weeks. That’s all that matters right now. We will later figure out the workload issue, but right now our focus is to stay out of trouble.” [911 Supervisor, SP₁₀]
Figure 1. 911 Emergency Coordination Workflow at DEMO
Figure 2. Source of 911 Calls received across the United States (2016)

Source of 911 Calls (2013 - 2016)

Cellular 70 %
Wireline 28 %
Other 1.2%
VoIP 1.2%

Number of calls (in millions)

2013 2014 2015 2016

Year

Call Type
- Cellular
- MLTS
- Texts
- VoIP
- Wireline
Figure 3. Cell Phone Subscriptions and Increasing Volume of 911 Calls at DEMO

Figure 4. Mobile Wireless Subscriptions and Increasing Volume of 911 Calls in the United States
Figure 5. Composition of the Calls by Event Type

Legend:
DIST: Disturbance
DD: Domestic Disturbance
BATIP: Battery in Progress
ALRBUR: Burglar Alarm
Figure 6. Increasing Percentage of Incoming Calls Coded as Emergencies by the 911 Call-takers at Delta EMO

Bi-Weekly Average % of Calls Categorized as Emergency (Delta)

Legend:
- Social Media Scandal = Organizational Response
- Suspension Events
- Increased Workload
- Mainstream News Media Scandals
Figure 7. Vicious Cycle of Coordination among Front-Line Professionals
Figure 8. The Paradox of Public Accountability: A Process Model

Processes that generate the Vicious Cycle of Coordination

- Increased Volume of Reported Incidents
- Changes to the Type of Reported Incidents

Information overload + More Role in Incoming Information

- Increased Visibility
- Capability to instantaneously escalate incidents
- Commentary on Incidents

Construction of Common Knowledge through Disruptive Publicity

Outcomes
- Decreased Responsiveness
- Reduced Employee Morale
- Increased Turn-over

Circulation of a cynical "customer service" rhetoric among the professionals

Organizational Accountability
- Subject of accountability (i.e., who is accountable and to whom)
- Object of accountability (i.e., what is accounted for)
- Process of accountability (i.e., when and how is it accounted for)
CHAPTER 5
CONCLUSION

My empirical research into the history, structure, and work of 911 Emergency Management Organizations and Public Safety Telecommunicators accomplishes the following: (1) develops new organizational theory on truce structures and truce professions, and the role they play in facilitating cross-professional coordination during periods of technological and institutional change; (2) unpacks the processes and mechanisms used to navigate status-authority asymmetry, and orchestrate effective coordination; and (3) examines how technological changes, as manifest in the public’s increased digital scrutiny, can negatively influence the work of truce professionals and their ability to coordinate with others, leading paradoxically to a worsening of organizational accountability.

Summary of Contributions

My research offers a number of contributions to theory and research on cross-professional coordination, accountability, and technological change. I seek to further our understanding of when and how cross-professional coordination can be effectively facilitated in contexts marked by protracted jurisdictional conflicts. My findings identify the importance of truce structures – an ensemble of truce roles and organizational forms – in addressing protracted jurisdictional conflicts among symmetrical professions. I further show how the coevolution of truce role and organizational form resulted in the emergence of a specific truce profession – the 911 Public Safety Telecommunicators. The truce profession serves to triage, direct, and channel the tasks among the conflicting professions without bringing those professions into direct contact with each during the initial stages of coordination when the “definition of the situation” (Freeland and Zuckerman, 2018; Perrow, 1986; March and Simon, 1958; Van Maanen, 1978) is getting worked out. Through this process, truce professions facilitate coordination among the conflicting symmetrical professions. It is the structural position of the truce profession as lower-status stranger (Simmel, 1908; see also Bearman, 2009) — that is, newcomer to the field who is unaffiliated with either of
the conflicting professions and who does not pose a direct status threat to those professions — that produces a truce in the jurisdictional conflicts among symmetrical professions.

The idea of truce profession builds upon and adds to recent research that seeks to understand and categorize professions from the structural roles they play within organizations (e.g., Kellogg, 2014). In this sense, truce professions may be seen to perform a specific type of brokerage role — which I term orchestrator — that is different from existing types of brokerage roles (coordinator, itinerant broker, gatekeeper, representative, and liaison) identified in prior research (Fernandez and Gould, 1994). In contrast to these other roles, the orchestrator does the following: (a) occupies the structural position of a lower-status stranger; (b) isolates the higher-status groups from interacting directly with one another, and (c) coordinates those professions through triaging, directing, and channeling. In this way, orchestrators create new boundaries while at the same time ensuring that the subgroup boundary of the higher-status professions remains secure. This in turn reduces the identity threat and jurisdictional conflict experienced by the symmetrical professions. This research also contributes to the theory of role creation by unpacking how, when, and under what conditions managers can change older role-structures and establish newer ones inside organizations (Lounsbury, 2001). Overall, my study identifies and elaborates the mechanism of truce structure and shows how it can address the structural coordination problem that can emerge among symmetrical professions during periods of technological and institutional change.

While truce structures are helpful in managing the structural coordination problem, there are other processual coordination problems that emerge and manifest during the everyday moment-to-moment flow of work between the truce professions and the focal professions. One such processual issue is the challenge that truce professionals face in navigating the status-authority asymmetry to enact their formal authority over the higher-status focal professionals. To coordinate effectively, the truce professionals (specifically the 911 dispatchers) with higher formal authority and lower professional status need to coordinate and get work done by another profession with higher professional status and lower formal authority. I identify a set of
practices entailing communication media (open or private channels) and tactics (escalation, personalization, bounded publicization) that 911 dispatchers use to navigate the status-authority asymmetry and orchestrate cross-professional coordination. I found that while the escalation and personalization tactics led to negative coordination outcomes, the bounded publicization tactic performed through the open radio channel resulted in more effective coordination outcomes. Through this bounded publicization tactic, dispatchers leverage the common information space to generate peer knowledge about individual rule violations and non-compliance. In doing this, dispatchers steer self-disciplining and compliance among police officers whose professional status is on the line in front of their peers. Through this process, the truce professionals navigate the status-authority asymmetry and orchestrate effective cross-professional coordination. This study highlights how relational work (Bandelj, 2012; Zelizer, 2007) performed in conditions marked by status-authority asymmetry allows the higher-status/lower-formal-authority professionals to take the lower-status/higher-formal-authority professionals for granted. This, in turn, can worsen coordination. My study identifies the process through which this dynamic can be avoided. Specifically, peer knowledge generated through the bounded publicization tactic (via the open communication channel) can serve as a mechanism for enabling voluntary compliance and allowing the lower-status professionals to enact their formal authority over the higher-status professionals.

Finally, I focus on the coordination and accountability challenges that truce professions are confronted with as a result of the increase in the public's digital scrutiny of their work. I find that the public's use of mobile devices and social media to demand more accountability from truce professionals produces dynamics that increase their risk aversion, undermine role identities, strain role relations, and lock up available resources. This happens under two specific conditions — when the organizational work involves multi-stage sequential coordination, and when the front-line truce professionals initiating the coordination require significant discretion in decision making. Together, these processes generate a vicious cycle of coordination that ends up worsening organizational accountability over time. This study contributes to the
literature on organizational accountability through highlighting how accountability is enacted through the shifting coordination practices of front-line professionals, who themselves are working under increased public scrutiny and consequently are unable or unwilling to take ownership and responsibility of their discretionary work. This study develops a process model of the paradox of public accountability and describes the chain of unintended consequences and organizational changes that emerge as external monitoring and reporting intensify via the public’s increased digital scrutiny.

My research also makes a contribution to the coordination literature by examining how the external use of digital technologies by the public is creating significant uncertainty in organizational work, negatively influencing internal coordination within and between professional groups. This study shows that digital technologies such as smartphones and social media, while not deliberately designed for surveillance purposes, are increasingly being used by members of the public to monitor and report issues they have about an organization and its workers. While prior work on technology-based monitoring has examined how monitoring tools have an effect on individual work and productivity (e.g., Bernstein, 2012; Staats et al., 2017), this study sheds light on how technology-based monitoring by the public can negatively influence collective work by disrupting coordination among professional groups within organizations.

This research contributes to the broader conversation on reform implementation in the emergency management and law enforcement domains. Existing approaches that diagnose the ongoing crises faced by 911 emergency management organizations, police departments, and law enforcement professionals in the United States mostly employ the theoretical lenses of implicit bias, institutional racism, or psychological profiling (“a few bad apples”). This study suggests that there is value in examining how the nature and structure of work performed by front-line professions (i.e., the 911 PSTs) have significantly changed over the past two decades — due in part to external technological changes — and how these changes may be created challenging conditions for reform implementation.
In summary, this dissertation examines how cross-professional coordination is accomplished in the wake of technological and institutional change. Across three inter-related studies, I develop the idea of *truce structures* in organizations that highlight the following: (a) the importance of truce structures in addressing structural coordination problems; (b) the conditions that lead to the emergence of truce professions and the role they play in absorbing contested tasks and minimizing jurisdictional conflicts among competing, symmetrical professions; (c) the paradoxical nature of truce professions, characterized by their higher formal authority over focal professions but relatively lower professional status; (d) how they address the processual coordination problem through navigating status-authority asymmetry and orchestrating effective cross-professional coordination; and (e) the accountability and coordination challenges confronted by frontline truce professionals due to the public’s increased digital scrutiny. These theoretical insights, in conjunction with the empirical findings, advance our understanding of when and how effective cross-professional coordination can occur during periods of institutional and technological change, especially in conditions marked by jurisdictional conflicts.

As organizations are becoming increasingly reliant on professions to coordinate and accomplish tasks, understanding when, how, and under what conditions effective cross-professional coordination can occur becomes all the more important. This is especially the case in high-stakes and fast-response settings such as emergency management, air-traffic control, and medical trauma, where truce professions play a critical role in orchestrating effective coordination under considerable pressure.
REFERENCES


203