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Perceptions of 9-1-1 Telecommunicators High-Stress Emergency Calls

Danielle Holland
Walden University

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Walden University

College of Psychology and Community Services

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Danielle Holland

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Walden University
2023

Abstract

Perceptions of 9-1-1 Telecommunicators High-Stress Emergency Calls

by

Danielle Holland

MA, Kaplan University 2012

BS, Kaplan University 2010

Dissertation Submitted Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy
Psychology

Walden University

August 2023

Abstract

Many research studies have been conducted on the effects of high-stress emergency calls on emergency personnel, such as police officers and firefighters. However, research was lacking on the effects of high stress calls on 9-1-1 telecommunicators. The purpose of this qualitative case study was to determine how 9-1-1 telecommunicators perceived and responded to high-stress emergency calls. The theoretical framework was based on Bandura's self-efficacy theory and social cognitive theory. The study was guided by three research questions that focused on (a) the short- and long-term effects of stress experienced by 9-1-1 dispatchers, (b) the aspects of calls that telecommunicators perceived to elevate their stress levels, and (c) the strategies telecommunicators employed to maintain their psychological well-being. Data were collected via semi-structured interviews with six 9-1-1 telecommunicators with varying levels of experience. Thematic analysis was performed using Dedoose. A total of four themes emerged, including effects of delivering first-aid during calls, causes of dispatcher stress in 9-1-1 telecommunicators, strategies to mitigate dispatcher stress, and preparation for the job. Ten subthemes were also identified, including: short-term effects, long-term effects, staffing-related stress, call-related stress, most stressful calls for individual dispatchers, focus on the task and step away, when necessary, physical techniques, organizational efforts to help dispatchers manage stress, and training. In light of the emotional labor and vicarious trauma often experienced by 9-1-1 dispatchers, positive social change may result through agencies implementing programs and training to better prepare these professionals, using proactive wellness and stress management strategies.

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Dedication

I dedicate this dissertation to my three children, Kaylee, Mikayla, and Braylin; without your love and support of the late nights working and having to put aside fun time so mommy could get this done. I did this for the three of you; we are finally there. To my mother, who has been my biggest supporter and inspiration. To my friend and mentor Misty Ladd, we did it together, thank you for your continued support. To my angel up in heaven Bamp, I know you would be proud. To my twin brother Mike, sister Stacey, and younger brother Eddie, I love you all.

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Chapter 1: Introduction to the Study

Introduction

To ensure that every emergency management professional, including police officers, fire fighters, fire rescue, and the public safety team, goes home safely every night, an agency must have a smooth-running communications center. 9-1-1 telecommunicators are telephone operators whose primary job function is to intercept emergency calls generated by members of society and relay information from the call to police officers, firefighters, and emergency medical personnel so response for service can occur. For example, telecommunicators, relay information received from a call for service to appropriate police and fire personnel and monitor and track the status of officers and the public, while determining the type of emergency, location, and appropriate response needed to ensure public safety.

Many research studies have been conducted on high-stress emergency calls, and their effects on emergency personnel (i.e., police officers, firefighters, and emergency medical service providers). High-stress emergency calls can vary from person to person, affecting each one differently. Examples include domestic violence, shooting, kidnapping, or even a traffic crash, which may have a severe impact on fire fighters and police officers because they are handling the call-in person, whereas a drowning of a child might be a high-stress call for the telecommunicator because the child is not breathing, and they can only wait for help to get there. However, research is lacking on examining the effects high stress calls for service have on 9-1-1 telecommunicators. According to Anshel, et al. (2013), telecommunicators who are not sworn officers serve

as an important role in police operations but often suffer from severe acute stress (a psychological condition that stems from a traumatic event), lack of respect from the community, long hours of work, and sleep deprivation. Severe acute stress and other disorders such as post-traumatic stress disorder (PTSD) can occur in 9-1-1 telecommunicators. Lilly and Pierce (2013) focused on PTSD and depressive symptoms among 9-1-1 telecommunicators, because of the short and long-term effects and life changing occurrences an individual might suffer from, while Regehr, et al. (2013) explored research concerning predictors of physiological stress and psychological distress among telecommunicators.

Although there have been extensive research studies conducted on high stress emergency calls regarding individuals classified as first responders, a gap remains in the research regarding how 9-1-1 telecommunicators perceive high-stress emergency calls. Additionally, limited research has been conducted on interventions that can help with coping skills in 9-1-1 telecommunicators who suffer from disorders, such as PTSD. Regehr et al. (2013) concluded what further research is needed to explore intervention options considering the role of 9-1-1 telecommunicators in society. Lilly and Pierce (2013) identified the predictors of peritraumatic distress, (the measurement of pre-stress that may occur) among 9-1-1 telecommunicators and the role family violence, and emotion regulation had towards them. Moreover, Turner (2015) researched the effects of stress among 9-1-1 telecommunicators from within one police department to include the relationship between work life, home life, and social life. 9-1-1 telecommunicators as well as law enforcement officers must have the right state of mind and capability to deal

with mentally ill individuals, whether it is one the phone with someone who is trying to commit suicide or on the streets with a person who is mentally ill. Similarly, Teller, et al. (2006) conducted research on crisis intervention training for law enforcement officers who respond to mental disturbance calls. Ellis (2014) conducted a research study on the effects of crisis intervention team training for law enforcement officers and how they can apply the training while interacting with a mentally disturbed individual. This training can reduce the stress on 9-1-1 telecommunicators since law enforcement officers are physically on scene.

Law enforcement officers often respond to calls that involve dealing with mental health patients, but they may lack the ability to properly intervene. For example, Helfgott, et al. (2015) studied the Seattle Police Department's crisis response team using a descriptive evaluation to determine the effectiveness of the mental health professional partnership pilot program. 9-1-1 telecommunicators should be required to receive the same type of training due to encountering the same interaction via the telephone. 9-1-1 telecommunicators need to be able to provide accurate assistance behind the scenes until police, fire, or emergency personnel physically arrive on scene.

As a telecommunicator, the role one plays behind the scenes is a liability. Associations of Public-Safety Communications Officials-International (APCO) is the leader in public safety communications and provides most of the training required for a telecommunicator (APCO International, 2023). It was not until 2008 when a young women's, life Denise Amber Lee, was abducted from her Florida home and found 2 days later that made training for 911 telecommunicators so important (Denise Amber Lee

Foundation, 2023). The lack of training for telecommunicators and time delay for officers responding to the calls that were being received by the telecommunication center could have saved her life (Denise Amber Lee Foundation, 2023). This tragedy along with the help of Denise Amber Lee's husband and the implications of APCO International have made it mandatory for almost all states to complete a certain amount of training (which varies upon states) to be employed as a telecommunication specialist (Denise Amber Lee Foundation, 2023).

Emergency Medical Dispatch (EMD) takes place in most dispatch centers that are certified through APCO International. A telecommunicator who is employed with a dispatch center that is EMD certified must use the proper EMD guide card when handling medical calls. Typically, it is the call-taker who answers the phone and is responsible for providing prearrival instructions. Should a call be taken, and negligence can be proven, a call-taker can then be held liable for the outcome of the call. For example, when a call-taker answers the phone and the individual states that a family member is not breathing, the call-taker must use the EMD guide card telephone cardiopulmonary resuscitation (T-CPR) to provide instructions over the phone on how to administer T-CPR (APCO International, 2023).

Birkenes, et al. (2015) explained how 9-1-1 telecommunicators should properly train for T-CPR. T-CPR is not guaranteed to save everyone's life; however, Birkenes et al. (2015) explained the concerns that the 2012 American Heart Association had on how T-CPR can significantly strengthen the chance of survival. Lastly, Meischke, et al. (2016)

explained the importance of T-CPR and 9-1-1 telecommunicators as first responders on the other end of the telephone.

Telecommunicators are responsible for handling incoming calls, both 9-1-1 and nonemergency, administration lines. Dispatch centers are typically made up of four positions: call-taker, fire primary, law enforcement (LE) primary, and tele-type. A call-taker is responsible for answering the phones while the other stations are dispatching the proper units to the call. According to APCO International (2023), over the past 3 years, the retention rate for telecommunicators has increased 22% making it more difficult for smaller agencies to retain communication specialists. Due to the retention rate for smaller agencies increasing, the level of multitasking for telecommunicators has also increased. Telecommunicators are trained to handle radio traffic, answer incoming 911 calls, and nonemergency calls, obtain important information that can lead to solving a crime, and remain calm, which can cause traumatic stress for some telecommunicators. Telecommunicators who are faced with tasks like this on a day-to-day basis are more likely to burn out, develop compassion fatigue, and experience secondary traumatic stress (Miller, et al. 2017).

Kulkarni, et al. (2013) conducted research on factors that might contribute to compassion satisfaction (the joy of helping another individual), secondary traumatic stress, (stems from hearing a traumatic event second hand), and burnout, (the physical or mental collapse that happens when one is overworked) in domestic violence service providers. They found that 9-1-1 telecommunicators are not directly viewed as domestic violence service providers; however, they do provide comfort and guidance to callers

who have been involved in a domestic violence incident, while they await the arrival of emergency personnel. Thielman and Cacciatore (2014) researched compassion fatigue among traumatic bereavement volunteers and professionals. Compassion fatigue often occurs in 9-1-1 telecommunicators while working in the professional capacity with callers. 9-1-1 telecommunicators after so many calls for service can just give up on hope for the caller. Psychological debriefing may be an option for 9-1-1 telecommunicators, after they have been exposed to or suffer from traumatic experiences of high-stress emergency calls. Kaplan, et al. (2001) conducted research on preventive intervention after exposure to traumatic events, also showing history of how debriefing can be effective. Prevention and intervention are both important when dealing with high-stress emergency calls and high levels of stress.

Background

Telecommunicators (referred to as dispatcher's decades ago) have been an important part of how public safety operates. There have been studies conducted on how public safety personal such as LE officers, fire fighters, and Emergency Medical Technician (EMT) suffer from stress, and how they are affected from the stressful job over a period; however, little research has been done to show the importance of telecommunicators and the role they play.

Regehr et al. (2013) used different approaches to understand experiences of psychological distress and physiological stress, along with an understanding of current symptoms such as PTSD and depression among 9-1-1 telecommunicators. Let it be said that telecommunicators can be affected by PTSD, for example being on the phone with

an individual who is hysterically crying because a family member is not breathing, over a period one may be affected. Another example would be taking calls from individuals who are mentally ill and having to keep them from self-harm until LE arrive on scene. Ellis (2014) explained using an approach to include LE officers' attitudes, knowledge of the training, and perceptions to deal with a mentally disturbed individual during a police incident because they are first on scene. Ellis also described the specialized training that LE agencies receive. This training should also be provided to telecommunicators because they are the first line of communication between the subject and LE.

Lilly and Pierce (2013) explained how continued exposure to trauma (life threatening calls that a telecommunicator may take) increases the risk for both depression and PTSD. Lilly and Pierce also recognized that telecommunicators are often looked over when it comes to first responders. Regehr et al. (2013) explained how psychological distress and psychological stress, affects telecommunicators differently over time. They found that anxiety and depression were at normal levels while PTSD showed in telecommunicators who had more years on the job. This research study showed that telecommunicators who were able to or chose to leave over a short period of time were less affected than those who made a career out of it and stayed for several years. Agencies, on average, spend about \$2000 on courses to properly train a telecommunicator through APCO International, making it very important to decrease the retention rate (APCO International, 2023). Agencies that have experienced telecommunicators can properly train the new communication specialists who become a part of the team (APCO International, 2023). Most LE agencies are allotted a fiscal year

amount to spend on training. With the amount of money that it costs to train a telecommunicator, it is important to make sure they are trained properly and can do the job while saving money in the long run for the agency to train in other areas that are needed.

Problem Statement

Previous research has explored the ways telecommunicators are affected by PTSD, the training that is required to become a telecommunicator, and the levels of stress that comes with being a telecommunicator. LE, fire, and EMT paramedics are often classified as the first responders included are telecommunicators where much research lacks. However, the literature is lacking on telecommunicators and what they consider to be a stressful call. The question remains on how 9-1-1 telecommunicators perceive high-stress emergency calls.

Nature of the Study

The nature of this study was qualitative, using a case study approach. Qualitative research focuses on a targeted organization to gather first-hand experiences from the individuals (Creswell, 2017). The case study approach allowed 9-1-1 telecommunicators the opportunity to share their personal experiences in full detail on what high-stress emergency calls are to them. Understanding each 9-1-1 telecommunicator participating in the study provided insight to how 9-1-1 police dispatchers perceived high-stress emergency calls. 9-1-1 telecommunicators who were employed at a large dispatch center was my target population. Using an open-ended approach gave 9-1-1 telecommunicators the chance to explain in detail their opinion of high-stress emergency calls. In

conjunction with the Ethical Principles of Psychologists and Code of Conduct that the American Psychological Association (APA, 2015) has developed is the Specialty Guidelines for Forensic Psychology (APA, 2015). The APA has put into place these codes and guidelines to prevent any ethical violations being made.

The sample population consisted of 9-1-1 telecommunicators who had been on the job for a minimum of 2 years, who had experienced different levels of calls, and who were at least 18 years old. Study samples determined who was a part of the study and had to complete a Job Stress Survey. The job stress survey assisted me in identifying the levels of high stress the telecommunicators experience. Most local police departments have a database that has all email addresses on file, such as Microsoft Outlook, which includes the global address book. Emails sent through LE agencies are public record, which made the request for email addresses of telecommunicators within agency simple.

In qualitative research, thematic analysis is typically used to analyze the data that have been collected, allowing the researcher to collectively identify the commonalities in patterns and themes. Codes emerged through the process of data analysis. Thematic analysis allowed the story of 9-1-1 telecommunicators to be placed in the data drawn from interviews.

Research Questions

Research Question 1: What are the most significant short term and long term impacts a dispatcher might experience after providing first-aid procedures during the 9-1-1 call?

Research Question 2: What characteristics of high-stress emergency calls do 9-1-1 telecommunicators attribute to elevating their own levels of stress?

Research Question 3: What are some strategies 9-1-1 telecommunicators employ to maintain psychological well-being when handling high-stress emergency calls?

Research Objective

The intent of this study was to obtain an up close, in-depth, and detailed examination of a telecommunicator's experience with stress. First, I aimed to determine what calls for service through a dispatch center were considered high-stress emergency calls. Next, I aimed to decide which high-stress emergency calls telecommunicators were most affected by. Overall, I wanted to discover how telecommunicators handle and deal with the high-stress emergency calls because each call for service can vary. The purpose of this research was to get an inside look at what telecommunicators were faced with each shift and how over a period of time it can cause stress and burnout.

Having the ability to understand what a telecommunicator feels is high-stress and how they can process each call for service can allow others to understand the importance of this job and how serious high-stress emergency calls can affect a telecommunicator. With this job comes a high level of stress and burnout, and the knowledge of this can possibly prevent telecommunicators from experiencing such high levels of stress.

Theoretical Framework

The theoretical framework that grounded this study was Bandura's (2012) self-efficacy theory and social cognitive theory. Social cognitive theory helped inform the focus of this study based on learned behavior from training that telecommunicators are

required to obtain; along with on-the-job training from other telecommunicators and how they can handle high-stress emergency calls. Bandura used a triadic reciprocal causation to include personal, behavioral, and environmental determinants to explain learned behaviors. Social cognitive theory explains the behavior one learns from others whose behavior and consequences are seen. Self-efficacy better explains how 9-1-1 telecommunicators can handle high-stress emergency calls based on the approaches they use to get the caller through the situation. Bandura expressed how self-efficacy is part of intrapersonal influences and that one does have control over how they handle their lives (i.e., high-stress emergency calls). Anshel, et al. (2013) explained how dealing with 9-1-1 emergency calls comes with having the ability to manage stressful feelings and calls. These approaches provide an understanding on the levels that everyone can handle based on high-stress emergency calls, how the telecommunicator perceives or experiences the calls, and the overview of their interpersonal feelings towards each call for service.

Operational Definitions

Continuing dispatch education: Education that is required every 2 years for 24 hours each year to keep certifications up to date and to learn new things and keep up with the new training (APCO International, 2023).

Dispatch center: The overall location where all calls for service come through, typically made up of a supervisor, call-taker, fire rescue channel, primary police and Teletype operator who answers all phones, emails, text messages, and radios communication, and then disseminates to the right first responder (APCO International, 2023).

Emergency calls: Calls classified as life-or-death situations, often requiring some type of medical response or a quick response from LE. For telecommunicators, guide cards are used to provide the needs and services for this type of call (APCO International, 2023).

Emergency medical dispatch (EMD): Systematic program for handling medical dispatch calls (APCO International, 2023).

Posttraumatic stress disorder (PTSD): A psychiatric disorder that one experiences or witnesses due to an incident such as a terrorist attack, natural disaster, sexual assault, or any event that leaves one traumatized (American Psychiatric Association, 2018).

Telecommunicator: The individual employed by an agency as the first of the first responders, whose primary responsibility is to receive, process, transmit, and/or dispatch emergency and nonemergency calls for LE, fire, emergency medical, and other public safety services via telephone, radio, and other communication devices (APCO International, 2023).

Assumptions

This qualitative research study addressed how 9-1-1 telecommunicators perceived high-stress emergency calls. For this study I assumed that 9-1-1 telecommunicators would be willing to participate in this case study. Telecommunicators handle many calls during one shift, and some have been doing it for so long that they may not be able to determine what a high-stress emergency call is. My second assumption was that the participants would be willing to answer the interview questions honestly.

Scope and Delimitations

The scope of this qualitative case study was to use dispatch centers on the East coast of Florida, that had telecommunicators with at least 2 years on the job having experienced a high call volume, with the intent to notify dispatch centers on the East Coast of Florida. Participants varied depending on the agencies that participated and whether they were classified as EMD dispatch centers. Six participants were chosen. Delimitations of the study included semi-structured interviews and observations I conducted while a general questionnaire was used to pick the participant pool.

Limitations

This research study was designed as a case study to gain a better understanding of how 9-1-1 telecommunicators perceive high-stress emergency calls. Limitations to this research study included, time constraints, the sample size, and the researcher bias. This study required a high demand for participation, due to little researcher on telecommunicators and telecommunicators may be unaware of what a high-stress call is considered. Because of the nature of this study, a case study, the sample size was small, with only 6 participants which left more room for error. The last limitation was that I have is a background in the population used for the study, and an understanding of what was to be considered a high-stress call.

Significance

The results of this study can be used to provide feedback to LE agencies, dispatch centers, and the local communities. Providing such information can reduce high levels of stress for current employees in telecommunication centers, further educating them on

awareness, and possibly providing proper training on how to manage high-stress emergency calls. The Amber Denise Lee Foundation (2017) was founded in leu of Amber who lost her life due to lack of training and insufficiencies within the dispatch center and LE agency that was working this call. According to the Bureau of Labor Statistics (2023), 9-1-1 telecommunicators are required to attain a certain number of training hours, determined by the state they the live in. Findings from this study may help with future implementations on proper training that can be given to each employee who works in the dispatch center. Another case study that was conducted by Turner (2015) focused on the San Jose Police department and their telecommunications center, and the effects that 9-1-1 telecommunicators have when dealing with stress. Once the research gaps are filled, then readers and society will gain knowledge on perceived stress among the telecommunicator and the work classification they are in.

Summary

In this chapter, I provided an overview of how this study was presented to gain an understanding of how 9-1-1 telecommunicators perceive high-stress emergency calls. The literature provided gives readers the understanding of what a high-stress emergency call is and what each telecommunicator perceives them to be. Research questions were also described in this chapter.

In Chapter 2 of this qualitative case study, I explain the literature using the training that telecommunicators must go through, what stress is and how it plays a role in everyday life, as well as the role a telecommunicator plays in public safety.

Chapter 2: Literature Review

Introduction

9-1-1 telecommunicators are the first line of communication in public safety and first responders. 9-1-1 telecommunicators receive all calls from the public and community and make sure the right first responders are notified. Answering all incoming calls from both emergency and non-emergency lines, they are responsible for maintaining knowledge of where the first responders are and what is going on. For example, if a police officer is conducting a traffic stop, 9-1-1 telecommunicators are required to conduct status checks every 3 minutes to make sure the officer is ok. The same goes for fire and EMS personnel.

Dispatch centers across the United States are all operated differently as not all dispatch centers are EMD certified. According to APCO, (2023) having this type of certification in the dispatch center can reduce the liability for the agency. When dispatch centers are not EMD certified, it does not allow the telecommunicators to provide such assistance as T-CPR. Should the dispatch centers be EMD certified, then the telecommunicator will read off the EMD card that best describes the medical situation at hand. This can be determined by the prearrival instructions that the telecommunicator will ask the caller.

Collective and individual experiences, such as 9-1-1 incoming calls, are handled differently by everyone, and have an intense impact on a telecommunicator's ability to function within their daily lives. For example, a telecommunicator who handles a suicidal ideation call may experience anxiety, depression, or sleep deprivation, which may affect

their everyday life. Handling an excessive number of calls that relate to traumatic incidents in one shift can lead to mental illness in some individuals. Mental illnesses often associated with telecommunicators include PTSD, anxiety, and depression, which can be related to the different types of calls answered during the shift or over a period. According to the APA, (2019) "trauma" is defined as an emotional response to a terrible event.

Steinkopf et al. (2018) explained the assessment of stress and resiliency in emergency dispatchers and evaluated job-related stress and PTSD. Steinkopf et al.(2018) revealed that 24% of the telecommunicators showed significant job stress, also reporting that between 13.34 and 15.56% showed PTSD. Telecommunicators are amongst the personnel who are first responders, even though they are behind the scenes. Klimley, et al., (2018) explained that 80% of first responders who are considered police officers, fire fighters, and rescue and telecommunicators suffer from traumatic events, with 10 to 15% being diagnosed with PTSD.

The purpose of this literature review was to better understand how 9-1-1 telecommunicators, the first responders behind the telephone, answering all incoming 9-1-1 calls, perceive high-stress emergency calls and how the daily job can cause mental illnesses within the telecommunicator. The daily events experienced by the telecommunicator can affect their lives physically, mentally, emotionally, and personally. In this chapter, I explain the research that has been previously conducted on public safety telecommunicators, roles and responsibilities of a telecommunicator, and training, and I

incorporate several mental illnesses to include but not limited to PTSD depression, anxiety, and acute stress.

Responsibilities of a Telecommunicator

Computer Aided Dispatching System

The computer aided dispatch (CAD) system is the main system that all public safety telecommunicators use in the dispatch centers (APCO, 2018). This system is designed to allow telecommunicators to quickly open a call, identify the location, input notes, and dispatch the correct responder in a timely manner. The CAD system is key component for telecommunicators to do their job successfully. The public safety telecommunicators are required to complete training on the CAD system that ensures the best quality and knowledge of the system. On average, it takes 1 year for a telecommunicator to complete the APCO training requirements (APCO, 2023).

Telecommunicators are responsible for recertification every 2 years, 48 hours of public safety telecommunicator training and 24 hours of EMD which can include conferences, webinars, and in-service training (APCO, 2023). Training for CAD comes with new updates that may be installed within the agency or provided by the training officer.

Supervisors are ultimately responsible for the smooth operation of the dispatch center. A fully staffed dispatch center should include call-takers, primary telecommunicators, fire/rescue telecommunicators, teletype telecommunicator, and a supervisor to overlook the operations (APCO, 2023). The call-taker is the one who answers incoming calls and obtains all necessary information to dispatch the call. The

primary telecommunicator is solely responsible for the traffic of the LE officers while they patrol the zones. For example, if an officer makes a traffic stop, it is up to the primary telecommunicator to record all traffic that comes across the radio. The fire/rescue telecommunicator has similar duties to the primary telecommunicator, but they record all traffic from the fire/rescue personnel. The teletype telecommunicator is responsible for running all information through the national criminal database, known as the National Crime Information Center-and in many agencies inputs the warrants into the data base as well.

EMD

Training is an important factor in becoming a public safety telecommunicator, and with that comes different levels of stress. 9-1-1 telecommunicators answer all incoming emergency calls, never knowing what is going to be on the other end. For example, there could be a mother on the phone frantic because her infant child is not breathing, it is the responsibility of the telecommunicator to keep calm, try to obtain as much information as possible from the frantic mother, and decide which guide card to use. The guide cards provided are part of EMD (APCO, 2018).

EMD cards are what telecommunicators use when determining what type of medical emergency, they may be dealing with. For example, if the chief complaint is difficulty breathing, then they would find the EMD card that prompts them to ask all the necessary questions, chief complaint, age, if the patient breathing or unconscious, where is the patient located, and any prior medical issues that may be helpful until rescue arrives on scene (APCO, 2018). Telecommunicators should have a good knowledge of the what

the EMD cards explain so when they hear the chief complaint, they can navigate to the right card in a timely manner. Having knowledge of the EMD cards can assist the telecommunicator to help the patient keep calm and help save a life.

Mental Illness

Emergency telecommunicators have continued exposure to trauma incidents. Emergency dispatchers who answer all incoming 9-1-1 calls never know what type of call it will be. It could be something as simple as a fender bender with no injuries or something as serious as a hostage situation, active shooter in a school, or possible suicide. For example, in December of 2012, a young man by the name of Adam Lanza walked into Sandy Hook Elementary and started taking the lives of innocent children; a total of 20 children and six adult's lives were taken that day all because this individual suffered from a mental illness (CBS News, 2019).

PTSD

PTSD is a real-life disorder that is often overlooked or ignored. Many first responders, including 9-1-1 telecommunicators, are affected by this disorder in the workplace that carries with them into their personal life. According to Stark (2016), PTSD is now more common in individuals who experience high-stress situations like 9-1-1 telecommunicators. Often, individuals may not even know they are affected by PTSD until it is too late, and they have a breakdown. Anxiety, depression, and PTSD awareness should be mandatory training for 9-1-1 telecommunicators to educate them and make them aware of signs and symptoms to potentially keep them from experiencing any of these symptoms.

Lilly and Pierce (2013) explained how PTSD and depressive symptoms are among 9-1-1 telecommunicators. Lilly and Pierce further expressed that continued exposure to trauma increases the risk for both PTSD and depression. Trauma exposure can range from 9-1-1 telecommunicators taking the same type of calls on a day-to-day basis, making them repetitive, to a suicide call that ends with caller taking their life while the telecommunicator is on the phone. Torchalla and Strechlau (2017) revealed similar results, with PTSD being linked to work related stress and influencing physical illnesses, additional mental disorders, and both short- and long-term disability.

Depression

Regehr, et al. (2013) expressed how to better understand experiences of psychological distress and physiological stress in 9-1-1 telecommunicators. Like Lilly and Pierce (2013), Regehr et al. claimed that dispatchers also have high levels of PTSD along with anxiety and depression.

Stress-Related Factors

9-1-1 telecommunicators for police, fire, and rescue are the personnel who are heard but not seen during an emergency. Stress is a serious factor in how daily operations are carried out in a dispatch center. Oldenburg, et al. (2014) argued that emergency personnel experience more job-related stress than nonemergency personnel. The daily responsibilities of dispatchers include answering all incoming calls for both nonemergency lines and 9-1-1 lines. Oldenburg et al. explained stress-related factors such as T-CPR, and errors in communications that can compromise patient care, and critical incidents can all cause stress on dispatchers over a period.

Turner (2015) argued that job-related stress can affect physical health, such as heart issues, depression, or hypertension. Both Oldenburg et al. (2014) and Turner explained the duties and role of telecommunicators as being one in the same. For example, training, along with the stress factors: long hours, and fatigue are similar, yet each telecommunicator is affected differently. Anshel, et al. (2013) argued that having wellness programs and coping skills in place can help with perceived stress and physical energy among emergency dispatchers.

Training

Importance of Training

In January of 2008, a female by the name of Denise Amber Lee was abducted from her home and taken by a man. There were several police units in the area, and multiple calls into the dispatch center, including a call from Denise herself telling the telecommunicator what was taking place. However due to the insufficiencies in the dispatch center, no units were dispatched to help her (Denise Amber Lee Foundation, 2019). Denise's body was found a few days later, revealing why such mandatory training is required to become a telecommunicator.

APCO is the leader in training for all the public safety in the dispatch and emergency centers (APCO, 2023). As a requirement in the state of Florida, a telecommunicator must complete the Public Safety Telecommunicator course, EMD course, CPR and a state exam. The Public Safety Telecommunicator course teaches how to properly use the CAD which is the primary use of the telecommunicator each day. For example, this system allows the telecommunicator to generate a call with several drop-

down menus to input the information needed, such as the location, name of caller, phone number, details of the call, and what level of severity the call is to be placed in.

T-CPR

CPR is a daily function used by most telecommunicators during their shift.

Cardiac arrest is when there is an abrupt loss of function to the heart, and often results in the heart stops beating (American Heart Association, 2018). Wu et al. (2018) explained how T-CPR can be associated with the survival of out of hospital cardiac arrest and how telecommunicators use this as part of their everyday function while on the job. Ko, et al. (2018) explained how community bystander defibrillation rescue has a better impact on saving lives than dispatcher-assisted telephone CPR (DATCPR). CPR is more effective on an individual who is in cardiac arrest if someone is there in person to give CPR and is trained to do so. DATCPR is a required certification for telecommunicators so they can render the instructions to the caller who needs guidance (APCO, 2018).

Birkenes et al. (2015) explained the importance of T-CPR in the communications center, as cardiac arrest can happen anytime to anyone. T-CPR can increase the chance of life if it is started right away rather than waiting for fire or rescue to arrive. Rasmussen et al. (2017) also explained that DATCPR improves the quality among rescuers.

Chapter 3: Research Method

Introduction

The effects of high-stress emergency call on 9-1-1 telecommunicators can be complex in understanding what they experience each time the phone rings, if it will be a life-or-death situation, what type of aid is going to be called for, and how quickly the telecommunicator need to react. The purpose of this case study was to provide the readers insight as to how 9-1-1 telecommunicators experienced high-stress emergency calls and what short term and long-term effects they suffered from. The rationale for this study was that 9-1-1 telecommunicators are often forgotten about because they are the voice that is never seen; therefore, there is a need for more education on how they are affected.

The literature discussed previously revealed that high-stress emergency situations can and do affect first responders. Previous research has been conducted on the types of training that 9-1-1 telecommunicators receive, job-related stress, and how to train for CPR (Birkenes, et al., 2015; Oldenburg et al., 2014; Rasmussen, et al., 2017; Wu, et al., 2018). The importance of identification of cardiac arrest in patients has also been studied since researchers have revealed not many people are able to recognize the signs of real-life cardiac arrest (Meischke, et al., 2016). The Amber Denise Lee case was also used to express the importance of why previous literature had been conducted on the importance of training for 9-1-1 telecommunicators (see Amber Denise Lee, 2017).

Current research has also shown the effects of mental disorders on 9-1-1 telecommunicators, such as PTSD depression, and anxiety (Klimley, et al. 2018; Lilly, & Pierce 2013). 9-1-1 telecommunicators suffer from greater distress than the regular

population. Lilly, and Pierce (2013) explained that greater distress has been found to increase the chance of being diagnosed with PTSD, and outside factors other than work surroundings can contribute to this. Psychological resilience, education, and organizational support are related to a good quality of life for 9-1-1 telecommunicators (Miller, et al., 2017).

The intent of this study was to gather in-depth experiences of 9-1-1 telecommunicators and how the job can affect the overall mental health of telecommunicators. The selected population for this study was based upon the participants having a minimum of 2 years on the job and being currently employed as a 9-1-1 telecommunicator.

Research and Rationale

The purpose of this qualitative case study was to understand how 9-1-1 telecommunicators perceived high-stress emergency calls. The central question was as follows: What are the most significant short term and long-term impacting a 9-1-1 telecommunicator might experience after providing first-aid procedures during the 9-1-1 call? Research Question 2 was as follows: What characteristics of high-stress emergency calls do 9-1-1 telecommunicators attribute to elevating their own levels of stress? Research Question 3 was as follows: What are some strategies 9-1-1 telecommunicators employ to maintain psychological well-being when handling high-stress emergency calls?

According to Yin, (2018) a case study approach should be used when the researcher is trying to answer “how and why” questions, and when the research questions

may require “in-depth” explanation. In recent years, there have been many studies on first responders, which highlighted my personal interest in 9-1-1 telecommunicators, who are often not included in the research. 9-1-1 telecommunicators were the driving force behind this research study. The purpose of this case study was to better educate individuals on how 9-1-1 telecommunicators are affected by high-stress emergency calls and the importance of proper training. For this study, a descriptive case study was used based upon the exploration of a specific phenomenon being 9-1-1 telecommunicators and their real-life experiences.

Researcher’s Role

In a qualitative case study, the researcher has a responsibility to study, learn, and collect data from the participants in a real-life environment. The research question leads the research study, which in turns gives the role of the researcher. There are other types of considerations that the researcher needs to consider as well such as: time constraints, if access will be available to the population, if any ethical issues will arise and if so, how will they be handled, and what type of funding will be used to conduct their research study.

The semi-structured interview approach was used to allow the participants to answer the questions with open ended answers. It was my responsibility to ask clear and concise questions, keeping in mind the social and cultural context. To avoid asking leading questions, I provided a written interview guide before starting the interview. A full disclosure was made in the Informed Consent document, as I worked in the same

field as the participants, but I had no personal or professional relationships with any of the participants.

Research Questions

The research questions were as follow:

What are the most significant short term and long term impacts a 9-1-1 telecommunicator might experience after providing first-aid procedures during the 9-1-1 call?

What characteristics of high-stress emergency calls do 9-1-1 telecommunicators attribute to elevating their own levels of stress?

What are some strategies 9-1-1 telecommunicators employ to maintain psychological well-being when handling high-stress emergency calls?

Introduction to the Methodology

According to Creswell and Poth (2018), a qualitative case study allows the researcher to conduct an in-depth investigation on a person or group using multiple sources. I used a semi structured case study to explain in depth the experiences of 9-1-1 telecommunicators when dealing with high-stress emergency calls. In the methodology I explain each section, starting with the participant selection logic. I then continue to explain the instrumentation approach and the data collection instruments. Also included in this section is how the participants were recruited, and data collection, concluding with the data analysis plan.

Participant Selection

The population used for this qualitative case study was 9-1-1 telecommunicators who were employed with dispatch centers along the East coast of Florida. There are several dispatch centers along the East coast, as some counties have multiple agencies. The population for this study was chosen based on 9-1-1 telecommunicators with a minimum of 2 years on the job and being currently employed as a 9-1-1 telecommunicator.

Purposeful sampling was used to make sure that all 9-1-1 telecommunicators had at least 2 years of on-the-job service and were still actively employed as a 9-1-1 telecommunicator. I used online questionnaires sent through email to determine the qualifications of the participants. Participants were chosen based on criteria for this qualitative case study. Sample size was based upon the intent of this research study, which addressed how 9-1-1 telecommunicators perceived high-stress emergency calls. The purpose of this case study was to obtain in depth to answer to how 9-1-1 telecommunicators are affected by the high-stress emergency calls they take. For this study, six participants were interviewed to keep the sample size relatively small to avoid saturation.

I provided an informed consent form that assured the privacy of all personal information and information collected during the interview. Participants were selected using Microsoft Outlook email and were provided a participation sign up via email outlined in Appendix A. I was also provided the semi-structured interview protocol outlined in Appendix C. I conducted each semi-structured interview via a Zoom meeting,

and each interview was recorded for quality and assurance to make sure the data collected were accurate and were later analyzed. Each interview conducted lasted at least 20 minutes and no longer than 45 minutes.

Instruments

The data collection instrument used for this case study was semi-structured interview questions. I constructed the data collection instrument and the interview protocol (see Appendix B), which contained the open-ended questions that were dispersed to all the participants.

Interview Protocol

1. I introduced myself to the participants.
2. I reviewed all necessary paperwork (i.e., consent form, and questions, and answered any question the participants may have had).
3. I set up the recording device (note: the date and time).
4. I started the interview.
5. I asked any additional questions and, followed up on responses that participants gave.
6. I ended the interview process.
7. I provided the participants with any information needed and made sure contact information was correct.

Interview Questions

1. How did you decide to become a 9-1-1 telecommunicator?
2. How long have you been a 9-1-1 telecommunicator?

3. What is your current position in the dispatch center?
4. How much training and experience do you have doing this job?
5. Explain the role of the supervisor in the dispatch center.
6. What do you feel are the most stressful type of calls that come through the dispatch center?
7. How do you best handle the level of stress in times of true emergencies? For example, when you receive a call, and the patient is not breathing?
8. What is your definition of a true emergency?
9. What outside resources does the agency provide for assistance with mental health?

Procedures for Recruitment, Participants, and Data Collection

Data collection for this study was first determined by the dispatch center that was used. After careful consideration, I used dispatch centers along the East coast of Florida. Most dispatch centers on average have 10 to 15 dispatchers working on a shift at a time. I emailed the questionnaire using Microsoft Office to the dispatch center directors to disperse to the telecommunicators. Only six participants responded to the research, so no random selection tool was used. The interview questions were open-ended questions that each participant was asked, and each interview was scheduled for 45 minutes. Due to the current pandemic, participants were given an option of either interviewing in person at the local library area and or virtually via a Zoom meeting. I had headphones on during the Zoom meeting, so the participant was not heard.

Data Analysis

The goal of this case study was to uncover patterns, determine the meanings, and come up with conclusions (see Kohlbacher, 2006). My purpose was to plan, gather, analyze, and provide results. The planning stage included the research questions, choosing a method that would work for this research study, and having a full understanding of what was studied (see Yin, 2018).

I used a 4-step process (see Atkinson, 2002) that was best suited for a case study. This process included creating a data repository that allowed me to create a format that allowed for manipulation. The second step in this process was to initial the codes, expand the codes, and rationalize the codes. This included making the labels or tags for the data that had been collected. The third step in this process was analyzing the coded data, which included generating a variety of reports (see Atkinson, 2002). The fourth step in this process was to finalize the propositions.

Issues of Trustworthiness

Credibility

Credibility is part of a 4-step process for trustworthiness, along with dependability, transferability, and confirmability. In qualitative research, credibility has to do with the researcher establishing the results and proving they were valid and reliable. According to Korstjens and Moser (2017), credibility in qualitative research is equivalent to the internal validity in quantitative research. For this study, I used member checking to check the accuracy of the results. Member-checking allows the data or results to be provided to the participants for an accuracy check (Birt, et al., 2016).

Transferability

In a qualitative research study, transferability takes place when the results of the study are completed, and they can be generalized or transferred to a similar setting. Birt et al. (2016) explained that it is the researcher's responsibility to provide a thick description of the context and participants. For this study, I used thick description to confirm the transferability. To ensure the transferability of this case study, it would be better if the readers had more knowledge of the subject being studied, 9-1-1 telecommunicators and how they perceive high-stress emergency calls or previous research.

Dependability

Birt et al. (2016) explained dependability as the data consistency, and to ensure both dependability and confirmability are working, the researcher should use the audit trial. In this study, I used an audit trial to take detailed notes during the interview process then used Dedoose, a commonly used coding software, along with manually assigning codes and identifying emergent codes. Manual coding included anchor codes assigned to each research question, following the process of coding, sorting, synthesizing, and then theorizing. Specific coding methods such as theming data and Dedoose were used, and these methods this helped ensure the consistency of coding. Along with the manual coding used for this research study, diagrams were created as charts.

Ethical Procedures

It is essential that the findings to my study are not only trustworthy but that the study was conducted ethically. My qualitative descriptive case study was reviewed by

following the Walden University Institutional Review Board (IRB), which included 40 ethical standards. Participants for this research study were volunteers, and no compensation was provided for the participation. The population for this study did not require the use of any confidential information, such as medical information, SSN#, or home addresses. Each participant was assigned a pseudonym name to avoid any other ethical issues.

The participants were provided with a consent form to sign that explained in depth what the research study was about. Included in the consent form was a description of how the data would be used for and how they would be stored and destroyed after the use for this study. For this study, the participants were provided with a letter that I used for clerical identification.

The participants for this research study were chosen from the dispatch centers along the East coast of Florida, and I had no personal relationship with any of the participants, which minimized the ethical issues. Also, all the information is stored in a safe box that only I have access to.

Summary

In conclusion, this chapter, addressed the research design, methodology, trustworthiness, and any ethical issues I foresaw. This qualitative phenomenological case study explored how 9-1-1 telecommunicators perceived high-stress emergency calls and what a high-stress emergency call was to them. The participants for this research study were selected using the purposeful sampling making sure that all criteria were met by each participant. The methodology used for this case study was semi-structured interview

questions, using the purposeful sampling method. I used Microsoft Outlook as the method to obtain the participants, and each participant was assigned a letter as the personal identifier for clerical purposes.

The data analysis used for this research study was recommended by Yin (2018) to plan, gather, analysis and provide results. I used a questionnaire sent via Microsoft Outlook to the participants for the study of 9-1-1 telecommunicators perceive high-stress emergency calls. Issues of trustworthiness to include credibility, transferability, dependability, and confirmability were all discussed to make sure that I had no personal relations to the participants or biased motive. This chapter also touched on the ethical issues with the participants, making sure there were no violations with the samples being used. Chapter 4 includes the results of the data analysis, the setting, demographics, and data collection.

Chapter 4: Results

Introduction

Researchers have indicated that 9-1-1 telecommunicators face increased risks for mental health challenges, such as stress, anxiety, depression, and PTSD due to duty-related traumas that are endured while answering emergency calls (Smith et al., 2019). Emergency telecommunicators contend with long work hours, high workloads, and staffing shortages (Wahlgren et al., 2020). As Wahlgren et al. (2020) explained, an understanding of factors that cause workplace stress is needed for the development of effective wellness programs. The purpose of this study was to determine how 9-1-1 telecommunicators perceived and responded to high-stress emergency calls. The study was guided by the following research questions:

Research Question 1: What are the most significant short-term and long-term impacts a 9-1-1 telecommunicator might experience after providing first-aid procedures during the 9-1-1 call?

Research Question 2: What characteristics of high-stress emergency calls do 9-1-1 telecommunicators attribute to elevating their own levels of stress?

Research Question 3: What are some strategies 9-1-1 telecommunicators employ to maintain psychological well-being when handling high-stress emergency calls?

This chapter includes a presentation of study results. First, the study setting, and participant demographics are described. Strategies for data collection and analysis are detailed, followed by a description of measures employed to increase the trustworthiness

of findings. Results are presented thematically and organized by research question. The chapter closes with a concise summary.

Setting

All the interviews were conducted over the internet using a computer-based program called Zoom. I conducted interviews in my private home office. All participants were in private, secure locations during their online interviews. One participant was at work in the break room and stated that no one else was around. Another participant stated that she was at home in her bed, comfortable, and ready to talk. The other four participants stated that they were at home, secluded away from everyone. All participants were very calm and cooperative. One was very eager to talk about everything and express what they dealt with each shift. Each participant was reminded that there were no incentives for their participation.

Demographics

All six participants self-identified as current employees in a 9-1-1 dispatch center, had at least 2 years of job experience, and were at least 18 years of age. All participants spoke and understood English. The participants included five women and one man, and the ages ranged from 18 to 63. Professional experience ranged from 3 years to 30 years. Four of the female participants identified as White, one identified as African American. Participant demographics are presented in Table 1.

Table 1*Participant Demographics*

Participant #	Gender	Age	Race	Years of experience
Participant A	Female	50	White	25 years
Participant B	Female	35	White	11 years
Participant C	Female	54	White	30 years
Participant D	Female	23	White	3 years
Participant E	Male	44	African American	4 years
Participant F	Female	26	African American	5 years

Data Collection

Five female individuals and one male individual responded to recruitment emails that were sent out by the agency's communications director. Recruitment lasted approximately 4 months, and weeks went by with no individuals expressing interest in the study. Thus, I had to make changes to the data recruitment locations multiple times to gather the participants for this study. Recruitment was a challenge due to staffing shortages during the COVID-19 pandemic. It took me several months to obtain the participants for this study. Eventually, six individuals agreed to participate, and interviews were scheduled.

Data were collected via semi-structured interviews via Zoom. Each interview was scheduled to last approximately 45 minutes long; however, they were each completed in

under 15 minutes, based upon the answers and explanations each participant was willing to give. Following the interviews, audio from the recordings were transcribed through Zoom. There were no unusual circumstances during the data collection.

Data Analysis

After the audio was transcribed through the software, I reviewed each transcript in its entirety to ensure accuracy. I listened to the audio from each interview as I reviewed the transcripts, making edits as necessary. After all transcripts were ready, I began data analysis, following the steps of thematic analysis. The first step of analysis involved a careful review of transcribed interviews from all six participants. Next, the process of coding began, noting areas of high and low emotion. During this step, I searched transcripts, word by word, to identify patterns and repetition. When a pattern was recognized, it was given a code name and coded in the data. Several examples of the coding are provided in Table 2.

Table 2*Coding Samples*

Interview excerpt	Code applied
Long term effects for myself would be post-traumatic stress disorder while I have never been diagnosed with PTSD by a doctor, I have noticed that calls requiring CPR with children trigger flash backs.	PTSD
I've had death on the phone.	Caller died while on the phone
There are the times when I cannot sleep because I think of the situation.	Can't sleep
The hardest part for me is when it involves a child. I always want to get in my car and just drive over there.	Calls involving children
I know that is not always good, but you have to put your personal emotions aside and focus on the call at hand.	Focus on the task at hand
Once you get through the call you can take a deep breath.	Take a breath
I haven't been doing this long enough to consider myself having long term effects on this job yet.	No long-term effects

The occurrence of all 56 codes was calculated to allow me to identify the most and least prominent codes. As illustrated in Table 3, the most common codes included organizational efforts to help, ongoing training, my current role/responsibilities, and staffing shortage. Less frequent codes included: difficult caller, emergency is subjective, must have replacement to take a break, shift length, triggering events, anger, anxiety when phone rings, burnout, compassion fatigue, focus on task at hand, no long-term effects, and older callers can't/won't help.

Table 3*Code Occurrence*

Code	Number of times occurred
Organizational efforts to help	15
Ongoing training	13
My current role/responsibilities	10
Staffing shortage	10
Difficulties getting information	8
New hire training	8
Supervisor	8
Urgent response required	8
Years of experience	8
Cry after call/sadness	8
Calls involving children	8
Take a breath	8
Call taking	7
Get the job done	7
Most stressful call type	7
Yelling/screaming on calls	7
Go for a walk	7
CPR	6
Dispatchers help each other	6
Growth-promotion	6
Life or death situation	6
Working overtime	5

Code	Number of times occurred
Caller won't help	5
Accreditation	4
Caller died while on the phone	4
Didn't intend to become dispatcher	4
Number of dispatchers on a shift	4
Take a break	4
Most stressful calls are those that hit home	4
Become numb/repress emotions	4
Challenge/hard	3
Dispatching	3
Domestic violence calls	3
Family member inspired me	3
Nonstop calls	3
Stress management	3
Wanted to be a correctional officer	3
Job-related stress	3
EAP	3
PTSD	3
Caller is afraid	3
Can't sleep	3
Exercise	3
Wonder if I did enough/feel responsible	3
Difficult Caller	2
Emergency is subjective	2
Must have replacement to take a break	2

Code	Number of times occurred
Shift length	2
Triggering events	2
Anger	2
Anxiety when phone rings	2
Burnout	2
Compassion fatigue	2
Focus on task at hand	2
No long-term effects	2
Older callers can't/won't help	2

The next step of analysis involved grouping codes by similarities. These groups were then rearranged several times until themes and subthemes emerged, in alignment with the three research questions. A total of four themes emerged, including effects of delivering first-aid during calls, causes of dispatcher stress in 9-1-1 telecommunicators, strategies to mitigate dispatcher stress, and preparation for the job. Ten subthemes were also identified, including: short-term effects, long-term effects, staffing-related stress, call-related stress, most stressful calls for individual dispatchers, focus on the task and step away, when necessary, physical techniques, organizational efforts to help dispatchers manage stress, training, and how I became a dispatcher. Alignment between the themes, subthemes, and codes are depicted in Table 4. Five codes were removed from the dataset during this process, as they were poorly aligned with any of the research questions. Removed codes included my current role/responsibilities, supervisor, call taking, dispatching, and growth-promotion.

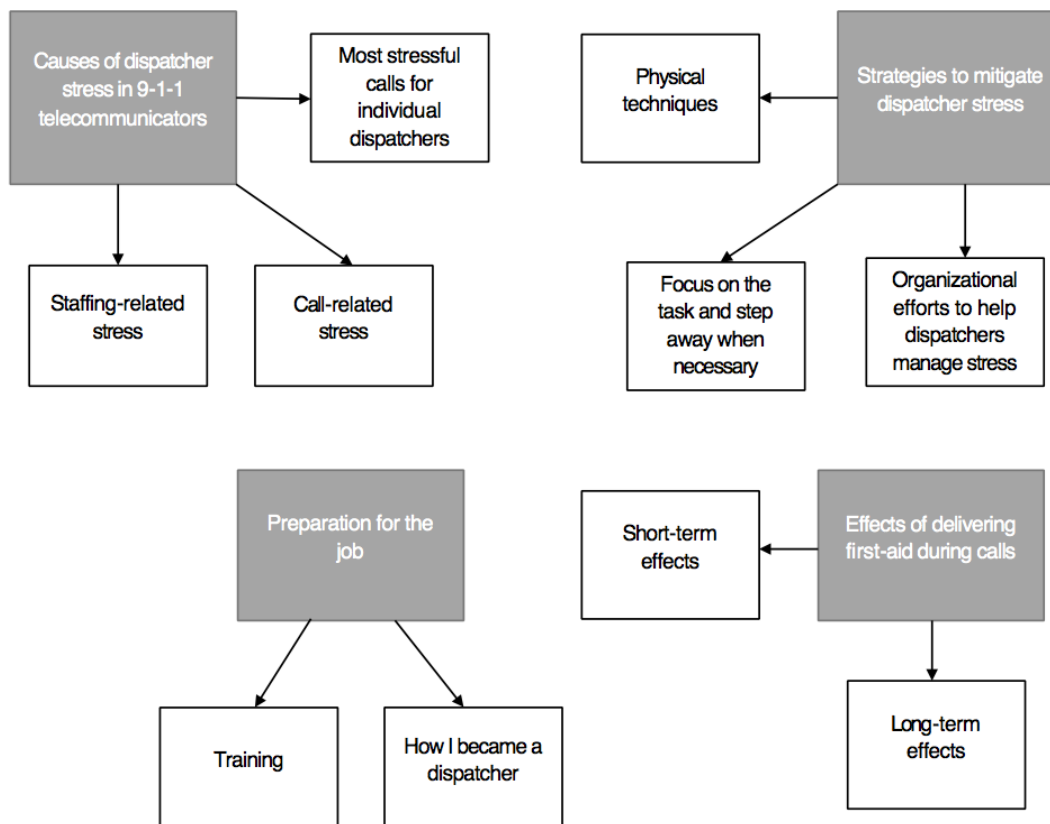
Table 4*Themes, Subthemes, Codes*

RQ alignment	Theme	Subthemes	Codes
RQ1	Effects of delivering first-aid during calls	Short-term effects	Cry after call/sadness Anger Anxiety when phone rings Can't sleep Wonder if I did enough/feel responsible
		Long-term effects	PTSD Triggering events Become numb/repress emotions Burnout Compassion fatigue No long-term effects
RQ2	Causes of dispatcher stress in 9-1-1 telecommunicators	Staffing-related stress	Staffing shortage Number of dispatchers on a shift Must have replacement to take a break Working overtime Shift length Nonstop calls Job-related stress

RQ alignment	Theme	Subthemes	Codes
		Call-related stress	Difficulties getting information Urgent response required Yelling/screaming on calls Life or death situation Difficult caller Challenge/hard Emergency is subjective Caller is afraid Caller won't help Older callers can't/won't help
		Most stressful calls for individual dispatchers	Most stressful call type Most stressful calls are those that hit home Caller died while on the phone Calls involving children Domestic violence calls
RQ3	Strategies to mitigate dispatcher stress	Focus on the task and step away when necessary	Get the job done Focus on the task at hand Take a break Stress management
		Physical techniques	Go for a walk Take a breath Exercise
		Organizational efforts to help dispatchers manage stress	Organizational efforts to help EAP Dispatchers help each other

RQ alignment	Theme	Subthemes	Codes
RQ3	Preparation for the job	Training	Ongoing training New hire training Accreditation CPR Years of experience
		How I became a dispatcher	Didn't intend to become a dispatcher Wanted to be a correctional officer Family member inspired me

Lastly, a thematic map was created to provide a visual representation of the relationships between the themes and subthemes (see Figure 1).

Figure 1*Thematic Map***Results**

A narrative of study results were provided, as follows. Each theme and subtheme were discussed, supported by direct quotes and examples from participant interviews. Findings were presented thematically and in alignment with the research questions.

Effects of Delivering First-Aid During 9-1-1 Calls

The first theme to emerge was effects of delivering first-aid during 9-1-1 calls. This theme was in direct alignment with the first research question, which asked the following: “What are the most significant short term and long term impacts a 9-1-1

telecommunicator might experience after providing first-aid procedures during the 9-1-1 call?” Two subthemes emerged for this theme, including short-term effects and long-term effects. Each subtheme is discussed as follows.

Short-Term Effects

Participants described several short-term effects they experienced within the hours following high-stress calls that required them to deliver first-aid. These effects were emotional and psychological in nature, and included anger, anxiety, and sadness. For example, Participants 2 and 4 both admitted to sometimes feeling anger after these types of calls, either out of a sense of helplessness or frustration with uncooperative callers. Participant 2 said she would experience anxiety when a call came through, because of the potential pressure she would face in helping callers who may be in life-threatening situations: “No matter how many times you do it there are times where your heart is beating fast and when someone’s life could possibly be in your hands. You don’t have time to make a mistake.” It was the unknown situation at the end of the other line that created a lot of the emotional duress described by dispatchers in the study. As Participant 1 similarly shared, “When the phone rings and the 9-1-1 line is going off, it always makes my hair stand up because you never know what type of call is going to be on the other end.” Essentially, not knowing what they would encounter each time the phone rang caused participants to feel unease and anxiety.

The job was also emotionally intense for almost all the participants, often resulting in cathartic experiences of crying and reflection. Five of the six participants admitted to crying after calls that required them to deliver first-aid instructions because of

the worry they felt for victims, or sadness over poor outcomes and lost lives. Participant 5 said he had often wanted to cry, while Participant 4 shared, “I have cried numerous times.” Reflecting on the first time she delivered first-aid during a call, Participant 3 explained, “I cried [for] the remainder of the shift.” Participant 2 would sometimes cry out of concerns for callers she had tried to help, saying, “There have been calls where I would cry after because I just knew they were not going to make it. It was just a feeling I would get.” For Participant 2, the sadness that evoked tears was tied to a sense that someone on the other end of the phone call was not going to survive.

Participants 2 and 6 had experienced sleepless nights after taking stressful calls, as they worried and ruminated about the callers. Three participants said they often felt extended emotional turmoil after hard calls, as they wondered if they had done enough to help the caller, or somehow felt responsible for bad outcomes. Participant 1 said that after calls, she sometimes “would think to myself, could I have done anything different? Given the commands faster? Would the person still be alive?” For Participant 1, second-guessing herself and feeling guilty that maybe she had not done enough to save a life created enduring turmoil.

Long-Term Effects

The long-term effects of difficult 9-1-1 calls were also described by participants. Like the short-term effects mentioned by participants, the long-term effects were emotional and psychological in nature. Burnout and compassion fatigue were described as consequences of emotionally taxing calls, which were regularly experienced. As Participant 1 explained, “When you take thousands of calls over the years, long-term

effects become burnout.” Participant 4 said long-term emotional consequences were “common when providing first aid procedures over the phone because more times than none you can’t help but feel compassion for the call[er]s.” Sentiments expressed by participants indicated much of the long-term emotional consequences of the job were related to the ways dispatchers internalized experiences with callers, as well as a strong sense of empathy toward those they tried to help.

Participants 3 and 5 both described becoming “numb” to their emotions or intentionally repressing emotional reactions to tough calls. Participant 3 shared, “After doing it for some many years, I think I became immune to it and learned how to block it out.” Participant 5 shared a similar sentiment: “After a period of time, you become numb to some of the calls that you take.” This idea of becoming “numb” seemed to be a coping mechanism in which participants disconnected their personal emotions from their professional experiences, in order to avoid emotional burnout.

Three participants described experiences with post-traumatic stress as a long-term consequence of difficult calls. As Participant 3 said, “Long-term effects for myself would be posttraumatic stress disorder.” This notion was echoed by Participant 1: “Long-term effects for myself are PTSD because no matter how strong I thought I have been, certain things I deal with feel they are repeating themselves over. It’s like a trigger.” As described by participants, triggers seemed to be events that pulled them back into painful, past experiences. The experience of “triggering events” was also mentioned by Participants 1 and 3 in conjunction with PTSD. For example, Participant 3 shared, “I have noticed that calls requiring CPR with children trigger flashbacks.” Only two

participants said they had not experienced long-term effects of the job, but admitted this was probably because they had not been dispatchers for very long. If this is true, these two participants may develop stress or trauma-related issues, such as PTSD, after spending more time working as dispatchers.

Causes of Dispatcher Stress in 9-1-1 Telecommunications

The second main theme to emerge was in alignment with the second research question, which asked the following: “What characteristics of high-stress emergency calls do 9-1-1 telecommunicators attribute to elevating their own levels of stress?” This theme highlighted causes of dispatcher stress. Three relevant subthemes were identified, including staffing-related stress, call-related stress, and most stressful calls for individual dispatchers. These themes are described as follows.

Staffing-Related Stress

The first subtheme for Theme 2 was focused on stressors related to staffing shortages. Within this subtheme, participants describe staffing problems that often increased the volume of work they each had to manage, while limiting opportunities to take breaks or decompress from stressful calls. Participants 1 and 6 described staffing problems at length, and the challenges those shortages created. Without adequate staff, there were often not enough dispatchers on a shift, which then meant they had very little time to decompress between calls. As Participant 1 said, “our phones are just so busy here. We don't have enough people to answer them.” Participant 6 said staff sometimes had to miss scheduled days off because there were not enough staff working. These shortages not only increased the amount of work for each dispatcher and limited their

days off, but also made it difficult for them to take breaks after stressful calls. Participant 1 explained that because dispatchers could not take breaks unless they were relieved by another dispatcher, staffing shortages often made it difficult to take breaks when needed. Three participants mentioned dealing with “nonstop calls” and working overtime due to staffing shortages.

Call-Related Stress

By far, the most significant cause of work-related stress described by participants was caused by difficult calls. Participants described several factors that created challenging and stressful calls, which they often dealt with on a regular basis. For example, four participants described stress from struggling to obtain critical information from callers. Participant 5 explained, “You have to be able to answer the calls and get the information from the caller. Like the location of the situation going on at the time... this is not always easy.” Participant 1 similarly shared, “They don't understand they have to answer these questions to help us understand how many ambulances they even need. Like, how many people are shot? Where are they shot?” Participants explained that callers were often so emotional and stressed that it was hard for them to focus and provide critical information that dispatchers needed. This compounded stress for the dispatchers, as they now had to not only obtain critical information needed to help, but first calm callers down enough to perform meaningful and helpful information exchanges.

Chaotic situations in which callers were yelling also created stress for participants. Participant 6 said, “many times, people are yelling.” Participant 5 similarly shared,

Many times, the callers are yelling at you because they are scared or involved in the situation. For example, [during] a domestic violence, the caller isn’t calm.

They yell at you and you have to keep telling them to calm down and get the information that you can in between them yelling.

During urgent calls, Participant 1 said “people are usually screaming and hollering.” The chaos and stress of yelling and screaming callers not only made it harder to obtain critical information, but could also delay help being sent, creating more stress for dispatchers.

Difficult, fearful, and uncooperative callers created additional stress for dispatchers. For example, Participants 1 and 6 both mentioned dealing with difficult callers. Participant 1 said callers were often afraid to help or deliver first aid. Similarly, Participant 4 said, “You would be surprised how many people are afraid of CPR.” These scenarios were difficult for dispatchers because they knew someone on the other end of the call needed critical first aid; however, without someone there to implement the directions provided, dispatchers felt helpless. Participants 1 and 4 also explained that callers who refused to help, or were not physically capable of helping a victim, created dispatcher stress. When talking about delivering CPR instructions over the phone, Participant 4 shared,

[The] hardest part of giving CPR over the phone is when the caller tells you they don't want to help and you have to stay calm and just repeat yourself and try and convince them you're there to help guide them.

Participant 1 admitted that one of the most stressful experiences during a call happened when a caller would refuse to help a victim. Participant 1 later explained that it was often elder callers who were reticent or fearful about performing first-aid, via a dispatcher. Participants described a sense of frustration and helplessness when dealing with callers who were unwilling to help victims, sometimes even noting a desire to go to the scene and perform first aid, directly. Their roles as dispatchers, however, created scenarios in which they could only provide help by proxy. Dispatchers cannot directly provide first-aid to the victims they seek to help; they can only tell others how to provide it. In this way, the provision of effective first aid requires cooperation from callers, without which dispatchers may experience a sense of helplessness.

Most Stressful Calls for Individual Dispatchers

The final subtheme to emerge for Theme 2 was centered on the types of calls that were most stressful for individual dispatchers. Participants described a number of call types that created high levels of stress. Participant 1 felt shootings were the most stressful type of call, while Participants 2, 3, 4, and 5 all felt calls involving children were the hardest to deal with. For example, Participant 3 shared, "The hardest part for me is when it involves a child. I always want to get in my car and just drive over there." Participant 4 shared a similar sentiment: "Because children are innocent most of the time. When you get a call that a child is in need of help, and you want to just drop the phone and go help

them. It's hard." Participant 6 said, "The hardest part for me is when kids are involved. They are so innocent and when you know they are lifeless, it really kills me."

While there was agreement among participants that calls involving children were typically the most difficult, it seemed this was because those calls often hit close to home. When participants took calls involving children, they often thought about their own children, which made the calls even more intense. For example, when asked about the most difficult calls she took, Participant 2 replied, "I am a mom of three and any time that we get calls about children." In addition, participants viewed children as helpless and dependent on adults to take care of them. This made children seem more vulnerable and increased the emotional burden of difficult calls involving children.

The emotional intensity of helping those in vulnerable positions also extended to calls involving animals and the elderly. For example, Participant 5 was deeply affected by calls involving animals because of his own passion and love for them:

For myself, it's calls dealing with animals. I am an animal lover, and it just really hits hard when I have to take calls that involve animals especially when they are left in cars. You know, we live in Florida, and it gets hot. I have a very hard time keeping my composure because I just want to ask the people, "how would you like it if you were left in a hot car?"

Participant 2 felt that the difficulties of calls was often dependent on a dispatcher's own personal background and experiences: "It really varies person to person and what they have been exposed to during their life. They [each] have different triggers." Thus, a call that is particularly burdensome to one dispatcher may not be as difficult for another. This

detail is important to note because it highlights the reality that there is not a one-size-fits-all approach to help all dispatchers better cope with the emotional tax of all calls.

Participants 1, 5, and 6 all said domestic violence calls were particularly stressful because of the chaos and violence involved, but they did not volunteer any information about personal experiences with domestic violence. Participant 5 said domestic violence callers were rarely calm, explaining, “they yell at you.” The heightened emotion and potential violence and danger of calls involving domestic disputes created additional stress during calls. Participants 1 and 2 both recalled experiences in which callers had died while on the phone with them, which they described as traumatic. Participant 2 had been on a call with a woman who drowned while she was talking to her.

Strategies to Mitigate Dispatcher Stress

The third main theme to emerge was in direct alignment with the third research question, which asked, “What are some strategies 9-1-1 telecommunicators employ to maintain psychological well-being when handling high-stress emergency calls?” This theme focused on the strategies used by participants to cope with the stress and emotional burdens of difficult calls. Within this theme, the following three subthemes emerged: focus on the task and step away, when necessary, physical techniques, and organizational efforts to help dispatchers manage stress. Each subtheme is discussed next.

Focus on the Task and Step Away When Necessary

The first subtheme centered on the ways participants gave themselves space to process and recover from stressful calls. For most participants, taking a moment to focus on the task at hand or “get the job done” were key strategies. For example, Participant 1

said that during stressful calls, she “focused on getting it done and getting the information out of caller. If you can. And getting off the phone and moving on to the next call.” For Participant 1, there was a need to “keep it moving,” and not dwell too much on the burden of a call. Perhaps mechanically, there was a need to move to the next call and focus on ways to help the next caller, rather than dwell on a call that had passed. Participant 3 described keeping her “head up” and relying on her training to “just get through it, one step at a time.” Like Participant 1, Participant 3 described a need to keep moving forward, step by step, rather than to become stuck in a particular moment. Participant 5 admitted to being scared when he took his first emergency call, but convinced himself to stay calm and focus on getting the job done:

When I took my first 911 call that required me to have to give assistance on how to render CPR, I was scared. I had to tell myself real quick, “get it together,” this person could possibly be relying on you.

As Participant 5 described, a reliance on training helped him approach difficult calls with less emotion and more logic, allowing him to compartmentalize any emotional burdens that could undermine the effectiveness of his assistance. Participant 3 made a point to not get emotional and just focus on getting through the call. Participant 2 managed stress by staying focused and organized. When focusing on the task was not enough to manage stressful calls, participants would take breaks to decompress from stressful experiences. Participant 2 said dispatchers would sometimes need to take “a longer break. Take a nap, whatever they need to do to destress themselves.” Essentially, just as calls affected different dispatchers in different way, they often required different strategies to

“destress.” Participants 1 and 6 also mentioned taking breaks when dispatchers are overwhelmed from stressed calls.

Physical Techniques

The second subtheme was focused on ways participants used their physical bodies to manage and reduce stress. The three ways physical movement was used for stress management included walking, breathing, and going to the gym. Five participants specifically described getting up from their desks and taking short walks to help manage stress levels after difficult calls. Physical movement seemed to be a strategy to mitigate work-related stress. Participant 3 said, “I like to go for a short walk when the calls are over with.” Participant 6 said, “If need be, when the call is over, I can take a walk.” Participant 2 said dispatchers were often advised to “take a walk” after experiencing stressful or traumatic calls. Similarly, Participant 4 admitted, “There have been times where I would need to take a walk outside and decompress.” Taking a walk not only allowed dispatchers to physically move their bodies after a stressful call, but it also provided physical and emotional distance from the dispatch room. Because walking was mentioned by almost all participants, it seemed to be a significant on-site stress management strategy that was often used.

Four participants mentioned breathing as a strategy to cope with stressful calls. Participant 1 shared, “Once you get through the call, you can take a deep breath.” Similarly, Participants 2, 4, and 6 mentioned taking “a deep breath,” after difficult calls. Breathing could have been a useful strategy to calm the body down after experiencing a call that induced a stress response.

Three participants used exercise to help manage stress after tough days or nights at work. Participant 5 said he had to find ways to cope with the stress, sharing “I like to go to the gym and work out.” A similar idea was shared by Participant 2: “On a more personal level, I exercise when it really gets to me. If the night is long when I get off, I take time to go to the gym to decompress.” Participant 6 mentioned her organization’s on-site fitness center, which dispatchers sometimes used to help with stress. Exercise and fitness were healthy stress management strategies used by these participants and were in line with other physical strategies of walking and breathing.

Organizational Efforts to Help Dispatchers Manage Stress

The third category of stress-management strategies were those offered to dispatchers by organizations. Participants 2, 3, and 4 all mentioned employee assistance programs, through which dispatchers could access psychological and emotional support, in the form of therapists, psychologists, and mental health programs. All six participants described various resources provided by their organizations, to help manage the emotional burdens of their work as dispatchers. Participant 6 said her agency provided tools to help dispatchers manage both the short- and long-term effects of the job. Similarly, Participant 5 said dispatchers at his organization had a psychologist available to them, and Participant 4 mentioned outside resources and help those dispatchers were connected with, through her organization. Participant 2 said dispatchers at her workplace “have crisis team members available for us anytime we need them when a critical incident happens.” Participant 1 mentioned hotlines and psychologists available to employees who needed to talk. In fact, all participants described resources provided by

their organizations to help them cope with job-related stress. Participant 2 later shared an example of how dispatchers were provided with critical resources after a traumatic call:

Now we have two therapists who are on work that are at our disposal for the entire agency, but specifically for common at any given time. If we have a major incident. We could call them in. There was, unfortunately, a baby that drowned recently and it kind of impacted the entire shift because, you know, child calls get most of us and the therapist came in and sat down with everyone one on one and make sure that they were all OK when they went home at the end of shift. We have a peer support team that is very involved and trained and reaches out to us. We have the EAP as most agencies do. We have several different avenues. We have a tablet so I would say that we have definitely improved over the years. There's become more awareness for mental health.

Another way resources were provided by the organization took the form of help from fellow employees. Four participants spoke to the ways dispatchers and supervisors helped one another out when stressful calls came in. For example, Participant 5 explained how dispatchers looked out for one another and helped when they thought a fellow employee was feeling overwhelmed by a call:

I have a great team that I work with, and we all look out for each other so we can tell if the stress of a call is getting to one another. If we have to, we will take over for each other.

Participant 4 recalled times when she helped fellow dispatchers manage challenging calls: “there have been times where I was actually able to help a fellow dispatcher out

because they were having difficulty with the call they were on.” Similarly, Participant 3 shared,

And if you need help, you’re lucky if you got four or five other dispatchers in the room including the supervisor, they can pick it up for you if anything, and help the caller and then you [can] get up and walk out, if anything.

The high-stress environment seemed to create a kinship among dispatchers, as well as understanding and desire to take care of one another.

Preparation for the Job

The final theme was also in alignment with the third research question. This theme focused on participants’ preparation to become 9-1-1 dispatchers. Two subthemes emerged for this theme, including training and how I became a dispatcher.

Training

All six participants described ways they had been prepared for their work as dispatchers, through trainings required by their organizations. Five participants described the onboarding training they received when they were new to the job. For example, Participant 6 described having to take training courses through APCO, while Participant 5 mentioned both APCO and training on the CAD system. New hire training was extensive and time-consuming. As Participant 5 admitted, “It took me 9 months to get completely trained and released to be on my own in all areas.” Speaking of her initial training, Participant 4 shared,

I had to do a lot of online courses that the agency offers and then I had to take an exam which is required in the state of Florida to be PST certified. Plus, you have to be CPR certified in order to give CPR over the phone.

Participant 1 detailed the new hire training required at her organization:

The new hires go to five to six weeks of classroom training. And they have to learn all of our computers. And then a lot of computers we use we have a computer aided dispatch system we have a phone system. And then we, you know, you have the TDD tied into the phone. Now we have the text to 911 tied into the phone. We have rapid SOS which pinpoints their location on cell phones. Then you have to learn the towing program. The alarm permit program is just so many programs. That's just to learn the job.

In addition to their initial onboarding training, Participants described ongoing training required by their organizations. Participant 1 described "instant command classes" offered through FEMA. Participant 6 said dispatchers were required to take a set number of courses each year, and her organization provided many options from which to choose. Participant 6 shared, "The training really never ends 'cause you have to keep up with the training annually. Like, there are certain courses you have to refresh yourself with." Participant 3 also said ongoing training was required because "there was always new equipment to learn." Participant 2 spoke at length about the ongoing training she participated in:

We are certified through APCO where we constantly go through training with APCO every month we have. Four courses that we have to take and they each

come with a quiz. Let's see, I was a training officer, so I hold that certification. I got tons of certifications through umm FEMA for emergency management. I was on our incident management team for a while and I've also been on our TURK team, so I have certain certifications for that. We do stress management training almost every single year. And then we have like in-house training over stuff like HIPPA. Exposures, things of that sort.

Participant 2 explained that much of the ongoing training dispatchers participated in was related to APCO accreditation. She explained,

We're accredited so we have mandatory training that we have to go through. We are all certified through Department of Health. We're all state certified here in Florida. So, I have to maintain so many training hours to upload that certificate. We have tons of training.”

Participants 1, 5, and 6 also mentioned being accredited, and how accreditation required dispatchers to participate in ongoing training and certification. As Participant 5 stated, “We are an accredited agency, so we have to follow APCO guidelines and complete so many hours of training through them.” The training participants described indicated their organizations endeavored to prepare them as much as possible for the skills they needed to for the job. Training was largely described as classes aimed at teaching dispatchers how to use communication systems and give first aid. Notably, none of the participants described any type of training or development aimed at stress management or wellness.

How I Became a Dispatcher

The final subtheme related to the routes through which participants became 9-1-1 dispatchers. This subtheme was relevant because it revealed that all but one participant had not intended to become dispatchers. Rather, they took these positions because of demand. This idea was important because it suggested participants may have not really known what they were getting into, with these jobs. Participant 2 had not applied for dispatch, but was seeking a position working in the jail:

I applied to work in the jail. I was only 19 at the time and my intent was to go into law enforcement and I wanted to get my foot in the door and have some sort of income before I could go to the Academy. And so, I applied to work in the jail, and they needed people in dispatch so badly they just changed my application

Participants 1, 3, and 5 had all intended to become corrections officers, not dispatchers. This finding was interesting because it indicated half the sample had intended to take completely different positions but ended up becoming dispatchers out of need.

Participants 1 and 4 had been encouraged and inspired by their family members, to become 9-1-1 dispatchers. For example, Participant 1 shared, “my dad had worked for The Sheriff’s Office, and he was a police Sergeant and he actually prompted me to go to the job 25 years ago.” A similar sentiment was shared by Participant 4:

My mom was a dispatcher for many years, and I just decided to follow in her footsteps. Growing up I would hear the stories that my mom would tell me, and I always felt like my mom was helping people.

Findings for this subtheme are important because they may suggest dispatchers take these jobs out of necessity and may not thoroughly understand the stress involved with the positions until they have finished extensive training and started working.

Summary

The purpose of this study was to determine how 9-1-1 telecommunicators perceived and respond to high-stress emergency calls. Data were collected via semi structured interviews with six 9-1-1 dispatchers. The study was guided by the following research questions:

Research Question 1: What are the most significant short-term and long-term impacts a 9-1-1 telecommunicator might experience after providing first-aid procedures during the 9-1-1 call?

In response to the first question, analysis revealed the common short-term effects included emotional reactions, including feelings of sadness, stress, and overwhelm. Long-term, those emotional effects manifested as stress disorders such as PTSD. Participants also mentioned triggering events that would place them back in stressful events, in their minds.

Research Question 2: What characteristics of high-stress emergency calls do 9-1-1 telecommunicators attribute to elevating their own levels of stress?

In response to the second research question, a few factors may have compounded the stressful experiences described by participants, such as staffing-related stress and call-related stress. Inadequate staff made it difficult for participants to take breaks to decompress from stressful calls. Call-related stress, such as dealing with chaos and

yelling callers, compounded dispatchers' professional stress. The most stressful calls they handled seem to be those that hit close to home or felt personal in some way.

Research Question 3: What are some strategies 9-1-1 telecommunicators employ to maintain psychological well-being when handling high-stress emergency calls?

In response to the third question, participants described numbing out and focusing on the task at hand to manage stress. Some participants used physical techniques, such as exercising, going for a walk, or practicing breathing exercises. In addition, participants described taking advantage of support resources available to them through their organizations.

Coding resulted in four themes, including effects of delivering first-aid during calls, causes of dispatcher stress in 9-1-1 telecommunicators, strategies to mitigate dispatcher stress, and preparation for the job. Ten subthemes were also identified, including: short-term effects, long-term effects, staffing-related stress, call-related stress, most stressful calls for individual dispatchers, focus on the task and step away when necessary, physical techniques, organizational efforts to help dispatchers manage stress, training, and how I became a dispatcher. A discussion of study findings, implications, and opportunities for future research is provided in the following chapter.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The trauma and high-stress settings with which 9-1-1 dispatchers contend can create several mental health challenges, including anxiety, depression, and PTSD; (Smith et al., 2019). In addition to call-related stress, dispatchers are often tasked with high workloads and long hours, which compound the mental and emotional burdens of the job. Understanding the stress experienced by 9-1-1 dispatchers is essential to creating effective programs to improve wellness and reduce turnover among these essential first responders. Accordingly, the purpose of this study was to determine how 9-1-1 telecommunicators perceived and responded to high-stress emergency calls. The study was guided by three research questions that focused on (a) the long- and short-term effects of stressful calls, (b) perceived factors that elevated 9-1-1 telecommunicators' stress, and (c) how 9-1-1 telecommunicators maintained their psychological well-being during and after stressful calls.

Data were collected via semi-structured interviews with six 9-1-1 dispatchers who ranged in age from 23 to 54 years. Transcribed audio from interviews was manually coded, producing 56 codes. Through axial coding, four themes were identified. These themes included effects of delivering first-aid during calls, causes of dispatcher stress in 9-1-1 telecommunicators, strategies to mitigate dispatcher stress, and preparation for the job. The following ten subthemes were also identified: short-term effects, long-term effects, staffing-related stress, call-related stress, most stressful calls for individual dispatchers, focus on the task and step away when necessary, physical techniques,

organizational efforts to help dispatchers manage stress, training, and how I became a dispatcher.

In this chapter, I provide a discussion of the findings. The chapter begins with an interpretation of findings, contextualized against those reported in previous investigations. Study limitations are addressed, followed by recommendations for future investigation. Implications of study findings are then presented, including implications for positive social change, theory, and practice. The chapter closes with my concluding thoughts and message.

Interpretation of the Findings

As follows, findings are interpreted within the context of the existing body of literature. Each main theme and corresponding subthemes are discussed to illustrate how results from the current study support and extend those from previous investigations. Findings are presented thematically.

Theme 1

The first theme to emerge was effects of delivering first-aid during 9-1-1 calls. This theme was in direct alignment with the first research question, which asked the following: “What are the most significant short-term and long-term impacts a 9-1-1 telecommunicator might experience after providing first-aid procedures during the 9-1-1 call?” Two subthemes highlighted the different short- and long-term effects of the stress that dispatchers contend with. The short-term effects were emotional and psychological in nature, and included anxiety, stress, and depression. As Participant 1 explained, “When the phone rings and the 9-1-1 line is going off, it always makes my hair stand up because

you never know what type of call is going to be on the other end.” Participants described feeling helpless and frustrated when dealing with uncooperative callers. Five of the participants recalled times when they cried after calls because they were so upset. Participant 4 shared, “I have cried numerous times.” Participants also described experiencing bouts of insomnia and feelings of guilt, wondering if they could have done more to help save a victim.

These findings echoed those reported by previous scholars. For example, Lilly et al. (2019) explained that occupational stress was high among 9-1-1 dispatchers and had both physical and emotional effects. Using a large nationwide sample of 9-1-1 dispatchers, Rowe (2020) found that dispatchers contended with high levels of emotional labor, which can have negative emotional consequences. Furthermore, Turner (2015) studied several psychological outcomes associated with the high-stress work of 9-1-1 dispatchers and found moderate levels of being upset, nervous, and afraid. Similarly, Park (2020) found 9-1-1 dispatchers often experienced feelings of helplessness and frustration.

Like the short-term effects mentioned by participants, the long-term effects were emotional and psychological in nature. Burnout and compassion fatigue were described as consequences of emotionally taxing calls. As Participant 1 explained, “When you take thousands of calls over the years, long-term effects become burnout.” Sentiments expressed by participants indicated much of the long-term emotional consequences of the job were related to the ways dispatchers internalized experiences with callers, as well as a strong sense of empathy toward those they tried to help. Two participants described

feeling emotionally numb as a long-term effect of their dispatch work, while three participants described experiences with posttraumatic stress.

The long-term effects reported by participants in this study were also aligned with the findings previously reported by other researchers. For example, the prevalence of PTSD among emergency dispatchers is well documented. Benedek et al. (2006) reported high levels of sleeplessness, anxiety, depression, worry, distress, and anger among both civilian and military emergency dispatchers. Additionally, Jones (2017) described high rates of chronic PTSD and acute stress disorder, as well as major depression among first responders, including dispatchers. Although little research exists on PTSD among dispatchers, existing data have indicated the prevalence of the disorder is as high as 30% (Willis et al., 2020). In Steinkopf et al.'s (2018) study, 24% of telecommunicators displayed significant job stress, while nearly 16% demonstrated symptoms of PTSD. According to Lilly and Pierce (2013), continued exposure to trauma increases the risk for both PTSD and depression among emergency dispatchers.

Theme 2

The second main theme to emerge was in alignment with the second research question, which asked the following: “What characteristics of high-stress emergency calls do 9-1-1 telecommunicators attribute to elevating their own levels of stress? Within this theme, participants described several factors that they perceived as increasing their stress levels when taking emergency calls. Three subthemes emerged for this theme, highlighting stresses caused by staff shortages, particularly stressful calls, and personal experiences. Participants described staffing problems that increased work volume and

reduced opportunities to take breaks or decompress from stressful calls. As Participant 1 said, “Our phones are just so busy here. We don't have enough people to answer them.” The nationwide staffing shortage of 9-1-1 dispatchers has been previously described, as has its relationship with worker stress. Baseman et al. (2018) and Davidson (2018) both noted that 9-1-1 dispatchers often must work overtime to cover shortages.

Smith et al. (2019) found exposure to chaotic calls and verbally aggressive callers increased stress for emergency dispatchers. While research is lacking on the effects that chaotic settings involving charged emotions, chaos, and turmoil may have on 9-1-1 dispatchers, the negative effects of these factors has been reported among other first responders. For example, Stogner et al. (2020) found occupational stress and uncertainty created stress and hypervigilance among police officers.

Findings in the current study regarding the types of calls participants found most stressful was also supported by the literature. Just as reported in this study, other researchers have noted that calls involving children and domestic violence are among the most stressful types of calls for dispatchers, often because of vicarious trauma experienced during those calls (Pierce et al., 2012). A systematic review conducted by Smith et al. (2019) revealed that calls involving active robberies, violence, children, and suicide created the most stress for dispatchers.

Theme 3

The third main theme was in alignment with the third research question, which asked the following: “What are some strategies 9-1-1 telecommunicators employ to maintain psychological well-being when handling high-stress emergency calls?” This

theme highlighted the ways participants managed and reduced stress caused by emergency calls. The strategies described by participants involved remaining focused on the task at hand, employing physical techniques such as exercise and breathwork, and taking advantage of resources provided by their organizations. Most participants described taking a moment to focus on the task at hand. As Participant 1 explained, dispatchers often “focused on getting it done and ... moving on to the next call.” Participants described the ways their thinking and actions almost became mechanical during high-stress calls and how they tried to compartmentalize their emotions and rely on their training to help callers.

This form of emotional compartmentalization has been previously described among researchers who studied first responders. Carrier (2020) reported that police officers often practiced compartmentalization after being exposed to trauma while on the job. Similarly, Stevenson and Morales’s (2022) research on the trauma experienced by animal welfare officers also revealed masking emotions through compartmentalization was a common coping strategy. Moreover, McQueston and DePergola (2019) pointed out the problem with stoic culture among first responders, arguing that these professionals often attempt to repress their emotions, which creates prolonged grieving and stress because emotions from stressful or traumatic events are never properly processed.

Participants in the current study would also take breaks to decompress from stressful experiences, which often involved using their physical bodies to help reduce their stress. Common physical techniques included breathwork, exercise, and going for brief walks. The utility of these strategies in stress mitigation has been proven in previous

investigations. For example, Saeed et al. (2019) described the benefits of exercise and mindfulness techniques in the reduction of stress, depression, and PTSD. Shaw-Metz (2023) described how beneficial breathwork practices were for stress management among healthcare workers. Jetelina et al. (2020) recommended breathing exercises to help LE officers cope with stressful adverse events, while Cnapich et al. (2022) called for the incorporation of breathing exercises into first responder support programs. Breathing exercises can be an effective strategy for calming the body, reducing the stress response, and centering the mind.

Organizations that employ workers in high-stress positions often provide similar resources, and the usefulness of these resources have been discussed in previous investigations. Walking has also been widely reported as an effective stress reduction technique (Hackford et al., 2019 ; Kalkar, 2019; Rettig et al., 2021). Leonardsen et al. (2019) studied the experiences of emergency dispatchers in Norway and found that participants often described taking walks or personal time-outs in which they would step away from their phones after critical incidents. Participants in Dou et al.'s (2020) study on the psychological experiences of frontline nurses working during COVID-19 also revealed stepping away and "taking a walk" was a common strategy used to cope with the stress of working with critically ill patients during the pandemic. Similarly, Rogers (2021) found that first responders often used physical exercise to cope with traumatic stress.

Theme 4

The final theme was also in alignment with the third research question. This theme highlighted the strategies participants used to become prepared for their work as emergency dispatchers. All six participants described ways they had been prepared for their work as dispatchers, through trainings required by their organizations. Five participants described the onboarding training they received when they were new to the job. In addition to their initial onboarding training, participants described ongoing training required by their organizations. As Participant 6 shared, “The training really never ends ‘cause you have to keep up with the training annually. Like, there are certain courses you have to refresh yourself with.” The ongoing training described by participants is likely due in part to the Denise Amber Lee Act. This law was passed in 2008 after a poor response to a reported abduction resulted in the kidnap, sexual assault, and murder of a woman in Florida. The act now requires Florida emergency dispatchers to complete 232 hours of training, in addition to passing a state test (Bass, 2017).

APCO is the leader in training for public safety in dispatch and emergency centers (APCO, 2023). As a requirement in the State of Florida, a telecommunicator must complete the Public Safety Telecommunicator course, EMD course, CPR, and a state exam. The large amount of training required for emergency dispatchers is well known. For example, Kirby et al.’s (2021) investigation of system factors that help or inhibit emergency dispatchers highlighted the importance of ongoing training. Of note, participants in the current study did not discuss training to help them cope with the emotional labor and vicarious trauma that often accompany stressful calls. Previous

researchers, however, have discussed the importance of training that not only focuses on systems and first aid, but that also foster characteristics such as resilience (Bilsker et al., 2019). Wahlgren et al. (2020) argued that stress reduction training was rarely available to emergency dispatchers and that such professional development could help these professionals better cope with occupational stressors.

Limitations of the Study

When interpreting and reviewing findings to emerge from the current investigation, it is essential to address key methodological limitations. First, the nature and design of the study, along with the small sample size, precluded the generalization of findings to other samples or the larger population of 9-1-1 dispatchers. The sample only consisted of six participants and was relatively heterogeneous in terms of gender and race. Further, all participants worked for the same agency in the same geographic location.

The data collection strategy of semi-structured interviews could have created additional limitations. Although assurances of confidentiality were provided, it was possible that participants may have held back some information in order to manage their professional image or protect their organization. In addition, performing interviews online, via Zoom, limited my ability to read participants' body language or note other nonverbal cues while responding to the interview questions. Time was also a limitation in two ways. First, time limitations in dispatchers' busy schedules made it somewhat challenging to locate an adequate sample of willing respondents. Second, limitations in my schedule and deadlines for producing study results prevented ongoing data collection

with a larger, more diverse sample. While researcher bias was another unavoidable limitation of this qualitative research, bracketing was practiced helping minimize intrusions of my personal ideas or opinions.

Recommendations

The findings and limitations of the current study highlight many opportunities for future research. To address limitations related to the small, homogenous sample in the current investigation, future researchers could consider replicating this study with a larger, more diverse sample. Integrating other sources of data, such as focus groups and journals, could also result in more in-depth findings. Collecting data through journals, especially, could provide dispatchers with the time and space to reflect on their experiences and generate more thoughtful and rich responses. Focus groups would allow for dialog among dispatchers, creating conversation as individuals build upon each other's responses.

Because the current study only focused on the experiences of dispatchers in a single geographic location, future researchers could also study regional differences in the perceived effects of stress on 9-1-1 dispatchers (i.e., rural vs urban) to understand if and how location presents additional stressors for these professionals. Qualitative interviews, focus groups, questionnaires, or journals completed by individuals across the United States could also help researchers understand if regional differences in dispatchers' needs for support may differ.

It may also be beneficial to collect data via online questionnaire, as this could provide participant anonymity and result in more forthcoming responses to prompts.

Adding to the previous recommendation, questionnaires could not only be distributed online, but across a wide geographic location, allowing researchers to collect data from a more diverse sample of dispatchers while providing utmost anonymity or confidentiality. Future researchers could also conduct a large quantitative investigation using online surveys with a nationwide, representative sample of emergency dispatchers, to produce more generalizable findings. Quantitative investigations could focus on measurable variables, such as burnout, stress, compassion fatigue, and vicarious trauma, to examine the effects of the profession more objectively on dispatcher's wellbeing.

Because findings from the current study highlighted the lack of stress management programs available to dispatchers, it could also be useful to create and test the effectiveness of training designed to promote resilience and stress management among emergency dispatchers. Such training could be an extension of training mandated under the Denise Amber Lee Act, integrating stress management into essential training to ultimately improve the professional preparedness of emergency dispatchers. Training could be provided to help dispatchers understand how to leverage self-care, mindfulness, exercise, healthy diet, and other lifestyle behaviors to minimize the effects of professional stress on their personal lives. It may also be useful for dispatchers to learn healthy ways to process and regulate their emotions, rather than suppressing them as many participants in the current study described. Another opportunity for quantitative research could involve professional development and training on emotional regulation and processing. The effectiveness of such trainings could be tested via pre- and post-intervention assessments of variables such as vicarious trauma and compassion fatigue.

Researchers could also study changes in the long-term effects of high-stress calls, longitudinally, to better understand how stress-related trauma, such as PTSD, manifests over the course of a dispatcher's career. The problem of occupational stress among dispatchers could also be approached from a positive psychology perspective by investigating the specific coping strategies used by experienced 9-1-1 dispatchers who exhibit low levels of vicarious trauma or occupational stress. Rather than dwell on problems associated with stress, a positive psychology perspective could shed new light on effective ways dispatchers manage their professional stress. Finally, future research is needed to understand how the stress management needs of 9-1-1 dispatchers may differ from those of other first responders, as well as which strategies for meeting those needs are most effective.

Implications

Several valuable implications of the current study should be noted. These implications include those related to social change, theoretical application, and organizational practices. Each category of implications is discussed as follows.

Positive Social Change

Emergency dispatching is a stressful job that produces vicarious trauma and compassion fatigue (Oldenburg et al., 2014). While these workers are essential to the work of first responders, high rates of burnout and turnover create staffing shortages that compound the stress experienced by remaining dispatchers. In order to break the cycle of stress, burnout, and turnover among these professionals, it is critical to understand experiences of call-related stress, as well as how call-related stress can be mitigated.

Findings from the current study have positive social change implications in that this research shined a light on a significant problem in an understudied, but very important, population. The lack of research on 9-1-1 dispatchers is evident in the lack of available scholarship focused on this population. Findings highlighted the perceived short- and long-term effects of high-stress calls on 9-1-1 dispatchers, driving home the importance of developing more effective ways of helping these workers.

The need for more initiative-taking stress management solutions may be essential to improving the well-being of emergency dispatchers and increasing their professional retention. Ultimately, improving dispatcher well-being and retention can promote positive social change by reducing common stress among first responders and bettering the responsiveness of these frontline workers. If dispatchers are better able to cope and perform their jobs, they may be able to provide more life-saving assistance to those in need.

Theoretical Implications

The theoretical framework of this research was Bandura's (2012) self-efficacy theory and social cognitive theory. Social cognitive theory helped inform the focus of this study based on dispatchers' learned behaviors from required trainings. Social cognitive theory was useful in understanding the ways dispatchers learned and enacted behaviors on the job. Helping one another and using positive coping strategies such as taking walks are behaviors that dispatchers learned while on the job. Self-efficacy was used to understand how 9-1-1 telecommunicators handled high-stress emergency calls based on the approaches they used during calls. In the current study, self-efficacy was

demonstrated in the ways developed and implemented strategies to help them cope.

Behaviors such as implementing exercise routines and emotional compartmentalization are demonstrative of self-efficacy, in terms of stress management during difficult calls.

Practical Implications

Finally, practical implications emerged from the current study. Because participants consistently described struggles with stress and vicarious trauma experienced by closely helping those dealing with trauma but did not have access to initiative-taking stress management programs or trainings, an obvious need for such programming emerged. It may be important for first responder agencies to create stress management training for emergency dispatchers, which proactively addresses occupational stress. Currently, most agencies offer mental health services and resources to dispatchers who have had stressful or traumatic experiences at work, such as those provided through employee assistance programs. However, this reactive approach may be less effective than one that proactively arms dispatchers with the knowledge, skills, and strategies needed to manage and mitigate occupational stress before it becomes a significant problem.

Another practical implication involves addressing the staffing shortage described by participants in the current study. To help reduce turnover and staff shortages, agencies could consider offering incentives and bonuses to new hires, while encouraging retention among existing personnel via pay raises and bonuses. Leaders should help staff feel supported and appreciated while making sure all dispatchers have opportunities to take

breaks during their shifts. It may also be beneficial to offer dispatchers “mental health days” when extra time off is needed to process difficult experiences.

Another way agencies may improve stress management among emergency dispatchers may be to encourage personal wellness and physical exercise, as these are proven strategies for stress management. Staff could also be educated on the benefits of healthy eating and provided with healthy diet options and snacks while at work. Finally, agencies should make sure dispatchers have a system to bring in other dispatchers to assist with difficult or overwhelming calls. Dispatchers could be encouraged to better support one another by creating a close-knit and supportive workplace culture through employee activities, retreats, and other types of non-work functions.

Conclusion

The purpose of this study was to determine how 9-1-1 telecommunicators perceived and responded to high-stress emergency calls. The study was guided by three research questions that focused on (a) the long- and short-term effects of stressful calls, (b) perceived factors that elevated 9-1-1 telecommunicators stress, and (c) how 9-1-1 telecommunicators maintained their psychological well-being during and after stressful calls. Through axial coding, four themes were identified. These themes included *Effects of delivering first-aid during calls*, *Causes of dispatcher stress in 9-1-1 telecommunicators*, *Strategies to mitigate dispatcher stress*, and *Preparation for the job*. The following ten subthemes were also identified: *Short-term effects*, *Long-term effects*, *Staffing-related stress*, *Call-related stress*, *Most stressful calls for individual dispatchers*,

Focus on the task and step away when necessary, Physical techniques, Organizational efforts to help dispatchers manage stress, Training, and How I became a dispatcher.

Overall, findings from this study drive home the need for proactive stress management strategies among 9-1-1 dispatchers. While participants in this investigation described a number of organizational resources available to help them cope with trauma and stress from difficult calls, they did not discuss any programming available to teach them how to become more resilient to the emotional burdens of the job. In light of the emotional labor and vicarious trauma often experienced by 9-1-1 dispatchers, agencies should consider implementing programs and training to better prepare these professionals, using proactive wellness and stress management strategies. Emergency dispatchers are the first line of response when life-threatening events happen; their ability to perform their jobs can be life or death for the callers they assist. We must remember that emergency dispatchers are the very first point of contact for those in distress. They play a key role in dispatching help from others while also providing it, first-hand. Emergency dispatchers are essential first responders and it is critical for organizations to better address their emotional and psychological wellness.

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Appendix A: Participant Email Sign Up

Hello, my name is Danielle Holland, and I am a doctoral candidate in the Forensic Psychology program at Walden University. The purpose of this email is to invite you to be a participant in my research study. The reason you are receiving this email is because you were identified as a potential participant for the study due to the length of time you have on the job, and you are still actively employed with the agency. I am seeking 9-1-1 telecommunicators who are actively employed with the agency and have at least 2 years of experience on the job to determine how 9-1-1 telecommunicators perceive high-stress emergency calls. Let it be known that there is no compensation for your participation in this study. If you agree to participate in this study, you will be asked to:

- *Participate in a semi structured audiotaped interview with the researcher regarding your job as a 9-1-1 telecommunicator with your agency.

- *The interview will be held at the public library and or via a zoom meeting which ever method is preferred and will last approximately 45 minutes long.

- *Researcher will repeat information during interview to ensure the accuracy

I anticipate the research will contribute to the social change by allowing a better understanding of how 9-1-1 telecommunicators perceive high-stress emergency calls, within the St. Johns Dispatch Center. Also providing a great deal of knowledge to anyone who may want to be employed as a 9-1-1 telecommunicator.

Most importantly if you have questions and would like to participate, please email me directly at [REDACTED]

Thank you, Danielle,

Appendix B: Interview Protocol

1. Researcher will introduce oneself to the participants.
2. Go over all necessary paperwork (i.e., consent form, questions, and answer any question the participants may have).
3. Set up recording device (note: the date and time).
4. Start the interview questions.
5. Ask any additional questions.
6. End the interview process.
7. Provide the participants with any information needed and make sure contact information is correct.

Appendix C: Semi structured Interview Questions

1. What made you decide to become a 9-1-1 telecommunicator?
2. How long have you been a 9-1-1 telecommunicator?
3. What is your current position in the dispatch center?
4. How much training and experience do you have doing this job?
5. What is the role of a supervisor in the dispatch center?
6. What do you feel are the most stressful type of calls that come through the dispatch center?
7. How do you best handle the level of stress in times of true emergencies?
8. What is your definition of a true emergency?
9. Do you feel that the agency provides enough outside resources for assistance with mental health?