

HURRICANE HARVEY: A STUDY OF POLICE LEADERSHIP AND RESILIENCE

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A thesis submitted to the Health Sciences,
College of Education
in partial fulfillment of the requirements for the degree of
Doctor of Education
in Professional Leadership

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May 2020

Abstract

Background: The Houston Police Department (HPD) is interested in understanding more about their leadership resilience and their performance during and after Hurricane Harvey in 2017. The interest is to discover and examine the factors that affected the robustness of the HPD leadership and its officers during the crisis. Understanding these factors will help the members of the HPD to learn and improve from this natural disaster and to become better leaders to citizens for future disasters. **Purpose:** The purpose of this study was to explore the factors that affected individual police officers' resilience and robustness during Hurricane Harvey of 2017. Research studies associate several categories of employer support and wellness to individual resiliency. The factors are tied to the availability of resources available to the police officers during times of crisis. Analysis of the results can provide a framework to improve the existing resources and training of HPD so that it can be more resilient in future disasters. **Methods:** This mixed-methods study used archival data from a wellness and resilience survey and semi-structured interviews with police officers from various divisions of the HPD, including the leadership of the divisions that faced the hardest challenges during Hurricane Harvey. The analysis of the interviews used the Braun and Clarke's thematic analysis approach that identified patterns of meaning in participants' accounts. Archival survey data was based on the Department of Justice's Vicarious Trauma-Organizational Readiness Guide (VT-ORG) and was administered after Hurricane Harvey. VT-ORG recommended using the results to find rationales for the responses, tasks to maintain or build upon, and identify responsible parties (or leaders). **Results:** The mixed-methods study utilized data collected from archival survey responses and semi-structured interviews. The quantitative and qualitative data were analyzed for

emergent and common themes. Interview data revealed strengths and weaknesses in HPD leadership, disaster preparation, communication, family support, and wellness. Analysis of the VT-ORG survey data revealed two significant areas of concern: communication and wellness. The VT-ORG produced a Cronbach's alpha coefficient of .88 overall and confirmed it to be a reliable and valid questionnaire. **Conclusion:** Upon completion of the data analysis, testimony from the archival survey data and interviewees provided ample evidence that the factors of leadership, resources, wellness, and experience played a large role in resilience and job effectiveness during Hurricane Harvey. The results of the study suggest that HPD can pursue a number of clear avenues in order to increase resilience for a future crisis. It can also improve everyday policing by offering increased support to officers, staff, and leadership.

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Chapter I

Introduction

Hurricane Harvey hit the coastlines of southeast Texas in August of 2017. Harvey was described by the National Hurricane Center (2018) as one of the costliest cyclones on record, totaling approximately \$125 billion in damage. The City of Houston sustained massive amounts of rainfall and flooding. First responders were dispatched to perform rescues, as well as protect property from being looted. Every inch of rain threatened the critical infrastructures that the Houston Police Department and other first responders needed to operate. Patrol vehicles were rendered useless in flooded roadways, and several police patrol stations, along with all the patrol vehicles, were flooded. Even with their tools and resources crippled, police officers had to make do with what they could and get into the water to assist the citizens of Houston.

Most Houston Police officers (except the Dive Team), at the time, did not have any formal training on how to operate in floodwaters. However, Houston's first responders continued to navigate the murky, debris-filled waters to search neighborhoods for people needing assistance. Hurricane Harvey tested the resiliency of Houston's police officers, extending to all the ranks. Klein, Nicholls, and Thomalla (2003) explained that police handle numerous life-threatening situations and complex investigations of sensitive nature, and these experiences expand the officers' scope of resiliency and capacity to deal with future incidents. However, no previous experience could have prepared anyone for the devastation of Hurricane Harvey.

Harvey exposed many officers to risk-factors of 12 to 24-hour workdays, the uncertainty of the conditions of their families and homes, physical trauma, post-traumatic

stress disorder, and depression. Most job professions do not experience the level and frequency of on-the-job stress compared to first-responders. West et al. (2008) described similar risk-factors from Hurricane Katrina that resulted in some police officers experiencing symptoms of post-traumatic stress disorder (PTSD) or depression. The stress caused by these risk factors could lead to a higher rate of suicide of police officers across the nation (National Surveillance of Police Suicide Study, 2016). Furthermore, for every police officer suicide, there are at least 1,000 police officers suffering from symptoms of PTSD.

The critical issue is not suicide, but the mental resiliency aspect of police officers. Resilience can be described as returning to one's original state of mental well-being through one or several coping strategies. The U.S. Department of Health and Human Services (2015) defines resilience as the ability to withstand, adapt to, and recover from adversity and stress, and this applies to both a person and an organization. The author's research interest is to what limits did Hurricane Harvey push the envelope of resiliency to the members of the Houston Police Department.

The context of this study consisted of the police officers, with no regard to rank status, within the Houston Police Department (HPD). HPD serves the territorial limits of the City of Houston, Harris County, and immediate surrounding counties. It consists of approximately 5,100 sworn law enforcement officers that staff twenty patrol stations and over twenty investigative divisions. Chief Art Acevedo was the police chief during the time of Hurricane Harvey and this study. The role of a police officer is ever-changing and requires them to be able to exercise discretion to perform their duties. Before becoming a sworn police officer within the Houston Police Department, all cadets must train for six

months at the Houston Police Academy. While researching this study, the researcher found that the academy provides a fixed curriculum mandated by the Texas Commission on Law Enforcement (TCOLE) which consists of the academics of state/local laws and department policies, defensive tactics training, firearms training, driver's training, and physical fitness. Cadets are provided with various fields of training to prepare them for the street. However, there is a lack of training in stress management.

The City of Houston employs the Psychological Services Division (PSD) specifically for counseling of police employees. According to HPD's General Order 200-04 (2017), the department's Psychological Services provides post-critical incident intervention for any employee who sustains a serious injury, is exposed to a critical incident, causes death or serious injury to another, or for any other circumstance as determined by the Chief of Police. PSD is also frequently used for screening of potential police cadets, police officers who are in undercover positions, and voluntary counseling services for police employees and their families. Kirschman (2017) described the purpose of pre-screening for police applicants is to determine whether an applicant: (1) meets the minimum requirements for psychological suitability mandated by jurisdictional statutes and regulations, (2) is free from any emotional or mental conditions that might adversely affect the performance of safety-based duties and responsibilities, and (3) is capable of withstanding the psychological demands inherent in the position. Failure to pre-screen applicants would place the hiring agency and the community they serve in jeopardy. For example, persons with excessive violent tendencies may end up using unjustified excessive force upon a citizen, causing the agency to be liable for damages/injuries. If an applicant is already emotionally unstable, they may not be able to handle the daily

pressures and stressors of the job. The need for psychological services is important to police officers. Unfortunately, many of them may never meet with the PSD for the length of their career. Hurricane Harvey, however, affected all officers in some manner, more than PSD could monitor.

HPD's Recruiting Division (2017) presents a list of duties expected from a police officer. These duties include but are not limited to:

Remain calm, composed, undistracted, and in full control of cognitive abilities while functioning appropriately in hostile, dangerous, or frightening situations that may require the use of deadly force. To maintain rational decision-making and self-control in situations or environments that are personally offensive (cases of child abuse, child molestation, sexual assault, extreme trauma or death, etc.) or which involve considerable stress, danger, personal risk, violence, hostility, or the use of force. Officers are to maintain composure and exercise restraint when verbally or physically provoked in hostile or violent environments. (p. 1)

These duties are just a few that are listed on the long list of duties, that are expected from a person with a six-month academy training period, many who are either fresh out of college or the military. Many other professions that are related to interpersonal care and safety require much more extensive training and experience.

Statement of the Problem

As Hurricane Harvey increased the level of floodwaters in Houston, the demand for emergency services also increased exponentially. The City of Houston required leadership, human resources, time, infrastructure, and equipment from the police department to help their citizens. "The police organization can influence the individual

and organizations can change the course of individual reaction from pathogenic decline to adaptation...organizational and individual resiliency together can have a meaningful impact on the more effective management of psychological harm” (Volanti 2014, p. 112).

Police officers were aware of the demands of the City, and the pressures to provide services exacerbated when the department began losing its resources and equipment. Police officers themselves were losing their homes, worried about their families, and troubled in the thoughts of trying to recover even before the hurricane was over. The police also lost one of their own, Sergeant Steve Perez, in the floodwaters as he was answering the call to report to work. These are all factors impacting the resiliency of police work. The organization is dependent upon its resources to deliver proper services, and the officers depend on their security and wellness to properly execute their duties.

The devastating floods rendered the Central Police Complex of the Houston Police Department underwater. This complex includes the city jail, along with offices of major investigative divisions such as Narcotics, Vehicular Crimes, Gang-Crime Reduction Unit, and Catastrophic Planning. The entire Southwest Patrol station was flooded, along with all the patrol vehicles and officers’ privately-owned vehicles. Officers were displaced from both their homes and their place of work and unable to help their loved ones. Nevertheless, officers were still expected to perform above and beyond their duties in search and rescue functions in the same wet uniforms since the first night of the storm.

Current practices of the Psychological Services Division and peer-assistance programs for officers in HPD do not have enough resources to monitor the mental well-being of police officers for a post-critical incident on the scale of Hurricane Harvey.

Police options in handling mentally ill patients are often limited to either hospitalization or incarceration. With this in the minds of police officers, it may cause them to be less willing to seek professional help in the event they find themselves needing mental assistance. Police officers are expected to serve their citizens with sound judgment. If an officers' mental capacity is handicapped by stressors, their productivity and ability to serve the public will suffer. The public's safety will also be in jeopardy as they can potentially have a mentally ill person equipped with a firearm.

Violanti (2014) states that to foster police resilience, "organizations should provide institution-based resources for first responders, including the education and practice of resilience skills" (p. 112). When "officer safety" is discussed, it is typically related to an officer's safety against external threats such as violent suspects or dangerous driving. However, "officer safety" should be extended to include the overall wellness and mental health of officers. The idea of Violanti's resilience skills extends to the idea of leadership resilience. The environmental stressors from Hurricane Harvey that can affect the well-being of an officer, that if left unchecked and untreated, can ultimately compromise the leadership capability of the officer. This can be a huge liability to a city government and police department. "For many police officers, the only time they have contact with a psychologist is when their job is on the line: for a screening to get into the police academy or for a fitness-for-duty evaluation after a disturbing incident" (APA, 2002, p. 60). With success, this research study can help HPD focus on the themes of resiliency and their employees' overall well-being.

Purpose of the Study

The purpose of the study was to examine the factors that affect the resiliency of the police officers and the Houston Police Department, during and after Hurricane Harvey. With results from the study, the researcher hopes to improve the overall leadership, well-being, and resiliency of his co-workers in the Houston Police Department. With the increasing rates of weather disturbances in the tropics, it is in the Department's best interest to have their employees ready to endure and lead citizens through another disaster. The research is also aimed towards removing the stigma and changing the attitudes of police officers who wish to seek psychological help.

The researcher desires to provide feedback to the police chiefs and city officials, in the hope that it would strengthen the leadership and resiliency of the police department. If successful, HPD can maintain and improve the public's confidence in its police force and officers. Also, the researcher wants to encourage more involvement and awareness of officers' humanity, and so that they can keep their wellness as a priority in their lives.

Research Questions

The following research questions were intended to provide answers to the dilemma posed in the statement of the problem.

1. How has Hurricane Harvey tested the leadership and resiliency of the Houston Police Department's officers?
2. How can the learned experiences of Hurricane Harvey enhance the resilience of police officers within the Houston Police Department?
3. How can the police department create a more resilient force of employees

to handle a major disaster?

Context for the Study

The scope of this study was conducted within the confines of the Houston Police Department, a municipal law enforcement agency in the United States of America. The Houston Police Department operates within the city limits of Houston, Texas. The department, as of the current date of this research, has approximately 5,100 active sworn peace officers (including supervisors and higher ranks) for the population of over 3.5 million citizens. However, this research did not include the other law enforcement agencies employed within the territorial limits of Harris County, such as the Harris County Sheriff's Office, Harris County Constables, etc. The stakeholders involved in this research paper include the citizens of the city, the city officials, police department chiefs, and all officers in the department. With success, the benefits of this project can be two-fold for both the community and the police department.

The targeted population within the police department was focused on as many officers as possible. The population included officers who are in uniformed divisions, such as patrol officers, tactical teams, traffic enforcement units, as well as investigative detectives. Hurricane Harvey forced everyone to be out of their undercover duties and into the waters. Harvey also tested the leaders and supervisors of the police department. Supervisors tested on their leadership abilities and not every supervisor was successful in keeping their troops above water, both realistically and figuratively.

Significance of the Problem

The Houston Police Department takes pride in its rigorous screening process provided by the City of Houston with its best candidates to become police officers.

However, the psychological profile of cadets/officers after the wear and tear of police work can look very different from the initial assessment of the department psychologist. Psychologist Dr. Stephen Heydt highlighted the hidden problem of increasing suicides and mental illness with the police force (Patty, 2014, paras. 3-6). He describes the lack of monitoring of work-related mental health issues, as they have predictable tendencies. “The suicides are predictable; the drug alcohol and gambling addictions are predictable; the family breakups are predictable. The domestic violence among police officers, which never gets spoken about, is also predictable” (Patty, 2014, para. 4). HPD has lost many officers throughout the years from suicide and mental breakdowns. With the recent crisis of Hurricane Harvey affecting the entire City of Houston in 2017, all officers were affected by the strenuous work shifts, loss of homes and property, and tragedy in and out of the workplace. From this natural disaster, the researcher would like to prevent further loss of good police officers to the heightened amount of mental stress.

The police officer profession is known to be susceptible to severe trauma more frequently than most other jobs. All the stress that officers face during the workday can follow them officer home, whether they realize it or not. Williams (1987) states that, “the psychological toll for many is great, unexpected and not well understood. Their families and friends have been adversely affected and emotionally wounded, as well” (p. 267). If officers can be self-aware of the stressors that they are facing, they may seek assistance and counseling before the stress exacerbates into more significant stressors such as divorce and child custody issues. Awareness alone may not be the only solution, but the willingness to seek help is a significant hurdle for officers. Police officers have the mindset of maintaining a tough image and rendering aid to others. Their personalities are

more reluctant to seeking help for themselves even for the simplest of tasks, even to each other. The stigma of seeking psychological help needs to be broken down and not observed as a sign of weakness, but a sign of strength conditioning.

Though the research study may not change police departments overnight, this study may shed light on identifying behaviors in traumatic events that can help officers to become more psychologically resilient. The police department will become more resilient, along with its leadership capability. Officers should understand that psychological intervention is available to help officers deal with this challenging and stressful occupation. Houston Police officers are expected to work a minimum of 25 years of service to obtain a pension, and to endure the years successfully, officers may need to think differently about things they experience. In 25 years, there will be more than one “Hurricane Harvey.” Post-traumatic growth does occur with proper coping methods and peer support. The police department can grow in a positive, more cohesive way and have more knowledgeable officers and persons after they survive the trauma of police work during a natural disaster. These healthy officers would, in turn, be more prepared to continue to serve the public with a positive attitude towards the work. Psychologist John Violanti (2014) can confirm this. His book, *Dying for the Job*, reports that officers who went to counseling after critical incidents functioned better. In at least in one study, he showed that it was not the conversations with the counselors that rehabilitated them, but how officers learned how to express their feelings and to be more honest with their spouses. These factors seemed to carry a healing power to strengthen the mental health of the officer.

Educational Value of the Study

Upon completion of the research study, the researcher obtained useable data to show the experience and lessons learned from the police officers who served during Hurricane Harvey. Department psychologists may benefit from the further exploration of any helpful ways of surveying and monitoring of officers, to get them the counseling that may be needed to reduce the likelihood of an officer becoming disabled permanently by a mental crisis. Police officers can also see the benefits of counseling if they need it, and therefore, slowly remove the stigma inside the police culture. The Houston Police training academy can utilize helpful information and add it to their curriculum for cadets to be aware of the mental fatigues that come with the job, and what avenues and practices are available to create a resilient mindset for the profession.

The study can also benefit the leadership of the Houston Police Department by seeing some of the psychological effects of their executive orders onto the line-level officers. The lack of good leadership created disasters for many officers under certain divisions and rendered the officers useless to aid others during the hurricane. The administration can also formulate a supportive environment for officers who may need counseling, versus singling them out and hiding them into non-street-level positions. In doing so, the leadership can remove possible civil liability and liability for the safety of other officers and citizens alike. Law enforcement officers play a critical role in the community and its safety. There are opportunities for the Houston Police Department leadership to take an active role in the development and improvement of its own employees' resiliency, which in turn can produce improvement to citizens' livelihood. The goal is to maximize the potential of the existing leadership, along with encouraging

and motivating patrol-level officers, who can train and develop into leaders for the department. O'Reilly and Pfeffer (2000) described the key to releasing the hidden value in people is to “fully using the talent and unlocking the motivation of the people currently within the organizations. Using positive influence to inspire participation, leaders can facilitate growth, development, and commitment” (p. 63).

If any successful methods can be established, other neighboring police departments can benefit from this research for disaster preparation. The Houston Police Department was not the only police entity to sustain the trauma, but other agencies are still experiencing natural disasters around the world. The benefits can extend, or research continued with other police departments who have a bigger or smaller demographic of personnel. Improvements within the police community can benefit from a national level.

Researcher Role and Subjectivity

The researcher is an active police officer within the Houston Police Department and had also worked during Hurricane Harvey. He had first-hand experience of working in the frontlines of the high-water and rescue operations, along with experiencing the struggles and challenges the police officers had to face. The researcher had assignments within the HPD Gang Division and Tactical Operations Division during the storm and witnessed various levels of performance by the police officers around him. At the time of Hurricane Harvey, the researcher had ten years of experience with HPD. The researcher wanted to improve the resilience of his co-workers, their abilities to handle stress, and their ability to serve the citizens of Houston. The results and implications of this study have a direct impact on the researcher.

Definitions

- Counseling – Professional guidance provided by a staff psychologist to address, explore, and resolve problems or complaints identified by the individual or the psychologist by using various psychological techniques and strategies (HPD General Order 200-04).
- Critical Incident – A work-related event that is extraordinary in nature with an expectation of producing a significant reaction on the part of an employee. An employee may be directly or indirectly involved with the critical incident and suffer a physical or psychological injury as a result (HPD General Order 200-04).
- Experience – the process of living through an event with the skills/knowledge learned from the event.
- Fitness-for-Duty Evaluation – A formal, specialized physical or psychological examination of an employee because of 1) objective evidence that the employee is unable to safely or effectively perform the essential functions of assigned job duties and 2) a reasonable basis for believing that the inability to perform may be attributable to physical or psychological factors (HPD General Order 200-04).
- Post-Critical Incident Intervention – A stress management session with a staff psychologist to provide support, education, and an informal assessment to reduce the probability of long-lasting psychological and emotional problems resulting from a critical incident. The intervention is also designed to screen for unusual circumstances (past or present) that could intensify the impact of the critical incident on an employee (HPD General Order 200-04).
- PSD – This is used as the abbreviation for the Houston Police Department's

Psychological Services Division, consisting of licensed psychologists that only deal with police employees and their families.

- Resilience – A person or organization’s ability to withstand and overcome stressful events. It is also the “capacity of agencies and officers to draw upon their individual, collective, and institutional resources and competencies to cope with, adapt to and develop from the demands, challenges, and changes encountered during and after a critical incident, mass emergency, or disaster” (Paton et al. 2008, p. 96).
- Resources – an organization’s supply of equipment, human resources, and other assets that can be drawn on by a person or organization to function effectively.
- Wellness – a person’s willingness to actively maintain and to make healthy choices of their physical and mental fitness.

Limitations of the Study

This study was limited to the psychological resources available to the researcher. The research was also limited to police officers working in the Houston Police Department. The researcher did not have access to the Harris County Sheriff’s Office, nor its neighboring police departments. With HPD being the fourth largest police department in the country, police officers encounter hostile and active scenes a lot more frequently than other police departments.

Another limitation of this study was the willingness of officers to participate in the research. Officers may not check their work emails regularly or have enough time during the day to answer a survey or questionnaire. Officers may also be reluctant to share information about their personal lives as well, especially for a research study. The promise of anonymity attempted to bring more participants to the table. While police

department business matters are usually open to the public, it is not advisable to divulge to the public the data or any information of the participants.

Summary

Starting on August 26, 2017, Hurricane Harvey unleashed over approximately one trillion gallons of water over Houston, Texas and Harris County within four days. The Harris County Flood Control Department (2017) estimated that 70% of the county experienced flooding. The Houston Police Department, the largest police department in the county, was called upon to assist their citizens. The police, however, were crippled by the flooding waters. Officers were concerned about their families and homes, but still had a job to perform. Captain Larry Baimbridge, along with his wife, Assistant Chief Wendy Baimbridge, were high-ranking officers of the HPD Command Staff. They were called to their respective assignments to coordinate high-water rescues throughout Houston, on 24-hour shifts. Their home in Cypress, Texas, however, was flooding. These commanding officers had to be the leaders of their divisions and coordinate rescue efforts. The late-Officer Norbert Ramon was at home battling stage four colon cancer, reported to work during the disaster to help rescue over 1500 residents. Officer Ramon passed away later in the year, as the disease spread to his liver and lungs. On the first night of the storm, Sergeant Steve Perez left his residence in the middle of the night, explaining to his wife that, "I've got work to do," and attempted to report to work in the downtown area. Sgt. Steve Perez later drowned en route to his assignment.

These are just a few examples of how dedicated the men and women of the Houston Police Department are at serving the citizens under their wing. It is also an example of individuals tested on how resilient they can withstand the natural disaster

both during and after the storm. Like many citizens, some officers are still trying to recover from the effects of Hurricane Harvey. Some officers were not able to withstand the pressures of Harvey. The leaders of the Houston Police Department wonder if they can better prepare for future disasters. Houston Police Chief Art Acevedo (2017) stated regarding the psychological aspect of critical incidents, “We owe it to their families and one another to make sure we have a clear understanding of what led these incidents. Was it emotional issues involving work? Was it emotional issues involving something else? We want to make sure we do everything we can to keep our folks emotionally healthy. As police officers and first responders, you see things that most people will never see, so we need to understand what led us to this, is it an issue of something work-related, is it an issue of mental illness, or an issue of other things” (p. 2).

Hurricane Harvey affected so many lives, and the goal of this research study is to create a more resilient police force in the City of Houston. Negative stressors are compounded for first responders, as they are “continuously working during disasters that they may not be ready for and experience additional personal stressors, such as extended work hours, sleep deprivation, home destruction, and separation from family” (Bernard, Driscoll, Kitt, West, & Tak 2006). The research study was also aimed to destigmatize the idea of seeking psychological assistance amongst the police culture. Additionally, the researcher explored the implications of the study for practices, programs, services, and policies related to the issues investigated.

Chapter II

Literature Review

The Houston Police Department is an organization comprised of numerous divisions with specialized capabilities to serve its citizens. These divisions are made up of people who were placed into a paramilitary rank structure for leadership responsibilities. During times of significant crisis, a sense of “psychological disequilibrium” can occur to leaders “when the existing frameworks or schemas that guide officers’ expectations and actions have lost their capacity to organize experience in meaningful and manageable ways” (Janoff-Bulman, 1992; Paton, 1994). Hurricane Harvey brought an unfamiliar and unrehearsed type of chaos for the HPD leadership to face.

Wilson and Kelling (1982) claimed that the police had become so narrowly focused on serious crime that they tended to view other important issues, such as their well-being and development of leadership, as outside the scope of their responsibilities. Kelling and Wilson (1982) promoted the idea that the police leadership should consider methods of policing themselves in conjunction with serving the public. The police leaders are always looking for improved methods of fighting crime and crime prevention. They should continue and expand their search to improve methods of creating more resilient officers. Police officers face challenges that are always changing and evolving. Crime has evolved from existing only in low-income neighborhoods to virtually anywhere, including the Internet. “In order to succeed, leaders have to act, reach outside of their comfort zone, and adapt their approach” (Ashkenas and Hausmann, 2016). Leaders may have to explore different ways to improve their department’s members, such as using research projects, so that the members can better serve the citizens of their municipality.

DeWitt and Meyer (2005) define stakeholders as “any identifiable group or individual who can affect the achievement of an organization’s objectives or who is affected by the achievements of an organization’s objectives” (p. 437). The stakeholders involved in this research include the citizens of the city, the city officials, police department chiefs, and all officers in the department. With success, the benefits of this project can be two-fold for both the community and police department, in preparation for future disasters and large-scale crises.

Hurricanes not only destroy property and homes, but they can also cause psychological damage. Police officers are not immune to the damaging effects of natural disasters. The role of the police is integral to the community it serves. “In society, police officers are expected to possess attributes and skills that would qualify them to serve in a leadership capacity” (Morreale and Ortmeier, 2004, p. 89). “Resilience” among law enforcement and police personnel is starting to become a highlight topic amongst police leaders across America (Andersen et al., 2015a; Cornum, Matthews, & Seligman, 2011; Reivich, Seligman, & McBride, 2011). This research was concentrated on the police officers within the City of Houston and their resiliency during and after Hurricane Harvey. Bonnano (2004) defines resilience as the mental fortitude to overcome stressful events. Paton et al. (2008) define resilience as:

The capacity of agencies and officers to draw upon their individual, collective, and institutional resources and competencies to cope with, adapt to, and develop from the demands, challenges, and changes encountered during and after a critical incident, mass emergency, or disaster. (p. 96)

Hurricane Harvey tested the decision-making and leadership abilities of the Houston

Police officers to their limits, in facing hazardous environments on little to no sleep, being confined to uncomfortable living areas, and extended time away from caring for the safety of their families.

Post-Hurricane Katrina Studies of Resilience

This research is supported by many similar studies from past researchers and literature reviews about the resiliency of police officers. Similar studies from previous natural disasters, such as Hurricane Katrina, evaluated factors that affected the resiliency of police officers in times of major disasters. Macaskill (2012) found that positive psychological factors such as gratitude, hope, and self-forgiveness were associated with greater happiness and fewer symptoms of depression. Another research study on post-Katrina found that “positive factors such as social support, gratitude, resilience, and satisfaction with life may work either independently or together to mitigate symptoms of depression in officers” (McCanlies, Gu, Andrew, Burchfiel, & Violanti, 2017; Wood, Maltby, Gillett, Linley, & Joseph, 2008). After Hurricane Katrina, a health hazard evaluation was conducted by the National Institute for Occupational Safety and Health. It was found that approximately twenty-six percent of police officers who worked during the storm reported symptoms of depression or post-traumatic stress disorder (PTSD) (Bernard et al., 2006).

It has been found that certain characteristics and conditions can help individuals or organizations more resilient to stressful events than others (Maddi, 2002; Maddi & Khosaba, 2005; Luthar, Chicchetti & Becher, 2000; Youseff & Luthans, 2005; Walsh, 2002). Maddi (2002) suggests that resilience is not only an individual trait but also an integration of available resources that can create a stronger resistance to the effects of

stressors. Past studies have inquired about the leadership resilience of police officers in the course of their regular duties. Paton et al. (2008) state that,

because critical events are characterized by considerable diversity (e.g., mass casualty incidents, school shootings, biohazard attack), police agencies cannot predict what their officers will encounter. Consequently, any model used to explore resiliency must identify the resources and competencies that facilitate the proactive development of a general capacity to adapt to unpredictable circumstances. (p. 96)

Police leaderships' preparedness and ability to adapt to changing situations would not be a problem if it were possible to predict the critical incidents that police would be called on.

Scope of Police Work and Procedures During a Disaster

Police officers of the Houston Police Department (HPD) were chosen for this study due to the number of stressors these individuals encounter are more prevalent than most professions. There are approximately 5,100 police officers in the Houston Police Department, including all of the supervisory ranks. HPD is the municipal law enforcement entity that handles the majority of the police calls for service in the City of Houston. Therefore, officers in HPD typically have a higher workload than any other agency in the immediate of Harris County. The increasing scrutiny from the public and media have created additional stress and have modified police behaviors to be less protective and more fearful of performing their duties. The rising rates of violent crime are met with the increasing rate of police shootings. However, the general public can often be incited by the media highlights of an unjustified police shooting, which occurs in

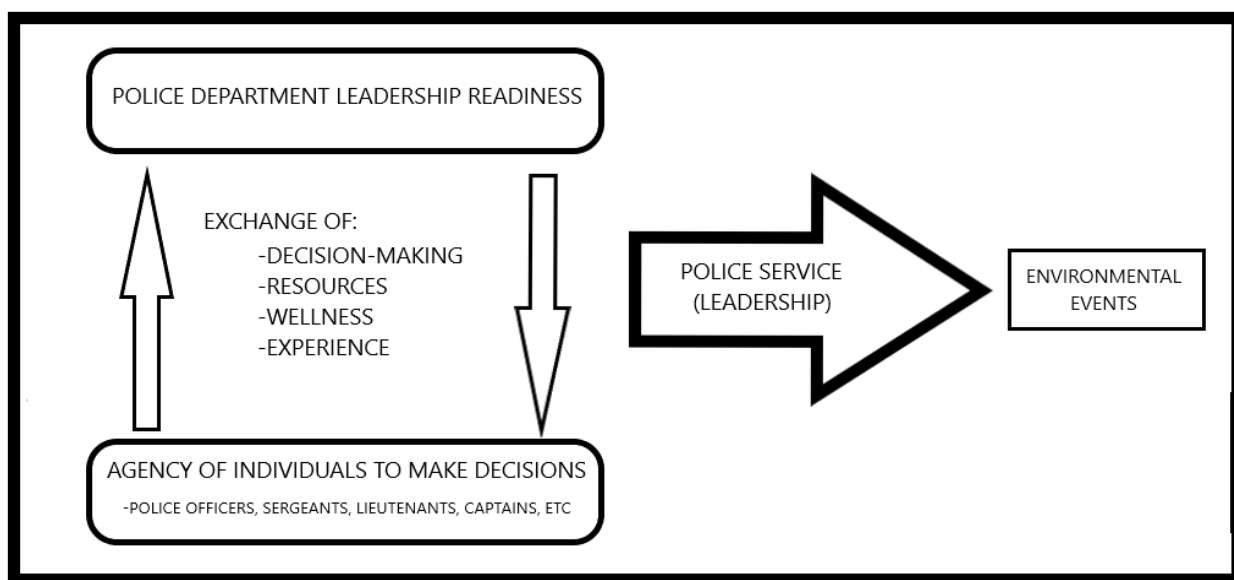
less than one percent of all police shootings in HPD (Houston Police Department, 2017). With the current stressors of policing in mind, Hurricane Harvey of 2017 entered as another set of unprecedented responsibilities for police officers. Police officers are expected to be psychologically prepared and emotionally strong to endure the work-related pressures (Brandl & Stroshine, 2012). Hurricane Harvey demanded more than just law enforcement from the Houston Police Department; the storm wanted their resolve as human beings. Houston is not only a place of work for the police officers; the city is also their home.

The police department is considered a “high-reliability organization (HRO)” (Weick and Sutcliffe, 2007, p. 4) because it is characteristically described as an organization that works under trying conditions and yet manage to maintain order for the city it serves. Weick and Sutcliffe (2019) state that HROs commit resiliency because the signature of an HRO is “not that it is error-free, but that errors do not disable it” (p. 6). According to the Federal Emergency Management Agency (FEMA), “during a disaster, police officers play a key role in many operations including search and rescue, evacuations, door-to-door checks, and maintaining overall public safety within the community” (FEMA, 2017). Figure 1 illustrates the exchange of resiliency factors (leadership, resources, wellness, experience) that create a level of service to respond to the level of demand for police service. HPD supervisors informed the rank and file a few nights before the storm made landfall, to prepare for extended shifts if the storm made it to Houston. There were approximately only ten to twelve officers who trained in the use of the High-Water Rescue vehicles. Those officers were called in, and the vehicles mobilized into pre-planned staging locations. All officers, no matter what capacity (i.e.,

undercover, investigative/detective, specialized, etc.), were ordered into a uniformed capacity and prepared for street-level duties. Any pending investigations were placed on hold to have all the human resources available. Officers were informed to have a few extra sets of uniforms, personal supplies, and to prepare for extended duty hours and days, without an exact timeframe of when officers may be off-duty next.

Figure 1.

Systems model of police leadership resilience.



The HPD's Catastrophic Planning Division was able to prepare the city's convention center, George R. Brown, to be on standby as an emergency shelter for citizens. The Red Cross organization was notified, and volunteers were mobilized to the shelter. These decisions begin from the City of Houston, Office of Emergency Management (OEM). OEM published, "ahead of the storm, OEM provided weather advisories both to City departments and the public warning of the potential threat from the storm. Through activation of the City's Emergency Operations Center, various departments, including Fire, Police, Public Works, and others, began taking steps to pre-

stage assets.

Additionally, OEM served as the City's liaison with surrounding Counties, the State of Texas and Federal Emergency Management Agency, to ensure adequate coordination ahead of, during, and after the storm" (City of Houston, 2017). The role of the police is integral to the community in crisis preparation. At the beginning of the police academy curriculum, police cadets are taught that they are the symbols of leadership within a community, especially in a chaotic environment. Cadets are taught that "police officers are expected to possess attributes and skills that would qualify them to serve in a leadership capacity" (Morreale & Ortmeier, 2004, p. 89). Citizens would look upon the law enforcement officer for direction and as a symbol of order.

Leadership

Leadership within a police agency can be seen in the line officers, as well as others within the department. If the officers and staff of a department are motivated and have good morale, then such an atmosphere reflects upon the leadership and their mood in the work environment. "It is far more important for leaders to 'walk the walk' than it is to be statistically competitive with other organizations" (Freiberg & Freiberg, 2004, p. 23). The police rank hierarchy from the highest to lowest are Police Chief, Executive Chief, Assistant Chief, Commander (formerly "Captain"), Lieutenant, Sergeant, Senior Police Officer, and Police Officer. The police chief takes orders directly from the city mayor. During the heightened alert status, the chain of command communicates with their subordinates directly via telephone or in-person, versus the traditional e-mail correspondence or memos. However, the rank system is not recognized by the general public during a crisis. A citizen would look upon any police officer in the street, as the

leader of the scene. Kelling and Wilson (1982) state that, “the police officer’s uniform singles him out as a person who must accept responsibility if asked” (p. 1). Citizens look upon officers for direction, safety, protection, and leadership. Empowerment is a frequently discussed construct in management literature, involving the adaptability and delegation of leadership tasks (Conger & Konungo, 1988). The upper ranks should allow and empower their subordinates to lead citizens, to use the powers granted to them by civil service, and to help their supervisors make decisions.

Police officers were initially ordered by OEM to mobilize to their assigned stations before the storm hit and were to prepare to handle the massive load of calls for service. However, during the rainfall, officers were ordered to stand down and find high ground, to prevent the patrol vehicles from flooding. By the time the order was given, officers were already in the midst of heavy downpours, with little visibility. This led to many street officers, with their patrol vehicles, to become stranded in floodwaters, with little to no access to basic necessities such as bathrooms, food, drinking water, etc. Citizens who were also stranded made contact and expected assistance from the officers, but only they found them as helpless as they were. Around this city, certain police stations and offices began to flood, and officers did not know where they would be able to relocate their assets. At this point, officers were beginning to question their superiors’ ability and preparedness for the impending natural disaster. Deficiencies in leadership, especially in law enforcement, have not only an ill-effect on the department but also the community they serve.

Around the city, police officers were making suggestions and providing ideas to higher-level supervisors on things that could be done to maintain operational readiness.

They made on-scene decisions at critical times to save lives, without hesitation or concern that they may have been violating minor departmental policies. Some supervisors responded and adapted to the changing situations, while some did not respond at all and left their divisions stranded into a worse situation. “Wayne” of the Gang Division, a newly-promoted lieutenant, initially gave the order to his subordinates to get off the streets and to remain at the Central Police Complex before the time of the projected rainfall. His constant monitoring of the weather forecast and fast decision-making spared all the patrol vehicles and manpower in Gang Division from becoming flooded. His division remained ready to assist the rest of the department and the community. As the Central Police Complex began to flood, “Wayne” immediately sought and pressed the issue of relocation to the captain and chiefs. Before approval was even given, “Wayne” had his division to pack up all essential equipment into the vehicles and to stage at a known safe location. This decision proved to be effective at maintaining order within his own subordinates. Success will be defined by the ability to adopt the pillars of leadership and the desire to channel different approaches into meaningful results (Schumacher, 2003). Former President Teddy Roosevelt once said, “Our country has been populated by pioneers, and therefore it has more energy, more enterprise, more expansive power than any other in the whole world” (Minnesota State Fair, September 2, 1901). Pioneers are leaders who are not afraid to do something different. These people step out of a mold and take risks to propose a new thought or activity.

The Houston Police Department is always looking to prepare its staff for any disasters that may arise. “Although resilience is evident when officers successfully adapt to actual critical incident demands, research into resilience must be undertaken prior to

such events occurring to ensure that intervention can be undertaken to arm officers with a capability to adapt before they experience critical incidents” (Paton et al., 2008, p. 96). Signs of good leadership by officers and supervisors were resounding around the city. However, there were instances that showed that some of the department leadership was not ready. A night shift lieutenant of the Southwest Patrol Division, “Frank,” was the shift commander of the time when the rainfall began. Officers and sergeants of the division were familiar with their assigned territory, which they knew to flood easily. They even knew that the Southwest Police station was prone to flooding, and when flooded, would no longer be operational. Officers and sergeants voiced their concerns and experience to the lieutenant, who blatantly ignored their words of caution and gave the order not to relocate. The Southwest Division has an emergency parking garage at a different location for events when flooding is possible. The areas around the police station were already beginning to flood, but the lieutenant continued to refuse to allow officers to move their personal and duty vehicles to the garage. Ultimately, the station and the surrounding area became flooded. Officers were in waist-high water inside of their offices with nowhere to go. Their personal and duty vehicles were all flooded. Their safety was compromised and their opportunity to evacuate had long been passed, without any logical reason or explanation from “Frank.” It was reported that the lieutenant closed and locked his office door from officers and sergeants going to him to give updates on the flooding situation and did not respond to phone calls from superiors. The door did not come open until the floodwaters made it to ankle-levels of his office.

Inadequate leadership creates subordinates who do not have the knowledge to lead the citizens of the community. Greenleaf (1977) states that,

a mark of leaders, an attribute that puts them in a position to show the way for others, is that they are better than most at pointing the direction. As long as one is leading, one always has a goal. By clearly stating and restating the goal, the leader gives certainty and purpose to others who may have difficulty in achieving it for themselves. (p. 15)

“Frank” did not give any orders or enable any of the subordinate supervisors to make effective decisions to place the division into a safer situation. The indecisiveness of the lieutenant ultimately caused his division personnel to be incapable of assisting any citizen throughout the southwest area of Houston. Police leadership deficiencies are considered as a top factor for law enforcement weakness. These weaknesses result in inadequate budgets, insufficient manpower, inadequate equipment, inferior personnel and deficient leadership, inadequate training, and unwise use of manpower.

The Southwest lieutenant, “Frank,” showed his inability to lead the police force properly and was later forced to retire. His failure to communicate with his subordinates and superiors left them without direction. Lack of respect in the police department, by both subordinates and citizens, will increase the amount of distrust. Greenleaf (1977) states, “Trust is first. Nothing will move until trust is firm” (p. 101). Police officers are often trusted upon as leaders of the community. “To effect organizational change, leaders must win both the hearts and minds of the members of the organization...To achieve such followership, leaders must gain the respect and trust of their colleagues” (De Wit and Meyer, 2005, p. 207). HPD continuously nurtures the public trust through open dialogue and transparency. Ulrich, Zenger, and Smallwood (1999) state followers need leaders they trust, relate to, and feel confident. Arguably, the most important trait of a good

leader is honesty - fostering relationships and respect. This can relate to the family ideal; two-way honesty and open lines of communication between parents and children will develop and maintain an atmosphere of trust, respect, and commitment. Schumacher (2003) explains that,

trust, respect, and commitment are all developed through the knowledge that leaders at the top of the organization understand those within the hierarchy. In the end, though at times painful, constructive honesty will create positive morale and respect that will flow throughout the entire organization. (p. 47)

As a public leader, every move an officer makes is being observed and emulated. Effective police leaders empower subordinates to become leaders in carrying out the daily tasks of law enforcement. Good leadership by police officers is important to the citizens because, “people are more willing to commit to acting cooperatively in high-risk situations when they believe those with whom they must collaborate or work under are competent, dependable, and likely to act with integrity and care for their interests (Dirks 1999, p. 450). Leading subordinate officers in an effective and efficient manner can promote high morale and a sense of strong camaraderie within the department. Good leadership is spread when subordinates perform to the best of their ability on a regular basis. Well-led officers provide quality public service. Quality service in law enforcement relates to effective public safety, which is the goal for all law enforcement.

Resources

Under normal operating conditions, HPD has a variety of resources that is accessible to their officers at a moment’s notice. Aside from the standard police duty gear and uniform, officers are provided patrol vehicles, computers, and office space to

perform their daily tasks. “Having resources (physical, social, and informational) allows individuals to take initiative and enhance their sense of control and self-efficacy over environmental challenges” (Paton et al., 2008, p. 101). A handful of high-water rescue vehicles were donated by the United States military and adapted for civilian use. HPD’s Central Police Complex, situated on the highest bank of Buffalo Bayou, was the center of operational control for the police department. It housed over ten divisions, including the jail facilities, Catastrophic Planning Unit, Central Patrol station, vehicle repair shop, and many of the equipment assets. Officers always know that backup would be less than a minute away should they need more manpower to a major police scene, which was usually no longer than a few city blocks.

As Hurricane Harvey traveled towards the City of Houston, all the manpower of the police department and the city’s essential civilian employees were called into work. The “police scene” was beginning to be the size of the entire city, much more than the available human resources could cover. Upon landfall, the torrential downpours made officers and staff move most of their vehicles away from the known flood areas near the bayou. As waters continued to rise to areas where they have never reached before, the complex began to take on water in critical infrastructures. The jail facility had to immediately evacuate and transfer the prisoners to another holding facility, through already flooded streets. The Driving-While-Intoxicated (DWI) Processing Center and many divisions that operated in the basements and the 1st floor began to flood quickly. Much of the workforce on location was busy trying to relocate whatever equipment and personal items that were not already underwater. Many marked and unmarked police vehicles that were parked in areas thought to be safe began to flood and drift away

towards the banks of Buffalo Bayou. Officers were using their office space as their temporary home/bed for the 24-hour mandated shifts but began to lose that as well. The electrical power to the complex had to be shut down as a safety precaution, while people moved out what they could. "Having insufficient, inadequate, or inappropriate resources to perform response tasks contributes to critical incident stress amongst the employees of the organization" (Paton et al., 2008, p. 101). Resources that HPD had always depended on were compromised, and manpower that was needed in the streets were localized or stranded to their stations.

Police officers have always depended on the availability of their equipment, especially a patrol vehicle and a computer to perform their basic tasks. With a lot of patrol vehicles becoming flooded or stranded around the city, officers found themselves to be immobile and unable to help anyone, including themselves. Police lose not only their operational capacity and effectiveness from a lack of resources but also their ability to create solutions to a bigger problem (Kennedy, 1993, p. 7). Officers looked on helplessly at Central Police Complex as waters rose above the rooftops of their vehicles, with some vehicles still in the first year of use. Water levels rose fast towards the morning hours, and without power and access to radios, supervisors had to communicate with each other via cell phones. HPD officers were now displaced from their infrastructure, shelters, and second homes. Other stations around the city were also reported to have taken on water or inaccessible. Leaders quickly had to find a temporary command post, and at the same time, coordinate the locations of possible shelters for citizens.

The displacement of officers' resources brought an overwhelming sense of

insecurity. Officers depended on their patrol vehicles for movement, their radios for communication, and their computer systems/software for completing police tasks. With the high-water levels, officers found that their gun belts and uniforms to be useless. Police officers who have experienced past hurricanes were slightly more prepared because, “resilient individuals experience a stronger sense of meaning and competence in their work, particularly during times of change and disruption, in responding to critical incidents in which officers need to adapt to unpredictable, emergent demands” (Thomas and Velthouse, 1990, p. 667). Officers began securing their firearms, handcuffs, and uniforms to put on wet suits, waders, and life jackets. Local sporting goods stores opened and donated kayaks and waders to first-responders. Officers who owned personal boats, canoes, jet-skis, and any type of equipment that would be useful for water-rescues were obtained. Officers began to ignore their insecurities both at work and at home, to put the priority of citizens’ safety first.

Wellness

An individual’s wellness, physical or psychological, is a critical factor in providing resilience to life’s challenges. “A law enforcement officer’s resilience is essential for helping him or her to cope effectively with the stress inherent in the job. Individual resilience involves behaviors, thoughts, and actions that promote personal well-being and mental health. It refers to a person’s ability to withstand, adapt to, and recover from adversity” (U.S. Department of Health and Human Services, 2015). An officer’s overall wellness ultimately prepares them for the challenges and stressors of police work. In the case of the lieutenant of the Southwest Division, he was known to be a loner, avoiding contact with his subordinates, did not express any happiness or make

positive comments, was always condescending to others, and was not in a healthy physical shape. These behavior signs did not place confidence in his leadership ability to the employees that worked for him, and it clearly showed in the wake of Hurricane Harvey. The culmination of negative behaviors telegraphed the lack of the lieutenant's leadership and resilience to significant stress and challenges. The U.S. Department of Health and Human Services (2015) have identified signs of resilient officers to be:

- physically and mentally healthier
- miss fewer days of work
- get back to routines more quickly
- work through the strong emotions that come from being a first responder without relying on unhealthy coping strategies (e.g., self-medication);
- have greater job satisfaction and career longevity

“Physical fitness is one pathway toward resilience because it is associated with many traits and attributes required for resilience. Also, physical fitness confers resilience because regular exercise and/or physical activity induces positive physiologic and psychological benefits, protects against the potential consequences of stressful events, and prevents many chronic diseases” (Deuster and Silverman, 2013, p. 25). Houston Police cadets are forced to maintain a physical fitness standard with weekly fitness exams during their training period. However, upon graduation, the department does not require officers to maintain their physical fitness. HPD does offer monetary incentives for officers to exercise and complete a physical fitness test yearly. HPD also provides training facilities (gyms) throughout the city for personal use. “Lack of fitness is a health risk for officers and a liability for their agencies (U.S. Department of Justice, 2017, p.

26).

Some divisions, such as the Special Weapons and Tactics (SWAT) Detail, have frequent and mandatory fitness standards due to the nature of their duties and frequency in high-stress environments. The Houston Police Department is aware of the benefits of officers maintaining their physical fitness, as the positive attributes of having healthy officers will translate to a healthy and more resilient organization. However, officers are in the constant struggle of balancing their work schedules, life at home, extra-employment jobs, overtime assignments, school, or child-care. It can be challenging to motivate the entire workforce to care for their fitness. Officers encounter non-compliant or combative suspects frequently in the City of Houston. When necessary, police are expected to use physical force to restrain these individuals or chase after them to prevent further crime.

As a police officer, they often encounter dining establishments that provide incentives to police for a more visible presence at their businesses. These incentives include discounted or free meals. These meals may not be the healthiest of diets but are hard to refuse for the individual officers. By HPD policy, officers cannot accept gratuities from businesses. These incentives or gratuities are often given without the officers' planning for it. For example, an officer would order a meal with the intent of paying for it, but the establishment would refuse payment upon providing the food. The U.S. Department of Justice (2017) found that:

The risk of shift work and having a sedentary job places law enforcement officers at higher risk of being overweight or obese, both of which increase the risk of heart disease and stroke and make the law enforcement officer less successful in

certain job-related performance measures. (p. 26)

Night shift patrol officers do not have a large selection of dining locations due to most businesses being closed. The majority of their eating options are fast-food establishments. “Time constraints can lead to heavy reliance on a diet of convenience, which is a known risk factor for obesity and diabetes” (U.S. DOJ, 2017, p. 25). Due to the spontaneous nature of police calls, officers tend to choose fast-food options to dine to ensure they get to finish their meal before the next call is dispatched. During Hurricane Harvey, options for dining were even more scarce. Most officers had to eat ready-to-eat meals that were made for survival purposes in mind, not health-conscious. Officers consumed what they could and were out working again. The lack of exercise, lack of sleep, the consumption of “junk” food, and the stressors of working in the floodwaters began to test the resiliency of the department’s officers.

“Cumulative exposure to trauma and stress and the frequent physiological stress responses experienced by police officers often have a negative impact on an officer’s mental and physical health” (Violanti et al., 2006, p. 152). Towards the middle period of rescue and recovery operations, citizens who were able to assist others provided fresh, hot, free meals to displaced citizens. These healthier, freshly cooked meals were also given to first-responders by the masses. It was clear when officers received these meals, their spirits rose, and energy was refreshed. The spike in morale stemmed from more than a free, hot meal, but also from the generosity and supportive expressions from the citizens that the officers serve. “Officers’ personal and family lives can also impact their ability to manage their emotional health on the job. Family deaths or illnesses, the end of marriages and relationships, or children having problems in school are all stressors that can threaten

officer resilience” (U.S. DOJ, 2017, p. 34).

Prior to Harvey making landfall, officers anticipated being away from their homes and families for an unknown amount of time. They were unsure of how severe the storm would be and how their homes would endure it. After several days of being away from their loved ones, the support of the general public and generosity of others filled some of the mental void of being away from home. An outpour of personal care items, clothing, and loads of cooked meals returned a sense of personal security and renewed spirits to HPD officers. This helped officers go back out to the flooded streets to continue to assist citizens. “To help with resilience, officers use their coworkers for professional and informal support and some find support in family...but constant challenges to emotional health can weaken the social ties that individuals rely on to maintain their own balance (U.S. DOJ, 2017, p. 33). With a large shortage of patrol vehicles and manpower, police departments around Texas came to assist their “brothers in blue.” San Antonio, Fort Worth, Dallas, Texas Department of Public Safety (DPS), and numerous other cities sent a large number of their patrol vehicles and officers to assist. An overwhelming sense of security and control of Hurricane Harvey, from having backup officers from around the state to assist, was brought not only to the police officers but also to the citizens of Houston.

Experience

Hurricane Harvey was not the first hurricane or flood disaster that Houston had to endure. Tropical Storm Allison of 2001, Hurricane Ike of 2008, and numerous flood events have passed through the City of Houston. For every event, police officers and first-responders were deployed throughout the city to provide aid. “Each negative,

stressful event an officer encounters leads to an attempt to cope, which forces them to learn about their own capabilities and available organizational support networks” (Violanti, 2014, p. 10). The experiences of these events can create a more resilient organization and individual. Officers who experienced Hurricane Ike and Tropical Storm Allison would ideally have an idea of what to expect when Hurricane Harvey was on the radar for Houston. Those veteran officers would already have mentally prepared for long work hours and days, little to no sleep, lack of healthy foods and personal time, and loss of resources. However, newer officers who were not around for previous natural disasters may not have built up a resilience to those stressors. “The suddenness, scale, and complexity of mass emergencies and disasters make it inevitable that officers will have to deal with failure at some point or with not being able to perform at their expected level” (Paton, 1994, p. 280).

A newer police officer (who was later interviewed for this study), from the Southwest Patrol Division, and a subordinate of “Frank,” had been going on three days on very little sleep. The lack of direction and leadership, the constant bombardment of news feeds of floods, and sleep deprivation compromised the officer’s ability to perform his duties. The patrol officer’s family resided on the 1st floor of an apartment complex, in the westside area of Houston, and was in jeopardy of major flooding from the overspill of Addicks Reservoir. With all the stressors combined with his inexperience, he abandoned his assignment and utilized city resources to pick up his family without notifying his supervisor or having authorization.

The Southwest Patrol Division lieutenant, “Frank,” failed to listen to the past experiences of the officers and sergeants under his command about the history of their

assigned geographical areas. The subordinates knew the potential and imminent dangers of remaining at the police station and voiced it. Sledge, Boydstun, and Rahe (1980) stated that coping styles and social cohesion could act to integrate individuals' stressful experiences and build a more resilient organization (p. 435). "Frank" prevented the coherence of his subordinates' experiences and prevented the passing of resilience to younger officers. "A police commander who lacks effective communication and leadership skills will be unable to resolve organizational issues effectively... when resilience is poor, continuous stress decreases one's ability to regulate emotions and behaviors" (Andersen, Papazoglou, Arnetz, and Collins, 2014, p. 626). "Wayne" of the Gang Division kept the lines of communication open between his officers/sergeants so evacuations of both personnel and citizens remained smooth and controlled. If "Wayne" did not know an answer to a logistical question, he would seek answers from his division and subordinates, if possible. "Members of cohesive work teams are more willing to share their knowledge and skills, an essential prerequisite for the development and maintenance of the learning culture that is fundamental to agency and officer resilience" (Paton et al., 2008, p. 103). There were times where "Wayne" had to bring bad news to his subordinates that they would not be relieved for another 6 hours after they had already been working for 24 hours. He was open, honest about the orders from the upper management, and sympathized with his officers and promised more flexibility when it came to breaks. Although frustrated and exhausted, the subordinates did what they could to appease the lieutenant and his superiors willingly and without complaint.

Younger officers are typically optimistic and welcoming of new experiences. Many of HPD's rookie officers saw Hurricane Harvey as an opportunity to gain an

enormous amount of experiences in a short time. “When senior officers focus on constructive discussion of response problems and how these problems can be resolved in the future, a sense of empowerment of a team is created” (Quinn & Spreitzer, 1997, p. 40). Many rookies listened to the veteran officers’ experiences of the past and mentally braced themselves for what was to come. Some felt excitement for the large amount of overtime money, some felt anxious about being away from their loved ones, but most were ready to do whatever they could to fulfill their duties.

Summary

Hurricane Harvey of 2017 exposed several factors that affected the leadership resiliency of the Houston Police Department. The natural disaster affected all the necessary parts that the police department needed to remain resilient and ready for operation. Paton et al. (2008) describe resilience as a combination and summation of the interaction between a person, the team, and organizational factors (p. 104). Citizens expect leadership from the police during times of crisis, and the leadership within the Houston Police Department was tested during Hurricane Harvey. The supervisors of the department either empowered or disabled their subordinates. Police depend on their resources and equipment to properly and efficiently perform their duties, and a lack of resources can hinder the law enforcement mission and resiliency. An officer’s physical and psychological wellness is a factor of individual resilience to stress. Officers working during Hurricane Harvey endured the stressors of lack of sleep, proper nutrition, family/home insecurities, and basic personal comforts. Novice officers learned from the veteran officers’ past experiences of working natural disasters. Leaders and supervisors can also learn from their subordinates’ past experiences to create solutions to a present

problem. The summation of leadership, resources, wellness, and experiences of the police department contributes to the organization's overall resiliency in dealing with a critical incident.

Chapter III

Methodology

The Methodology chapter is a philosophical approach which has articulated the researcher's methods of inquiry. "A researcher needs to convey the use of a normal and natural research paradigm with adequate rigor which is suitable for the project" (Coghlan & Brannick, 2008, p. 28). This chapter contains the methodological issues in this study. The research design and methods used in the study are presented. A convergent parallel mixed methods study used archival data from a survey and semi-structured interviews with police officers from various divisions of the HPD, including the leadership of the divisions that faced the hardest challenges during Hurricane Harvey.

Research Questions

The following research question(s) intended to provide answers to the dilemma posed in the statement of the problem.

1. How has Hurricane Harvey tested the leadership and resiliency of the Houston Police Department's officers?
2. How can the learned experiences of Hurricane Harvey enhance the resilience of police officers within the Houston Police Department?
3. How can the police department create a more resilient force of employees to handle a major disaster?

The researcher believed that there would be factors found that could improve the resilience, leadership, and well-being of police officers to better prepare them to handle the stress associated with handling major disasters.

Variables

The research variables measured were the components of a police officer's resilience: Leadership (Management/Supervision), Resources (Employee Empowerment and Work Environment), Wellness (Staff Health and Wellness), and Experience (Training and Professional Development).

Methodology selected

The researcher used the convergent parallel mixed method approach because of the combination of both archival data (survey responses) and semi-structured interviews to answer the research questions. As outlined by Creswell (2014), the approach was appropriate as the researcher collected both quantitative and qualitative data, analyzed them separately, and then compared the results to see if the findings provided a comprehensive analysis of the research problem. The qualitative data obtained were the open-ended responses of one-on-one interviews and the quantitative data were obtained from the survey responses in archival data (closed-ended responses).

Research Design

The research design employed was the convergent parallel mixed method approach; to collect data using survey responses (archival data) and interviews. The survey questions had ordinal variables, as the person answering the questions with their own opinions on a Likert scale. The interview questions allowed open-ended answers. HPD began to conduct the *Collective Healing Project* in an effort to improve the wellness of its employees. The International Association of Chiefs of Police (IACP) is the world's largest professional association for police leaders and is recognized as the research leader in global policing. The IACP recommended for HPD to use the Department of Justice's

(DOJ) Vicarious Trauma-Organizational Readiness (VT-ORG) Survey Questionnaire to assess a police agency's current capacity to provide peer support, identify strengths and gaps in leadership, and prioritize needs of a department. The survey to all HPD officers was part of the *Collective Healing Project*. Koh and Owen (2000) describe this research method was ideal for the study because, "its value is based on the premise that problems can be solved, and practices improved through observation, analysis, and description...and survey research involves asking questions of a sample of individuals being studied."

For interviews, the researcher used a semi-structured interview. This type of qualitative interviewing allowed interviewees to sometimes go off-tangent on their answers. This provided greater insight to what the interviewee saw as relevant and important to resiliency, bringing to light something the researcher might not have considered. It has been found that semi-structured interviews "allow for unanticipated responses and issues to emerge through the use of open-ended questioning" (Tod, 2006).

Data Sources

The participants that were involved with the survey-taking were police officers within the Houston Police Department, which included people from all backgrounds, races, sex, ages from 22 to 70 years old, and experience levels. The surveys were open to all ranks of officers who were on active duty during Hurricane Harvey. The number of respondents were 1,689 out of the total number of police personnel of approximately 5,100. The archival data did not include newly-hired officers who did not work during Hurricane Harvey, as they did not have the appropriate experiences to answer the

questions related to their work performance in the capacity as an officer. The survey was administered via the City of Houston e-mail system, but participation was voluntary.

In-person interviews were reserved for selected officers or supervisors who endured extreme challenges during the disaster. There were officers who received commendations for their leadership and actions in the face of disaster, and there were those who received disciplinary actions for their violations of policy and/or lack of performance. The researcher attempted to interview individuals from both spectrums to obtain an insight into the experiences, challenges, and struggles of each officer. Frances et al (2009) states that “one-to-one interviews are a valuable method of collecting rich, in-depth data about participants’ experiences and perspectives” (p. 314). The selected individuals were not part of the researcher’s chain of command.

Archival Data. The quantitative phase of the study focused on identifying factors contributing to or impeding officers’ resilience and leadership ability through archival data. The Department of Justice’s (DOJ) Vicarious Trauma-Organizational Readiness Guide (VT-ORG) Survey Questionnaire for Wellness and Resilience (shown in Appendix A) was administered between September 1, 2018 and October 31, 2018, for a total of approximately eight weeks. This cross-sectional survey was conducted as part of HPD’s *Collective Healing Project* to improve service to victims of crime, employee wellness, and building community trust. The participants were given a questionnaire/ survey via e-mail, consisting of answers in the form of a 5-point Likert scale (1=*Never*, 2=*Rarely*, 3=*Sometimes*, 4=*Often*, and 5=*Always*). The questions were derived from the VT-ORG’s Readiness Survey, inquiring participants’ opinions about four main subcategories: Management/Supervision, Employee Empowerment and Work Environment, Training

and Professional Development, and Staff Health and Wellness. There was the fifth subcategory of Leadership, but the administrator incorporated those questions into the Management/Supervision as they were similar in content. The VT-ORG's Readiness Survey's substance and items were malleable to cater to various police department's applications. Therefore, the administrator, Cheryl Murray, modified the survey for HPD-specific use. The survey contained some questions that did not apply to HPD, so the administrator omitted them. A set of questions were added at the beginning of the survey to establish the basic demographics of the survey takers. Demographic questions identified the respondent's general assignment division, whether or not the respondent is in a supervisory position or not, sex, and number of years of service.

Interviews. The primary technique for the qualitative phase conducted was a semi-structured in-person interview with selected police officers. The questions for the interviews also reflected those in the VT-ORG's Readiness Questionnaire, with participants providing open-ended answers. In-person interviews were reserved for certain officers or supervisors who endured extreme challenges during the disaster. The officers selected were based on the list of officers and supervisors who received commendations from the chief of police for their exemplary actions during Hurricane Harvey. Also, one of the interviewees was disciplined for their failures during the storm. All individuals were chosen from various assignments to broaden the spectrum.

The interview questions consisted of seven open-ended questions that were screened for approval by the HPD Planning and Research Division. The content of the questions debriefed the participants' own experiences, opinions, and lessons learned from Hurricane Harvey. The questions did not ask for the critique of other employees or

supervisors, but more of a self-reflection to what factors they believed helped them, and possibly others, to improve and prepare for future disasters. The interview began by allowing the respondent to open up about their general experiences during Hurricane Harvey. The intent was to assist them in recalling the time period and mentally situating themselves back almost two years ago. The next few questions inquired about the particular and memorable challenges they faced and what helped or could have helped the respondent face those challenges. The interview questions then narrowed down to the respondents scoring the four listed variables (Leadership, Resources, Wellness, and Experience), on a 4-point Likert scale from 1 to 4, on how strongly they believe each of those variables affected their performance during Hurricane Harvey.

The following questions were asked: (a) In your own words, please describe your experience (at work and home) of Hurricane Harvey, (b) Please name/list the top challenges you had to face. (Five maximum), (c) How did you respond to these challenges, (d) Did anything prepare you to face these challenges, (e) What did you learn or what have you improved since Hurricane Harvey, (f) On a scale of 1-4 (1=least and 4=most), how would you describe each of the following as being a factor to your ability to respond to the demands of Hurricane Harvey: Leadership (Management/Supervision), Resources (Empowerment / Environment), Wellness (Health and Wellness), Experience (Training and Development), (g) Can you expand or add on any of these topics?

Data Collection Procedures

HPD administrator Cheryl Murray disseminated the survey questions using the departmental e-mail system that was programmed to e-mail every active police officer of all ranks. The survey questions were web-based and accessed through the URL,

generated using SurveyMonkey.com by the HPD Planning and Research Division. An e-mail request by the Chief of Police, Art Acevedo, had been sent to all police officers to encourage participation by the employees. A secondary e-mail with a video message from Chief Art Acevedo was sent two weeks prior to the end-date of the survey to encourage participation further. Survey responses to the “Employee Wellness” section of the *Collection Healing Project* would be obtained from the HPD archives, upon HPD approval. SurveyMonkey.com allowed the officers to be able to take the survey anywhere, such as home, office, or mobile computer inside the patrol vehicle while officers were on-duty. An advantage of using a web-based survey is that the results will be stored and transformed into numeric data in the form of a Microsoft Excel spreadsheet. Cheryl Murray collected this spreadsheet. The researcher obtained HPD Planning and Research Division’s approval to gather the survey spreadsheet for this research study. Cheryl Murray then forwarded the Excel spreadsheet to the researcher. This data was not available for public access at any time.

For the selected individuals that participated in the interviews, they received the interview questions before the scheduled in-person meeting. Written consent for the participation was obtained via informed consent by the researcher before conducting the meeting. The researcher met the participants at their place of work or where their primary duties were assigned. Creswell (2014) outlines that qualitative interviews should be done at the site where participants experience the issue or problem under study. The interviews were audio-recorded and later transcribed. Participants had an opportunity to review and make any corrections to the contents of their answers upon completion of the transcription.

Validity and Reliability

Creswell (2014) states that the validity of qualitative research as the researcher checking for the accuracy of the findings by employing certain procedures. The qualitative reliability is that the researcher's approach is similar or has been used with multiple researchers and studies (Creswell, 2014, p. 201). Measures are slightly different in quantitative studies. To validate qualitative results, the researcher selected four strategies: (1) triangulation – examining different sources of information for common themes (2) member checking – reviewing the findings with the participants to see if the themes are accurate; (3) clarify bias – providing self-reflection of the researcher to the findings; and (4) external audit – asking a person outside the project (personnel from HPD Planning and Research Division) to conduct a thorough review of the study (Creswell, 2014, p. 201).

The survey and interview questions were based on other research completed within the field of law enforcement. “The VT-ORG was found to be a reliable and valid assessment of organizational responses to vicarious trauma” (Hallinan, Shiyko, Volpe, and Molnar, 2019, p. 481). Previous research studies have administered the VT-ORG to large and diverse first responder organizations. Halliman et al.'s (2019) study found a high level of consistency in the reliability analysis of the VT-ORG survey (p. 488). The International Association of Chiefs of Police (IACP) aims to improve and advance the policing profession through the use of research to provide safer communities. The IACP has successfully used the VT-ORG's research methods in over fifteen major police departments around the United States to successfully create a list of recommendations for improvement for individual department needs. Often, the IACP would use the results of

research conducted to create a local task force to assist police departments in implementing new programs from those recommendations.

Data Analysis Procedure

Semi-structured interviews were conducted. The analysis of interviews involved a process using Braun and Clarke's (2006) thematic analysis approach. This was a systematic analysis of identifying patterns of meaning in participants' accounts. The analysis comprised of the following steps: (1) multiple reviews of the data obtained; (2) generating common themes or "labels" to categorized common ideas; (3) organizing the labels representing similar ideas to produce a list of themes for each interview; (4) comparing themes across interviews to create a "thematic map" of the data; and (5) defining and refining themes to produce a consolidated set of themes (Braun & Clarke, 2006). The researcher ensured that each theme was supported by statements from the interviews and "densely" described (Strauss & Corbin, 1998).

A wellness and resilience survey (from VT-ORG) had been recently administered within HPD under the "Collective Healing Project," and the researcher obtained the archival data for analysis between the relationship between wellness and resilience, post-Hurricane Harvey. Once the data was obtained, the researcher used the Microsoft Excel spreadsheet tools to seek any common trends or themes. VT-ORG also recommended using the results to find rationales for the responses, tasks to maintain or build upon, and identify responsible parties (or leaders). To do this, the Vicarious Trauma-Organizational Readiness Guide provided a score sheet that allowed the researcher to tally and average the scores for each of the four areas of organizational health, and average the scores for each statement or question within each of the four areas of organizational health (DOJ,

2019). Upon completion of averaging the scores for each category, the researcher compared the scores to the VT-ORG's recommended score classifications. Average scores in the 3.5 to 5 range for a category indicate a *strength to maintain* or continue to enhance. Average scores in the 1 to 3.4 range represent *gaps to address* for a category. The researcher obtained the results as a Microsoft Excel spreadsheet, and it had yet to be analyzed. There was a total of 1,689 respondents out of a possible 5,100. The researcher conducted a statistical analysis of the survey results with IBM's Statistical Package for the Social Sciences (SPSS) software. Using SPSS, the researcher conducted a reliability analysis and descriptive statistics analysis.

Limitations

The archival survey data had its limitations in which how many people had voluntarily participated in the survey. Some participants were probably reluctant to answer for fear of repercussions to criticizing leadership, or some may be dishonest. Regardless, it was the best method to obtain a lot of data in a short amount of time, given a large population of 5,100 officers.

The limitations of the one-on-one to interviews were that it required the researcher to schedule meetings with each participant separately. This was found to be time-consuming depending on how many individuals are selected. The personal relationship between the interviewer and interviewee can be a limitation as it can cause a bias (Frances et al., 2009). To mitigate this, the researcher structured the questions to where it had the interviewee not concentrate on the topics asked, but more of reflecting on their own experiences and opinions about the topic. Also, the individuals selected were not within the researcher's employment division or chain of command.

The study was conducted only within the population of the Houston Police Department. The study did not include sources of work stressors, which did not illustrate the relationship between frequencies of critical incidents and resilience. The research was also limited to police officers working in the Houston Police Department. The researcher did not have access to the Harris County Sheriff's Office, nor its neighboring police departments. The researcher's inquiries were conducted via one-on-one interviews, which consumed a lot of time between scheduling and interpreting the data obtained.

Summary

The discussion in this chapter of the methodological issues that impact on this study prepared the way for examining the data collection and data analysis strategies. This chapter also discussed and addressed the limitations identified in the process of this research. This research project utilized two forms of data generation methods: interviews and archival data collection. The individuals invited to participate in the interviews were officers and supervisors having influence in the operation of the organization. These people have a significant influence on the research topic and were aware of the needs of HPD.

Chapter IV

Results

This chapter provides the results obtained through the data collection process. The purpose of this section is to assist the reader in understanding the results and findings from the research. The researcher begins constructing the accounts provided from the data collection and interviews. This process tells the stories from the participants' perspective. Next, the report identifies the results discovered during the data analysis. The researcher conducted individual interviews with five volunteer interviewees of different ranks within the Houston Police Department. The researcher had originally aimed for seven subjects for interviews, but two of them were unable to due to constant scheduling conflicts. Each interview was conducted in-person and spanned for approximately thirty minutes. Each participant was asked the same questions and could express their responses freely. The researcher conducted the interviews in-person and recorded the responses via voice recorder as the participants spoke. At the end of each response, the researcher restated the response to clarify and limit the need to interpret the answer given.

The chapter presents the results of the data analyzed from archival data (survey results) and interviews conducted. The content of this chapter synthesizes the research results with the research concepts that relate to a police officer's resilience: Leadership (Management/Supervision), Resources (Employee Empowerment and Work Environment), Wellness (Staff Health and Wellness), and Experience (Training and Professional Development). This chapter ends with constructing a general account that summarizes what the researcher has discovered from the research process.

Setting the Scene

The purpose of this mixed-methods study was to obtain the perceptions of police officers concerning the factors that affect the resiliency of the police officers and analyze the factors that influenced their resiliency during and after Hurricane Harvey. The researcher wanted to identify behaviors and traits exhibited by police officers that can help other public service workers to become more psychologically resilient for a major crisis.

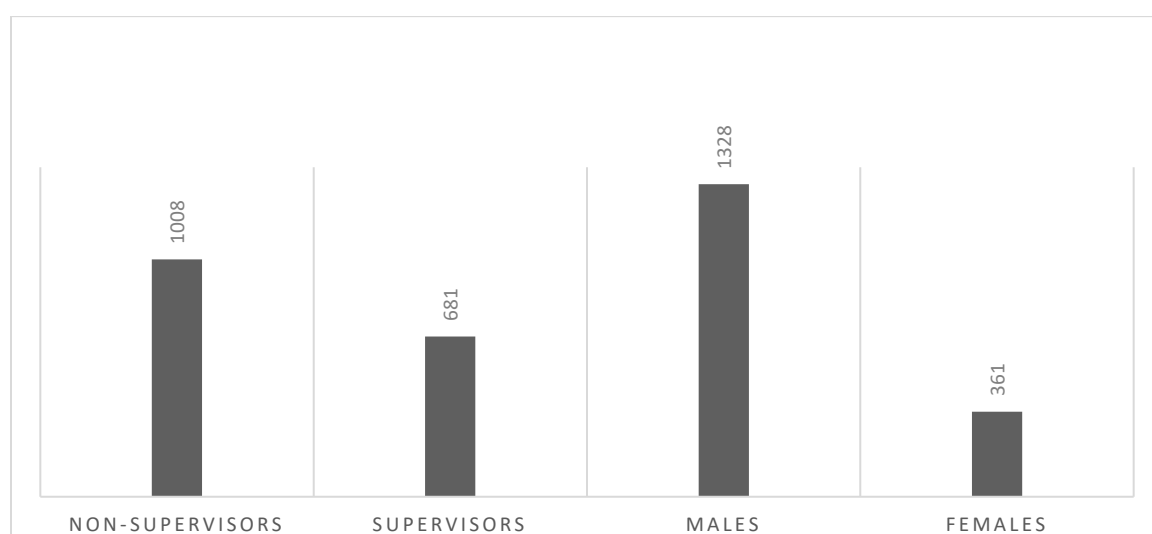
Patton (2002) suggested the mixed-methods study approach because “the researchers need to know and use a variety of methods to be responsive to the nuances of particular empirical questions and the idiosyncrasies of specific stakeholder needs” (p. 585). This research project utilized two forms of data resources: Archival survey data and interviews. The data collected from the survey was instrumental in assisting the researcher in producing interview questions that generated responses that directly related to the research subject. The individuals invited to participate in the interview were persons influencing the operational needs of the police department.

Obtaining archival data is a secure, cost-effective method of obtaining quantitative data. The archival data method was appropriate for this research project because it provided answers to a multitude of questions in a short amount of time, and from a large sample size. The use of existing data sets can also offer some significant methodological benefits. It is also a great way to bolster arguments about the generalization of the results of a study. The researcher obtained the results of the Department of Justice’s (DOJ) Vicarious Trauma-Organizational Readiness Guide (VT-ORG) Survey Questionnaire for Wellness and Resilience. Cheryl Murray, HPD’s

Divisional Manager, administered the survey between September 1, 2018, and October 31, 2018. The numerical data was placed into a spreadsheet to tally the responses. The total number of respondents was 1,689 out of the possible 5,123 employees at the time of the survey administration. Figure 2 shows the demographic information of survey respondents.

Figure 2

Demographics of Survey Respondents



In addition to the archival data acquisition, the researcher interviewed police officers within the Houston Police Department. The purpose of the interviews was to gain an understanding of the leadership methods, from a variety of personnel regarding their thought processes. Through interview questions, the researcher was able to collect statements from the participants and supervisory positions within the Houston Police Department. This allowed the participants to respond in their own words, clarify perspectives, and provide examples. The researcher categorized the interview questions into key concepts using a deductive analytic approach: Leadership, Resources, Wellness, and Experience.

The researcher combined the two data collection methods and generated both quantitative and qualitative information. The data acquired from the interviews has allowed the researcher to gain perspective from the participating officers and supervisors, who provided feedback and recommendations for improvement. Accessing the VT-ORG survey results through the archival data method has provided a more realistic view of the present reality. With the information obtained, the researcher can produce more rigorous research and provide more useful recommendations.

Emergent Themes from Five Interviews

As stated in the Methodology chapter, the analysis of interviews involved a process using Braun and Clarke's (2006) thematic analysis approach. This was a systematic analysis of identifying patterns of meaning in participants' accounts. The researcher presented the subject matter of this research study to the Houston Police Department's Planning and Research Division for approval. In the research request, the researcher requested to interview at least seven individual subjects from HPD. The HPD Planning and Research Division screened and provided the researcher with a list of individuals that were approved to be involved in the research. This screening was to make sure that the subjects were in good standing with HPD and were not involved in any pending or active allegations of misconduct with the Internal Affairs Division. The list of individuals consisted of six males and one female. The individuals selected included Chief of Police Art Acevedo, the commander of Tactical Operations, the commander of Traffic Enforcement, the police sergeant of the Patrol Division, and a police officer who was disciplined for misconduct during Hurricane Harvey. The sex for the participants were all males. The two selected individuals (one male and one female)

who were unable to interview were the assistant chief of Patrol Command and a police lieutenant of the Texas Anti-Gang Task Force. Except for the police chief, HPD Planning and Research requested the names of the interviewees to remain confidential.

The questions to each interviewee were: (a) In your own words, please describe your experience (at work and home) of Hurricane Harvey, (b) Please name/list the top challenges you had to face. (Five maximum), (c) How did you respond to these challenges, (d) Did anything prepare you to face these challenges, (e) What did you learn or what have you improved since Hurricane Harvey, (f) On a scale of 1-4 (1=*least* and 4=*most*), how would you describe each of the following as being a factor to your ability to respond to the demands of Hurricane Harvey: Leadership (Management/Supervision), Resources (Empowerment / Environment), Wellness (Health and Wellness), Experience (Training and Development), (g) Can you expand or add on any of these topics? The list of emergent themes, along with subthemes, are listed in Table 1.

Table 1

Description of Emerging Themes from Interviewees

Themes / Subthemes
Forward Leadership and Resilience from Chief Art Acevedo
<ul style="list-style-type: none"> • Risk Management • Create Emotional Capital • Use of Learned Experiences • Inaction of Civic Leaders • Reputation
Lack of Preparation Evident
<ul style="list-style-type: none"> • Equipment Placement • Mental Fatigue
Lack of Communication Caused Uncertainty
<ul style="list-style-type: none"> • Radio Silence
Lack of Family Support from HPD
<ul style="list-style-type: none"> • Security of Personal Property • Line-of-Duty Death • Unauthorized Leave of Absence
Uncoordinated Acts of Cooperation Helped to Increase Resiliency
<ul style="list-style-type: none"> • Self-Initiated Tasks • Use of Outside Resources
Specialized HPD Divisions Appeared to be More Resilient
<ul style="list-style-type: none"> • Frequency of Training • Importance of Physical Fitness

Themes of Forward Leadership and Resilience from Chief Art Acevedo

Risk Management. Chief Acevedo was the newly appointed chief for the Houston Police Department in December of 2017. He left his position as chief of the Austin Police Department to join HPD. Chief Acevedo authorized his name to be released for this study. The researcher interviewed the police chief to gain insight into the leadership challenges he had to face. Chief Acevedo indicated his interview that part of his leadership strategy during Hurricane Harvey and its aftermath was to motivate staff by referring to how history will view them. He noted that he sought to summon the highest level of job effectiveness from staff by giving support and showing belief in their

capabilities. Acevedo also utilized this leadership strategy to coax other city officials and community leaders into action, sometimes only through relentless verbal coercion.

Acevedo characterized this type of leadership as recognizing the need to “put oneself at risk for the greater good,” which includes “being blunt” to high-ranking officials when others are afraid to speak up. This was joined with a conviction that strong leaders do not “worry about tomorrow”; instead, they “worry about today... (about) what’s in front of [them].”

What may also be considered characteristic of this approach to leadership was Acevedo’s stated appetite for risk. He recounted moments when he urged colleagues to act in ways that were risk-appropriate, urging them to do this rather than to be risk-averse. This ‘risk appropriateness’ may also align with the need, communicated in the subtext of his interview, to create a sense of urgency among the HPD officers, management, and staff, as well as among Houston city officials. The leader appears to have mirrored this ethos by example, as he showed a willingness to put himself ‘on the line’ through confrontations with top officials and staff he perceived to be intransigent. The approach also showed a high level of *personal* commitment to the mission at hand, at least in terms of the extraordinary circumstance presented by the hurricane.

An additional element highlighted by Chief Acevedo was risk management during a crisis. He explained his approach to risk and risk strategy through the lens of previous experience, as well. Acevedo also emphasized the importance of leadership by setting an example and being visible to those under one’s command. However, Acevedo expressed that he was caught out by the storm’s arrival, as he was staying away from the city near the time of Harvey’s landfall and had to travel back. During this trip back, Acevedo

recounted his pivotal decision that the outgoing shift of officers and staff would not be allowed to leave when the next shift reported for work.

Create Emotional Capital. There was an indication in the Chief's responses that he felt the "lead from the front" approach to leadership helped to foster a culture of teamwork, mutual commitment, and shared responsibility within the HPD and the City of Houston in general. On this point, Acevedo noted that he aimed to build emotional capital because of the belief that emotional capital is what is the most critical ingredient for institutional resilience. This emotional capital was created, Acevedo continued, through a long tenure of engagement and emotional investment in interpersonal relationships within HPD itself, and between HPD and the community it serves. He also noted his belief that a key factor influencing the ability of individuals to respond in adverse circumstances, such as demands placed upon them by Hurricane Harvey and its aftermath, was strong leadership. As an example of this, Acevedo noted his different, more hands-on approach compared to previous leaders, including his propensity to work on the 'front lines' in a patrol car.

Acevedo described the preparations of the HPD intended to meet the extraordinary circumstances and potential destruction expected of Hurricane Harvey before it made landfall. Expecting the storm to reach Houston Saturday, Acevedo noted he sought to create an "operational rhythm" by gathering together a specialized task to begin operations twelve hours before the arrival of the worst of the storm, on Friday. This operational rhythm was a tool through which Acevedo sought to test the readiness of HPD personnel tasked with extraordinary disaster-response duties. It also appeared to

refer to how the entire department would function during the difficult times of disaster response when service disruptions affecting normal operations were anticipated to occur.

Use of Learned Experiences. From the interview with Acevedo, it appeared that the HPD primarily was working with limited experience in disaster scenarios, particularly concerning those playing out in the Houston area itself. Acevedo cited his past experiences as a police chief for the Austin Police Department (APD) and the California Highway Patrol, among others. One example that motivated his planned organizational response to Harvey was a period of heavy rainfall in Austin that knocked out communications devices and sensors. Without these sensors, it severely limited the flow of passive information available to APD decision-makers and staff. Thus, Acevedo and his fellow managers sought to anticipate similar effects stemming from Harvey. Acevedo also noted the importance of additional previous experience. One example was the impact of earlier work during the California earthquakes for his resilience and perspective while later working through the Harvey landfall with HPD.

Inaction of Civic Leaders. Another pivotal moment for Acevedo was when the National Weather Service notified him that the storm was likely to remain over the city, for a longer duration than expected. This moment caused him to think on the fly, and to imagine the impact of the predicted 20 to 25 inches of precipitation forecast by the National Weather Service. Acevedo reported that he used his knowledge of the adverse effects to Houston of only 3 inches of precipitation to estimate the potentially catastrophic impact of 20-plus inches. The leadership of HPD contemplated a number of responses. One was a possible alert, an emergency telephone call, directed to people in

flood-prone neighborhoods and other areas to take necessary precautions, including storing their belongings on the higher floors of dwellings.

Acevedo emphasized that he had to persevere in the face of managerial inaction in other parts of Houston city government. He argued that other city officials did not view Hurricane Harvey as a potentially catastrophic weather event with the highest humanitarian implications. Instead, they considered it primarily as an event characterized by a period of heavy rainfall, he recalled. Chief Acevedo had found this particularly frustrating because this underestimation was communicated to the public in statements that downplayed the seriousness of the moment.

Reputation. There were additional signs that Acevedo was concerned about: the reputation hit to himself and others if the public perceived incompetence and lack of sufficient mitigating action. One was his comment to the mayor and Harris County Judge Ed Emmett that the public would “crucify” the three of them if they did not shift course and prepare the people for catastrophe. The interviewee noted that his frustration threatened to boil over into an outburst of rage: “my blood pressure gets going off; this is not just a rain event.” This frustration did eventually cause the city officials to finally reveal, in public pronouncements, that the expected precipitation was, in fact, 20 to 25 inches. However, further frustration on the part of Chief Acevedo was recounted because this candor did not occur until the morning of the day, the brunt of the storm was scheduled to hit.

Lack of Preparation Evident

Equipment Placement. An interview with the HPD Commander of Tactical Operations indicated that previous experience with hurricanes caused the individual to

downplay the seriousness of Hurricane Harvey initially. This view was indicative of the unpreparedness of many HPD task forces and departments. The lack of preparation and awareness was such that officers were placed in danger in the line of duty. The severity of the storm caught HPD by surprise, such that no preparations had been made for a scenario entailing the destruction of Hurricane Harvey's magnitude. The respondent admitted that rescue vehicles were not placed at critical locations ahead of the storm. Also, the availability of real estate to put displaced citizens drastically slowed rescue efforts. The Tactical Operations commander improvised and acquired a citizen's residence that was not flooded and used it as a staging area for rescue vehicles and rescued citizens.

Mental Fatigue. There were also indications that HPD officers and leadership did not prepare for the mental toll they would experience during the storm and its aftermath. Boat rescue missions included officers who expressed a lack of preparedness for the deaths and desperation they witnessed. One illustrative vignette was provided by an officer who was part of a boat rescue mission. This officer movingly recounted how they were haunted by the sound of people banging emanating from one home from its trapped inhabitants. They reported that the sound of the banging "broke me," a sign of the emotional trauma experienced by some HPD officers. Some of this reaction was likely the natural human response to desperation caused by an extraordinary situation. One example was when an interviewee recalled the beautiful smiles of a family seated atop furniture in a flooded home upon being rescued.

Although some participants characterized HPD as being unprepared, another common assertion was that the extraordinary circumstances of Hurricane Harvey could

have been prepared for. Standard training, said one interviewee, was plentiful and frequent but did not prepare them for the rigors and demands brought on by Harvey. The Tactical Operations commander stated that his division had training for high-water rescues. Still, the exercises did not simulate a response of adequate size to mitigate a threat and devastation on a scale so large.

Lack of Communication Caused Uncertainty

Radio Silence. Several interviewees noted that they lacked direction from the department during the storm and rescue effort's most pivotal moments. The commander of the Tactical Operations Division recalled a lack of communication even after the critical 48 hours after the storm's landfall in the Houston area. This 'radio silence' occurred after a long shift of executing boat rescues in Houston neighborhoods. Interviewees also reported that lack of cellular service placed an even higher premium on communication, with the HPD unable to provide useful and stable alternate means of communication in some instances.

In speaking about what they would do differently was a similar event to occur again; one interviewee emphasized communication practices. They noted that in the same circumstance, having had the experience of Harvey, they would ensure that their phone was completely updated in terms of contact lists. This list would include all people within the department and division, along with relevant commanding officers. Interviewees also expressed that there should have been more inter-departmental communication to facilitate more rapid problem-solving. This was also considered a matter of fostering closer relationships between department heads, according to one interviewee.

They noted that:

“You don’t know how to communicate if you haven’t built those relationships because in the relational policing, establishing relationships with the community and others ... like you don’t wait ‘til there’s a riot to go make friends, you make positive relationships.”

They continued that this effort should include establishing relationships with those one does and does not necessarily agree with or who one would otherwise freely choose as a friend in their private life.

There was another way in which a lack of communication appeared to impact resilience and job performance. According to the interviewees, there was a reluctance on the part of both staff and management to inform others of the stresses the storm had placed them under. An officer noted that one of the main struggles brought on during the time of Harvey was sleeplessness. This officer carried out an internal debate on whether to inform superiors of the struggle. In the end, the officer decided not to tell superiors.

A separate interviewee, who was a sergeant, echoed the impact of poor communication during Harvey. They noted that some of the officers under their command had become stranded and could not be reached because of dying cell phones and police radios.

Lack of Family Support from HPD

Security of Personal Property. The commander of the Tactical Operations Division noted that they decided not to check their phone after learning of the flooding’s severity to their own home. The commander of the Traffic Enforcement Division echoed this sentiment, noting that concerns about family were at the forefront of their mind during the brunt of the storm. However, this interviewee indicated that their family members

were outside of the storm's path, which allowed the interviewee to focus on the job at hand with a clear mind.

The interviewee also noted that they did not return to their home for a period of three to four weeks, while HPD coordinated and executed its response. This peace of mind attributed to the fact that the interviewee's home was located in a neighborhood of relatively high altitude and was thus unlikely to become flooded.

Line-of-Duty Death. A related factor that appeared to weigh on the mental states of officers and staff was the vulnerability of fellow department members. One interviewee recounted the scenario in which Sergeant Steve Perez perished in the line of duty. They noted that the loss was the most significant challenge they faced during the period of Hurricane Harvey. Sergeant Perez of Traffic Enforcement Division was missing for over 24 hours from when he was reassigned temporarily to Kingwood Patrol Division. He reported that there were floodwaters along the routes to downtown, where his office was. Sgt. Perez resided close to the Kingwood subdivision but wanted to report to his primary assignment. It was later found that he had drowned in the floodwaters, along with his vehicle. The loss of the officer occurred while the department tracked the locations of all officers operating under the Traffic Enforcement Division. Commanders knew that the officer was in jeopardy near Lake Houston and had inquired about his current status as the day unfolded.

The officer was not present on call sheets, unlike the rest of the officers within the assigned area mass. According to the Traffic Enforcement commander, Kingwood Patrol Division was in a state of disarray. It was challenging to find information on Sgt. Perez's whereabouts. This caused the commanding officer to become quite concerned. There

were also feelings of guilt associated with the fact that the search for the missing officer did not begin as soon as his whereabouts became uncertain. The interviewee recounted to themselves how the officer likely struggled with the water currents at his possible location just before the time of his death.

In response to the death of the officer, the Traffic Enforcement Division, along with HPD, took several measures to cope. These coping actions appeared to have an impact on resiliency and recovery after the traumatic loss. Commanding officers gathered staff in the division together for an impromptu vigil and roll call after the officer's death was announced. Officers said prayers in an attempt to deal with the stress and pain of losing a colleague. Another way in which the interviewee attempted to cope was to mentally focus on the positive characteristics of the officer who perished rather than to ruminate on the moment and circumstances of his death on the job. However, the interviewee indicated that officers did not demonstrably grieve, and possibly did not grieve at all, until after the response effort had been completed. There was a visible change in the Traffic Enforcement commander's demeanor during the discussion of Sgt. Steve Perez's death. The emotional toll of the incident was still present as the recollection of events continued.

Unauthorized Leave of Absence. Another interviewee, a junior officer with less than two years of experience on the job, echoed the theme of lack of family support. This officer made the decision to abandon his post without authorization from superiors. He did this to drive his family to safety in a motel located outside of the worst-hit parts of the city. The officer was disciplined for this decision with a short-term suspension. He noted that he made this decision because there was no plan in place for his family to respond to

the circumstances of the storm and make it to relative safety. The scenario faced by this officer was particularly daunting in comparison to his colleagues because his family home was located in an area of Houston that was struck by flooding.

The officer was in the midst of a series of 24-hour shifts after their division mobilized to execute its disaster response. They were unable to perform many rescues because they lacked a significant number of high-water rescue vehicles, meaning that the officer could not rescue his own family while working their shift. The officer indicated they were unprepared for the high-water event and the implications it would have on his neighborhood, in particular. This was a preventable case, and the department did not provide adequate advice ahead of the storm for situations like this. Although the officer in question was disciplined, the department itself failed to adequately consider the impact of the storm on the ability of its staff to carry out their duties. The failure is particularly evident in the case of the young officer who would have had little experience in such scenarios and required help to account for all of the implications of the disaster.

Uncoordinated Acts of Cooperation Helped to Increase Resiliency

Self-Initiated Tasks. The commander of the Tactical Operations Division noted that the HPD Bomb Squad took the responsibility of feeding other officers and staff. With this help, the Bomb Squad took the initiative without direction from HPD administration and provided officers and staff with bountiful breakfasts, lunches, and dinners, according to one interviewee. This self-coordination initiative included the assignment of specialized duties to different groups of HPD staff. There was a spirit of improved cooperation amongst officers that transcended hierarchy, if only for a short period. The commander of Tactical Operations reported that the spirit of collaboration

amongst the teams in which they were enmeshed was so high that they rarely were called upon to assert leadership to accomplish essential tasks.

Use of Outside Resources. The food distribution was in tandem with donations from the private sector, including a delivery of food items and convenience items needed for recovery work, such as Red Bull. Both commanders, along with several of the interviewees, commended the many food establishments that donated freshly cooked meals to displaced citizens and first responders. They stated that the hot meals boosted their morale and their physical well-being compared to the MRE's provided by HPD.

Interviewees also commended the actions of the Cajun Navy, who were a group of volunteer boat owners from Louisiana that specialized in water rescues. The Cajun Navy brought many boats for HPD to use, along with their skills and experience of navigating murky waters with unknown obstacles underneath. This significantly bolstered HPD's ability to conduct water rescues.

Another unexpected resource came from other large police departments around Texas. Police departments from San Antonio, Fort Worth, Dallas, Abilene, among many others, donated police officers with patrol vehicles. HPD utilized the outside officers and patrol vehicles to continue to respond to emergency calls. The interviewees expressed how the influx of resources help made up for the loss of HPD vehicles, mobile computers, and radios in the floodwaters.

Specialized HPD Divisions Appeared to be More Resilient

Frequency of Training. One respondent noted the high degree of competence and focus of specialized teams within HPD. These teams included the Dive Team, Special Weapons and Tactics Team (SWAT), and the Bomb Squad, each of which was called

upon to execute unusual and high-risk tasks. The commander of Tactical Operations emphasized the extent to which these specialized teams had prepared to do what was needed with little to zero prior notice. The individuals on these teams had always been trained to be ready for extraordinary circumstances and appeared to have the knowledge to respond in the most appropriate manner frequently. The tactical commander continued that individuals on these teams practiced wellness and that their extensive, rigorous, and ongoing training regimens contributed to readiness and resiliency. He also emphasized that these specialized divisions receive more in terms of resources, financial and otherwise, than other divisions within HPD.

Importance of Physical Fitness. Another element contributing to increased resiliency of personnel was physical fitness, which was thought by multiple respondents (including Chief Acevedo) to be just as important (and mutually supportive) of ‘mental fitness.’ This allowed the specialized personnel to meet the extraordinary physical demands placed upon them by the circumstances brought on by Hurricane Harvey. The junior officer, who had been disciplined for abandoning his duties, noted that wellness and physical fitness would likely have led to clearer thinking and better decision making on their part. One example recalled was personnel who lifted a large number of people sitting in electric wheelchairs. The commander of Tactical Operations also indicated their belief that physical training indeed increased the mental resourcefulness and resilience of the personnel during the disaster response period and contributed significantly to HPD capacity to respond.

Quantitative Data from Archival Survey Responses

The researcher obtained the archival data from Cheryl Murray and then completed

a count on selected questions and responses related to the research study. Demographic information about the 1,689 survey-takers were available within the archival data. The researcher did not perform an analysis of the participants' demographics to their responses. The researcher did not receive prior approval from the HPD Planning and Research Division to analyze the demographic information to the research topic. The demographic data identified the respondent's assignment division, supervisory or non-supervisory position, sex, and number of years of service. Also, the analysis of such data would require a more substantial amount of time to count and address each of the emergent themes. The survey responses were from 1,328 males (78%) and 361 females (22%). This was close to the percentages of the total males and females employed in the Houston Police Department during the administration of the survey. HPD had comprised of 88% males and 12% females at the end of 2018; therefore, the data obtained was a fair representation of the population of the Houston Police Department.

The item statistics for the survey are shown in Table 1. The reliability of the survey instrument showed great reliability with a Cronbach Alpha score of .972 ($M=3.183$, $SD=.472$). Cronbach's alpha for each subscale is shown in Table 2. VT-ORG provided that average scores in the 3.5 to 5 range for a category indicate a *strength to maintain* or continue to enhance. Average scores in the 1 to 3.4 range represent *gaps to address* for a category.

Table 2*Item Statistics for VT-ORG Survey Responses*

Item	Mean	Std. Deviation
Leadership Subscale	3.222	.453
HPD leadership models, values, and promotes open and respectful communication among staff.	3.13	1.137
I have confidence in the leadership of HPD.	3.17	1.039
HPD is a good place to work.	3.85	.951
I have pride in this department.	4.03	1.021
HPD leadership communicates and enforces a no-tolerance policy concerning...sexual harassment.	3.42	.748
HPD leadership communicates and enforces a no-tolerance policy concerning...workplace violence, including bullying/hazing.	3.24	.808
HPD leadership communicates and enforces a no-tolerance policy concerning...intimate partner violence within or outside of the workplace.	3.29	.767
HPD leadership communicates and enforces a no-tolerance policy concerning...discrimination based on age, gender identity, sexual orientation, race, religion, ability, etc.	3.25	.850
Leadership recognizes and values my role within the department.	2.73	.792
HPD leaders model a healthy work/life balance.	2.55	.786
HPD leadership proactively addresses officer/employee trauma in the agency's long-term vision and strategy.	2.59	.773
I am committed to HPD.	3.40	.685
Management/Supervision Subscale	3.21	.530
I am able to discuss concerns about HPD or my job with my supervisor(s) without fear of negative consequences.	3.77	1.245
Meetings with my supervisor provide a forum for addressing cumulative or critical incident stress.	3.37	1.301
HPD uses a protocol to address...critical incidents.	3.99	1.019
HPD uses a protocol to address...organizational stress.	3.00	1.179
HPD uses a protocol to address...line-of-duty deaths.	4.01	1.123
HPD uses a protocol to address...specific concerning behaviors (e.g., low morale, substance abuse, absenteeism).	3.02	1.234
I can freely communicate opinions, concerns, and suggestions without fear of negative consequences.	2.95	1.191
My supervisor takes steps to ensure that staff have access to adequate resources to perform their jobs.	3.07	.781
My supervisor ensures that the policies and/or procedures in place to address employee grievances are followed.	3.17	.712

My performance evaluation includes a discussion of organizational and individual strategies to minimize risk for traumatization.	2.44	.837
HPD handles complaints against officers and civilian staff appropriately.	2.56	.875
Employee Empowerment and Work Environment Subscale	3.26	.517
HPD shows appreciation for staff efforts in meaningful ways (e.g., public recognition, notes in personnel files, promotions).	3.08	1.055
HPD encourages use of earned time off.	2.88	1.168
HPD provides opportunities for all employees to provide input into the development of programs, practices, and policies.	2.67	1.122
HPD provides opportunities for all employees to provide input into the evaluation of programs, practices, and policies.	2.66	1.150
My work is important.	4.35	.894
I am satisfied with my job.	3.99	.912
HPD gives me sufficient authority to accomplish my job.	3.64	1.010
HPD gives me sufficient support to accomplish my job.	3.47	1.005
HPD values demonstration of respect for all personnel.	2.97	.778
Disparaging comments and other demonstrations of disrespect are not tolerated.	3.01	.782
Staff feel safe coming forward to discuss issues of workplace harassment or discrimination based on age, gender, gender identify, sexual orientation, race, religion, ability, etc.	2.90	.799
Diversity is welcomed, respected and valued (in HPD).	3.20	.731
I am committed to the profession of policing.	3.60	.599
Training and Professional Development Subscale	3.15	.192
HPD provides training and education to all employees on work-related trauma and its impact on work performance.	3.22	1.085
HPD provides training and education to all employees on strategies on how to address work-related stress and traumatization.	3.05	1.090
HPD informs its members about expectations, opportunities, and steps necessary for advancement.	3.40	1.096
I received sufficient training and mentoring for my current assignment/position.	2.96	.785
Staff Health and Wellness Subscale	2.95	.466
HPD provides wellness activities (e.g., fitness program, mindfulness/meditation, yoga).	2.54	1.167
HPD encourages wellness activities (e.g., fitness program, mindfulness/meditation, yoga).	2.86	1.161
HPD's policies and/or practices support family members of employees.	2.92	1.118
Safety is a top priority for HPD.	4.06	1.018

HPD policies...support mental health and wellness.	2.90	.790
HPD policies...support physical health and wellness.	2.75	.818
During the hiring and orientation of new personnel, leaders demonstrate their understanding of the risk of trauma and the importance of both individual and organizational strategies to address it by making new employees aware of strategies to reduce the negative impact of the work.	2.73	.741
HPD values that members trust one another and offer support to one another.	2.86	.838

Table 3

Cronbach's Alpha for the VT-ORG Wellness Resilience Perception Survey

Subscale	Cronbach's Alpha	Mean	Variance	Number of Items
Leadership	.914	3.222	.205	12
Management	.891	3.217	.281	11
Empowerment	.906	3.267	.268	13
Training	.804	3.158	.037	4
Wellness	.889	2.953	.218	8

Communication

Table 3 shows the average scores for Leadership, Management, and Empowerment were all less than 3.5, which are considered to be *gaps to address*. The responses reveal the importance of communication between leadership members and subordinates. Out of 1,689 responses to the question in the archival data, 128 participants indicated that they felt they could 'never' discuss concerns about HPD or their job without risking adverse consequences. A further 177 participants noted that they *rarely* thought they could do so without risking consequences. Combining these two groups implies that 18% of respondents did not believe that they could discuss concerns with

superiors. A further 359 participants indicated that they could only *sometimes* communicate concerns to superiors. Added to the *rarely* and *never* responses, 664 officers and staff, or 39% of those surveyed, carried major reservations over-sharing legitimate concerns with superiors within HPD. In contrast, 385 indicated they could *often* discuss concerns, and 640 indicated they felt they could *always* do so. The more positive responses represented 61% of HPD staff included in the survey data.

As seen in Table 2, a large proportion of respondents indicated that meetings with a supervisor provided a forum for addressing either cumulative stress or stress stemming from a single, critical incident ($M=3.37$, $SD=1.301$). One hundred ninety-nine respondents indicated that they *never* found these meetings to be such a forum. In contrast, 255 respondents indicated it was *rarely* so, and 459 responded that it was only *sometimes* so. Taken together, 54% of respondents suggested that supervisor meetings were largely inadequate forums for the discussion of job-related stress with superiors. This stood in comparison to a mere 776 respondents who answered either *often* or *always* to the question of supervisor sharing.

Wellness

As shown in Table 3, the average scores for Training ($M=3.15$, $SD=.192$) and Wellness ($M=2.95$, $SD=.466$) were less than 3.5, which are considered as *gaps to address*. One of the archived survey questions asked respondents about the extent to which the Houston Police Department encouraged them to make use of earned time off. On this question, 233 (13.8%) respondents indicated that they felt HPD *never* encouraged such time-off utilization. 393 (23%) indicated that they were *rarely* encouraged to take time off, and 517 (30.6%) responded that they were only *sometimes* encouraged to utilize

time off. In contrast to these responses, 525 (31%) indicated either that they were *often* or *always* encouraged to utilize earned time off. Aggregating those who reported they did not receive encouragement to do so, fully 67% of respondents indicated that they were generally not encouraged to take time off. In comparison, only 31% were usually encouraged to do so.

A few examples of wellness programs that have become popular in recent years include Crossfit, meditation, and yoga. One survey question asked respondents about the frequency with which they were offered wellness programs of any kind, be they traditional physical fitness programs or more novel meditation exercises and yoga classes. Three hundred thirty-two respondents indicated that HPD *never* offered them such programs, while 427 responded that these or similar programs were *rarely* provided to themselves or staff. A further 479 answered that they were *sometimes* offered.

On the question of whether HPD policies and practices support family members of HPD staff, the results were clear. Table 2 shows the mean score of 2.92 (SD=1.118) for that question, which was 1,119 of the 1,689 (66%) respondents indicated that the department *never*, *rarely*, or only *sometimes* made use of family-supportive policies and practices.

Connections of Qualitative and Quantitative Data

The thematic analysis formulated themes from the interview data and connected with the archival survey data subscales. The themes and subscales found common ground with the discussion of leadership, wellness, resources, family support, along with other emergent themes. These connections supported and detailed how crucial each element was to the resiliency of the Houston Police Department.

Both sets of data suggested communication, or the lack of it, was a significant barrier affecting HPD at the time of Hurricane Harvey and its aftermath. As noted, 39% of officers, staff, and leadership indicated that they had at least some trouble in discussing concerns with superiors. This difficulty was also evident in the qualitative data from interview responses. The patrol officer suggested that a better ability to communicate with superiors would have resulted in him talking about issues with sleeplessness and consultation with superiors before the abandonment of his post, which resulted in a short-term suspension. The Traffic Enforcement commander also cited inadequate communication as a reason for why some officers under their command went missing in vulnerable positions, some of whom later required rescuing and the unnecessary diversion of department resources.

In terms of wellness, the researcher had a more difficult time directly comparing the qualitative interview responses with the quantitative archival survey data. However, survey responses indicated that most HPD staff and officer ranks were not encouraged to take earned time off. There were few instances in which staff or officers were encouraged to take time off in the recounting of interview subjects. Both qualitative and quantitative sources included indications that staff were encouraged to keep in adequate physical shape to promote overall wellness and job effectiveness. However, this varied based upon the division to which an individual officer belonged. Specialized divisions within HPD require more physical and formal training from their personnel as a requirement to remain in the assignment. Non-specialized divisions such as Patrol do not require the upkeep of minimum physical fitness standards, and only require the bare minimum amount of continued education.

Also, in terms of wellness, both interviews and survey responses indicated that HPD was generally not supportive of staff and officer families. Officers reported low scores for the Staff Health and Wellness subscale ($M=2.95$, $SD=.466$). This is reflected in the struggle of a new officer to take his family out of the storm's path of destruction, which earned them a suspension from work in the absence of HPD support. Survey responses overwhelmingly suggested that HPD did not prioritize staff and officer families in its formulation of significant policies and practices related to personnel.

Summary

This chapter presented the results obtained through the collection of qualitative and quantitative data. This section also assisted the reader in understanding the context and purpose of the research methodology selected. The research concepts addressed earlier, the significance of communication, wellness, availability of resources, and experienced leadership have proven to be significant and related throughout the results of this study.

In the process of collecting data for this research, it became evident that each of the elements is critical to the resiliency of police officers within the Houston Police Department. Through analysis of archival data and in-person interviews, patterns of meaning and themes were identified that coincided with the proposed four factors of resilience. While multiple duties incorporate within the police officer's job description, the most significant responsibility of a law enforcement officer is to demonstrate a high standard of leadership, integrity, and credibility. The police officers ultimately are a direct reflection of the department in which they serve. The officers serve as direct extensions of the police department and city officials' leadership. In turn, the officers'

performance has an immediate effect on the citizen and the community's impression of the city's administration.

The next chapter is comprised of a complete discussion of the findings from this chapter, which also contains limitations of the study, recommendations for future research, and the conclusion.

Chapter V

Discussion

The purpose of this mixed-methods study was to understand the link between the four factors of resilience and their impact on job performance. The study was carried out in the context of a single, large, urban police department. As a result, the link explored through the data and supplementary interviews were that between the four main factors of personal resilience and the job performance of police officers working in the Houston Police Department. Stated another way, the researcher sought to answer the question of how the individual resilience level of HPD officers and management after Hurricane Harvey affected job performance. As noted, the four factors of resilience tested were leadership, resources, wellness, and experience. The data presented in Chapter 4 and interpreted in the present chapter were collected through the study instrument of semi-structured interviews and archival data relating to HPD staff perceptions during the period after Hurricane Harvey.

The discussion of the study results in this chapter is organized as follows. The significant findings are first restated in the context of the literature review, hypotheses of the researcher, and the overarching issues of resilience, wellness, and job performance. The implications of the findings for police departments and similar workplaces around the world are also presented and discussed, along with consideration for the limitations and limited generalizability inherent to the study and its methodology. The researcher also explains the link between the study results and dominant theories of resilience and job performance.

The research questions explored throughout the study were linked to the traumatic event of Hurricane Harvey, which profoundly impacted the Houston metropolitan area served by the Houston Police Department. As noted, the research questions were developed to address the dilemma articulated in the problem statement. This problem was that there was a lack of understanding of how the resilience of HPD officers and staff was affected by the flooding in the wake of Harvey. The lack of adequate funding to support effective mental-health and wellness services for officers and staff was cited as a major concern, and also a factor contributing to the gap in understanding. This was also linked to the overall purpose of the study, through which the researcher sought to track the most critical factors influencing officer and staff resiliency before, during, and after Hurricane Harvey. The research questions included the topic of how Hurricane Harvey tested the leadership and resiliency of the HPD overall. The second question was: how can the learned experiences through Harvey contribute to increased resilience of officers and staff within the HPD? The third, related question was: how can the HPD create a more resilient workforce to improve performance, while fortifying staff well-being, during a future disaster?

The convergent parallel mixed method approach utilized in the study presented several data types for interpretation in this chapter. A number of existing theories have gained traction on the link between resilience, wellness, and dependent factors like job performance. Moreover, the definition of resilience discussed in the context of the study results was, to paraphrase Paton et al. (2008), the ability of agencies and officers to rely on personal, collective and institutional resources to effectively meet the demands presented by a critical event, including a disaster similar to Harvey.

Study Findings in Light of the Literature Review and Conceptual Considerations

The findings appear to corroborate many of the theories, concepts, and facts laid out by the relevant literature. Relating to police and resiliency, HPD officers demonstrated through archival survey data and interview responses that they indeed tended to focus on the job at hand in a single-minded way that could, and often did, result in a detriment to personal and departmental well-being. This finding echoed an earlier survey by Kelling and Wilson (1982) suggesting that police operating on foot-patrol beats in neighborhoods characterized by high rates of crime operated in such a manner.

Invest in Leadership Development

Interview responses by Chief Acevedo included numerous references to his preferred style and vision of optimal leadership. Studies included in the literature review aligned well with Acevedo's view that leaders must place themselves 'up front' before their staff, be visible, and put themselves on the line through the controlled taking of risk (Ashkenas & Hausmann, 2016). There was also a strong indication that Acevedo favored a leadership style in which an organizational leader 'walks the walk,' in line with research by Freiberg and Freiberg (2014) suggesting this trait is more important than a spirit of competitiveness with other organizations.

There was an indication that there were many leaders within HPD at the time of Hurricane Harvey. This result of the study is in line with research by Kelling and Wilson (1982), suggesting that citizens should view beat officers as walking leaders themselves. It is also in line with the finding by the same researchers that police rank and hierarchy may become less critical, to staff and citizens alike, during times of crisis when the public has a more urgent need for police services and those of other city workers.

An additional author cited in the literature review was Greenleaf (1977), who noted that leaders put themselves in a position to set an example for others. This researcher also argued that leaders, if they are good leaders, are well placed to drive an institution or group in a clear direction or toward a distinctive end goal. Such leaders also repeat the end goal to their subordinates regularly so that they are confident of their purpose in carrying out assigned duties. The interview with Chief Acevedo provided relatively few indications that HPD top leadership had a clear vision in the institutional response to Harvey. Chief Acevedo emphasized his desire to inspire action in officials and staff he perceived to be dragging their feet or creating unnecessary obstacles to action. However, there did not appear to be an overarching goal expressed by his leadership during this pivotal time.

In contrast, interview responses suggested that subordinates within HPD operated under a clear mandate to save lives and to extend a helping hand to Houston citizens in any capacity through which they could help. This response from commanding officers was emblematic of the spontaneous coordination that occurred within HPD in response to the crisis. While this aided togetherness, morale, and job effectiveness, it appeared not to be the result of leadership from the top of the department hierarchy.

Empowering Employees

Another element of leadership outlined in the literature was empowerment, defined as a theoretical construct. Empowerment was related to the adaptability of officers in the field to respond to dynamic and rapidly changing scenarios and situations, according to Conger and Konungo (1988). The officers and staff of the HPD displayed varying degrees of empowerment based on their rank and previous experience. The

interview results suggested that specialized teams, in particular, had a high degree of empowerment alongside high mental strength characteristics of resilience. As shown in Table 2, the survey results of the Empowerment subscale showed that employees were strongly committed to their work and HPD ($M=3.60$, $SD=.599$), but did not feel that HPD provided them with enough programs, training, and policies to enable them to perform their jobs effectively ($M=2.66$, $SD=1.150$).

A key component of empowerment, as presented in the literature, was that the upper ranks in the police force bestow decision-making ability and increased trust and freedom on lower-ranking officers (Conger & Konungo, 1988). From interviews and archived survey responses, HPD received a mixed score on officer empowerment. Referring to Table 2, officers reported that Empowerment was lacking and needed to be addressed ($M= 3.26$, $SD=.517$). The most relevant survey item for the question of empowerment, “the department gives me sufficient authority to accomplish my job.” Around 200 respondents indicated that HPD ‘never’ or ‘rarely’ gave them the needed authority. This suggests that, far from empowering officers with *additional* authority, HPD sometimes does not even grant authority that is *sufficient* for some officers to perform their duties. Further, only 393 respondents out of 1,689 indicated that HPD always gave them enough authority to accomplish their jobs. This is far from the ideal depiction of empowerment presented in the literature, through which subordinates can exercise such authority that they reveal critical information to their superiors and aid in the institutional decision-making process from the field (Conger & Konungo, 1988).

Link Between Study Results and Dominant Theories of Resilience and Job Performance

Resilience for High-Reliability

The Houston Police Department strives to provide a high quality of service to the public. Weick and Sutcliffe (2007) state that one of the hallmarks of a high-reliability organization (HRO) is the commitment to resilience (p. 10). The definition of resilience offered by Bonnano (2004) was a mental fortitude to overcome stressful events. The research results largely corroborated this definition. Staff, officers, and HPD leaders demonstrated mental fortitude in the face of the stressful event of Hurricane Harvey as it made landfall in the Houston area, inundating even the homes of officers themselves and threatening their families. The interview responses, in particular, exhibit the stresses that officers and leadership were under in formulating a response to the crisis, mainly through improvisation and by calling on only limited previous experience with flood scenarios. “HRO’s put a premium on personnel with deep experience, skills, and training” (Weick and Sutcliffe, 2007, p. 15). This was reflected in Mayor Sylvester Turner’s selection of Chief Art Acevedo, who possessed leadership experience with natural disasters from other municipalities.

Violanti et al. (2008) noted that resilience is most visible when police officers and staff change their tactics and behaviors in response to the demand presented by a critical incident such as Hurricane Harvey. This was most evident in the Tactical Operations commander’s interview responses from the actions of specialized teams within HPD, particularly the Bomb Squad, SWAT, and the Dive Team. The interviews revealed a theme of “Specialized HPD Divisions” to be more resilient compared to non-specialized

HPD divisions. These teams showed extraordinary resilience in the face of uncertainty, danger, and an extremely dynamic situation to make critical contributions to the recovery and response effort and to minimize the damage to persons and property. The subthemes from the interview data found that this resilience was due to a higher frequency of training and physical fitness. However, other officers and staff of non-specialized divisions were limited in the scope for improvisation by a combination of a lack of resources, such as high-water rescue vessels, poor communication practices as mobile phones lost signal or battery power, and other institutional shortcomings.

Resilience to face Leadership Challenges

Chief Acevedo's interview transcript, in particular, showed interesting links with prevailing theories of resilience and job performance. This subject had clear ideas about what constitutes a leader. His views of leadership align with the dominant leadership theories for police departments found in the literature. Chief Acevedo preferred to focus on the problems that confront him in the moment rather than ones that may or may not materialize in the future. This approach may be seen as an attempt by a leader to deal with a catastrophic situation and to limit exposure to disaster-relevant critical tasks. The strategy appears to be to filter as much extraneous information as possible to focus on what is actionable for maximum impact. Chief Acevedo's approaches to leading mirror Weick and Sutcliffe's (2007) idea that "resilience is a combination of keeping errors small and of improvising workarounds that keep the system functioning" (p. 14). It may also limit the emotional and intellectual overhead an individual is forced to confront amid a fast-changing crisis in which critical decisions made in a split second can have a lasting, even decisive impact on outcomes for thousands of people.

Another aspect of this theory of leadership and resilience in police departments that was somewhat absent in the HPD response was cohesive work teams and widespread institutional coordination. This is perhaps evident in Chief Acevedo's passion, if intermittent and unsystematic, attempts to create a sense of urgency through his interpersonal interactions with key officials and individuals. The subthemes revealed the chief's frustrations about risk management, the inaction of civic leaders, and perceptions of reputation. His outbursts may have been indicative of a thoroughgoing frustration of institutional powers both within and adjacent to HPD. Chief Acevedo admitted that he spoke out of turn during the discussions with city leaders at the time, and excused himself to calm down. "People who bypassed the hierarchical decision structure and enacted unique solutions not prescribed in existing procedures were accused of being insubordinate...treating improvisation as insubordination" (Weick and Sutcliffe, 2007, p. 15). Chief Acevedo felt his outbursts were unpopular with the other leaders and hindered the use of his learned experiences from other municipalities.

Implications of Results to the Four Factors of Resilience

Testimony from the interviewees provided ample evidence that the four factors of leadership, resources, wellness, and experience played a significant role in resilience and job effectiveness. Interviewees indicated broad agreement with the importance of the four factors for resilience and job effectiveness. Interviewees rated each of the four factors at the highest level of importance, as noted in chapter four. During the conclusion of this research study, the world is faced with the COVID-19 (coronavirus) pandemic. First-responders are, again, at the frontlines to face the pandemic. Implications of these

findings for law enforcement and similar workplaces included that resilience and wellness would be improved by increased institutional support in these specific areas.

Leadership

The analysis of the interviews and survey data themes and subscales made the importance of effective leadership apparent. The systems model of police leadership resilience posited an exchange of decision-making, resources, wellness, and experience between individual agency and leadership readiness (Violanti et al., 2008). There is a transfer of experience between personal and institutional factors, and individuals within a police department that has an impact on readiness and resilience during crises similar to that of Hurricane Harvey. The data obtained illustrated a lack of communication from the failure of equipment and failure to establish communication lines. Effective communication is always being improved upon, but it still comes down to each individual to make it their responsibility to put forth the effort to learn. Many of the subscales and subthemes revealed the organizational performance of HPD leadership. Leadership decisions can dictate the effectiveness of all themes of disaster preparation, employee empowerment, communication, and family support.

Implications. Chief Art Acevedo stated that he shortened lines of communication by eliminating redundant intermediary management positions. This was to provide a shorter chain-of-command for information to be sent and received more expediently. The chief became emphatic when it came to discussing the leadership flaws that he observed during Hurricane Harvey. He emphasized to them that citizens will be “judging you and your futures based on your actions and decisions today.” Chief Acevedo has since implemented more provisions for maintaining communication during a crisis. Digital

radio channels have been add and specialized for every division. These radio channels allow supervisors and subordinates to communicate amongst themselves without impeding the emergency dispatch channels.

With the emergence of COVID-19, the researcher was able to witness the actions of the City of Houston leadership. Under Mayor Sylvester Turner and Chief Art Acevedo, they assembled all of the local leaders to meet with the Center for Disease Control (CDC). This preemptive meeting occurred in February 2020, before Houston had any detected cases of the coronavirus. The city leadership deferred their policy and procedure guidelines for COVID-19 to the expertise of the CDC. This “deference to expertise” mirrored the hallmarks of a high-reliability organization (Weick and Sutcliffe, 2007, p. 16). Upon gathering the necessary CDC recommended procedures, Chief Acevedo immediately assigned the Special Operations Division to prepare HPD for the possible pandemic. The preemptive meeting with CDC gave HPD a head start in gathering resources and training its personnel.

Resources

HPD’s preparation for the storm was found to be insufficient. The data obtained illustrated poor equipment placement and a lack of mental preparation. The police personnel were unable to access the high-water rescue vehicles due to the floodwaters. The sedan-model police vehicles were too low to drive through flooded streets along with numerous patrol vehicles already being flooded. Both commanders that were interviewed expressed the importance of their equipment accessibility. The loss, scarcity, and inaccessibility of resources hindered a lot of HPD’s personnel to perform their duties to the citizens. Their sense of empowerment was taken away, as shown in the data results.

Empowerment was related to the ability to adapt to rapidly changing conditions. Varying degrees of empowerment were expressed based on experience and training. The specialized divisions had more officers “involved” and mentally ready to perform rescue efforts per the Tactical Operations commander. Specialized divisions make up a small number of officers compared to the patrol divisions.

Referring to the archival data, 77% of survey-takers felt that the department did NOT give them sufficient authority to accomplish tasks. The unexpected acts from the community, however, recharged the police department’s ability to respond and rescue citizens. The many foods and hospitality companies around Houston donated fresh, hot meals to first-responder personnel. This alleviated police officers from the duties of meal preparation and to re-task themselves back into patrolling the streets. Even though there were varying degrees and opinions of leadership, resilience was demonstrated by varying degrees of improvisation and resourcefulness. The influx of resources from other police agencies and the Cajun Navy bolstered HPD’s response to changing conditions.

Implications. Upon the aftermath of Hurricane Harvey, portable radio chargers and long-life radio batteries had been issued to street-level officers to address the radio failure issues. The police chief also made future purchase orders of police vehicles to be sport utility (SUV) models instead of sedans. A higher wheelbase and the all-wheel-drive capability of the SUV’s would enable officers to perform light off-road maneuvers around flooded streets. High-water rescue vehicles are now staged at known flood-prone areas for immediate use and expedited response. The HPD 1033 Division was granted more manpower to their division. Their responsibilities included acquiring retired military and government equipment, which were found to be useful during Hurricane

Harvey.

Upon learning that COVID-19 was arriving stateside, Chief Acevedo immediately requested more personal protective equipment (PPE) for police personnel. He quickly learned that the 1033 Division had already acquired and stocked a surplus of PPE before the pandemic. HPD did not revisit the same problem of lack of equipment on the initial wave of COVID-19 cases, therefore, enabling police to respond to emergency calls with lesser risk to disease exposure.

Experience

The appointment of Chief Art Acevedo to the Houston Police Department brought in outside perspectives and experiences to Houston. Empowerment was related to the ability to adapt to rapidly changing conditions. Varying degrees of empowerment were expressed based on experience and training. The specialized divisions had more officers “involved” and mentally ready to perform rescue efforts per the Tactical Operations commander. Specialized divisions make up a small number of officers compared to the patrol divisions. Chief Acevedo had expressed his intentions of improving training and beefing up the quality of his “frontline” since his arrival, which is another example of his sense of establishing high-reliability practices. “HROs distinguish themselves by being attentive to the front line, where real work gets done” (Weick and Sutcliffe, 2007, p. 13). Servant leaders “act on what they believe” (Greenleaf, 1977, p. 16). Commanders and Chief Acevedo did what they could to serve their subordinates in the methods in which they believed were best. They used prior experiences, analyzed the present situation, and kept the future in mind as one whole picture. Another highlight of Weick and Sutcliffe’s (2007) deference to expertise was the example of how HPD allowed the Cajun Navy to

lead the way in water rescues. Their extensive experience with shallow water navigation expedited assistance to citizens in life-threatening situations.

Implications. After Hurricane Harvey, HPD obtained rapid-water rescue training programs from the U.S. Department of Homeland Security. These programs taught officers the techniques of navigating and recognizing flow patterns of floodwaters. Chief Acevedo continued his commitment bolstering the quality of training of HPD officers by securing funds for a large number of training ammunition and equipment. For the first time in HPD's history, HPD officers are now allowed to conduct the Pursuit Intervention Technique (PIT) on vehicle pursuits to quickly end them and prevent further risk to citizens and suspects. HPD was also the first law enforcement agency to implement the use of aiming optics on duty pistols carried by patrol-level officers, to improve officers' precision drastically. Chief Acevedo wanted to pass the learned experiences of other experts and law enforcement agencies to HPD. HPD can offer or mandate training, but learning is a two-way process between teacher and learner. The learner must be willing. The police department can provide all of the training and equipment, such as body armor, but the officer still needs to put it on and maintain it.

Before the emergence of COVID-19, HPD personnel were already trained and equipped with PPE. HPD's experiences from Hurricane Harvey improved its resilience to face the current pandemic.

Wellness

Subthemes and subscales emerged from both data sets relating to the "Wellness" resilience factor. Subscales from the archival survey data revealed lower organization scores for Training and Professional Development ($M=3.15$, $SD=.192$) and Staff Health

and Wellness ($M=2.95$, $SD=.466$). Interview responses from a relatively new officer, who was disciplined for abandoning their post to drive the family to safety, were emblematic. The officer was caught by surprise by the release of major reservoirs and the outsize impact in terms of flooding this would have on his own family home, located in a vulnerable area. While they acted without authorization, the department did little in the way of resources to officers to address this family's plight. Doing so would not only have prevented the officer from abandoning their post but would also have made them less distracted and stressed on the job, implying a greater degree of effectiveness.

In terms of wellness, the survey results indicated that HPD did a somewhat poor job of encouraging officers and staff to take earned time off. This was corroborated slightly by the interview data, which included sparse examples of staff being told to take time off to recover from traumatic events, including the loss of Sgt. Steve Perez as a result of events connected to the storm and its aftermath.

There was an indication in the interview responses that at least some officers and staff were encouraged to maintain peak or elevated physical fitness. There was evidence from the interviews that HPD leadership considered physical fitness as paramount to job effectiveness in some roles, for example, those filled by members of specialized teams. These teams, in turn, are subjected to more rigorous training than some of their counterparts within the department, however. The patrol sergeant interviewee maintains his physical fitness at a high level, was known to be able to multi-task at home (with five children) and work. His habits have naturally made him resilient.

From interview subthemes and survey data results, the staff generally did not feel that HPD was supportive of the needs of families. No forgiveness was offered to the

young officer who momentarily abandoned their post during the storm's onslaught to move his family to higher ground. Survey responses suggested that this was indicative of a broader ambivalence on the part of HPD to staff and officer families.

Implications. The Houston Police Department, along with the Houston Police Officers' Union, increased the incentives for physical fitness. Officers are offered monetary compensation of \$1000.00 if they can pass the minimum fitness standard and test once per year. Also, major discounts on health insurance rates are offered to employees who maintain and record their health screenings and preventative care.

In response to COVID-19, HPD developed policies and procedures to address family support issues. During the pandemic, non-patrol officers (and civilian employees) can work from home if needed. Pregnant and at-risk patrol officers could be reassigned to temporary positions that minimized exposure. Officers who were suspected of COVID-19 exposure or had the necessity of self-quarantine did so without the use of leave hours.

Limitations of the Study

The use of the mixed methods methodology for the present study allowed the researcher to mix two high-quality sources of data relating to the HPD response to Hurricane Harvey. This added to the credibility of the study results and the resulting discussion. However, the small number of interviews conducted should caution readers of the present study against making generalizations across HPD or to other police departments through this data. Moreover, the use of archival survey responses allowed the researcher to select the most relevant questions to answer the research questions posed in the present study. However, there are limitations to the use of archival survey data not collected by the researcher, including a lack of control over the survey

methodology or the sampling (along with appropriate randomization) of participants within HPD.

Recommendations for Future Research

Suggestions for future research include additional studies with similar methodologies aimed at reproducing the results of the present study. Other useful avenues of new research may consist of using a similar mixed-methods approach where archival data exists within police departments that have experienced similar catastrophes to Hurricane Harvey. Alternatively, a purely qualitative study could delve more deeply into the issues of resilience and job performance in the wake of adversity among HPD officers. Such a study would feature at least twice the number of interviews included in the present study, in order to provide increased depth and triangulation possibilities with respect to interviewee responses. A study that included in-depth interviews of each commanding officer within HPD would be profoundly insightful, but admittedly difficult to achieve because participation is voluntary. Such a study could reveal trends between different styles of leadership.

Conclusion

The research questions were addressed by the study results, presented in Chapter 4, and the implication of those analyses presented in this chapter. The following research questions were asked and answered:

Research Question 1: How has Hurricane Harvey tested the leadership and resilience of the Houston Police Department's officers?

The answer provided by the results and analysis is that Harvey tested the leadership and resilience of HPD officers in a wide variety of ways. It did not leave any

officer, staff member, or leader untouched in its grave testing of physical and mental strength under duress, and the ability to carry out required duties effectively. Interviews and survey responses demonstrated that HPD officers were forced to improvise solutions in a less-than-optimal environment in which many lacked critical resources and support from the department. Notable instances of both heroism and ignominy were evident. The latter was clear in an example in which a younger officer abandoned their post in order to ensure the safety of their family. However, the blame in this instance, as in others, could have been shared with HPD itself. Characteristic failings included a lack of needed resources and a failure of communication. The themes and subscales from the data supported these findings, but HPD was quick to respond and correct the *gaps to address* to prepare for the COVID-19 pandemic.

Research Question 2: How the learned experiences of Harvey can enhance the resilience of HPD police officers?

The study offers a number of possible answers. Both interview responses and survey data were clear in that HPD should reform its approach to wellness and family support for officers and staff. Some interviewees separately noted that the department had no plan in place concerning staff families during Hurricane Harvey, and there was no protocol established should family members of officers get directly in harm's way. The Houston Police Department could create a more resilient force of employees to handle a major disaster by focusing on wellness and resources available to carry out critical functions as well as low-level police work. Increased use of robust communication technology would also aid in this regard and provide officers with the assurance that they can add value to operations and also be accounted for in the midst of a crisis. In the

implications presented earlier, HPD has begun addressing these issues. Chief Acevedo emphasized his desire to continue the utilization of learned experiences to create strong front line officers. The passing of experience could be in the form of formalized training, informal team meetings, and regular discussions between seasoned and new officers. The experiences of Hurricane Harvey have many teachable moments that most police departments do not get to experience. The use of the operational experiences can build the resilience of HPD, along with strengthening its image as a high-reliability organization.

Research Question 3: How can the police department create a more resilient force of employees to handle a major disaster?

The results of the study suggest that HPD can pursue two avenues to increase resilience for a future crisis. It can also improve everyday policing by offering increased support to officers, staff, and leadership, as outlined above. One way to create a more resilient police department is to employ officers and supervisors with the commitment to building resilience. The study highlighted the four factors that affected HPD's resilience and themes to build on. Strengthening the resilience factors will allow HPD to respond as a high-reliable organization to face leadership challenges in a major disaster properly. HPD should continue to invest in leadership development and employee empowerment. Leadership can establish clearer lines of communication, address family support concerns, and find avenues of passing valuable operational experience between employees. The study illustrated how Chief Acevedo fosters a learning environment with his drive to advance the training of his officers. However, there is not a set of procedures

to implement these practices for any organization. It requires both individual and organizational commitment to learning.

The other way for HPD to continue to build resilience is through continued research. HPD administered surveys to its employees in an attempt to gain insight into officers' perceptions after Hurricane Harvey. High-reliable organizations, such as HPD, "complement their anticipatory activities of learning from failures and remaining sensitive to operations with a commitment to resilience. HROs develop capabilities to detect, contain, and bounce back from those inevitable errors that part of an indeterminant world" (Weick and Sutcliffe, 2007, p. 14). Systematic inquiry and research can provide insight into effective or ineffective practices and further reveal any other emergent themes or "gaps to address." HPD can identify successful leadership patterns and challenge the status quo, leading to a more resilient force to face the next major crisis.

The findings from the analysis responded to the study's research questions and could help HPD's police officers become more resilient. The factors that affected police resilience were confirmed as significant by this research study, along with other scholarly literature and studies. Upon learning of the results and analysis of the study, Chief Art Acevedo began modifying HPD policies and procedures to improve each element of resiliency. In the aftermath of Hurricane Harvey, the Houston Police Department made changes to practices and policies that strengthened its ability to respond to the next major crisis.

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Appendix A

VT-ORG Survey Questionnaire for Wellness and Resilience

Leadership Subscale

HPD leadership models, values, and promotes open and respectful communication among staff.
 I have confidence in the leadership of HPD.
 HPD is a good place to work.
 I have pride in this department.
 HPD leadership communicates and enforces a no-tolerance policy concerning...sexual harassment.
 HPD leadership communicates and enforces a no-tolerance policy concerning...workplace violence, including bullying/hazing.
 HPD leadership communicates and enforces a no-tolerance policy concerning...intimate partner violence within or outside of the workplace.
 HPD leadership communicates and enforces a no-tolerance policy concerning...discrimination based on age, gender identity, sexual orientation, race, religion, ability, etc.
 Leadership recognizes and values my role within the department.
 HPD leaders model a healthy work/life balance.
 HPD leadership proactively addresses officer/employee trauma in the agency's long-term vision and strategy.
 I am committed to HPD.

Management/Supervision Subscale

I am able to discuss concerns about HPD or my job with my supervisor(s) without fear of negative consequences.
 Meetings with my supervisor provide a forum for addressing cumulative or critical incident stress.
 HPD uses a protocol to address...critical incidents.
 HPD uses a protocol to address...organizational stress.
 HPD uses a protocol to address...line-of-duty deaths.
 HPD uses a protocol to address...specific concerning behaviors (e.g., low morale, substance abuse, absenteeism).
 I can freely communicate opinions, concerns, and suggestions without fear of negative consequences.
 My supervisor takes steps to ensure that staff have access to adequate resources to perform their jobs.
 My supervisor ensures that the policies and/or procedures in place to address employee grievances are followed.
 My performance evaluation includes a discussion of organizational and individual strategies to minimize risk for traumatization.
 HPD handles complaints against officers and civilian staff appropriately.

Employee Empowerment and Work Environment Subscale

HPD shows appreciation for staff efforts in meaningful ways (e.g., public recognition, notes in personnel files, promotions).

HPD encourages use of earned time off.

HPD provides opportunities for all employees to provide input into the development of programs, practices, and policies.

HPD provides opportunities for all employees to provide input into the evaluation of programs, practices, and policies.

My work is important.

I am satisfied with my job.

HPD gives me sufficient authority to accomplish my job.

HPD gives me sufficient support to accomplish my job.

HPD values demonstration of respect for all personnel.

Disparaging comments and other demonstrations of disrespect are not tolerated.

Staff feel safe coming forward to discuss issues of workplace harassment or discrimination based on age, gender, gender identify, sexual orientation, race, religion, ability, etc.

Diversity is welcomed, respected and valued (in HPD).

I am committed to the profession of policing.

Training and Professional Development Subscale

HPD provides training and education to all employees on work-related trauma and its impact on work performance.

HPD provides training and education to all employees on strategies on how to address work-related stress and traumatization.

HPD informs its members about expectations, opportunities, and steps necessary for advancement.

I received sufficient training and mentoring for my current assignment/position.

Staff Health and Wellness Subscale

HPD provides wellness activities (e.g., fitness program, mindfulness/meditation, yoga).

HPD encourages wellness activities (e.g., fitness program, mindfulness/meditation, yoga).

HPD's policies and/or practices support family members of employees.

Safety is a top priority for HPD.

HPD policies...support mental health and wellness.

HPD policies...support physical health and wellness.

During the hiring and orientation of new personnel, leaders demonstrate their understanding of the risk of trauma and the importance of both individual and organizational strategies to address it by making new employees aware of strategies to reduce the negative impact of the work.

HPD values that members trust one another and offer support to one another.

Appendix B



DIVISION OF RESEARCH
Institutional Review Boards

APPROVAL OF SUBMISSION

November 22, 2019

Chi-Thanh Nguyen
cjnguyen@uh.edu

Dear Chi-Thanh Nguyen:

On November 12, 2019, the IRB reviewed the following submission:

Type of Review:	Initial Study
Title of Study:	A Study of Police Leadership Resilience: Hurricane Harvey
Investigator:	Chi-Thanh Nguyen
IRB ID:	STUDY00001912
Funding/ Proposed Funding:	Name: Unfunded
Award ID:	
Award Title:	
IND, IDE, or HDE:	None
Documents Reviewed:	<ul style="list-style-type: none"> • Appendix B - HRP502a, Category: Consent Form; • Appendix D - Chief's Approval Letter, Category: Letters of Cooperation / Permission; • email script, Category: Recruitment Materials; • Appendix C - HPD Research Request Letter, Category: Letters of Cooperation / Permission; • IRB HRP-503 11-15-19.pdf, Category: IRB Protocol; • Appendix A - Interview Questions, Category: Other;
Review Category:	Exempt
Committee Name:	Noncommittee member
IRB Coordinator:	Maria Martinez

The IRB approved the study on November 12, 2019; recruitment and procedures detailed within the approved protocol may now be initiated.

As this study was approved under an exempt or expedited process, recently revised regulatory requirements do not require the submission of annual continuing review documentation. However, it is critical that the following submissions are made to the IRB to ensure continued compliance: