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<u>I, Bradley Buckmeier, hereby submit this original work as part of the requirements for the degree of Doctor of Philosophy in Criminal Justice.</u>

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Police Interactions with the Community on Facebook: An Examination of the Content of the Message Police Communicate with Citizens on Facebook, Community Response, and Factors Associated with Different Communication Patterns

Student's name: **<u>Bradley Buckmeier</u>**

This work and its defense approved by:

Committee chair: James Frank, Ph.D.

Committee member: Charles F. Klahm IV, Ph.D.

Committee member: Edward Latessa, Ph.D.

Committee member: Lawrence Travis, Ph.D.

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Police interactions with the community on Facebook: An examination of the content of the message police communicate with citizens on Facebook, community response, and factors associated with different communication patterns.

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Bradley Buckmeier

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B.A. University of Cincinnati, 2008

M.S. University of Cincinnati, 2009

Dissertation Committee:

James Frank, PhD (Chair)

Lawrence Travis, PhD

Edward Latessa, PhD

Charles Klahm, PhD

Abstract

The nature of interactions between the police and the public has been an important topic in policing research. Social media are a relatively new platform that the police can use to interact with the community. Facebook is a social media website which allows the police to communicate directly with the community and, at the same time, allows the community to respond. Limited research exists about the nature of the interactions the police are having with the community on Facebook. This dissertation will examine police department interactions with the community using Facebook as the means of communication. Specifically, it will examine the nature and content of their messages when communicating with citizens on Facebook, the factors that may be associated with different online communication patterns of the police (i.e., community factors, year of adoption of Facebook) and how the community responds.

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Chapter One: Problem Statement

Introduction

The study seeks to determine whether and how police agency communication via social media (Facebook) vary, and the likely effects of such variation. Communication between the police and the public is expected to be important in many ways. When police communicate with the public they are interacting with those citizens who view the Facebook page and/or respond to the Facebook communication. Decades of research, theory, and commentary suggests that police departments in the U.S. vary in what aspects of policing they focus on (e.g., service, law enforcement, order maintenance) and how often they interact with the public. The mechanisms through which the police communicate information, and thus how they interact with the public, continue to change and it is important to understand how these mechanisms of communication are being used by the police.

Increasingly, communication in all areas of society is accomplished through social media. Facebook is a social networking site that allows for communication between people and organizations. The site allows for information to be obtained and disseminated through the actual webpage. Facebook is by far the most frequently used social media platform used by law enforcement agencies (96.4%) according to the IACP 2015 survey. Furthermore, 73.9% of agencies have reported that social media has improved police-community relations in their jurisdiction (IACP Survey, 2015). The widespread use of Facebook, and the potential for it to improve community relations with the police, makes it an important new medium to more fully understand police interaction with the public.

Overall, this study will be an examination of factors that may be associated with differences among police departments in how they are using Facebook and the content of the

messages they are communicating on Facebook, as well as determining if any differences that may exist are correlated with different community characteristics and/or how the community responds. Liebermen et. al. (2013) report several different types of messages including tips, crimes, alerts, DUI, officer injured, missing person, recruitment, public relations, directions to services, and direct communication. Messages will be examined for content (e. g., service, law enforcement) and categorized in a similar manner as prior studies.

A better understanding of how communication content can foster or diminish interaction with the public on Facebook may be important for helping the police build partnerships and increase community engagement in the future. Building community partnerships has been identified as an important aspect of community policing and problem-oriented policing. Communication is expected to flow horizontally between the police and the community under these philosophies. Facebook and social media allow for a more horizontal flow of communication without the need for direct contact. In addition, the police are called on to expand beyond the task environment and connect to the social and cultural environment under community policing (Greene, 2000). The ability of Facebook to be provide an easily accessible forum through which the police can communicate with the community makes it a potentially valuable resource as a result of the ability to reach a large proportion of the community with minimal use of resources. There is no need be physically present at a community meeting in order to engage in a dialogue with the community.

Community factors may or may not be more relevant when the police are encountering the community through Facebook instead of during face-to-face police-citizen encounters. The police may use this opportunity to tailor the content and type of their communication on

Facebook to their local community. Therefore, it is important to measure how communication through contact that is not face-to-face may be received by the community.

On the other hand, the use of modern technology such as Facebook may offset the possible impact of community-level characteristics on communication patterns. This may occur because the high visibility of Facebook communication may result in police agencies emulating one another and thus minimize the relationship with community characteristics. In this situation, police may normalize their behavior because of the high visibility of online communication and adopt a similar approach to Facebook communication as other police departments. While Facebook does allow a lot of leeway with content that can be posted, departments still must adhere to the framework of Facebook which may minimize differences.

Background of Problem/ Knowledge Gap

This investigation will examine police at the municipal level. Most police agencies in America operate at the local level and respond to a wide variety of problems in their own communities (Reaves, 2015). It is not clearly established if the nature if the communication the police have with the public on Facebook varies in different communities and what factors may be associated with any variation. We do know however, that not all police agencies use Facebook in the same manner. For instance, Lieberman et al. (2013) found that the police do vary in their frequency and formality of their interactions with the community on Facebook. Their investigation only consisted of large departments in urban settings. Whether their findings apply across a range of police agency types and communities remains unknown. It is important to know how police are using Facebook in order to further our understanding of Facebook communication between the police and the public. Wilson (1968) introduced the theory that a link exists between the style of policing a community receives and the characteristics of the

community. Styles varied in terms of the frequency and formality of the interactions the police have with the public. It remains an empirical question if differences exist between different types of police agencies across the country in the nature and extent of their communication on Facebook.

While the police are using Facebook for many policing related activities, this research will focus only on the posts that are disseminated by the police, which are available for public viewing and interaction. The Facebook pages of police departments are available to the public on the internet and do not require you to be a "friend" or any special permission for access to the page.   Social networking sites such as Facebook provide a new way to examine core concepts in policing through a relatively new form of communication.

Methodology

Data for this research will be collected from multiple sources. First, data will be collected through a content analysis of Facebook pages used by police agencies. Supplementary information about date of adoption, agency rating, and overall technology adoption will also be collected from Facebook in order to acquire a better understanding of how they may be associated with the nature of the interactions the police have with the community on Facebook. Second, data on community characteristics will be collected using U.S. Census Bureau data. Third, data about police departments will be found by visiting their official website outside of Facebook, publicly available sources, or by contacting them directly by telephone.

Research Questions/ Hypotheses

In an effort to fully understand the use of Facebook by police agencies and citizens, and the value of communicating with the public through this format, this study will address the following research questions.

1. What is the breakdown in the types of messages and media that the police are posting on Facebook?
2. Does the response from the community to posts change based on how police use Facebook to communicate and/or the content of the message?
3. Are community characteristics correlated with the how the police are using Facebook, the content of the message, or citizen responses?
4. Are organizational characteristics (i.e., experience, department size) correlated with how police are using Facebook, content of the message, or community characteristics?
5. What strategy do the police seem to use on Facebook (push, pull, or networking)?
6. Do police departments differ in their connectedness to the community or technological innovativeness on Facebook?

Limitations

Facebook interactions involve voluntary actions. This research is measuring communication patterns through interactions on a social networking site which may not translate to the daily activities and communication patterns of the police when they have face-to-face contact with individual members of the community that are involuntary. Nonetheless, it is important to understand how new forms of communication are being used by police agencies. The exploration of this communication contact will allow for a determination of whether community characteristics matter or not. This is important to know in order to understand if the police are adapting their message to the community. How policing looks under a community model of policing should vary from location to location in response to local conditions and community concerns (Skogan & Hartnett, 1997). It is also important to understand whether new forms of communication, which do not involve direct face-to-face contact, can improve police relations, involvement from the community, and the dissemination of information.

In addition, this study is only looking at Facebook and the results may not apply to other social networking sites which have different formats and do not allow for similar amounts of community involvement. For instance, "tweets" on Twitter are restricted to 140 characters and Instagram is a photo-sharing site which focuses on visual images. Finally, the limited sample

may not be representative of all departments. The sample will only include municipal police agencies and may not represent other types of police agencies such as state, county, college, tribal, or federal police agencies. Still, this research is poised to advance our understanding of police-citizen communication patterns using an electronic forum. This forum, Facebook, has significantly changed the potential for interaction with the public. Whether police agencies are using it to its full potential remains an empirical question.

Chapter 2: Literature Review

Introduction

This Chapter focuses on the literature regarding the importance of police communication with the public, communication technologies, potential factors that influence communication, and the potential benefits of communication to agencies. Chapter 2 begins with a description of the basic features of Facebook and a discussion of how existing policing literature will be tied into the current study. The remainder of Chapter 2 contains four general sections with the first portion of the chapter discussing the history of policing. Attention is focused on the critical role communication has in policing, with an emphasis on the most recent era of policing, the community era. This section will be followed by a discussion of electronic computer communication technology. In this section, there is a discussion of communication platforms used by the police, including Facebook, Twitter, and social media more generally.

The third portion of the chapter contains a discussion focusing on factors that influence communication. This section includes, but is not limited to, discussions of the potential influence of frequency of posts, content of posts, agency size, experience, types of communities, and geographic region. Lastly, a discussion of communication strategies for fostering community engagement will be discussed and tied into Facebook. This will include a discussion on citizen evaluations of the police. The chapter will conclude with a vision for how this study will move the field forward in terms of our understanding of police communication on Facebook.

Facebook as a Means for Communication

There are many key terms and concepts that are unique to Facebook that require further elaboration in order to more completely explain how communication between the public and police occurs on Facebook. The following discussion will explain the importance of

communicating through Facebook, some of the key features of Facebook, and how they relate to the current study.

Facebook is an online social networking service that allows for communication between people and organizations. A social networking service (SNS) is a web-based service that allows people to interact over the internet. A SNS is a platform that allows users to build social networks or social relationships with other users. Facebook can be accessed on the webpage or through mobile apps. This means that Facebook can be accessed through cell phones as well as computers giving citizens 24-hour access to Facebook. Facebook is the most frequently and widely used social media site by the general population as well as law enforcement agencies (Pew Research, 2015; IACP, 2015). Studies indicate that 72% of online adults and 62% of the entire adult population use Facebook. High rates of Facebook use exist across different ethnicities, ages, education levels, and socio-economic class. Seventy percent of Facebook users are active on the site daily (Pew Research, 2015). The high rates of Facebook use by the public give police an extraordinary opportunity to reach a large audience and foster a relationship with a diverse portion of the community.

After becoming a member of Facebook, a department can create their own Facebook page. A department or individual can then post a "status update". A post or "status update" allows the user to deliver information to visitors on their page or to those who follow them. This information is available to anyone and does not require special access. The message can be a comment, picture, or other form of media. Users who access the department page are able to view each of these uploads from the organization on the timeline.

One key feature that is available to users is the "like" button. The "like" button allows users to give positive feedback to content that they view on the timeline. Any update posted by

the police can receive a "like" from a visitor. In addition, users can "like" the page itself, and this can indicate support of the organization.

A relatively newer function on Facebook is the ability to express different emotional responses to a post called "reactions" that go beyond a simple "like". These reactions take the form of emoticons. Emoticons are pictorial representations of a facial expression or image which represent an emotion. The reactions used on Facebook represent love, laughter, astonishment, sadness, and anger.

Facebook also allows users to comment on the uploaded post of another. This feature is what allows for two-way communication and opens up the opportunity for more meaningful interaction with the community. Members of the community are able to leave comments under a post from a police organization and this allows for a dialogue to be established between the agency and the community.

Users can also share a post. This feature allows for users to spread the information to their own network of contacts. When someone clicks the share button, it allows the friends and audience of that person to see the shared post on that particular individual's Facebook page. The friends or audience of that person now also have the option to share the post to their own group of friends and audience on Facebook. This feature allows a post to gain a wider audience.

In addition, Facebook provides the ability to look back to when an agency first opened a Facebook account and when they first started communicating on Facebook. This ability allows for an understanding of how much experience an agency has with communicating on Facebook. Facebook allows for the organization to "like" other pages in the community. For example, a department could like the Facebook page of a local restaurant or sports team.   Facebook also

provides the ability to link other technological applications being used by the department such as Instagram, YouTube, and Twitter to the Facebook page.

Linking existing literature to police use of Facebook

A better understanding of how current communication technology is being used is needed to update existing research on factors that may play a role in community engagement on social media. The use of communication technology by police has been influenced often by societal changes in the use of technological advancements (Mathieu & Chicoine, 2014). As society embraces technology, so must the police. Each major technological innovation used by the police has been envisioned as a means to improve policing. The telegraph, telephone, two-way radio, automobile, centralized call collection, and computer-assisted dispatching have all been seen as means to aid law enforcement (Kelling, 1978). For example, radio's ability to communicate directly to citizens allowed police reformers an opportunity to exert control over citizen expectations, interactions with the police, and understanding of the police (Battles, 2010). The widespread use of Facebook by the public and the police makes it an important new medium from which to better understand police interaction with the public.

Most police literature that examines policing interactions with the public has focused on the actual behavior of an officer during a face-to-face interaction with a citizen. Outcomes of these encounters have often been categorized based upon the frequency and outcomes/formality of these face-to-face interactions (Crank, 1990; Wilson, 1968; Liederbach & Travis, 2008). During face-to-face encounters, frequency has often been operationalized as the number of contacts with citizens and formality operationalized as the outcome of the encounter using official statistics. In contrast, communication technology has typically operationalized frequency based on the number of posts made over a certain amount of time, with formality based on the

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content of each message (Lieberman et. al., 2013). Policing research has attempted to explain differences in outcomes of police-citizen encounters by examining how individual, situational, organizational, and community-level variables influence detection, arrest, service, and use of force (Riksheim & Chermak 1993; Sherman, 1980). The study of the behavior of police during interactions with citizens has often neglected to account for interactions between police and citizens that are not face-to-face, such as through communication technologies. Limited research suggests that use of communication technologies can have an impact upon citizen evaluations. Police dispatchers ability to effectively communicate realistic expectations of the police response can have an impact upon citizen satisfaction (Percy, 1980; Antunes & Scott, 1981). The ability of telephone operator behavior to impact citizen evaluations of the police illustrates the need to better understand how citizens are responding to police communication behavior on modern communication technologies. The advancement of communication technologies has elevated communication research to a high level of importance in modern society (Rogers, 2005). The current research can build on this by examining the relationship between a modern communication technology and the response from citizens.

The environment has often been studied in policing to investigate if differences in how police behave is influenced by the environment. Communities are often categorized as urban, rural, or suburban based on the population of the community. The use of the guidelines set forth by the U. S. Census Bureau are often used to identify and categorize communities and police departments (Davenport, 1996; Crank, 1990; NRC, 1990). The influence of environmental factors on policing style can differ based upon the community type (e. g. rural, urban) or geographic region (Crank, 1990; Maguire et al., 1997). This may be because the police are

partly a product of community values (Langworthy, 1986). The influence of community factors on police behavior may also apply to the behavior of police on Facebook.

The present study will use findings from the existing literature on explanations of police behavior as a framework to determine if these same explanations apply to the study of communication by the police. The same factors that have been routinely applied to the behavior of the police during face-to-face encounters may extend to the behavior of the police during interactions the police have while communicating on Facebook. Face-to-face encounters and communication through Facebook share similarities in that they involve interaction between citizens and the police. Both types of interactions allow for leeway in how often they occur and the nature of the interaction. At the same time, there are also differences. For instance, the outcomes of communication interactions do not involve the application of formal authority (citation, arrest, etc.) and they are likely much less antagonistic and adversarial than face-to-face interactions. Admittedly, there may also be differences in the factors that influence communication patterns of the police. This is an empirical question worthy of consideration. As such, existing literature on police-citizen interactions will provide the framework for the current study.

Eras of Policing

Policing in the United States has undergone numerous changes as it has evolved. Kelling and Moore (1988) divided the history of the police into different eras based on the main strategy the police used. The political era was distinguished by close relationships between the police and politics. Police patrols were typically on foot or bicycle which allowed for more face-to-face contact with citizens. The police had close ties to the community during this era but close relationships with political leaders gave rise to corruption.

Kelling and Moore (1988) identify the reform era as a response to the corruption that often accompanied the political era. The reform era brought a new focus on the criminal law and police professionalism. Enforcement of the law and crime control became the main emphasis of this era. This narrowed vision of the police led to a more measured and distant relationship with the community. Technology played an important role in shaping policing during this era. The use of automobiles to patrol communities rather than foot patrol distanced the police from the community. The limited face-to-face communication between the police and the public during this era led to increases in fear of crime, distrust of the police, and a higher perception of crime (Lundman, 1980). However, other technological developments, such as the telephone, allowed ordinary citizens to contact the police from their private residence. This led to increases in the frequency of contacts and the nature of police-citizen contacts. Citizens called the police to deal with a multitude of issues beyond just crime-related concerns (Walker, 1984). The telephone led to the majority of police-citizen contacts occurring at private residences (Reiss, 1971). The ability of technology to alter the nature of police-citizen contacts and expand the role of the police illustrates the importance of research on the use of current communication technologies being used by police and the public.

The community era brought attention back to the community with a renewed focus on relationships between citizens and the police and a desire by the police to be aware of community concerns (Kelling & Moore, 1988). One of the preferred strategies of this era is community policing. An important part of community-based policing is ongoing communication with the public (Skolnick & Bayley, 1988). The police have increasingly been called upon to be more responsive to the community. Increasing the quality and the quantity of police contacts with citizens is a crucial component of community policing (Sherman, 1997). The establishment

of working partnerships with the community is emphasized in the community policing model (Moore, 1992) and is dependent on the partners enjoying good communication networks. One way to improve police contacts with citizens is through effective use of communication technologies the police have at their disposal. The manner in which police and citizens have communicated with one another has been a defining feature of each era and most likely will continue to define future eras of policing.

Police Communication with the Community

Policing, like all modern institutions, is dependent upon communication. Communication is the foundation upon which the relationship between the police and the public is built. Police-citizen communication is based on a mutual sharing of information related to ideas, knowledge, needs, wants, and perceptions (Choo, 2011). Communities are seen as participants who should play a role in the objectives, interventions, and evaluation of the police (Greene, 2000; Skolnick & Bayley, 1986). The police need information to perform their core functions but are reliant upon citizens for their information (Manning, 1992). The police may be able to increase the information available to them by changing and improving the methods through which they elicit information (Skogan & Antunes, 1979). Modern society has made the police accessible to citizens through advances in the technology of communication systems (Manning, 1988). The effectiveness with which the police use technology to communicate with the public has implications for the relationship the police have with the community, the amount of information available to them, and the ability to perform their core functions.

Traditional media have often played a critical role in delivering messages to the community and shaping the police image. The police continue to seek a healthy relationship with the media to demonstrate transparency, help solve crimes and, promote the police image to

the community (Mawby, 2010). Image of the police can have an impact upon support for the police from the community (Worrall, 1999). A study by Chermak and Weiss (2005) found that the traditional police-media relationship involves an interdependent relationship with each party having different goals and reasons for valuing the relationship. They report that the police and media report generally good relationships but a general sense that the relationship can turn adversarial at times. The police rely on the media to disseminate information to the community and aid in accomplishing agency goals while the media uses the relationship to create crime stories they can report to the public. However, the portrayal of the police by the media has the potential to negatively affect the image of the police and the heavy consumption of network news can lead to a greater belief in police misconduct and preferential treatment for whites (Dowler & Zawilski, 2007). The ability of the external environment to impact police image through media consumption indicates the need for the police to have greater control over what information is disseminated. Social media outlets such as Facebook allow the police to control the content of information delivered to the community and provide a means for direct communication with the public without using the traditional media outlets (Mawby, 2010).

Embracing communication that is not solely reliant on traditional media outlets may prove to be beneficial to the image of the police. Hohl et al. (2010) sought to examine the impact of indirect contact with the police and how this might impact public perceptions of policing. The researchers dropped leaflets in a test group of wards in London ward and a control group of wards which did not receive a letter. The message on the leaflets was tailored to the individual communities. The leaflets discussed what the police were doing to figure out local concerns, highlighted what the police were doing and shared stories of success with the community. They found that the leaflets were able to have an impact on overall confidence in

the police as well as perceptions of police-community engagement. The results of their study indicate that indirect police communication without physical interaction can increase the levels of trust and confidence that the community has with the public. In addition, the leaflets also appeared to buffer against negative beliefs concerning the effectiveness of the police that may be questioned due to media coverage of current events in the communities.

While the above experiment did not use social media, it did share some similarities with how the police could use social media to communicate with the public. Unlike traditional media outlets, the police were able to control the content of each message being delivered to the public and tailor it to individual communities, similar to what they can do on a Facebook site. This highlights the potential of the police to have an impact upon public confidence through indirect communication. The current study extends this line of research though determining if police are tailoring their message on Facebook to the community and how the community responds.

A common form of communication with the community is information meetings. A study by Kutschreuter and Wiegman (1997) found that community meetings about a specific crime led to both an increase in knowledge about the crime and the use of preventive measures. However, actual fear of burglary was not affected. Local police officers held 33 meetings with the public to inform them about residential burglaries. Information about the crimes, preventive measures, aid to victims, and emotional support were provided at these meetings. Facebook changes this dynamic because it allows users to be made aware of information just as in a community meeting and spread the message to others without having to physically attend the meeting. Understanding how the community responds to different types of information (e.g. crime prevention, community outreach) delivered on Facebook by police can further our understanding of how to effectively communicate on modern technology.

There are several advantages to using Facebook versus traditional communication outlets. One important difference between social media and traditional media outlets is the ability of the police to control the information they disseminate. New media forms, such as social media, provide a means for delivering controlled information to the public in a timely and effective manner (Bain et al., 2014). This is important because the police need to be able to communicate with the public, but reliance on traditional media outlets may compromise the information communicated to the public. Since, police concerns about the community may not always coincide with the concerns of the community (Alpert et al., 2011), social media and webpages allow police to acquire feedback from directly from the community for police interventions and community building efforts. As previously noted, effective communication has the potential to impact the police image, community relationships, community involvement, and public confidence.

Studies of Social Media Use by Police

 Effective policing requires police to be more responsive and open to the community. The expansion of the police role beyond crime control involves widening the communication skills of the police (Greene, 2000). As a result, citizen input is sought and agencies are increasingly using social media and webpages as a means to gather input from the community (Cordner, 2014). The following section looks at studies that have examined the use of Facebook by the police. In addition, this section will also examine other forms of communication the police have with the public on social media outlets.

Social media refers to electronic communication in which users can share information, ideas, personal messages, and other content with various online communities (Merriam-Webster, 2011). Social media technology is a rather recent development which presents police agencies

with a new avenue in which to connect, collaborate, and engage in communication with citizens directly. There are multiple forms of social media which allow communication. As mentioned earlier, Facebook is by far the most frequently used social media platform by law enforcement agencies as well as the public (Pew Research, 2015; IACP 2015 survey).

Lieberman et al. (2013) examined the use of Facebook by the 23 largest departments over a three-month period. Their analysis examined the content and the frequency of Facebook posts by these departments. They found that departments did vary in the frequency of posts. The most common posts were related to crime in the community or public relations. Their analysis indicated that police departments who posted more frequently tended to have messages that were more crime related. These posts tended to focus on resolving crime rather than crime prevention. Departments who tended to focus their message on more public relations tended to post less often. Public relations posts typically involved messages related to police activities as well as community activities. Citizen users did vary their response rate based on the content of the message. Crime-related posts received less likes and comments compared to other categories despite the high frequency of these posts. Infrequent categories such as direct communication received a higher response rate compared to crime-related posts and public relations posts despite their lower frequency of use. Direct communication involved messaging specific people or groups with guidance regarding a specific person. In addition, they found attaching pictures received less response in the form of comments and likes compared to posts that did not contain a picture. The study only examined the 23 largest departments so it is unclear if their findings apply to smaller departments, located within different types of communities. While this study is informative, it may not paint a complete picture of how police departments from various settings are using Facebook to communicate with the community. Therefore, it is not only important to

understand the content of messages the police in smaller agencies are communicating on Facebook, but also how citizens in smaller communities are responding.

Understanding how police agencies are using social media based off of the content of the messages they are delivering may provide insight into the priorities of an organization. A study by Meijer and Thaens (2013) found that police departments varied in their social media strategies. The researchers examined three police departments use of social media and found that they emphasized certain objectives over others. One department (Boston) used social media to emphasize strengthening the police image. The Toronto police department focused on building better police-citizen relations while a third police department (Washington D.C.) emphasized informing citizens and increasing citizen involvement in aiding the police. The researchers argue that the different environments may partially explain the different communication strategies employed by the police. This particular article sheds light on the importance of understanding the content of the messages being disseminated in order to better understand the overall social media strategy of a law enforcement agency.

An additional study examined social media strategies employed by several government agencies, including the police, in three cities in an effort to determine if there was variance in their approaches. Specifically, Mossberger et al. (2013) examined the use of social media by the mayor's office, the police department, and the parks department in three cities to examine how they interacted with citizens. The study found some evidence of "pull" strategies, but the local governments generally engaged in "push" strategies when using social networks to connect to citizens. The "push" strategy tends to emphasize using social networks to simply provide information and represent the agency. There is a general lack of interaction beyond the initial post under this strategy. In contrast, the "pull" strategy places more emphasis on two-way

communication and responsiveness to the community compared to the "push" strategy. This strategy has an objective of engagement. This strategy includes interaction and encouraging co-production with the audience. The networking strategy is highly interactive and allows for the agency to "mingle" and absorb comments. The agency allows the conversation to occur organically (Mergel, 2013).

Similarly, Rosenbaum et al. (2011) found that police agencies which had a website tended to "push out" information and focus less on "pulling in" information from the community. The website focus tended to be more on output of information with minimal effort to engage the community. The general lack of responsiveness may be the result of agencies identifying their reason to participate in social media as an effort to represent the agency on interaction channels. These strategies may not be ideal as citizens desire more interaction and responsiveness. These departments tend to focus on the dissemination of information without being truly responsive and engaging with the community (Mergel, 2013).

Further, the lack of responsiveness while using social media does not appear to coincide with what the public desires. Tolbert and Mossberger (2006) found that while e-government increases perceptions of government accessibility, only responsiveness by the government through improved communication and interactions with citizens is linked to actual increases in trust of the local government by citizens. The police have a lot of room for improvement when using social media as an investigative and engagement tool (Proctor et al., 2013) as most studied police agencies tend to focus on dissemination of information without being truly responsive to the community. The current study can extend this line of research by examining factors that may be associated with the police agency responsiveness on Facebook as well as how this may influence citizen engagement.

Examining how social media tools beyond Facebook are being used by the police can provide additional information on communication issues that can be improved upon. Brainard and Edlins (2015) examined the ten police departments in the most populous cities in the U. S. in order to determine their social media usage. They looked at the use of Facebook, Twitter, and YouTube over a 3-month period and examined how these police departments were using social media. The results of their study found that while most departments use social media, collaboration with citizens was minimal. Interestingly, minimal collaboration was partly a result of the nonresponsiveness of the police department. Police departments were initiating more posts and interacting more on Facebook compared to You Tube and Twitter. Citizens did appear to be responding to posts by the police but the police departments were not actively responding to community responses. In other words, the police typically did not use this opportunity to engage in discussions beyond the initial post.

Kilburn and Krieger (2014) looked at the 50 largest police departments to examine their use of websites and social media. The goal of their study was to determine if the police were using social media to improve upon their relationships with the community. This study did not examine Facebook specifically though. Despite the vast majority of larger departments having an online presence, it remains unclear if the police are using departmental websites and online presence to actually foster a relationship with the community as most of the content focuses on the distribution of information. The police were not actively engaging in a two-way communication with the community. While the study was informative, it remains unclear if the general lack of dialogue extends to communities beyond those served by large police departments and if the findings also apply to Facebook communications.

While twitter does not allow for communication in the same manner that Facebook does, it is another form of communication that the police have at their disposal to interact with the community via social media. Twitter is considered a micro blog and does not enjoy the widespread use that Facebook currently does. Grimmelikhuijsen and Meijer (2013) found that citizen use of Twitter to interact with the police was minimal and that only a small percentage (3.5%) of citizens use it to receive information from the police. However, the researchers did find that citizen perception of legitimacy is positively associated with Twitter use. The increase in perceived legitimacy was claimed to be the result of transparency and the ability to communicate successes to the public. Citizens may view this form of social media as a means to monitor the police without having to engage in a dialogue. One might logically assume that the same findings should result if the social media platform is Facebook instead of Twitter. The frequency with which Facebook is used by police may have an influence upon citizen engagement.

The present study will attempt to capture and measure the interactions the community has with the police on Facebook to see if the community is actively interacting with the police and to more fully understand the nature of the interactions. Increased activity on social networks may increase citizen perceptions of legitimacy and transparency and positively influence citizen confidence in the police, but may also fail to achieve these objectives if police are not reaping all the potential benefits by not fully responding to the community. Knowing what factors are associated with communication can allow for improvements to be made in how the police communicate through social media to the public.

Factors that Influence Communication

The ability to directly communicate with the community through Facebook is beneficial only if it is used in a manner which provides benefits for the community and the agency. Because Facebook provides this unique opportunity to communicate directly with the community, it is important to understand what factors may influence how the police agency communicates and how the community responds. However, it should be noted that this is an exploratory study, and as such, it primarily looks at factors which prior research has found influence police behavior in an effort to determine if these same factors influence communication on Facebook.

The influence of community characteristics "assumes that attributes of the legally defined community which create a police department influence police behavior either directly or through their effects on other variables" (Sherman, 1989). The type of community (i.e., urban, suburban, and rural) and the population size are each characteristics of the community which may influence the way the police communicate with the public. Population size and residential location are highly correlated with one another. In fact, the type of residential location is often defined by the population size of the community. In addition, population size is highly correlated with police agency size (Reaves, 2015). Urban agencies typically have the largest departments, then suburban and rural agencies often being the smallest. Finding differences in communication styles and patterns on Facebook that are correlated with community characteristics may indicate that the police are an open system, responsive to their immediate environment, which is capable of responding to and adapting to the community. The police may have to tailor their message to a more diverse audience in an urban location versus a more

homogenous population in a smaller rural community. The research surrounding police and different types of communities will be discussed.

Swanson (1978) theorized that the openness of the police is contingent upon characteristics of the community it polices as well as the region of the country they reside in. Communities can be separated into rural, urban, and suburban. Small-town and rural police departments are the most common type of police agency in the U.S. (Reaves, 2015). Despite this, police research on communities has typically focused on urban environments. Minimal research has been conducted on suburban patterns of policing (Wells et al., 2003). Differences in policing have been found to exist between communities. Crank (1990) found that different policing styles emerge based on the type of community, with rural and urban departments differing in their style of policing. In urban communities, the variance in arrest rates is affected more by organizational influences (e.g. concentration, segmentation) than environmental variables. Variance in arrest rates of rural areas were affected more by environmental factors (e.g. percent black, foreign language). The police in rural communities were affected more by environmental and organizational variation as a whole when compared to urban environments. This study focused on arrest rates. It is unknown if differences exist when looking at a different outcome such as patterns of communication on Facebook.

Falcone et al. (2002) argue that small-town departments are different from their larger urban counterparts and embrace an open systems model of policing. They argue that small town departments are more receptive and connected to the community, and the informal nature of the organization and the preference for dealing with problems informally results in community connectedness. The police are seen as a partner with the community and the lines of communication are more open; this facilitates a free flow of information between the police and

the community. The community has more trust in the police to resolve community issues. If these arguments transfer to use of Facebook, then one might suspect that police in small towns use Facebook to exchange information that is less crime related. It remains to be seen if small town departments differ from larger urban departments in how they communicate and exchange information through social media outlets. The current research will examine if differences exist in communication content among police departments from different communities.

A study by Liederbach and Travis (2008) examined the behavior of police officers in 20 suburban communities through systematic social observations in order to measure police style. The study focused on the frequency and formality of police contact with citizens in order to measure policing style. The researchers found that the population of the community did have a significant relationship with the style of policing a community receives. Frequency in the study included all police-citizen encounters that occurred during a standardized 8-hour shift. Formality was calculated as the number of encounters which ended in an arrest or citation. Legalistic agencies had high frequency and high formality. Service agencies had high frequency but low formality. Traditional "Watchman" style of policing was low frequency and low formality. Formal "watchman" had low frequency but high formality. Their study found that variation in the style of policing was significantly associated with population size and median household income in the community. The legalistic style of policing was associated with communities that had larger populations while the watchman style of policing was associated with communities with smaller populations. The population size of a community may also have implications for patterns of communication on Facebook. The current study will extend this line of research by examining if the frequency and content of communication on social media differs by the size of a community.

It is important to understand if the police adhere to the community desires. Jiao (2001) examined community preferences for police approaches across urban, suburban, and rural locations. The author found that urban residents prefer a community-oriented policing style that included less of a focus on law enforcement. Urban residents wanted the police to focus on building relationships with the community and bringing the community together. In contrast, suburban residents preferred a professional style of policing similar to a law enforcement style of policing and did not express the same desire for community policing and community-oriented activities. Rural residents preferred a focus on problem policing and problem-oriented activities. This line of inquiry can be applied to Facebook by examining if residents from different types of communities prefer different content in the messages being delivered to them on Facebook. The current study will extend this research by examining if communities differ in the communication content (e.g. outreach, service, video, text) they become engaged with.

Finally, Abdi et al. (1997) found that residential location plays a role in satisfaction with the police. People from suburban locations tended to have greater satisfaction with the police compared to people who lived in rural areas. If these findings are transferable to Facebook communication, it suggests that different types of communities may vary in how they use Facebook and how Facebook influences their ratings and satisfaction with the police on Facebook.

Communities not only differ in size, they also differ in how they are scattered across the country. King (1998) found that the region of the country that a department resides in can play a role in the use of technology. Departments located in the western U.S. tended to be more innovative compared to other regions of the country. This may also mean that regional differences exist in how police agencies are using Facebook (e.g., type of media, message

content). Research by Weiss (1992) indicates that departments which are geographically close tend to emulate one another. Geographical proximity may also apply to how Facebook is being used throughout the country. For example, agencies within the Census West region may use Facebook similar to one another and differently than those in the South region.

Size of Department

The size of the department may influence the date of adoption, and also how the police communicate on Facebook. Agency size has often been examined in order to determine its influence on police behavior. The innovations literature suggests that size of the department has an influence on the adoption of a new innovation; namely, larger departments are more likely to adopt innovations (Rogers, 2003; King, 1998). Larger departments may be more aware of innovations through greater interconnectedness to other government agencies and have more resources available which allow them to adopt new technology earlier. On the other hand, smaller agencies may have more flexibility and the ability to introduce new technologies with greater ease. This study will examine if size of the agency is related to when Facebook was adopted.

Monkkonen (1981) found that larger municipalities were more likely to adopt a new technology such as uniforms earlier than smaller municipalities. Similarly, Mullen (1996) found that early adoption of computers in police departments was influenced by police agency size with larger agencies tending to adopt computers earlier than smaller agencies. One of the issues with past studies is that they tend to focus on large cities and large departments. Skogan and Hartnett (2005) found that larger departments (per capita) tended to use a new technology at a greater rate compared to smaller police departments. Morabito (2010) found that agency size was a strong predictor of the adoption of COP, at the time a radical innovation. Understanding if these

findings apply to modern communication technologies used by police agencies is not currently known. The current study will further this line of research by examining if agency size is correlated with how Facebook is used and when use of Facebook first began.

In a study more closely related to the present inquiry, Avery et al. (2010) studied the adoption of social media within public health agencies. They found that urban communities had the highest rates of adoption, followed by suburban, and rural communities. Their finding was linked to the idea that agencies in urban communities serve larger populations and are larger organizations compared to suburban and rural communities. Adoption of a new technology and levels of actual use may not coincide. While agencies in more populated communities may adopt a new technology earlier than smaller sized communities, organizational resources and experience using a new technology tend to determine the level of actual use of a technology once it is adopted (Skogan & Harnett, 2005). Together, it appears as if police agency size may be correlated with when a new technology is adopted as well as how it is used, though whether these relationships remain with the date of adoption of Facebook and the manner in which it is used by police agencies remains an empirical question. This study will extend this line of research and explore the relationship between agency size and use of Facebook by police departments.

Experience (Date of adoption & Date of first use)

The date of adoption of Facebook by police departments may be able to provide some insight into differences between departments and their use of Facebook, though it is unclear what role experience plays in the communication patterns of police departments on Facebook. The date of adoption of Facebook will allow for an examination of differences in how Facebook is being used to communicate by experienced agencies compared to less experienced agencies.

The date of adoption has been correlated with innovativeness of organizations, geographic location, community type, agency size, strategy, and overall use (Avery, 2010; Monkkonene, 1981; Rogers, 1995; King, 1998; Weiss, 1997).

The date of adoption ties into the diffusion of innovations literature examining how innovations spread through a system over time (King, 2000). Rogers (2003) indicated that adoptions of innovations follow an S-shaped curve and that early adopters of technology differ from later adopters of technology. The S-shaped curve is formed by the rate of spread of an innovation. The spread starts off slowly, then rapidly spreads, and then eventually slows and levels off. The initial adopters are termed innovators, followed by early adopters, the early majority, the late majority, and the laggards (Rogers, 1995). Diffusion studies in policing have typically resembled the S-shaped curve with an initial slow start to adoption (King, 2000). This analysis will examine if police agencies differed on some key characteristics that may correlate with when they adopt new technology. Understanding if differences exist in terms of date of adoption or experience using the technology across agencies may be beneficial in determining if agencies may need extra incentives to adopt new technology as well as guidance on how best to use a new technology.

Innovation in policing is influenced by peer emulation, cosmopolitanism, and risk mediation (Weiss, 1997). Departments from the western region of the U.S. tend to adopt innovations sooner (King, 1998). The present study will examine if departments in close proximity geographically adopt a new technology around the same time as one another compared to those who adopt a new technology later. The present study will look for regional differences in the date of adoption and explore whether the western region of the country tended to adopt Facebook earlier than other parts of the country. Existing research involving use of social media

generally by government agencies suggests this may be true with police agency use of Facebook as differences have been found in adoption of social media in other fields and this may apply to policing. Significant differences based on geographic region in the adoption of social media among local health departments has been found. Departments in the western region tended to adopt social media earlier than eastern regions of the country (Harris et. al., 2013).

Skogan & Hartnett (2005) found that the volume of use of a new innovation could be partly linked to the experience with the new technology. The longer that departments had been using a new centralized Data Warehouse, the more frequently they were using it each month. Experience with a new innovation is correlated with frequency of use of the innovation. Whether this is true for use of Facebook remains an empirical question. Therefore, this study will include an analysis of whether experience using Facebook is correlated with how it is used by police to communicate with the community.

Communication Strategies for Citizen Engagement

One of the goals of policing in the modern era is to improve the relationship police have with the community and increase community involvement. Little is known about how engaged the community is on Facebook with the police or how responsive police are in return. The high rates of Facebook use by the public give police an extraordinary technology to reach a large audience, create an open dialogue, and an opportunity for fostering citizen engagement.

Brainard et al. (2011) examined how the police have used online communication to increase communication and citizen involvement with the police. They researched efforts by the Washington, D.C. Metropolitan Police Department to engage residents through online discussion groups. The police goal was to help create an electronic "commons" in which the police and residents could collaborate together to address crime and safety issues. The success of the

discussion boards was mixed. Brainard et al. (2011) found that the police were not dominating the discussion and that the forum allowed an opportunity for all members to contribute. They also found that the police were not indifferent and generally responded to threads in the discussion indicating that they were involved in the process. The researchers did uncover the desire of the residents for the police to be responsible for problems. The community tended to use the online discussion formats to demand service rather than collaborate in efforts to deal with issues. They found that the online discussion allowed for greater communication and allowed for a new opportunity for a relationship with the citizens but still did not uniformly create a mutual partnership and shared responsibility. The differences in the desires of residents may extend to Facebook communication. Understanding if the community responds differently to the content of the message will be central to this current study.

Of particular relevance to this study is an analysis of citizen engagement on government Facebook sites that was conducted in Western Europe. Bonson et al. (2015) examined the impact of the content and type of media various local governments used on Facebook and how this impacted citizen engagement. The researchers found significant differences in citizen engagement based on the type of media used and the content of the message. In addition, Bonson et al. (2015) found that local governments' preferences for media and content did not usually align with what citizens found to be relevant. Local governments tended to focus on content related to marketing, while citizens preferred content geared towards local community topics and issues important to their lives. As the researchers note, virtually no research exists in the public sector on how the content and media type used on social media outlets impact citizen engagement despite evidence suggesting that the content (e.g. attention to citizen, social services, education) and media type (e.g. video, text) can have an impact upon citizen engagement. This

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current gap in knowledge will be addressed through investigating the impact that media type and message content may have on citizen engagement with police on Facebook.

The strategies used by an organization can have an impact upon citizen engagement. Cho et al. (2014) studied whether different organizational strategies employed by nonprofits on Facebook can influence public engagement. The researchers found that the type of communication used by organizations on Facebook can influence participation from the public, but only for the highest form of engagement. Specifically, the researchers found that two-way symmetrical communication has higher levels of engagement in the form of comments compared to two-way asymmetrical models and public information models. A two-way symmetrical model is one where the interaction involves an interactive dialogue with the public. A two-way asymmetrical model is where the communication is one-way without any interactive dialogue with the public. They conceptualized "likes" as the lowest form of engagement, "shares" as an in-between level of engagement, and "comments" as the highest form of engagement. No differences were found in the engagement levels of "likes" or "shares" from the public based upon the communication strategy. The communication strategies examined were identified as press agency, public information model, two-way symmetry, and two-way asymmetry models based on the work of Grunig & Hunt (1984). No clear understanding exists about how levels of engagement from different communities may differ based upon how the police communicate on Facebook. This analysis will advance our knowledge of this area by studying levels of citizen engagement in different communities.

In general, nonprofit organizations have not fully taken advantage of the social networking opportunity to interact or capitalize on the public relations opportunities (Waters et. al., 2009). Specifically, this study will examine whether police are using Facebook as a means to

engage, interact, and improve their standing with the community. This will be accomplished

through analysis of the messages being disseminated by the police on Facebook. For example,

posting a message promoting an upcoming event in the community and engaging in dialogue

could be seen as an attempt to increase engagement and improve the relationship with the

community. Community engagement ties into public relations because how the police interact

with the community has the potential to influence involvement and evaluation from the public. It

is expected that as image of the police improves, citizens will be more willing to participate in

Facebook Communications.

Interactions with Citizens

Police departments are increasingly using social media in order to become more

transparent, effective, and to increase legitimacy. The relationship between social media and

citizen involvement on Facebook may depend upon how the police communicate. Being

responsive to the concerns of the community is thought to improve legitimacy in the eyes of the

public (Mastrofski, 2006). Sharing information with the public has been found to not only

increase positive citizen perceptions of the neighborhood and the police, but also has the

potential to increase police accountability. The investment in police resources to provide

information to the community should be seen as an important part of neighborhood policing

(Quinton, 2011). When citizens rate the police higher in terms of collaborative efforts, they are

more satisfied with the police (Yuksel & Tepe, 2013). Agencies may vary in their

communication content on Facebook, and this may result in differences in the evaluation of the

police on Facebook. By determining if engagement of the community is tied to communication

content on Facebook, it may be possible to see if different communities respond differently to the

content of messages and if the police are adjusting their message to their audience. This will

allow for improvements to be made where necessary so that information is communicated in the most effective manner.

Spizman and Miller (2013) examined college students support for different ways that the police use social media. They found that social media actions by the police which focused more on community involvement received the highest support and suggest the need for the police to consider public sentiment. Posts which excluded the community or used software to uncover crimes without cooperation from the community had less support. The theme uncovered was that the police can have an impact upon the support that they receive from the community based upon the content of their message. This observation will be applied to the current study to better understand if community involvement across communities is tied to the how the police communicate on social media.

Trust and confidence in the police is an outcome which can have important ramifications for the police agency. Proactive media strategies by the police have attempted to use social media platforms to promote the police image through positive imagery that highlights police fairness (Lee, 2013). Welch et al. (2005) found that use of a government website increases e-government satisfaction and that satisfaction with the government website and e-government is associated with trust in the government itself. Their specific finding, that citizens were content with the amount of information provided, but would like to have more interaction, suggests that there is still room for improvement by the police concerning how they use agency websites.

The use of social media provides a means for the police to not only engage in indirect contact, but also voluntary contact which is non-adversarial or antagonistic. Each communication encounter is an opportunity to have a positive impact. Positive voluntary contacts with the police by the public have been shown to positively increase perceptions of the

police. However, voluntary interactions which are viewed negatively have the power to diminish perceptions of the police (Schafer et al., 2012). More importantly, research has shown that negative evaluations have a greater impact than positive ones (Skogan, 2006). Therefore, it is important to recognize that the content of the communication and the tone of the delivery may impact overall perceptions of the police, and efforts should be taken to ensure that there is a greater likelihood that responses to messages are positive.

A particular usefulness of social media as it relates to interactions with citizens is that it can reach audiences in the community which may not typically have any form of communication with the police. The ability of Facebook to deliver a message to an audience that may not typically embrace communication with the police is especially noteworthy. A younger audience may be more technologically savvy but also less likely to view the police favorably (Olson et al., 2011; Hurst & Frank, 2000; Taylor et al., 2001). Ruddell and Jones (2013) found that younger individuals tend to access police department pages more than older adults. In addition, they found that those who accessed a webpage of the police had greater confidence and satisfaction with the police compared to those who did not access a webpage of the police. While the current study will not have the ability to determine the age of the audience, it will measure what types of messages receive more support which may be useful in the future for targeting specific portions of the community.

Existing research has suggested that citizen evaluations of the police are influenced by contact citizens have with the police. At the same time, most citizens are not likely to have face-to-face direct contact with the police, and instead have indirect contact. Indirect contact occurs when the encounter does not involve a face-to-face dialogue (Bain, 2014). For example, indirect contact can occur through online communication, media outlets, or vicariously. Indirect contact

with the police has been found to be more important when citizens evaluate police responsiveness to the community and perceptions of police services (Weitzer & Tuch, 2005; Wentz & Schlimgen, 2012). Research indicates that the perception of contacts the police have with the community influence how individuals perceive police services as much as actual direct contact (Wentz & Schlimgen, 2012). Social media, including Facebook, provide the opportunity for indirect contact that may be crucial to shaping how the community perceives the police.

These findings coincide with previous work which found that policing that was community oriented can have an impact upon perceptions and satisfaction of citizens with the police (Weitzer & Tuch, 2005). Departments which engage the community more through communication on Facebook may have greater engagement from the community. This question will be addressed in this investigation.

Understanding encounters the police have with the public in the "real" world may provide insight into how the police can transform what works on the streets into what works online. Citizen evaluation of the police can occur on many levels, but contact with the police provides a personal way in which the police can shape perceptions of them. Bradford et al. (2009) found that personal contact with the police that was deemed unfavorable by the public can lead to a decline in the opinions of police effectiveness, fairness and engagement with the community. However, contacts that were deemed to be favorable actually improve perceptions of fairness and community engagement. They also found that the police can improve the perceptions of the community by informing them of police activities. Confidence (effectiveness, fairness, and community engagement) was able to be improved through visibility and providing information to the public. It is important to understand if the police are using the online platform

to provide relevant information to the public and if different messages receive different support in order to learn how to best interact with the public online.

Moving the field forward through the study of police communication on Facebook

The current study will use the existing literature as a framework to guide the current research and to identify the gaps in knowledge so that improvements may be made in our understanding of the nature of communication by the police on Facebook. The current study will also be the first to examine some key features on Facebook as well as apply a set of metrics that measure community engagement not yet used in the study of police communication on Facebook. The current study will extend prior research by examining the nature and content of interactions during interactions that are not face-to-face with the public while communicating on Facebook.

Recent research on police communication has focused on how they use traditional media outlets to disseminate information. Since police have the ability to control Facebook communication, the current study will provide a unique glimpse into how the police use a tool to communicate information to the public when they are not dependent upon the media for access to the community. It is also important to understand what the police communicate when not being filtered through this intermediary and can deliver the exact messages and content they choose. This will allow for insight into the true nature of the priorities of the police as dictated by their own content.

The study of police organizations often looks at experience as a factor in police organizational behavior. The current study will expand on this line of research by examining the date of adoption of Facebook and see if it aligns with previous research on the adoption of innovations. Furthermore, examining the date of adoption will further our understanding of

whether length of experience is a factor in how Facebook is used to communicate. For example, agencies with more experience may have a different communication style compared to agencies with less experience communicating on Facebook. The additional experience may lead to a communication style that is more successful when communicating to the public.

Research on the use of social media by the police as well as traditional research on police departments have typically focused on large departments located in urban settings. This dissertation will expand the current state of knowledge by including agencies of varying sizes from different types of communities in order to determine if social media use by the police and citizens differs based on the type of community or department size. For example, larger police departments may orientate their message more towards providing formal messages related to law enforcement while smaller departments may focus more of their energy on promoting the department. Similarly, rural departments may focus more on community outreach while urban departments may focus their messages more to crime related events.

Previous research in policing has studied differences in policing based upon region of the country where they are located. The current research will apply this line of inquiry to the current study by separating the police departments into geographic regions in order to determine if the police use of Facebook differs by the region of the country. Urban, suburban, and rural departments may act different in a western region compared to agencies operating in an eastern region. However, it may also be the case that differences do exist between different urban, rural, and suburban communities and how they communicate on Facebook irrespective of region effects.

There is a scarcity of research on the actual use of Facebook by the police when interacting with the public or how the public responds. The present study will attempt to further

our understanding of communication by the police on Facebook through measurement of engagement based on the metrics used by Bonson & Ratkai (2013). Conceptualizing popularity, emotional response, involvement, virality, and engagement based on likes, reactions, comments, and shares will be the first time these metrics have all been applied to the study of police on Facebook.

This dissertation will provide the first ever look at the use of emoticons by citizens when interacting on Facebook with the police that the author is aware of. This study will also be the first to dissect the connections police departments have as well as examine factors related to the level of connectedness an agency has on Facebook.

Conclusion

This chapter began with a brief discussion of Facebook and how it is generally used for communication. The chapter provided a vision of how the current study will apply the existing policing literature to this study before delving into the general sections of the paper. A discussion of the different eras of policing was followed by a discussion of the role of communication in the community era. The literature on electronic communication technology was then discussed. This included a discussion of communication platforms used by the police, including, Facebook, Twitter, and social media more generally. The next section discussed factors that may influence communication. This section included discussions on type of community, geographic region, agency size, and experience. This section was followed by a discussion of communication strategies for community involvement involving social media. This section included the importance of interactions the police have with citizens and tied it into Facebook. This section highlighted opportunities for improvement in social media use and the potential valuable resource that social media can be to the police. Finally, the chapter described

how the current study can move the field forward and further our understanding of the nature of

communication by the police on Facebook. The next chapter will discuss the proposed

methodology to be used in this study.

Chapter 3: Methods

Introduction

  This chapter provides a description of the methods that will be used in this study. The chapter begins with a description of content analysis and how it will be used in this study. The chapter will then discuss the study sample and sampling procedure that will be used. This section will be followed by a section on the sources of data. The next section discusses key variables and how these variables will be measured and coded. Important to this discussion will be how certain concepts may be measured through the use of existing features on Facebook. Next, the research questions are listed. The proposed statistical analysis strategy will then be presented. Finally, methodological limitations of the study will be acknowledged.

  The primary method used in this study will be a content analysis of police department Facebook pages. Posts dating back over a 90-day period will be observed, recorded, and coded. Posts are typically left on the Facebook page over an extended period of time which will allow for data collection to occur once a start date is selected. This study will measure police communication patterns through analysis of the nature and overall content of the interactions the police have with the public on Facebook. Responses from the community will also be obtained through analysis of how citizens respond on the police department Facebook page. The content analysis will be supplemented with agency and community data collected by other sources that are reviewed in this chapter.

  Systematic content analysis is a research technique which can be used to interpret the meaning of text data (Hsieh & Shannon, 2005). This technique is used to provide meaningful information from texts. Texts can include written, oral, iconic, audio-visual, or hypertexts. The purpose of content analysis is to make inferences about the antecedents of communication,

describe and make inferences about the characteristics of communication and make inferences about the consequences of communication (Holsti, 1969). Content analysis is a systematic technique which allows for text to be sorted into categories based on coding procedures (Krippendorf, 1980). The texts found will be collected and coded in a systematic fashion in order to allow for meaningful analysis of the nature of communications the police have on Facebook.

Study Methodology

The following section will provide details on the methodology to be used for this study. This section will provide information on the study sample, sampling procedure, data sources, data collection, variable description, and data analysis.

Study Sample

The population of interest is municipal law enforcement agencies and the corresponding communities that they have jurisdiction over. The study population is all municipal police agencies that have jurisdiction over a U.S. Census Bureau categorized place or county subdivision. The jurisdictional boundaries of the police agency must align with the community boundaries set forth by the U.S. Census Bureau to avoid selecting agencies that have jurisdiction over multiple communities. For instance, some police departments in smaller communities will merge with other departments or relinquish policing altogether to a county or city department. As a result, the agency webpage would be providing information to multiple communities. In these cases, a replacement community and corresponding agency will be selected until the aforementioned criteria are met. The sample size for this study will be 81 police departments from the United States who have a public Facebook page. This improves upon earlier studies which focused primarily on large departments because it will include smaller and mid-sized

departments. Including smaller and midsized departments will allow for comparisons between departments of different sizes.

Sampling Procedure

For a police agency to be selected in this study, it has to have an existing Facebook site, be a municipal agency, and have jurisdictional boundaries that are consistent with boundaries used by the U.S. Census Bureau for the collection of population data and designation of community type. Therefore, state or federal police are not eligible to be included in the study sample. While jurisdictional borders are typically consistent, inconsistent boundaries may occur when incorporated places are dependent upon the county subdivision and are not listed in the U.S. Census Bureau data as separate independent locations. The goal is to have the geographic boundary match the legal boundary of the police department. Where necessary, a replacement department and location will be selected when a department does not have a public Facebook page or the boundaries of the police and the community are not consistent.

Guiding the selection process is the desire to select agencies of different sizes and in different settings from across the United States. Specifically, small, medium, and large police departments will be included in the analysis. In addition, agencies in urban, rural, and suburban settings will be included in the analysis.

In order to account for possible regional differences, police agencies will be selected based upon the nine geographic divisions that are defined by the U.S. Census Bureau. The end result will be a sample of agencies across the nine U.S. geographic divisions which vary in size and community types. The U.S. Census Bureau divides the country into four regions (Northeast, Midwest, South, and West) and nine divisions. Census divisions are subdivisions of the four census regions. The nine divisions are New England, Middle Atlantic, East North Central, West

North Central, South Atlantic, East South Central, West South Central, Mountain, and Pacific (U. S. Census Bureau, 2010). For purposes of this study, nine agencies from each division will be selected for a total of 81 agencies.

Because the study attempts to assess differences between types of communities, purposive sampling will be used to make sure an equal number of departments from communities designated urban, suburban, and rural are selected from each division. The first phase of the sampling will be done by selecting the three largest cities from each of the geographic divisions for a total of 27 large cities. The U.S. Census Bureau's interactive population map will be used to select 27 suburban communities which are in close proximity to each of the previously selected urban areas and fit the population criteria. Twenty-seven rural areas will also be selected through purposive sampling based on proximity to the previously selected urban areas as well as population size. Proximity will be determined by looking at the U.S. Census Bureau map and locating suburban and rural areas visually near the initially selected urban area.

In addition, no state can have more than one urban, suburban, and rural agency included so that a larger segment of each geographic region will be represented. In other words, once a city and a close suburban and rural agency are selected, no more locations from the state will be eligible to be selected for the sample. The rural and suburban areas will be chosen based on proximity to the largest city so that all three types of communities can be compared to one another within the same region and across regions. The use of divisions and regions will allow for an examination of whether regional differences play a role in any differences that may emerge. Proximity is important because it is important to control for region and the fact that proximity may influence Facebook adoption.

In summary, the U.S. Census Bureau divides the United States into 9 specific divisions and 4 regions based upon geographic location. The location of each community will be categorized into one of nine regions and one of four divisions based on the pre-established boundaries from the U.S. Census Bureau. Communities will be put into distinct categories based on their size and geographic location. Consistent with U.S. Census Bureau criteria, communities will be designated as rural, suburban, or urban based on their population size. The U.S. Census Bureau classifies a location as an urbanized area if it has a population over 50,000 and classifies an area as rural when it has 2,500 or less. The U.S. Census Bureau does not classify areas as suburban so this study will classify locations as suburban off of what the U.S. Census Bureau labels as an urban cluster, which is a location that has between 2,500-50,000 people. This process will allow for an equal number of urban (3), suburban (3), and rural (3) communities from each of the nine divisions for a total of 81 agencies.

Data Sources

The three main sources of data for this study will be Facebook, U. S. Census Bureau data, and police department data. Each of these three sources of data will be used and combined to form the larger database from which the analysis will be conducted. If necessary, additional data will be obtained by visiting websites of each community, government websites that compile data on police agencies, and telephone calls if necessary.

Data Sources and Collection Strategies

Data will be collected from three sources. First, data concerning the communication interactions that the police have with the community will be collected by examining the Facebook page of each selected department. Any posts by the department on their page over a

90-day period will be collected and coded. In addition, agency specific information about the use of Facebook (i.e. year first began use, frequency of posts, etc.) will also be collected.

Facebook pages, department websites, and google searches will be used to collect department data such as the number of police personnel employed be each selected agency. Phone calls to each agency will be made when the information is not available on the website or cannot be found through a search of the internet.

Finally, as previously noted, data will be collected from the Census Bureau. This information will be used during the selection of agencies. The data obtained from the U. S. Census Bureau will also provide the key demographics of selected communities.

Coding procedures

As noted, the two main sources of data will be the U.S. Census and Facebook. All coding will be completed by the researcher himself. The interpretation of the content of each message will be based upon judgment and pre-established criteria. Protocol for how the content is coded will be created so that it is possible to replicate the research and to guard against observer bias. Each message will be evaluated based on the overall theme of the message. The following discussion explains the procedures and criteria in more detail.

Length of Observation

This study will examine posts over a 90-day period. All correspondence over that period will be recorded and classified based on the criteria established. The observation will be retrospective in nature. The start and end date for data collection for each department will be established based on the day the data collection begins. One day prior to the start date of collection for a department will be the end date for data collection. The data collection will work back from the end date and examine what transpired in the previous 90 days. Therefore, the start

date will be 90 days prior to the established end date for each department. For example, data collection for all departments may start on June 30, 2017. The timeframe for collecting data for departments would then end on June 29, 2017 and begin on April 1, 2017. All posts within this time frame would be collected and coded. All agencies will have the same data collection start and end date. Having the same start and end date will allow for all departments to share the same holidays and seasonal events so that responses from the community are not different based on seasonal differences impacting posts by departments.

Study Variables

This section identifies and explains the variables that will be used to examine the nature and extent of Facebook use by the police. Study variables will be used to test if police departments vary in nature and extent of communication with the public on Facebook, and what factors may be associated with any variation. Study variables will also be used to examine citizen response to police communication on Facebook, and factors that may be associated with any differences in how citizens respond. Study variables will also examine the extent to which police departments use Facebook to connect to the community and communication technologies, and factors that may be associated with any differences. This section will explain how variables will be created and coded in the data set.

1. Content: The overall content of each message will be determined through review and placed into categories. Prior to creating the categories, Facebook pages were scanned to get a general sense of what police agencies are posting. In addition, a review of categorizations from surveys of police social media use and previous research on the topic helped create the categories (IACP Survey, 2015; Lieberman et al, 2013). Eight content categories have been created, including:

crime/law enforcement, public relations, general department information, occupational hazards, service-related, notifications, general tips, and other. Each category contains subcategories.

Crime/law enforcement related posts will include communication which focuses on providing information to the public which centers on crime. For example, posts about a recent arrest or soliciting help identifying suspects would be considered crime-related. The crime/law enforcement grouping has four subcategories, namely, crime warning, case update, crime prevention, and requests for help with criminal investigation.

The public relations grouping will contain messages which are community based and involve non-adversarial interactions with the public that are intended to improve the overall image of the police in the community and interact positively with the community. For example, a post about an upcoming community event or showing the police interacting at a charity event in the community would fall under the public relations category. The public relations category also has four subcategories; self-promotion, community events, community outreach, and endearing content.

General police department information will be communication that is centered on events occurring within the police department. These posts would be discussing recruitment events, promotions, or simply a new department policy update. This category has five subcategories including recruitment, retirements, promotions, department fundraising, and general information about the department.

The dangers of police work grouping will include communication that focuses on hazards of police face while working. Posts notifying the public about an officer being injured or a tribute to officers who have died while on the job would fall in this category. The dangers of police work category will have two subcategories; memorials and officer injuries/deaths.

Service-related posts will include communication about traffic conditions and general alerts about safety related conditions that are not centered on crime, such as weather conditions. For example, an alert about a road closing due to construction or an alert about icy road conditions would be a service-related post. The service-related grouping has two subcategories; alerts and traffic information.

Notifications would be communication about DUI checkpoints or a missing person. Simply put, a post about an upcoming checkpoint would be considered a notification. The notifications grouping has four subcategories; checkpoints, DUI, missing person, and Amber alert.

The general tips category will be posts which provide basic information to the community that may be beneficial but is not crime-related. For example, a general tip what to do if your car breaks down on the side of the road would be a general tip. The general tip category has two subcategories; situational tips and safety tips. Finally, the category labeled "other" will include all content which does not fit into one of the above categories.

2. Media Type: Facebook allows for different types of media to be posted on each page. Text, pictures, and videos are each different types of media that can be used by a department for a post. The predominant media type will be determined if there are multiple media types in a single post. For example, a photo may also contain text but would be categorized as a picture since the photo is the centerpiece of the post. The media type for each message will be coded along with the corresponding content of the message being delivered by that particular post so that each post is categorized based on media type and content. Separate analysis will be conducted on the feature "live".

3. Formality: A measure of formality will be created based on the content of the message. Based on prior studies examining formality with officer behavior (Crank, 1990; Liederbach &

Travis; Wilson, 1968), the formality of each message will be categorized as either a post that is law enforcement/crime related or not. As previously mentioned, and similar to prior research, this measure will be used to explore the agency communication style. The percentage of posts that are law enforcement related will be calculated for each department. Some examples of a formal post would be posting about criminal activity in an area or asking for help identifying a criminal. Another example, would be discussing that an arrest has been made. These will be considered formal posts and coded as a "0". Informal posts, those posts that are not law enforcement related, will be considered informal communication and will be coded as a "1". Examples of informal posts are messages that are related to service, public relations, or safety tips. For example, a post discussing the police spending time with the community at an event would be public relations and considered an informal post.

Each department will be categorized as either "high" or "low" on formality based upon if they are above or below the median in terms of the percentage of total posts that are law-enforcement related. Departments that are above the median for law enforcement posts will be considered "high" on the formality scale. Departments that are below the median for law enforcement posts will be considered "low" on the formality scale.

4. Frequency: Frequency of posting was calculated by dividing the total number of posts by 90 days (the data collection period) to provide a daily posting average. The police department will then be categorized as either "high" or "low" on frequency depending on if they are above or below the median. Averaging the responses in this way helps insure that any differences found are not the result of a department having more responses simply due to more posts. All posts by the police will be counted the same irrespective of the content or media type used.

5. Style: Frequency and formality variables will be used to create a measure of style for each department. Departments will be categorized into one of four categories based upon their frequency and formality. Style will be determined using a 2 x 2 methodology similar to the one conceptualized by Wilson (1968). The first category will be departments who are considered "high" formal and "high" frequency. The second category will be departments who are "high" formal but "low" frequency. The third category will be departments who are "low" formal but "high" frequency. The fourth category will be departments who are "low" formal and "low" frequency. This is the same categorization as Wilson (1968) developed when originally conceptualizing policing styles based on observational data of police behavior.

6. Post popularity (likes): Post popularity will be measured by the total number of "likes" each post receives. "Likes" on Facebook are a way for community members to simply click a button which indicates their support and enjoyment of the post. Facebook tallies the number of likes for each post and the raw number provided will be recorded for each individual post. In addition, "likes" will be standardized by the number of followers for each department when appropriate. For example, the total number of likes a department has would be divided by the total number of posts to obtain an average number of likes per post. The average number of likes per post would then be divided by the number of followers that a department page has to standardize the likes across departments.

7. Emotional reactions (emoticons): Facebook added a new feature in early 2016 which allows users to express their emotional response to a post called "reactions" which are expressed through use of an emoticon. An emoticon is a picture of a face or symbol that allows users to express their emotional reaction to a post. Users can select "emojis" that represent love (heart), astonishment (astonished face/wow, laughter (laughing face/haha), sadness (sad face), and anger

(angry face). The reactions associated with each post will be tallied and used as a preliminary

analysis of how the community is using emoticons when communicating with the police. This

has not been analyzed yet in any existing research when looking at the police to the knowledge

of the author. When appropriate for analysis, the number of reactions will be standardized by the

number of followers

8. Community involvement (comments): The total number of comments associated with each

post will be recorded. The comments section allows for individuals with a Facebook account to

comment on the initial post and leave remarks. Each post on Facebook identifies the number of

comments which exist for each post and this number will be recorded for each post. A larger

number of comments will be considered an indicator of greater community involvement. When

appropriate for analysis, the number of comments will be standardized by the number of

followers.

9. Virality (shares): Virality will be coded by summing the number of "shares" for each post.

Sharing is a feature of Facebook which gives members the option to share the original message

with other members of their own social group. This allows the message to spread or "go viral"

outside of the department page. When appropriate for analysis, the number of shares will be

standardized by the number of followers.

10. Community Engagement: The total number of likes, reactions, comments, and shares for

each post will be used as a measure of community engagement. These four measures will be

summed for each post and used as a measure of community engagement as conceptualized by

Bonson and Ratkai (2013). Posts which have a higher number when summed will be seen as

fostering greater community engagement compared to posts with a lower number when summed.

When appropriate for analysis, community engagement will be standardized by the number of followers.

11. Community type (urban, rural, suburban): Each community will be coded as either urban, rural, or suburban based upon the size of the community's population using designations determined by the U.S. Census Bureau. A community will be considered an urban community and coded as a "1" if it has a population above 50,000. A community will be considered suburban and coded as a "2" if it has a population between 2,500 and 50,000. A community will be considered rural if the population is less than 2,500 and will be coded as a "3". The population of each selected site will be obtained from U.S. Census Bureau data.

12. Geographic division and Region: Each selected department's location will be coded based upon the US. Census Bureau division and region it is in. Division coding will be a "1" if the agency is in the New England division, "2" if it is located in the Middle Atlantic division, "3" if it is in the East North Central division, "4" if it is in the West North Central division, "5" if it is in the South Atlantic division, "6" if it is in the East South Central division, "7" if it is in the West South Central division, "8" if it is in the Mountain division, and finally, "9" if it is in the Pacific division.

Geographic region of the agency will be coded based on U. S. Census Bureau designations. Specifically, region will be coded "1" if it is in the Northeast region, "2" if it is located in the Midwest region, "3" if it is in the South region, and "4" if it is in in the West region.

21. Community characteristics: Obtained from U.S. Census Bureau data.

    a. Non-Hispanic White: The percentage of individuals in a community who responded "No, not Spanish/Hispanic/Latino" and who reported "White" as their only entry in the race question (U.S. Census Bureau, 2010).

    b. Percent below poverty level: The percentage of people in a community who are below the poverty level. The U.S. Census Bureau (2010) uses a set of money income thresholds that vary by family size and composition to determine who is in poverty. If the total income for a family or unrelated individual falls below the relevant poverty threshold, then the family (and every individual in it) or unrelated individual is considered in poverty.

    c. Percentage with a high school education: The percentage of people in a community who have a high school education. This category includes people whose highest degree was a high school diploma or its equivalent, people who attended college but did not receive a degree, and people who received an associate's, bachelor's, master's, or professional or doctorate degree. People who reported completing the 12th grade but not receiving a diploma are not included (U.S. Census Bureau, 2010).

    d. Percentage with a college education: The percentage of people in a community who have a college education. Persons with a Bachelor's Degree or Higher are those who have received bachelor's degree from a college or university, or a master's, professional, or doctorate degree (U.S. Census Bureau, 2010).

    e. Median age: The median age of people residing in a community based on the length of time in completed years that a person has lived. The median age is the age that divides the population into two equal-size groups. Half of the population is older than the median age and half is younger (U.S. Census Bureau, 2010).

f. Population: All people, male and female, child and adult, living in a given geographic area (U.S. Census Bureau, 2010).

g. Median household income: The median household income of a community. The median income divides the income distribution into two equal groups, one having incomes above the median, and other having incomes below the median. For households and families, the median income is based on the distribution of the total number of households and families including those with no income (U.S Census Bureau, 2010).

13. **Experience (date of adoption and first use**): Experience will be coded as the date that the department officially joined Facebook and activated an account. The date of adoption signifies when the department joined Facebook but not necessarily when they began actually using Facebook to communicate with the public. The date of adoption can be found on each page. The date of first use will also be recorded along with initial adoption date for each agency. These dates will be subtracted from the present year in order to compute the years of experience having an account as well as years of experience using Facebook.

14. **Department size:** Department size will be coded using the number of personnel employed by each department. This number will include full-time and part-time sworn personnel as well as civilian employees. The data will be obtained through visiting each Facebook page, official department websites, phone calls, or data collected through other government agencies. For example, the Bureau of Justice collects data from law enforcement agencies about the number of sworn and civilian employees.

15. **Strategy:** The first strategy measure looks at how police departments respond to citizens in the comments section of a post. Facebook allows users to comment on posts while also allowing the police department to follow-up and respond to posts made by the public. Whether the police

respond beyond the initial post will be determined for each post. Each post will be coded as a yes or no depending on if the agency commented beyond the initial post. These additional posts will not be part of the aforementioned analysis of content. The strategy employed by each department when using Facebook will be categorized based off of the three social media responses identified by Mergel (2013). The percentage of posts responded to will be used to categorize the strategy. Departments which use the page to provide information but do not interact will be classified as using a "push" strategy. Agencies which engage in some interaction and are responsive will be classified as using a "pull" strategy. Agencies which use their page as a means to allow for the community to "mingle" with the police department and use the site for the community to get in touch with one them will be classified as using a networking strategy.

The second way of examining the strategy police departments are using when interacting with the community is by looking at the content of the post itself. The content subcategories were organized based on whether the intent of the post was to push information, pull information, or network with the community. Some categories of posts are attempting to "pull" information from the community just by the nature of asking for assistance from the community. For example, the subcategory in which the content of the post is asking for help solving a crime can be categorized as an attempt to "pull" information from the community and would be categorized as such. Push strategy is comprised of the subcategories crime warning, case updates, crime prevention, self-promotion, endearment, retirement, promotions, press/general information, memorial, killed/injured, alerts, traffic, checkpoints, DUI, missing persons, situational tips, safety tips, recruitment, and community outreach. Pull strategy is comprised of help with crime, fundraising, and AMBER alerts. Networking strategy is comprised of community events.

18. Interconnectedness (following): The connectedness of each department will be determined by the number of pages and organizations that a department is following/liked on Facebook. Facebook allows for agencies to like other agencies which allows them to view what those agencies are posting on their pages. The department can use this feature to follow other police departments, government agencies, local businesses, local charities and people. The total number of pages and organizations will be summed as an overall measure of connectedness.

In addition, the type of organization being followed will be coded as to whether it is a government/policing related or not. Following a policing related page department (e.g., police department, police chief, police union) or government agency (e.g., fire department, local court, waterworks) will all be coded a "0". All others will be considered not government/policing related and coded as a "1". This will allow for an examination of whether police departments from different communities tend to follow different types of pages or organizations. For example, some departments may only follow other law enforcement agencies while others may follow local businesses and organizations such as restaurants and sports teams. The total number of pages that an agency follows will indicate the extent of their connectedness. An agency with a higher number of pages it follows when compared to another agency will indicate that agency has greater connectedness.

19. Technological innovativeness (links): Facebook allows users to link other applications they use on their Facebook page. For example, a police department could link their twitter page to their homepage. The total number of applications that a police department links to their "apps" section on Facebook will be counted and used as a measure of technological innovativeness.

20. Followers: Facebook has a feature which allows users to see an organizations updates/posts on their own personal page. Followers of a department are individual Facebook users who have

elected to receive updates on their personal page from the department. This feature allows users to receive organizational posts on their personal page without having to go the department page every time. This measure will also be used to standardize response variables as a means to help insure that larger departments do not have more responses simply as a result of having more followers and viewers to their page.

Research Questions

This dissertation will examine the nature and extent of Facebook communication by police departments with the community. Community and department factors will be analyzed to determine if they are correlated with how the police communicate with the public on Facebook and how the community responds. The messages delivered by the police will be analyzed to determine if departments vary in their use of Facebook, the type of information disseminated and how the community responds to Facebook posts.

The following research questions will be addressed in this dissertation. As noted, at the present time there is very limited information about police agency use of Facebook, and even less, if any, research concerning the use of Facebook by law enforcement agencies that do not serve large municipalities. Many of the research questions, while premised on findings involving traditional interactions with citizens and the limited research on police-citizen communication, are empirically explored for the first time in this study. As such, this study is focused on assessing relationships among variables and should be viewed as exploratory in nature. For this reason, the research questions do not specify an anticipated direction between variables in most cases.

1. What is the breakdown in the content of the message and the type of media used when police are communicating on Facebook?

2. Does the response (e.g. likes, reactions, shares, comments, engagement) from the community to posts change based on how the police use Facebook to communicate (e.g. type of media, frequency, style) and/or the content (e.g. formality) of the message?

3. Are community characteristics (e.g community type, location, population) correlated with how the police are using Facebook (e.g. type of media, frequency, style), the content of the message (e.g. formality), or citizen response (likes, emotional reaction, shares, comments, engagement)?

4. Are organizational characteristics (e.g. experience, department size) correlated with content of communication on Facebook, use of Facebook by police, or community characteristics?

5. What strategy (e.g. push, pull, or networking) do police use on Facebook when interacting (department responsiveness, content of post) with the community?

6. Do police departments differ in their connectedness (followers, organizations) or technological innovativeness on Facebook?   If so, what factors (e.g. community type, location, department size, experience) are associated with any differences?

Analytical approach

  The analytical approach taken for this study will consist of various strategies. The levels of measurement of the variables include nominal, ordinal, interval, and ratio. Data preparation will be done by entering the recorded data into SPSS. SPSS is a software package that can be used to perform data entry and analysis. Some variables will be directly entered into SPSS while others will be imported from other database software such as Excel.

  The initial analytical approach will involve using descriptive statistics in order to simply describe the data. Descriptive statistics will allow for the data to be summarized and to look for

patterns that are revealed from the data. Descriptive statistics will be provided for all relevant

variables. The distribution (frequency distribution and percentages), measures of central

tendency (mean, median, and mode) and the dispersion (range, variance, and standard deviation)

of each relevant variable will be provided and analyzed.

Correlation analysis of the variables will be conducted to determine whether a

relationship exists between selected variables. For example, correlation analysis will be used to

examine if a relationship exists between citizen engagement and frequency of posting on

Facebook by police. A Spearman's rank-order correlation will be used to determine if a

relationship exists between selected variables. Spearman's correlation is a nonparametric

measure of the strength and direction of association that exists between two variables and was

selected because it can be used for data that has failed the assumptions necessary for conducting

a Pearson's correlation. Correlation coefficients will be calculated to measure the strength of the

relationship between variables.

Inferential statistics will be used to examine variables beyond what the initially collected

data alone reveals. The Friedman test was selected because it can be used for continuous data

that have violated the assumptions (e.g. normal distribution) necessary to run the one-way

ANOVA with repeated measures, which was the case in this analysis. Post hoc analysis will be

completed using the Wilcoxon signed-rank test with a Bonferroni correction applied.   The

Wilcoxon-signed rank test is the nonparametric test equivalent to the dependent t-test and can be

used to compare paired variables when the assumptions of the dependent t-test (i.e normal

distribution) are not met.

The Kruskal-Wallis test will also be used to further explain relationships among key

variables. The Kruskal-Wallis test is a rank-based nonparametric test that can be used to

determine if there are statistically significant differences between two or more groups of an independent variable on a continuous or ordinal dependent variable. The Kruskal-Wallis test is an alternative for a one-way ANOVA and is used when the assumptions of the latter are violated.

The Mann-Whitney U test will be used independently and as a post-hoc test to compare differences between two independent groups when the dependent variable is either ordinal or continuous, but not normally distributed.

Limitations

In many respects, this study improves upon previous research attempts by including a more diverse sample with a larger number of agencies. The current study will include agencies from different communities so that comparisons can be made. Previous studies have focused on large urban departments and this study intentionally includes agencies from urban, rural, and suburban agencies across the U.S. Despite some of the improvements, limitations do exist in the current study.

The limitations of this current research lie mainly in the use of non-probability sampling. The use of this technique introduces the possibility of selection bias and the results may not be generalizable to the entire population of law enforcement agencies using Facebook. The main limitation of this study will be that the results may not be applicable to how the police communicate and interact with the public when they are in direct contact with citizens during encounters. Facebook interactions involve voluntary actions. This study is measuring communication patterns through interactions on a social networking site which may not translate to the daily activities and communication patterns of the police when they have direct contact with individual members of the community. Another potential limitations is that Facebook may not generalize to other types of social media platforms. This study did not compare the use of

Facebook to other communication channels so the value in communicating through Facebook compared to more traditional outlets cannot be determined. Furthermore, Facebook may not generalize to how actual departments operate in "the streets". This study only examined municipal police agencies and the results may not apply to other types of agencies such as state, county college, tribal, university, or specialized units. Nevertheless, understanding how Facebook is being used by the police is important in the modern age of social media communication.

The use of only one rater coding the content of each message is another limitation because there will not be checks for inter-rater reliability. It will not be known if different people would categorize the content in the same way. The relatively small sample size (81) is a limitation that will make it more difficult to find significant relationships and limit the generalizability of the study. In addition, time or seasonal effects may be introduced into this study as a result of the 3-month data collection time frame. For example, a major isolated policing event could occur in a location that could impact the content of posts and the reaction from the community.

Summary

This chapter has discussed the methodological design that will be used for this study. A description of how content analysis will be used in this study began the chapter. The manner in which the sample will be collected and sources of data followed the discussion of content analysis. The variables that will be used in this study were provided as well as a description of how they will be conceptualized and will be coded. The research questions relevant to further understanding which factors may be important for understanding how the police communicate with the public on Facebook were provided. Finally, the plan for data analysis was discussed.

The current study will use sampling techniques that allow for a variety of different communities and agencies to be studied. The current study will use a number of variables deemed necessary for a deeper understanding of what factors may influence how the police communicate with the public on Facebook. The next chapter will provide the findings based upon the analysis of the research questions asked.

Chapter 4: Analysis

Introduction

The purpose of this chapter is to present the findings from a content analysis of police interactions with the community on Facebook. This chapter is organized around the main research questions presented in the previous chapter. In the first section of this chapter, the breakdown in the content of posts and the types of media used to deliver the content by police departments on Facebook will be examined. The second section of this chapter will build off the first section by looking at whether the response from the community differs based on the content of posts or the manner in which police departments deliver their message on Facebook. The next section examines whether community characteristics are associated with any differences in how the police use Facebook to communicate or how the community responds. The following section looks at whether organizational characteristics are associated with how the police communicate on Facebook. The fifth section looks at whether police departments employ different strategies when using Facebook to communicate with the public. The final section examines whether police departments differ in their connectedness to the community or differ in their links to other communication technologies.

In this study, only one difference was found among geographic divisions and regions of the country and the response from the community, content of posts, how police post on Facebook, the type of media used, experience with Facebook, connectedness, innovativeness, and followers. There was a significant decrease in the percentage of posts that were tips by departments located in the Northeast region (mean rank = 13.5) compared to those located in the Midwest region (mean rank = 23.5), $U = 72.0$, $z = -2.96$, $p = .004$ (not depicted in table). As a result, the geographic location of departments will not be discussed further in this analysis.

Section 1: How are police using Facebook to Communicate?

This section examines the following question: what is the breakdown in the content of the message and the type of media used when police are posting on Facebook? The first part of this question asks about the breakdown in the content of the message, while the second examines the types of media used by police departments when posting on Facebook. This section will also look at how the content of the message and the type of media intersect by examining the breakdown in how media types are being used for specific content categories.

Posting on Facebook by Content Type

Table 4.1 shows the distribution of postings by all sampled agencies based on the content of the message. Police departments did tend to post about certain content more often compared to other content categories. Police departments were more likely to focus primarily on public relations posts and law enforcement related content in their posts. These two content categories accounted for nearly three quarters of all posts. Within content areas, police department were more likely to post in some content subcategories compared to others.

Community outreach was the most common post in the public relations main category and the most common subcategory content across all groupings. Case updates were the most common subcategory of posts under the law enforcement related main category and the second largest type of content among all subcategories. Posts that asked for help from the public closely followed case updates under the law enforcement related main category. In other words, 94% of law enforcement related posts contained content from these two subcategories.

Table 4.1 *Breakdown of Main Categories and Subcategories by Content of Post (N = 81)*

Content of posts	Number of posts	Avg. posts per depart.	Stand. Dev.	% of total posts
Law-related	**1894**	**23.4**	**48.7**	**29.1**
crime warning	50	0.6	1.7	0.8
case update	920	11.4	27.0	14.1
crime prevention	62	0.8	1.8	0.9
help with crime	862	10.6	27.8	13.2
Public relations	**2785**	**34.4**	**44.4**	**42.8**
self-promotion	711	8.8	16.2	10.9
events	562	6.9	7.9	8.6
community outreach	1336	16.5	24.8	20.5
endearment	176	2.2	4.3	2.7
Department	**710**	**8.8**	**15.9**	**10.9**
recruitment	187	2.3	8.5	2.9
retirement	22	0.3	0.7	0.3
promotion	134	1.7	2.9	2.1
fundraising	60	0.7	2.9	0.9
press/general info	307	3.8	9.9	4.7
Danger (police work)	**307**	**3.8**	**6.7**	**4.7**
memorial	247	3.0	5.7	3.8
killed/injury	60	0.7	2.2	0.9
Service-related	**381**	**4.7**	**8.6**	**5.8**
alert	145	1.8	3.6	2.2
traffic	236	2.9	7.6	3.6
Notifications	**177**	**2.2**	**5.2**	**2.7**
checkpoint	9	0.1	0.8	0.1
dui	25	0.3	1.2	0.3
missing person	138	1.7	4.8	2.1
amber alert	5	0.1	0.3	0.1
General tips	**247**	**3.0**	**4.7**	**3.8**
situational tips	72	0.9	2.6	1.1
safety tips	175	2.2	3.2	2.7
Total posts	6501	80.5		100.0

Note. Main content categories are in bold. Subcategories for each main content category are below.

Posting on Facebook by Media Type

The second part of the first research question asks how different types of media are being used to deliver messages on Facebook. The use of the new "live" feature on Facebook will be

examined separately in this section. Table 4.2 reveals that the majority of posts involved a

picture. While text was used more often than video when posting, they were very similar in their

use and used less than pictures even when combined.

Table 4.2 *Breakdown of Posts by Media Type (N = 81)*

Media type	# of posts	Avg. # of posts	Std. deviation	% of total posts
Text	1007	12.4	20.89	15.5
Picture	4561	56.3	77.8	70.2
Video	933	11.5	23.4	14.3
Total	6501	80.6	100.2	100.0

Posting on Facebook based on Media and Content of Posts

The final part of the first research question examines how different types of media are

used in combination with the content of the messages being posted. While the general trend is

that pictures are the most common type of media used for the majority of content categories,

some differences in the type of media used based on the content of the message were revealed

(see Table 4.3). For example, the majority of service-related posts were texts, and rarely videos.

In contrast, public relations posts and dangers of police work used pictures to a larger extent than

other content categories; while these same two content areas were the least likely to use texts.

Differences were observed in the content that departments preferred to post about and the type of

media they preferred to use.

Table 4.3 *Percentage of Posts by Media Type and Content*

Content of post	Text %	Picture %	Video %
Law enforcement	18.0	68.0	14.0
Public relations	6.8	76.4	16.8
Department	26.9	62.3	10.8
Danger	4.2	76.2	19.6
Service related	56.7	42.8	0.01
Notifications	19.8	76.2	4.0
General tips	9.3	68.0	22.3

Discussion on Live Category

The "live" category was analyzed separately. There were a total of 196 "live" posts during the time frame of this study which represented only 2.9% of all posts. Sixty of the 81 (74.1%) departments did not use the live feature at all during the study period. Seventeen of the 21 (80.9%) departments that used the live feature were located in urban communities. If you only look at the 21 departments who did post at least once using the live feature, the average increased to 9.3 live posts per department (versus 2.42 per department across the entire sample).

Table 4.4 examines the number of views and engagement from the community based on the content of posts using the live feature. The community responded by using "like" ($M = 132$) the most often. Each live post received an average of 55 reactions. Among reactions, "love" was the most frequently used emoticon ($M = 29$), followed by "sad" ($M = 15$), "angry" ($M = 6$), "wow" ($M = 3$), and "laugh" ($M = 2$). The community responded with 65 comments and 45 shares on average per live post. The total engagement for each post was 297 responses on average per live post. The average number of views for a live post was 7,729. This means that only about 3.8% of all views have a response. While it is impossible to know how many people watched a live post multiple times, this does suggest that the vast majority of viewers of a live post do not respond/engage in any way.

The most common content of live posts was public relations. Public relations posts were followed by posts about the department, posts related to law enforcement and posts about the dangers of police work.   The feature live was rarely used to post content centered on tips, notifications, or service. The breakdown in content of live posts is similar to the breakdown in content found in the general posts. Live posts about the dangers of police work and the department were more common when posting live. Content about the dangers of police work received the most views and had the most engagement from the community.

Table 4.4 *Breakdown in the Content of "Live" Posts and Community Response (N = 81)*

Response by content	Sum	Avg. live posts per dept.	Std. deviation	% of total live posts	Avg. response post
Law enforcement	48	.59	2.34	24.5	-
views	374000	-	-	-	7791.67
engagement	14425	-	-	-	300.52
Public rel. posts.	60	.74	2.23	30.6	-
views	409610	-	-	-	6826.83
engagement	14298	-	-	-	238.3
Dept. posts	53	.65	2.08	27.0	-
views	351606	-	-	-	6634.08
engagement	12226	-	-	-	230.68
Danger posts	29	.36	1.31	14.8	-
views	349800	-	-	-	12062.07
engagement	16397	-	-	-	565.41
Service posts	.00	.00	.00	.00	-
views	.00	-	-	-	-
engagement	.00	-	-	-	.-
Notifications posts	3	.04	.19	1.5	-
views	18200	-	-	-	6066.67
engagement	304	-	-	-	101.33
General tips posts	3	.04	.19	1.5	-
views	11800	-	-	-	3933.33
engagement	498	-	-	-	166
Valid N (listwise)	196	2.42	7.61	100.0	8025.35

Note. The number of views and engagement for each content category are indented under each one.

Section 2: Use of Facebook and Response from the Community

The second research question builds upon the first section by looking at whether the response from the community to posts changes based on the content of posts and/or the manner in which police departments are using Facebook to communicate. This section is broken down into two separate parts in order to answer these questions. The first part of this question looks at the content being posted by departments and whether the response from the community differs based on the content of the message. The second part looks at whether differences exist in the response from the community based on differences in how police departments use Facebook.

Content of Post and Response from the Community

Table 4.5 shows the average response per post based on the content after they were standardized by the number of followers that a department has. Upon examining the table, it is apparent that departments did not post in each content category. While a majority of departments had a post related to public relations, less than half had a notification post.   In addition, differences in the response (likes, shares, comments, reactions, and engagement) from the community were revealed based on the content of the post. Posts about the dangers of police work averaged substantially more reactions, likes, and overall engagement compared to any of the other content categories. Notifications averaged the most shares per post.

Table 4.5 *Average Community Response to the Content of Post*

Category	Law	Pub. rel.	Dept.	Danger	Service	Notification	Tips
N	61	78	60	50	55	33	51
Like	65.6	151.3	167.3	209.6	25.5	41.9	86.8
Share	81.3	63.3	38.3	92.3	19.0	205.4	111.9
Reactions	20.3	34.8	16.9	108.9	10.1	33.0	17.0
Comments	12.7	9.7	14.3	15.6	4.0	8.7	10.8
Engagement	179.9	259.1	236.5	426.4	58.6	288.9	226.5

The next step of this analysis is to examine whether the observed differences in responses to the content of posts are significantly different. This part of the analysis resulted in a loss of a large number of cases as a result of many departments not posting in each content category. Nevertheless, examining differences in community response based on content still provides some important insight.

The community did respond differently to posts from departments based on the content of the message. Likes, reactions, and engagement to posts varied based on the content of the post. The community does appear to favor certain content over others. Public relations posts are the most popular or enjoyable content to the community and posts about the dangers of police work elicited significantly more reactions compared to other content. While shares and comments did not differ significantly based on the content of the message, this may be the result of a large number of departments not posting in each content category limiting the statistical power of the test.

Table 4.6a *Community Response to Content of Posts (N = 20)*

Content	Likes (Mdn)	$X^2(6)$ (p)	Reactions (Mdn)	$X^2(6)$ (p)	Engage. (Mdn)	$X^2(6)$ (p)
Law enf.	3.55 (2.59)	59.83 (.001)	4.00 (.047)	46.15 (.001)	3.85 (NS)	29.07 (.001)
Pub. rel.	5.90 (6.74)		4.85 (0.85)		5.15 (22.06)	
Depart.	4.45 (3.79)		3.23 (0.17)		3.55 (NS)	
Danger	5.95 (4.49)		6.53 (2.35)		5.58 (46.05)	
Service	1.95 (1.63)		2.58 (0.06)		2.53 (30.78)	
Not.	2.70 (0.61)		3.80 (0.45)		4.10 (NS)	
Tips	3.50 (1.63)		3.03 (0.15)		3.25 (NS)	

Friedman test.

Table 4.6b *Comparison of Community Response to Content of Post*

Likes by content	Likes (p)	Reactions (p)	Engag. (p)
Law enf.-pub. rel.	-3.659[a] (.002)	NS	NS
Law enf.-dept.	-3.024[a] (.002)	NS	NS
Law enf.-danger	-3.547[a] (.001)	-3.808[a] (.001)	NS
Law enf.-service	NS	NS	NS
Law enf.-not	NS	NS	NS
Law enf.-tips	NS	NS	NS
Pub. Rel.-dept.	NS	-3.173[b] (.002)	NS
Pub. rel-danger	NS	-3.845[a] (.001)	NS
Pub. rel-service	-3.920[b] (.001)	NS	-3.883[b] (.001)
Pub. Rel.-notif.	-3.435[b] (.001))	NS	NS
Pub. Rel.-tips	NS	NS	NS
Dept.-danger	NS	-3.920[a] (.001)	NS
Dept.-service	-3.547[b] (.001)	NS	-3.139[b] (.002)
Dept.-notif.	NS	NS	NS
Dept.-tips	NS	NS	NS
Danger-service	-3.920[b] (.001)	-3.360[b] (.001)	NS
Danger-notif.	-3.360[b] (.001)	-3.058[b] (.001)	NS
Danger-tips	NS	NS	NS
Service-notif.	NS	NS	NS
Service-tips	-3.248[a] (.001)	-3.248[a] (.001)	NS
Notif.-tips	NS	NS	NS

Wilcoxon Signed Ranks Test (Bonferroni.correction p < .002).
a. Based on negative ranks.
b. Based on positive ranks.

Frequency of Posting and Response from the Community

        The next part of the analysis focuses on whether the response from the community differs based on the frequency of posting (see Table 4.7). The numbers of likes, shares, comments, reactions, and engagement were significantly lower for high frequency posting departments compared to low frequency posting departments. Overall, departments which posted less frequently had more responses from the community per post compared to departments which posted more frequently.

Table 4.7 *Frequency of Posting and Citizen Response (N = 81)*

	Freq. High/low	Mean rank	Sum of Ranks	Mdn	U	Z	p
Likes	Low frequency	55.30	2212.00	13.01	248.0	-5.403	.001
	High frequency	27.05	1109.00	3.07			
Shares	Low frequency	48.58	1943.00	3.12	517.0	-2.862	.004
	High frequency	33.61	1378.00	1.06			
Comm.	Low frequency	53.03	2121.00	1.21	339.0	-4.544	.001
	High frequency	29.27	1200.00	0.24			
React.	Low frequency	49.20	1968.00	1.83	492.0	-3.099	.002
	High frequency	33.00	1353.00	0.66			
Engag.	Low frequency	56.03	2241.00	22.93	219.0	-5.677	.001
	High frequency	26.34	1080.00	4.96			

Mann-Whitney U test.
a. Grouping Variable: Frequency H/L

Formality of Message and Response from the Community

        A Mann-Whitney U test was calculated to determine if there were differences in the response from the community based on whether a department was high formality or low formality (not depicted in table). There was only one significant difference. The median number of likes was significantly higher for low formality departments (*Mdn* = 9.38) compared to high formality departments (*Mdn* = 3.80*), U* = 555.0*, z* = -2.50*, p* = .012. This result is consistent with the earlier finding that law enforcement related content received less likes compared to

other content categories. Posts that are more formal are less popular compared to posts that are less formal in terms of likes.

Style of Posting and Response from the Community

Table 4.8 shows some interesting patterns in the breakdown of responses from the community based on the style of communication. High formality/low frequency departments had the highest engagement followed by low formality/low frequency departments. This would align with previous findings which found that lower frequency departments had more responses from the community compared to higher frequency posting departments. A noticeable decline occurs between the low frequency and high frequency departments regardless of whether they are high formality or low formality. Low formality/high frequency and high formality/ high frequency departments had much lower levels of citizen engagement.

Table 4.8 *Average Response from the Community by Style of Posting*

Style	Likes	Shares	Comments	Reactions	Engagement
Low formality/low frequency	17.66[a]	11.45	1.16	2.16	32.42
	26[b]	26	26	26	26
	15.30[c]	30.25	1.14	2.44	41.32
High formality/low frequency	14.28	23.14	3.68	3.82	44.90
	14	14	14	14	14
	9.91	38.72	5.19	2.94	46.58
Low formality/high frequency	5.07	2.16	1.04	1.36	9.63
	14	14	14	14	14
	4.49	3.10	2.54	2.05	11.07
High formality/high frequency	4.53	1.53	.37	.77	7.20
	27	27	27	27	27
	7.18	1.68	.41	.74	9.38
Total	10.52	8.56	1.31	1.84	22.23
	81	81	81	81	81
	12.06	24.41	2.68	2.30	34.09

a. Mean.
b. Number of agencies.
c. Standard deviation.

Taken as a whole (see Table 4.9), the communication style is related to citizen response. Likes, shares, comments, reactions, and engagement all differed based on the style of communicating. The most important factor appears to be frequency of posting, with citizens responding most to low frequency in posting. Formality in posting, while much less important than frequency, is also linked to citizen reaction.

Table 4.9 *Difference in Community Response based on Styles of Posting (N= 81)*

Response	Style	N	Mean rank	$X^2(3)$	p	Group diff. (Sig. only)
Likes	Low formality/low frequency	26	56.31	30.093	.001	a, b, c, d
	High formality/low frequency	14	53.43			
	Low formality/high frequency	14	31.50			
	High formality/high frequency	27	24.74			
Shares	Low formality/low frequency	26	41.04	16.050	.001	c, d, e
	High formality/low frequency	14	62.57			
	Low formality/high frequency	14	36.07			
	High formality/high frequency	27	32.33			
Comments	Low formality/low frequency	26	46.15	27.119	.006	b, c, d, e
	High formality/low frequency	14	65.79			
	Low formality/high frequency	14	31.14			
	High formality/high frequency	27	28.30			
Reactions	Low formality/low frequency	26	44.92	12.629	.006	d
	High formality/low frequency	14	57.14			
	Low formality/high frequency	14	36.86			
	High formality/high frequency	27	31.00			
Engagement	Low formality/low frequency	26	53.04	34.047	.001	a, b, c, d
	High formality/low frequency	14	61.57			
	Low formality/high frequency	14	30.36			
	High formality/high frequency	27	24.26			

Note: Kruskal-Wallis Test. Post hoc Mann Whitney U test (Bonferroni correction p < .009).
a. *Low formality/low frequency is different from low formal high frequency*
b. *Low formal/low frequency is different from high formal/high frequency*
c. *High formal/low frequency is different from low formal/high frequency*
d. *High formal/low frequency is different from high formal/high frequency*
e. *High formal/ low frequency is different from low formal/low frequency*

Community Response and Media Type

The section explores how the community responds based on the type of media used when posting. Table 4.10 shows that "likes" are the most common response to posts by the community, while comments were the least common response. As can be seen, each post on average received 272.2 responses. Posts with a video garnered more engagement on average from citizens compared to posts with a picture or just text. The increased response from the community to posts which contained a video remained when examining likes, shares, reactions, and, comments separately. Posts which only had text in them received the fewest responses for each response category.

Table 4.10 *Average Number of Responses to different Media Types*

Response	Text (N=1007)	Pic (N=4561)	Video (N=933)	Avg. tot. (N=6501)
Like	39.5	155.0	251.5	150.9
Share	18.7	63.7	126.8	68.2
Reactions	11.0	39.2	60.6	37.9
Comments	5.4	16.0	21.2	15.1
Engagement	74.6	277.3	460.8	272.2

The next step in this analysis was to examine in further detail the response from the community based on the type of media being used. Not every agency used all three forms of media when posting, so only departments which posted texts, pictures, and videos were included in this comparison. As shown in Table 4.11, community response to Facebook posts differed significantly depending on the media used. Posts using pictures or videos received significantly more likes, shares, comments, reactions and engagement compared to posts which contained just

text. An interesting discovery was that differences in the response from the community was not found when comparing pictures to videos. Overall, posts which contain just text did not garner as much of a response compared to those that had a visual component to them.

Table 4.11 *Community Response to Type of Media (n = 46)*

Friedman Test						Wilcoxon Signed Ranks Test		
	Text (mean rank)	Vid (mean rank)	Pic (mean rank)	$X^2(2)$	p	Pic-text (p)	Video-pic(p)	Text-video (p)
Likes	1.48	2.11	2.41	20.91	.001	-3.82[a] (.001)	-1.24[b] (.215)	-3.19[b] (.001)
Shares	1.65	1.96	2.39	12.84	.002	-3.39[a] (.001)	-.737[b] (.461)	-2.147[a] (.032)
Comments	1.55	2.21	2.24	13.8	.001	-2.79[a] (.005)	-.049[b] (.961)	-3.04[b] (.002)
Reactions	1.51	2.16	2.33	17.21	.001	-4.168[a] (.001)	-.071[b] (.943)	-3.014[b] (.003)
Engagement	1.52	2.17	2.3	16.17	.001	-3.55[a] (.001)	-.541[b] (.589)	-3.545[b] (.003)

a. Based on negative ranks.
b. Based on positive ranks.
c. Wilcoxon Signed Ranks Test

Section 3: Community Characteristics

The third research question builds on the previous questions by asking if community characteristics are associated with differences in the response from the community, content of the message, or how police use Facebook to communicate with the community. As was seen in prior analyses, the content of posts and the manner in which Facebook was used by departments differed, and these differences were associated with the response from the community.

Community Type and Response

Table 4.12 shows that there is a significant difference in the median number of likes, shares, comments, reactions, and engagement to posts based on the type of community. All of the differences found in how the community responded to posts were the result of differences

found by comparing urban to suburban, and comparing urban to rural. Specifically, departments in urban communities have less likes, shares, comments, reactions, and engagement from the community to posts compared to departments located in suburban and rural communities after controlling for the number of followers. This outcome suggests that urban departments are unique in how communities interact with departments, and that suburban and rural communities may be more similar in their interactions with departments on Facebook.

Table 4.12 *Responses by Community Type (N = 81)*

	Community type	N	Mean rank	$X^2(2)$	P	Group diff. (sig. only)
Likes	Urban	27	19.59	35.49	.001	a, b
	Suburban	27	47.22			
	Rural	27	56.19			
Shares	Urban	27	28.22	12.12	.002	a, b
	Suburban	27	48.72			
	Rural	27	46.06			
Comments	Urban	27	22.70	25.05	.001	a, b
	Suburban	27	47.76			
	Rural	27	52.54			
Reactions	Urban	27	28.07	12.24	.002	a, b
	Suburban	27	47.74			
	Rural	27	47.19			
Engagement	Urban	27	19.44	35.59	.001	a, b
	Suburban	27	47.74			
	Rural	27	55.81			

Note: Kruskal-Wallis Test. Post hoc Mann Whitney U test (Bonferroni correction p < .017).
a. Urban is different from suburban
b. Urban is different from rural

Community Type and Content

Departments located in urban communities, suburban communities, and rural communities differed in their content of posts (see Table 4.13). Departments in urban communities posted more content that was related to law enforcement, the department, dangers of police work, and notifications compared to departments in rural communities. There was a

significant difference in the type of community and service related content. Unfortunately, the

post hoc test was not able to identify which communities were different. This is most likely the

result of the Bonferroni correction being too conservative. The most glaring differences in

content continually occurred when comparing departments located in urban communities to

those in rural communities.

Table 4.13 *Type of Community and Content of Posts (N = 81)*

Content	Type of community	N	Mean rank	$X^2(2)$	p	Group diff. (sig. only)
Law enforcement	Urban	27	54.07	15.858	.001	a, b
	Suburban	27	40.11			
	Rural	27	28.81			
Public relations	Urban	27	33.98	3.931	.140	
	Suburban	27	42.69			
	Rural	27	46.33			
Department	Urban	27	50.85	8.319	.016	b
	Suburban	27	39.39			
	Rural	27	32.76			
Danger	Urban	27	49.48	6.495	.039	b
	Suburban	27	39.74			
	Rural	27	33.78			
Service	Urban	27	31.96	6.783	.034	
	Suburban	27	43.07			
	Rural	27	47.96			
Notification	Urban	27	50.37	16.217	.001	b
	Suburban	27	44.43			
	Rural	27	28.20			
General tips	Urban	27	39.87	1.515	.469	
	Suburban	27	45.28			
	Rural	27	37.85			

Note: Kruskal-Wallis Test. Post hoc Mann Whitney U test (Bonferroni correction p < .017).
a. Urban is different from suburban
b. Urban is different from rural

Frequency and Formality by Community Type

The results of the analysis (see Table 4.14) indicate that there is a significant difference between departments located in urban, suburban, and rural communities and how frequently they post and how formal their posts are. The frequency and formality of posts by departments was significantly greater in urban communities compared to suburban communities and rural communities. Frequency of posting by departments was significantly less in rural communities compared to suburban communities.

Table 4.14 *Frequency and Formality of Posting by Community Type (N = 81)*

	Community type	N	Mean rank	$X^2(2)$	p	Group diff. (sig.only)
Frequency	Urban	27	62.19	39.01	.001	a, b, c
	Suburban	27	38.35			
	Rural	27	22.46			
Formality	Urban	27	54.07	15.86	.001	a, b
	Suburban	27	40.11			
	Rural	27	28.81			

Note: Kruskal-Wallis Test. Post hoc Mann Whitney U test (Bonferroni correction p < .017).
a. Urban is different from suburban
b. Urban is different from rural
c. Suburban is different from rural

Community Type and Style

The next part of the analysis looks at whether differences exist between the type of community a department is located in and the style of posting (frequency and formality). Table 4.15 shows that departments located in urban communities were more likely to have a high formal/high frequency style of posting compared to departments located in suburban and rural communities. Departments in rural communities were more likely to have a style of posting that was less formal and posted less frequently compared to departments in urban and suburban communities. This result suggests that community members may receive a different style of communication on Facebook from police departments based on the type of community.

Table 4.15 *Community Type and Style of Posting (N = 81)*

Community type	N	Mean rank	$X^2(2)$	p	Group diff. (sig. only)
Urban	27	60.15	36.31	.001	a, b, c
Suburban	27	39.63			
Rural	27	23.22			

Note: Kruskal-Wallis Test. Post hoc Mann Whitney U test (Bonferroni correction p < .017).
a. Urban is different from suburban
b. Urban is different from rural
c. Suburban is different from rural

Type of Community and Media Use

Table 4.16 indicates that significant differences exist between departments located in urban, suburban, and rural communities and their use of text media. There was a significant decrease in the percentage of posts with just text and an increase in the percentage of posts that used a video by departments located in urban communities compared to those in suburban communities and rural communities. In general, urban communities differentiated themselves from suburban and rural communities in their use of media.

Table 4.16 *Use of Media by Community Type (N = 81)*

Media type	Type of community	Mean rank	$X^2(2)$	p	Group diff. (Sig. only)
Text post	Urban	29.17	10.74	.005	a, b
	Suburban	44.70			
	Rural	49.13			
Picture post	Urban	40.48	.389	.823	
	Suburban	43.20			
	Rural	39.31			
Video post	Urban	60.81	30.44	.001	a, b
	Suburban	31.11			
	Rural	31.07			

Note: Kruskal-Wallis Test. Post hoc Mann Whitney U test (Bonferroni correction p < .017).
a. Urban is different from suburban
b. Urban is different from rural

Community Characteristics and Response from the Community

The next part of the analysis examines whether additional characteristics of the community are associated with the content of posts. Although there was not a consistent pattern in the correlations between community characteristics and community responses, some community characteristics were correlated with several of the response variables (see Table 4.17). The percent of the population that is white, has completed high school education, and median age were positively correlated with community responses. Percent of the population below the poverty level, having a college education (only with shares), and overall population size were negatively correlated with responses. Population size consistently had the strongest relationship with the response variables. There was no relationship between median income and level of community response. An examination of the responses shows that for likes, comments and engagement, five of the seven community characteristics were significant with each response type. One caution is that in general the relationships were typically weak to moderate. Nonetheless, evidence does suggest an association between characteristics of a community and the response from the community to posts.

Table 4.17 *Community Characteristics and Community Response (N = 81)*

Community Characteristics	Likes	Shares	Comments	Reactions	Engage.
Percent white not Latino or Hispanic	.394[a]**	.426**	.462**	.388**	.478**
	.000[b]	.000	.000	.000	.000
Percent below poverty level	-.248*	-.211	-.258*	-.254*	-.258*
	.025	.059	.020	.022	.020
Percent with college education	-.045	-.316**	-.135	-.072	-.175
	.691	.004	.228	.523	.118
Percent with high school education	.256*	.097	.241*	.214	.223*
	.021	.390	.030	.055	.045
Median age	.288**	.195	.264*	.290**	.294**
	.009	.081	.017	.009	.008
Population	-.659**	-.263*	-.526**	-.352**	-.633**
	.000	.018	.000	.001	.000

a. Spearman's rank-order correlation coefficient.
b. Significance. (2-talied).
**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Community Characteristics and Content

Community characteristics of a department do appear to be associated with the content of the messages posted by departments (see Table 4.18).   Not surprisingly, population size of a community had the strongest correlations with the content of posts among the community level variables. Most of the associations between content and the characteristics of the community beyond the population were weak to moderate. Besides population and percent white, community characteristics did not consistently exert significant effects based on content. Some of the more interesting findings were that communities with larger populations tended to be associated with more law enforcement related content and notifications while communities with a greater percentage of the population white tended to have a greater percentage of posts devoted to service related content.

Table 4.18 *Community Characteristics and Content of Posts (N = 81)*

Content of post	Population	Med. age	H. S. %	% College	Median income	% poverty level	% White
Law enforcement	.420[a]**	-.194	-.192	-.015	-.173	.236*	-.241*
	.000[b]	.083	.087	.897	.123	.034	.031
Public relations	-.179[a]	-.005	.203	.129	.210	-.198	.047
	.109[b]	.963	.069	.249	.061	.076	.675
Department	.264[a]*	-.100	-.220*	.131	-.151	.223*	-.304**
	.017[b]	.376	.049	.243	.179	.046	.006
Danger	.210[a]	.032	-.197	.106	-.111	.187	-.183
	.060[b]	.774	.078	.349	.322	.094	.101
Service	-.267[a]*	.162	.344**	-.014	.272*	-.368**	.495**
	.016[b]	.148	.002	.901	.014	.001	.000
Notifications	.418[a]**	-.134	-.141	-.015	-.130	.109	-.272*
	.000[b]	.232	.209	.894	.249	.335	.014
General tips	.099[a]	.087	.135	-.020	.213	-.240*	.152
	.379[b]	.440	.230	.858	.056	.031	.174

a. Spearman's rank-order correlation coefficient.
b. Significance. (2-talied).
. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Community Characteristics and Posting

Community characteristics are moderately associated with posting by departments (see Table 4.19) Population size of a community seems to have the strongest correlation with the style, frequency, and formality of posting among the community level variables. Departments located in communities with larger populations post more frequently and their posts are more formal compared to departments located in communities with smaller populations.   The data suggest that the style of departments in communities where a greater percentage of the population is white tend to post less frequently and their posts are less formal. The percentage of the population below poverty level in a community and population size were positively correlated with the formality of posts. The median age of a community and population size were positively correlated with the

frequency and style of posting. High school and college education had a weak, negative correlation with the style of posting. College education, high school education and median household income of a community were not significantly correlated with the frequency of posting or the formality of posts (not depicted in table).

Table 4.19 *Community Characteristics and Posting (N = 81)*

Community characteristics	Formality	Frequency	Style
White not Latino or	-.241[a]*	-.414**	-.478**
Hispanic	.031[b]	.000	.000
Percent below poverty	.236*	.144	.204
level	.034	.201	.068
Median age	-.194	-.230*	-.274*
	.083	.039	.013
Population	.420**	.688**	.670**
	.000	.000	.000

a. Spearman's rank-order correlation coefficient.
b. Significance. (2-talied).
**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Community Characteristics and Media Use

Table 4.20 presents correlations between community characteristics and the type of media used by departments when posting. The data indicate that increased population size and the percentage of the population below the poverty level are positively associated with the use of video postings and negatively associated with the use of text postings. The use of video was negatively associated with median income, percentage of the population that is white, and percentage having a high school education.

Table 4.20 *Community Characteristics and Type of Media Used (N = 81)*

Community characteristics	Text	Pic	Video
Population	-.277[a]*	-.038	.499**
	.012[b]	.738	.000
Median age	-.009	.129	-.210
	.935	.252	.060
High School education	.217	.192	-.468**
	.052	.086	.000
College education	-.084	.214	-.103
	.454	.055	.361
Median household income	.176	.111	-.363**
	.115	.322	.001
Percent below poverty level	-.298**	-.029	.460**
	.007	.799	.000
White not Latino or	.435**	-.044	-.547**
Hispanic	.000	.696	.000

a. Spearman's rank-order correlation coefficient.
b. Significance. (2-talied).
**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Section 4: Organizational Characteristics and Facebook

This section examines whether organizational characteristics are related to differences in Facebook use by police departments. The first part of this analysis looks at whether organizational characteristics are associated with the content of communication on Facebook. The next part of this section examines whether organizational characteristics are related to differences in how the police use Facebook to communicate. Lastly, the analysis will examine how experience using Facebook by departments is associated with community characteristics.

Department Characteristics and Content of Posts

The total number of personnel, the number of full-time officers and the number of civilians employed all had moderate, positive relationship with the percentage of posts related to law enforcement; a weak, positive correlation with the percentage of posts about the department, dangers of police work, and notifications; and a weak, negative association with the percentage

of posts related to service (see Table 4.21).   Departments with more employees tended to focus

more on posts related to law enforcement and have less content related to service suggesting that

larger departments are more formal in their posts. The date of Facebook adoption and date of

first Facebook posts had a weak, positive relationship with the percentage of posts that focused

on public relations; and a weak, negative correlation with the percentage of posts related to law

enforcement and to notifications (see Table 4.21). While these correlations were weak, they do

indicate that departments with more experience using Facebook may be more formal in their

posts.

Table 4.21 *Organizational Characteristics and Content of Posts (N = 81)*

Organizational Characteristics	Law	Pub. Relat.	Depart.	Dangers.	Service	Notif.	Tip
Total personnel	.408[a]**	-.170	.300**	.237*	-.301**	.398**	.024
	.000[b]	.128	.007	.033	.006	.000	.835
Full-time police	.392**	-.163	.315**	.240*	-.316**	.401**	-.007
	.000	.146	.004	.031	.004	.000	.950
Number of part-time police	.041	.046	-.113	.049	.099	.015	.129
	.719	.683	.316	.661	.381	.893	.252
Number of civilian employees	.397**	-.191	.304**	.241*	-.270*	.328**	.069
	.000	.087	.006	.030	.015	.003	.540
Civilian part-time	.420**	-.270*	.230*	.095	-.029	.246*	.005
	.000	.015	.039	.398	.795	.027	.963
Date of Facebook adoption	-.355**	.316**	-.108	-.151	.020	-.224*	-.096
	.001	.004	.335	.179	.858	.045	.392
Date of first post	-.329**	.288**	-.128	-.157	.054	-.229*	-.091
	.003	.009	.256	.163	.629	.040	.421

a. Spearman rank-order correlation coefficient.
b. Significance. (2-talied).
**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Organizational Characteristics and Facebook Use

Total number of department personnel had a strong, positive relationship with the

frequency of posting, style of posting; and a moderate, positive relationship with the formality of

posting on Facebook. These significant relationships held true even when looking at the number of civilian employees and full-time officers (see Table 4.22). This result is not surprising and consistent with the findings so far in this study. Departments with more personnel are typically located in urban communities with larger populations.

As table 4.22 illustrates, the date of Facebook adoption had a moderate, negative relationship with the frequency of posting and a negative, weak correlation with the style of posting and formality of posts. The date of first post had a moderate, negative relationship with frequency of posting and style of posting; and a weak, negative relationship with formality of posts. These negative relationships indicate that more experience with the use of Facebook (early adoption and early use) is associated with increased frequency and formality of posts.

There was a moderate, negative relationship between the total number of personnel and the date of Facebook adoption and the date of first post (see Table 4.22). This relationship remained when looking at the number of full-time officers and civilian employees separately. This result indicates that larger departments tended to adopt Facebook earlier and use it to post before smaller departments.

Table 4.22 *Organizational Characteristics and Use of Facebook (N = 81)*

Organizational Characteristics	Frequency	Formality	Style	Date of Adoption	Date of First Post
Total personnel	.695[a]**	.408**	.695**	-.542**	-.530**
	.000[b]	.000	.000	.000	.000
Full-time police	.680**	.392**	.669**	-.547**	-.534**
	.000	.000	.000	.000	.000
Number of part-time police	.146	.041	.072	.085	.071
	.194	.719	.526	.450	.527
Full-time civilian employees	.667**	.397**	.700**	-.545**	-.543**
	.000	.000	.000	.000	.000
Part-time civilian	.525**	.420**	.548**	-.294**	-.295**
	.000	.000	.000	.008	.007
Date of Facebook adoption	-.460**	-.355**	-.397**	1.000	.977**
	.000	.001	.000		.000
Date of first post	-.485**	-.329**	-.407**	.977**	1.000
	.000	.003	.000	.000	

a. Spearman's rank-order correlation coefficient.
b. Significance. (2-talied).
**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Organizational Characteristics and Media Use

Larger departments with more experience use video to a greater extent than smaller departments with less experience (see Table 4.23). Departments with less personnel used text more often. Having more experience using Facebook was associated with increased use of video when posting.

Table 4.23 *Organizational Characteristics and the Use of Media (N = 81)*

Organizational Characteristics	Text	Picture	Video
Date of Facebook adoption	-.068[a]	.270[*]	-.377[**]
	.548[b]	.015	.001
First post	-.048	.262[*]	-.401[**]
	.668	.018	.000
Total personnel	-.324[**]	.003	.535[**]
	.003	.980	.000
Number of full-time police	-.339[**]	.021	.509[**]
	.002	.852	.000
Number of part time police	-.060	.006	.202
	.597	.958	.071
Number of civilian employees	-.247[*]	-.072	.546[**]
	.026	.525	.000

a. Spearman's rank-order correlation coefficient.
b. Significance. (2-talied).
**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Community Type and Experience

Table 4.24 indicates a significant difference between departments located in urban, suburban, and rural communities and the median date of Facebook adoption and date of first post. The results clearly indicate that departments located in urban communities adopted and used Facebook at an earlier time than suburban and rural departments. Suburban and rural communities did not differ significantly in their experience using Facebook.

Table 4.24 *Organizational Characteristics and Community Type (N = 81)*

Organizational Characteristics	Community type	N	Mean Rank	$X^2(2)$	P	Group diff. (sig. only)
Date of Facebook adoption	Urban	27	22.48	27.37	.001	a, b
	Suburban	27	45.91			
	Rural	27	54.61			
Date of first post	Urban	27	21.30	29.35	.001	a, b
	Suburban	27	47.74			
	Rural	27	53.96			

Note: Kruskal-Wallis Test. Post hoc Mann Whitney U test (Bonferroni correction p < .017).
a. Urban is different from suburban
b. Urban is different from rural

Community Characteristics and Experience

For the most part, community characteristics were not significantly related to experience with Facebook (see Table 4.25). Specifically, only population size and the percentage of the population with a high school education were related to when an agency adopted Facebook. However, five characteristics (Population size, high school education, median income, percentage of whites, and poverty level) were related to date of first post. Population size had the strongest correlations with experience with Facebook. Departments located in communities with larger populations had an earlier date of adoption and date of first post compared to departments located in communities with smaller populations.

Table 4.25 *Community and Organizational Characteristics (N = 81)*

Community characteristics	Date of adoption	First post
Population	-.586[a]**	-.578**
	.000[b]	.000
Median age	.133	.151
	.237	.178
Percent high school education	.227*	.240*
	.041	.031
Percent college education	-.011	-.007
	.920	.948
Median household income	.208	.238*
	.062	.032
Percent below poverty level	-.188	-.223*
	.093	.045
White not Latino or Hispanic	.217	.232*
	.052	.037

a. Spearman's rank-order correlation coefficient.
b. Significance. (2-talied).
**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Follow-up Response to Posts

As Table 4.26 indicates, a large number of departments did not respond to any comments from the public during the 90-day data collection time frame. While the majority of departments did respond at least once, the content of those responses was typically to push out more information. Additionally, of the 46 departments who did post a response, 34 did so less than ten times, and of this 34, 19 agencies only responded once. The low number of overall responses from departments to the community makes it rather difficult to categorize any departments as truly using a "pull" strategy when using responsiveness to comments as the measure of strategy. None of the departments were categorized as "networking" based on the analysis of follow up responses to posts.

Table 4.26 *Department Response to Comments (N = 81)*

Responded	Frequency	Percent
No	35	43.2
Yes	46	56.8

Strategy of Departments Based on Content

As table 4.27 indicates, the main strategy of departments was to "push" based on the content of the posts, followed by "pull", and "network".   Examination of police department strategies (See Appendix A) based on their content revealed that only 5 departments had a strategy other than "push". Of the five departments that were not "push", two were "pull", and three were "network". It should be noted that the three departments which were considered "network" had less than three posts each. The two departments which had the majority of their posts classified as "pull" strategy could also be considered "pull", as they had roughly as many posts which could be considered "pull".

Table 4.27 *Strategy Based on Content*

Strategy	Total posts	% of total posts
Push	5072	78.0
Pull	867	13.3
Network	562	8.6
Valid N	6501	

Section 6: Connectedness and Innovativeness

The final research question looks at whether police departments differ in their connectedness to the community and/or innovativeness and what characteristics may be associated with any variation. The first part of this section examines whether department characteristics are associated with differences in the connectedness and/or innovativeness of police departments. The second part of this section examines whether community characteristics are associated with differences in the connectedness or innovativeness of police departments.

Department Characteristics, Connectedness, and Innovativeness

Table 4.28 shows the results of correlations between innovativeness, connectedness, and department characteristics. All of the variables except number of part-time officers were significantly correlated with the measures of connectedness and innovation. While the size of the department variables exerted positive relationships, the experience measures were both negative. Departments with more personnel had more followers, were more connected to other organizations, and were more innovative compared to smaller sized organizations. Departments with more experience had more followers, more connections, and were more innovative.

Table 4.28 *Organizational Characteristics, Innovativeness, and Connectedness (N = 81)*

	Applications	Total pages following	Law following	Non- law following	Followers
Total personnel	.493[a]**	.420**	.401**	.375**	.834**
	.000[b]	.000	.000	.001	.000
Number of full-time police	.490**	.417**	.399**	.372**	.848**
	.000	.000	.000	.001	.000
Number of part- time police	.192	.106	.103	.108	-.100
	.086	.345	.362	.337	.373
Number of civilian employees	.473**	.391**	.368**	.366**	.778**
	.000	.000	.001	.001	.000
Number of part-time civilians	.358**	.308**	.258*	.297**	.423**
	.001	.005	.020	.007	.000
Date of Facebook adoption	-.335**	-.548**	-.527**	-.528**	-.727**
	.002	.000	.000	.000	.000
Date of first post	-.343**	-.562**	-.543**	-.546**	-.728**
	.002	.000	.000	.000	.000

a. Spearman's rank-order correlation coefficient.
b. Significance. (2-talied).
**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Community Characteristics, Connectedness, and Innovativeness

Table 4.29 indicates that very few of the correlations are significant, with the exception of population size. This variable was significantly correlated with all measures of connectedness, followers, and innovativeness. This finding is not surprising since population and department size are typically highly correlated. Beyond population, the results were mixed at best with only a limited number of correlations being significant. College education of a community was only weakly associated with the two of the connectedness measures. The percentage of a community that is white, median age, high school education, and poverty level of a community were associated with the number of followers, but these relationships were weak. Poverty level and racial makeup of a community were correlated with the innovativeness of an organization, but these relationships were weak.

Table 4.29 *Connectedness, Innovativeness and Community Characteristics (N = 81)*

Community characteristics	Application	# of pages following	Law enforc. pages	Non-law enforc.	Followers
Population	.482[a]**	.447**	.418**	.413**	.853**
	.000[b]	.000	.000	.000	.000
Median age	-.192	.004	.007	-.014	-.334**
	.086	.969	.949	.898	.002
Percent high school education	-.215	-.057	-.042	-.063	-.396**
	.054	.611	.710	.576	.000
Percent college education	.132	.225*	.247*	.190	.129
	.242	.043	.026	.089	.251
Median household income	-.164	-.058	-.045	-.072	-.198
	.143	.604	.692	.522	.076
Poverty level	.224*	.181	.190	.178	.267*
	.044	.107	.090	.111	.016
White not Latino or Hispanic	-.365**	-.139	-.127	-.129	-.536**
	.001	.216	.257	.250	.000

a. Spearman's rank-order correlation coefficient.
b. Significance. (2-talied).
**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Community Type and Connectedness

As Table 4.30 shows, there were consistent patterns across all three measures of department connectedness to other organizations. Specifically, departments in urban communities were connected to more organizations than those in suburban and rural communities. There were no significant differences found between departments located in suburban and rural communities and the number of agencies that they were following on Facebook suggesting that urban departments are unique in their connectedness to other organizations compared to rural and suburban departments.

Table 4.30 *Connectedness and Type of Community (N = 81)*

Department following	Community type	N	Mean rank	$X^2(2)$	p	Group difference (sig. only)
Total organizations following	Urban	27	55.24	15.49	.001	a, b
	Suburban	27	35.89			
	Rural	27	31.87			
Law enforcement pages following	Urban	27	54.96	15.17	.001	a, b
	Suburban	27	35.59			
	Rural	27	32.44			
Non-law enforcement following	Urban	27	54.67	14.16	.001	a, b
	Suburban	27	34.94			
	Rural	27	33.39			

Note: Kruskal-Wallis Test. Post hoc Mann Whitney U test (Bonferroni correction p < .017).
a. Urban is different from suburban
b. Urban is different from rural

Type of Community and Followers

The results of the analysis indicate that there is a significant difference between departments located in urban, suburban, and rural communities and the median number of followers (see Table 4.31). The number of followers a department Facebook page had was significantly greater for departments in urban communities compared to those in suburban communities and those in rural communities. The number of followers was also significantly greater for departments located in suburban communities compared to those in rural communities.

Table 4.31 *Followers and Community Type*

Org. characteristics	Community type	N	Mean rank	$X^2(2)$	p	Group differences (Sig. only)
Number of followers	Urban	27	67.26	58.26	.001	a, b, c
	Suburban	27	36.81			
	Rural	27	18.93			

Note: Kruskal-Wallis Test. Post hoc Mann Whitney U test (Bonferroni correction p < .017).
a. Urban is different from suburban
b. Urban is different from rural
c. Suburban is different from rural

Type of Community and Innovativeness

As table 4.32 shows, a substantial majority of departments did not link their Facebook to other applications. Of those that did link their page to other applications, most only linked to one other application. Twelve of the fourteen departments who linked their page to applications were located in urban communities. The remaining two departments who had links on their Facebook page to other applications were located in suburban communities. None of the police departments located in rural communities had Facebook links to outside applications.

Table 4.32 *Departments Links to Applications (N = 81)*

# of applications	Frequency	Percent	Valid percent	Cumulative percent
Valid 0.00	67	82.7	82.7	82.7
1.00	9	11.1	11.1	93.8
2.00	3	3.7	3.7	97.5
3.00	1	1.2	1.2	98.8
4.00	1	1.2	1.2	100.0

The results of the analysis indicate that the observed differences in the number of applications that departments in urban, suburban and rural communities were linked to were significantly different (see Table 4.33). The number of applications linked to a department Facebook page was significantly greater for departments located in urban communities compared to those in suburban communities and those in rural communities. The number of applications linked to a department Facebook page was not significantly different for departments located in suburban communities compared to those in rural communities.

Table 33 *Community Type and Applications (N = 81)*

	Community type	N	Mean Rank	$X^2(2)$	p	Group difference (sig. only)
Applications	Urban	27	51.96	20.84	.001	a, b
	Suburban	27	37.04			
	Rural	27	34.00			

Note: Kruskal-Wallis Test. Post hoc Mann Whitney U test (Bonferroni correction p < .017).
a. Urban is different from suburban
b. Urban is different from rural

Chapter Summary

The first research question looked at how the police were using Facebook to communicate and the content that they were posting. Differences were seen in the type of content that police favored to post about, and the type of media that they preferred to use. Posts typically used a picture in them and centered on content related to public relations and law enforcement. Similar differences in the type of content that police preferred to post about continued to exist when looking at the live feature separately. It is clear from looking at the breakdown in posts that police departments do vary in how they use Facebook to communicate.

The second research question examined whether the response from the community to posts changes based on the content of the message and/or the manner in which police departments are using Facebook to communicate. The community responded to posts differently based on the type of media used, frequency of posting by a department, style of posting, and the content of the post itself. Posts which used video or a picture consistently had greater response from the community compared to posts with just text. Posting less frequently increased the response for individual posts. Formality of posts did not play a large role in the response from the community but there was evidence that less formal posts were more popular compared to more formal posts. The response from the community varied based on the content of the message; posts related to the dangers of police work had the most overall engagement from the community. Throughout this part of the analysis; likes, reactions, shares, comments, and

engagement from the community varied based on how police departments used Facebook and the content of their posts.

The third research question examined community characteristics and their association with the response from the community, content of the message, and the nature of police communication on Facebook. The analysis suggests that community characteristics are associated with the response from the community. Departments located in urban communities received less overall engagement to posts from the community compared to departments located in suburban and rural communities after controlling for the number of followers. Those located in urban communities were more formal in their posts and posted more frequently compared to departments in suburban and rural communities. Departments in urban communities also differed from suburban and rural departments in the content of their messages. Posts from departments located in urban communities focused on law enforcement, the department, and dangers of police work to a greater degree than departments in rural and suburban communities. Besides population size, community characteristics were weakly to moderately associated with the content of the message and the response from the community. Increases in the population were associated with departments posting more frequently and more formally.

The fourth research question looked at whether organizational characteristics are related to the content, use of Facebook, and/or experience with use of Facebook by departments. Organizational characteristics (i.e. number of personnel) did have modest associations with the content of messages posted by departments on Facebook, formality of posts, frequency of posting, style of posting, type of media, and experience with using Facebook. Departments with more personnel posted more frequently, were more formal, were more likely to use videos, and had more experience with using Facebook compared to departments with less personnel.

The fifth question looked at the strategy that police use while interacting with the community on Facebook. The police seem to be primarily using Facebook as a means to push out information to the public. Both strategy measures suggest that pulling in information is rarely used and networking is not typically occurring during interactions on Facebook.

The final research question examined whether the connectedness and/or innovativeness of departments varies and whether organizational or community characteristics were associated with any variation that existed. Departments which had more personnel were more connected, innovative, and adopted the use of Facebook earlier compared to departments with less personnel. Similarly, departments located in urban communities with larger population size were consistently more connected to other organizations, had more followers, and were more innovative. Differences between suburban and rural departments were typically not found suggesting that rural and suburban departments are similar to one another and distinct from departments in urban communities. The rest of the community characteristics beyond population size were generally not associated with connectedness, followers, or innovativeness or the correlations were weak.

Chapter Five: Summary and Conclusions

The purpose of this study was to examine if the nature and content of police department interactions vary when communicating with citizens on Facebook, factors that may be associated with different online communication patterns of the police, and how the community responds. The nature of interactions between the police and the public has been an important topic in policing research. Limited research exists about police agency communication via social media (Facebook), and the likely effects of such variation. This study also looked at how connected departments are to their communities and the strategies they used when interacting beyond the initial post. As part of this dissertation, this study also looked at new forms of interactions available on Facebook that have not previously been examined when looking at police-community communication on Facebook.

Content and Response

The most common content of posts by the police were public relations followed by law enforcement related posts. Community outreach, case updates, and posts asking for help with crime accounted for nearly half of the posts among the nineteen subcategories. It appears that departments prefer to use Facebook to post content which improves their public image and focuses on the traditional aspects of policing centered on fighting crime. Additional analysis of the feature "live" revealed that it was rarely being used and that the majority of departments did not use this feature at all. The live feature is a relatively new option for posting so it may grow in popularity as departments become more familiar with how they want to use it. Much like the increased use of video by departments in urban communities, it appears that departments with more personnel located in urban communities are using new technology and features earlier than smaller departments in suburban and rural communities.

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The response from the community differed based on how the police used Facebook to communicate and the content of the message. Individual posts which used video generated more engagement from the community compared to posts with pictures or just text. The increased engagement from the community to videos is important because departments are predominately using pictures when posting which suggest that police departments could improve engagement through using videos more when posting. "Likes" were the most common response from the community.

Departments which posted less frequently had more engagement from the community for each post compared to departments which posted with a higher frequency after adjusting for the number of followers a department had. This result may occur because posting less frequently allows for each individual post to remain as the most current post at the top of the feed for a longer period of time and people may be more inclined to respond to the most recent post. There may also be fatigue, or simply a lack of time on the part of viewers to respond to all posts. This finding indicates that there is a potential for departments to increase engagement to individual posts by allowing posts to remain as the most current post for a longer period of time to increase exposure.

The response from the community also differed based on the style of posting a department was using. High formality/ low frequency departments had the highest engagement from the community for posts while high formality/high frequency department had the least amount of engagement per post. Importantly, analysis comparing low formality and high formality departments did not find many differences in response from the community suggesting frequency of posting is what is accounting for the differences in response based on the style of posting.

The number of likes, reactions, and total engagement per post differed based on the content of the post while the quantity of comments and shares did not differ based on the content of the post. These results show that police can increase engagement with the community based upon what they post on Facebook. For example, if departments want to increase overall engagement from the community, they could use video, post more service-related content, and allow posts to remain as the most current post for a longer period of time.

Factors that Influence Facebook Use

The most consistent and often strongest predictor among community characteristics was population size. Population size had the greatest impact on frequency of posting, formality of posting, media use, content, community response, and experience with Facebook. Similar results were found for departments with more personnel in urban communities. This is not surprising since urbanism, department size, and population are likely all highly correlated. Age, education, socio-economic status, and race of a community had weak relationships with Facebook use as well as the response from the community. In contrast, the least important community factors were geographic region and division of the country, as only one significant relationship involving these characteristics was discovered.

Interestingly, the main differences in overall engagement to posts were found to exist between urban-suburban and urban-rural, suggesting urban communities may be unique in how they respond to posts. This is an interesting finding because each department has only one official Facebook page so departments in each type of community have an equal opportunity to post. Posting is not like arrests in which departments in urban communities may have more opportunities to arrest. This result may be because larger agencies are more likely to assign the operations of their social media account to a public information officer compared to smaller

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agencies who are more likely to assign the operations of social media to a wide range of agency personnel (Kim, et al, 2017).

Strategies

The study was quite clear based on the two measures used that police departments are using Facebook as a means to push information out without any true dialogue with the community. While research has suggested the desire of the community for more interaction with organizations, this analysis indicates that the predominant strategy is to "push" information out to communities. This finding suggest that departments may be missing an opportunity to network and pull information from the community via social media interactions. This may also be a missed opportunity to improve community relations and increase dialogue between police departments and the community.

Connectedness and Innovativeness

Similar to the above discussion, agencies with more personnel in urban communities were more innovative, had more connections to other organizations, and had more followers than those with less personnel in suburban or rural communities. These same agencies had more experience using Facebook which was also correlated to the innovativeness, how many followers an agency had and how connected they were to other organizations.

Explanations/Discussion

The findings from the study indicate that police departments do vary in the nature of their interactions with the public on Facebook and these differences associated with how the community responds. Urbanism and population size are important in explaining how police use Facebook and they are each related to community reactions. It is probably something about large communities that influences both the police department and the citizen reactions, but this

particular study cannot address this issue. This is something that must wait for further research.

We know that police agencies are using Facebook primarily to push out information and may be

missing a tremendous opportunity to pull information and network with the community. New

features such as "live" are rarely used despite the opportunity to engage the community in this

new media form. Future research could examine how departments use new features that are

introduced on social media platforms. Based on this research, it is likely departments with more

personnel in urban communities are most likely to use new social media platforms and features

sooner than other departments.

In the future, departments could foster engagement from the community by posting on

Facebook using media forms and content that the public prefers. Additionally, police agencies

could devote additional resources to continually interact and monitor their social media

interactions with the community. A focused strategy which uses social media to pull in

information and network with the community has the potential to help fight crime as well as

improve community engagement.

Limitations

There are several limitations to the current study. First, this study used purposive

sampling which only included 81 municipal agencies located in the United States. The intent

was to select 27 urban, 27 suburban, and 27 rural agencies in order to get a national sample of

police departments from different types of communities so that comparisons could be made.

The use of this sampling method introduces the possibility of selection bias and the results may

not be generalizable to the entire population of law enforcement agencies using Facebook. This

study only examined municipal police agencies and the results may not apply to other types of

agencies such as state, county college, tribal, university, or specialized units. While this study

has a larger sample size than similar studies, the sample size did limit the statistical analyses that could be performed. Some relationships amongst the variables may have been found to be significant if the sample size was larger. In addition, the small sample size did not allow for the effects of other variables to be controlled when examining the correlations.

This research focused only on Facebook and as a result it may not translate to other social media platforms or media outlets. Other social media platforms typically have different formats and the nature of interactions may be different. In the future, police departments may have to adjust how they communicate based on the social media platform they are using. In addition, since this research focused on communication through social media, it may not translate to communication the police have with the police that is involuntary and face-to-face. Facebook interactions involve voluntary interactions, that are publicly available to the whole community. Also, time or seasonal effects may be introduced into this study as a result of the 90-day data collection time frame. The use of only one rater coding the content of each message is another limitation because there were no checks for reliability, although using one rater eliminates the chance of inter-rater differences. It cannot be known if different people would categorize the content in the same way. The small sample size may lack the power to uncover any geographical differences.

In the future, research could randomly select a larger sample of agencies to further explore relationships and control for factors outside of the scope of this study. In addition, future research could compare police departments social media use across a wide variety of platforms in order to examine similarities and differences in the nature of the interactions police are having with the public.

Implications

This research suggests that how the police communicate on Facebook matters. The research offers suggestive evidence that content, media type, frequency, style, and formality of posting all make a difference in how the community responds to communication on Facebook. The community does tend to share messages when asked to help with crime meaning that police departments can use Facebook to spread their message and help solve crimes if they ask for assistance. Departments should consider what they hope to accomplish through social media use so they can tailor how they use Facebook to achieve their goals. Social media provide a means to foster goodwill and present the department in a good light to the community, but can also be used to help with crimes. The effectiveness of social media use by departments may vary based upon how it is used.

Conclusion

In conclusion, police departments differ in how they use Facebook to communicate and these differences are related to how the public responds on Facebook. Organizational and community characteristics are associated with how police departments use Facebook to interact with the community as well as how the community responds. Departments located in urban, suburban, and rural communities differ in how they use Facebook and these communities also respond differently to posts. Departments differ in their innovativeness, connectedness, and strategies. Larger departments are typically more innovative and connected compared to smaller agencies. Knowing that citizens respond differently based on how police agencies use Facebook, police departments can foster greater engagement from the community by tailoring how they use Facebook.

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Appendix A

Department	Total Post	Frequency	Formality	Push/pull/network
Archie	7	.08	.43	.71/.29/.0
Atlanta	324	3.60	.03	.92/.01/.06
Baltimore	279	3.10	.59	.70/.27/.04
Bel Air	43	.48	.19	.84/.09/.07
Birmingham.	15	.17	.47	.80/.13/.07
Boston	262	2.91	.35	.88/.06./.07
Boulder City	76	.84	.21	.86/.11/.04
Brandon	13	.14	.001	1.00/0.0/0.0
Bridgeport	26	.29	.001	.96/.00/.04
Brookside	18	.20	.06	.89/.06/.06
Cape Charles	2	.02	.001	1.00/0.0/0.0
Carlin	15	.17	.001	.93/0.0/.07
Casa Grande	76	.84	.14	.70/.11/.20
Chicago	357	3.97	.27	.87/.04/.09
Columbus	339	3.77	.50	.67/.29/.04
Denver	219	2.43	.26	.86/.08/.06
Detroit	124	1.38	.20	.66/.15/.19
East Rutherford	7	.08	.001	.71/.0.0/.29
El Reno	31	.34	.10	.84/.10/.06
Elmhurst	26	.29	.38	.58./.19/.23
Far Hills	29	.32	.10	.76/.03/.21
Flora	8	.09	.13	1.0/0.0/0.0
Fulshear	166	1.84	.23	.86/.01/.13
Gallaway	4	.04	.001	1.00/0.0/0.0
Gardendale	109	1.21	.11	.83/.06/.11
Germantown	169	1.88	.03	.96/.02/.02
Gladstone	17	.19	.18	.53/.06/.41

Greensboro	3	.03	.33	.33/0.0/.67
Groton Long Point	8	.09	.13	.88/0.0/.13
Hapeville	46	.51	.17	.78/.04/.17
Holland	30	.33	.07	.63/0.0/.37
Houston	43	.48	.001	.81/0.0/.19
Howard Lake	12	.13	.08	1.0/0.0/0.0
Jackson	58	.64	.22	.81/.12/.07
Johnston	6	.07	.33	.67/.17/.17
Kansas City	83	.92	.04	.88/.02/.10
Katy City	23	.26	.09	.87/.04/.09
Killian	40	.44	.05	.88/.03/.10
Langley	16	.18	.44	1.00/0.0/0.0
Las Vegas	57	.63	.28	.82/.05/.12
Lexington	1	.01	.001	0.0/0.0/1/0
Lithonia	3	.03	.001	.67/0.0/.33
Los Angeles	152	1.69	.18	.72/.14/.14
Lynwood	50	.56	.18	.76/.06/.18
Memphis	233	259	.54	.42/.49/.09
Minneapolis	222	2.47	.32	.78/.10/.12
New Orleans	356	3.96	.62	.67/.29/.04
New Shoreham	5	.06	.06	1.0/0.0/0.0
New York	100	1.11	.08	.96/0.0/.04
Newark	193	2.14	.81	.76/.23/.02
Northglenn	36	.40	.11	.86/.03/.11
Oklahoma	330	3.67	.55	.42/.50/.08
Omaha	147	1.63	.07	.79/.02/.18
Orchard Lake	30	.33	.001	.87/0.0//13
Philadelphia	37	.41	.49	.81/.16/.03
Phoenix	101	1.12	.27	.72/.17/.11
Plain City	21	.23	.10	.90/0.0/.10

Portland	393	4.37	.38	.91/.05/.04
Providence	43	.48	.12	.84/.02/.14
Rainier	15	.17	.001	1.0/0.0/0.0
Ralston	23	.26	.13	.87/.04/.09
Raymore	35	.39	.001	.91/0.0/.09
Richwood	21	.001	.23	.71/0.0/.29
Sand City	3	.03	.001	.67/0.0/.33
Seattle	36	.40	.03	.86/0.0/.14
Seneca	17	.19	.41	.88/.12/0.0
Shakopee	51	.57	.14	.67/.06/.27
Shelter Island	3	.03	.001	.33/0.0/.67
Shelton	20	.22	.60	.90/.05/.05
Sierra Madre	44	.49	.18	.91/0.0/.09
Smithfield	22	.24	.09	.64/.09/.27
Southgate	49	.54	.001	.98/0.0/.02
Stony Point	201	2.33	.02	.93/0.0/.02
Tombstone	7	.08	.001	.93/.01/.06
Union City	171	1.90	.001	.92/0.0/.08
Virginia Beach	87	.97	.36	.55/.32/.13
Waterloo	19	.21	.05	.95/0.0/.05
West Conshohocken	16	.18	.001	.94/0.0/.06
Westwego	6	.07	.67	1.0/0.0/0.0
Whitemarsh	18	.20	.11	.61/.06/.33
Wray	6	.07	.17	.83/0.0/.17
	6518			