SOURCES OF ROLE CONFLICT: A CRITICAL EVALUATION

OF EMERGENCY MEDICAL SERVICE WORK-FAMILY

CONFLICT DURING THE COVID-19 PANDEMIC

By

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ROLE CONFLICT AMONG EMS PERSONNEL AND

THEIR WILLINGNESS TO REPORT TO DUTY

DURING DISASTERS

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Abstract: COVID-19 pandemic has brought unprecedented strain on the health care system around the world and challenged it like never before in the recent history. The impacts of disasters including pandemics are not limited to the headlines and news reports of number of affected people and costs. The short and long-term effects of disasters on Emergency Medical Services (EMS) providers are often overlooked. The needs and concerns of EMS providers are usually neglected. A rich data exists in the literature regarding disasters including pandemics. Yet, a significant gap related to EMS providers working during pandemics was revealed through the literature. Few studies have addressed the personal and professional impacts of role conflict on EMS providers' and their willingness to respond.

This qualitative constructivist study provides important insights invaluable as to the work-family conflict phenomena amongst EMS providers during one of the worst pandemics in modern history. Specifically, the purpose of this study was to critically evaluate the sources of work-family conflict among EMS providers who responded during COVID-19 pandemic. Role theory with the work-family conflict pressure model were used to advance the study. The research questions that guided this study was What are the sources of work-family conflict among EMS providers during COVID-19? In-depth semi-structured interviews carried out with 30 EMS providers from 20 different states within the United States. Moreover, the ATLAS.ti qualitative analysis software was used during analysis to code data and develop themes and subthemes.

The findings demonstrated several unique challenges and concerns for EMS providers during COVID-19. The analysis revealed three major themes with their subthemes of work-family conflict sources of: 1) strain-based conflict with subthemes including: 1.1) fears and concerns, 1.2) role ambiguity, 1.3) inadequate resources (lack of PPE and inadequate education and training 1.4) lack of confidence in the employer, 2) time-based conflict with subthemes included: 2.1) increased workload, 2.2) Mandatory overtime 2.3) decreased time spent with family , and 3) behavior-based conflict with subtheme included: 3.1) implement excessive precautionary measures, 3.2) obsessive behaviors, 3.3) negative emotions, and 3.4) limited interaction with family members.

The knowledge gained from this study will inform EMS education, research, and practice, as well as health policy related to the care of responders and their loved ones and create balance between work and family before, during, and after disasters. Hence, enhance the development of disaster response plans and policies and the effectiveness of care provided.

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CHAPTER I

INTRODUCTION

Disasters occur almost daily around the world and affect a wide range of the population. In 2016, it is estimated that more than 300 million people were affected by disasters globally (CRED, 2016). There are various proposed definitions for disasters; however, there is a general agreement that they are an inherently social phenomenon that causes disruption of an organized human social system (Chaffee, 2009; Perry, 2006) and the normal function of the natural environment (DiMaggio et al., 2005).

The healthcare system plays an integral role in emergency preparedness, response, and recovery efforts for all types of disasters, including natural or human-induced disasters, pandemic outbreaks, or terrorist attacks. It plays a direct role in assisting victims' survival and their ability to recover from physical injuries or illnesses. Moreover, it helps both individuals and communities regain control over their lives by utilizing available resources to accomplish the tasks of reconstruction and recovery (Bissell & Kirsch, 2013). As a result, the availability of health care workers is essential to accommodate the surge in demand for providing care during disasters. In the United States (US), the healthcare system generally works near its "full capacity" during everyday conditions (Bissell & Kirsch, 2013). As a result, disasters can easily overwhelm the healthcare system, causing a sudden and massive demand on the system (Alexander, 2002). This can affect the surge capacity or response which is defined as "the ability

of a health care facility or system to rapidly expand its operations to safely treat an abnormally large influx of patients in response to an incident" (Chaffee, 2009, p. 42). According to Kaji et al., (2006) there are three important elements that can affect the surge capacity: personnel, equipment and supplies, and structure (facilities and organization). While all these elements are important, the availability of adequate personnel who can provide care for victims is essential to achieve a successful response.

Pandemics are considered amongst the most significant public health disasters as they can cause significant economic, social, and political disruption (Madhav et al., 2017). The US Centers for Disease Control and Prevention (CDC, 2015) defines a pandemic as "the occurrence of more cases of disease than expected in a given area or among a specific group of people over a particular period of time." The severe acute respiratory syndrome of COVID-19 is considered a pandemic as it started in Wuhan, China, and then spread around the world.

On December 31, 2019, a cluster of patients with pneumonia of an unknown cause were linked to a seafood wholesale market in Wuhan, China (Deepak et al., 2020). On February 11, 2020, this epidemic - a disease that affects a large number of people within a community, population, or region - was officially named COVID-19 and acknowledged as an infectious disease, resulting in a public health emergency, that quickly spread worldwide (Bashir et al., 2020). In the US, the first COVID-19 case was reported in Washington State on January 15, 2020. Shortly thereafter, the virus quickly spread throughout the country as the US became the epicenter of the world – with the greatest number of cases and most deaths (Bashir et al., 2020). Till now, over 31 million people are confirmed to be infected with this disease in the United States, with a death toll of over 567,000 (World Health Organization, 2021). COVID-19 has resulted in major disruptions of business, education, transportation, and every aspect of daily life

(Bauchner & Sharfstein, 2020; Fontanarosa & Bauchner, 2020). Moreover, this pandemic has brought unprecedented strain on the health care systems around the world and challenged them like never before in recent history (Fontanarosa & Bauchner, 2020; Walensky & del Rio, 2020). Many research studies found that disasters including pandemics can influence the willingness of health care providers to report to duty because of varied factors which can degrade the surge response (Dimaggio et al., 2005; Draper et al., 2008; Qureshi et al., 2005). The rapidly changing state related to COVID-19, the unpredictable prehospital setting, and the difficulty in gaining access to up-to-date information for health care providers constitute unique challenges to the response (Buick et al., 2020).

As a result, it is essential to understand the possible challenges caused by a disaster that can affect the ability and willingness of healthcare personnel to report to duty. Several research studies examine "role conflict issue" among health care workers and how it affects their ability and willingness to respond to different disasters including pandemics (Allen, 2000; Friedman; 1986; O'Sullivan et al., 2009; Trainor & Barsky, 2011 Rogers, 1984). However, the Emergency Medical Services (EMS) are currently understudied in relation to pandemics. To better understand the unique role of EMS personnel in responding to disasters, the following section discusses the nature, definition, and history of the EMS system, and information about its unique system.

Definition and History of the EMS System

There are numerous documented forms of emergency care throughout recorded history. It started as a "Good Samaritan" where victims of trauma or illness were cared for by a passing Samaritan. The beginning of the modern era of organized emergency response was marked by the development of the national and international Red Cross organizations in 1863 (Genes,

2005). Historically, it was the result of the consequences of human-induced calamity of wars where there was a call to create national relief societies to provide help in case of emergencies. After that, a significant development in emergency response occurred with the first designation of trained response personnel as first responders in emergencies. This concept evolved to become the modern EMS system. World wars resulted in more advances in military EMS, but the main civilian development did not occur until the 1950s, when two civilian physicians established a first aid program for the Chicago Fire Department which became the first basic emergency medical technician training program in the United States (Genes, 2005). In 1966, the National Academy of Sciences published a paper titled, "Accidental Death and Disability: The Neglected Disease of Modern Society." This led to a significant development in the EMS system as the federal government responded by creating an organized EMS and trauma system that became more improved when the U.S. Department of Transportation started developing a basic emergency medical technician training curriculum (Genes, 2005).

EMS personnel are considered part of a larger team composed of numerous medical and public healthcare professionals who are all held to high standards to participate in actions to promote, protect, or improve the health of the population (Dal Poz et al., 2007; Chapleau et al., 2009; WHO, 2006). EMS personnel are defined as healthcare specialists "with particular skills and knowledge in pre-hospital emergency medicine" (Ayers, 2013, p. 19). Throughout the US, there are over 200,000 registered EMS providers who are considered a crucial element during disaster response (Phelps, 2007). Ayers (2013) and Hill (2008) both indicate that EMS providers have a critical and challenging role in disaster response, as they are responsible for on-scene disaster triage, treatment, and transport to definitive care facilities. This role was highlighted

during incidents such as the September 11, 2001 terrorist attacks and anthrax release and, Hurricane Katrina in 2005.

EMS personnel typically provide out-of-hospital treatment for illnesses and injuries that require an urgent medical response. According to the National Highway Traffic Safety Administration (NHTSA, 2020), EMS is a system that provides emergency medical care during everyday incidents and any kind of emergency. It involves a coordinated response and emergency medical care between multiple individuals and agencies. Generally, EMS is provided by a diverse population of emergency responders who have different levels of credentials in the EMS profession. In the 1970s, the National Registry of Emergency Medical Technicians (NREMT) began service to the EMS profession by providing a nationally recognized method of credentialing all levels of EMT by developing testing instruments (NREMT, 2020; Chapleau, 2009). The amount of training received identifies the level of EMS personnel. There are four identified levels in the US, Emergency Medical Response (EMR), Emergency Medical Technician (EMT), Advanced Emergency Medical Technician (AEMT), and Paramedic. These levels represent two categories of care which are the basic life support (BLS), and advanced life support (ALS). According to the current scope of practice, the EMR and EMT levels of providers are BLS, and the AEMT and paramedic are ALS.

EMS Role in Disaster Preparedness and Response

EMS first responders, including EMTs and paramedics, typically make up the initial formal medical response. EMS professionals have a strong history in managing disasters since its development over 30 years ago. EMS participate within disaster preparedness planning, coordinated communications, triage assessment, patient transport and care, resource management, and hazardous material response (Blackwell et al., 2009; Bogucki & DeAtley,

2009; Lerner et al., 2009; McGovern, 2009). EMS providers receive comprehensive training in consequences. Key EMS preparedness strategies include adoption of the Incident Command System (ICS) and emergency operations plans (EOPs), development of integrated communication systems between EMS, hospitals, fire, law enforcement, public safety, and public health (Augustine & McGinnis, 2009; Catlett et al., 2011). EMS also has a key role in training providers through coordinating exercises and drills, and then evaluating the responses to improve existing protocols (FEMA, 2019). EMS are vital during all response activities which are: recognition of an event, notification, mobilization, response, and demobilization. They serve a major role in "mass-casualty triage, on-scene treatment, communication, evacuation, coordination of patient transport, and patient tracking" (Catlett et al., 2011, p. 422).

EMS providers are among the first to respond in the immediate period after the onset of a disaster event. As a result, they have the responsibility of performing initial and ongoing triage for survivors to identify which patients will most likely benefit from acute medical care (Hogan & Lairet, 2002; Learner et al., 2010). Moreover, in many jurisdictions, EMS personnel have a leadership role during disaster response by being part of the command staff. The U.S. Fire Administration's technical report on the 2007 I-35W bridge collapse in Minneapolis states that, "an EMS official should have been part of the Emergency Operations Center (EOC)" (Department of Homeland Security U.S. Fire Administration, 2007). Accordingly, EMS should be involved within the command structure for managing any incident that requires the provision of medical services and care for victims.

During disasters, fundamental changes in the prehospital care may result. There can be a change in the scope of practice for the EMS providers (Courtney et al., 2010). This allows the providers to perform tasks where they receive just-in-time training such as the administration of

vaccines. Moreover, during disasters, EMS providers can be asked to function in shelters, clinics and free-standing medical units (Courtney et al., 2010). They may also be asked to augment the staffing levels for an ambulance and use other modes of transportations. All of these changes can place stress one the EMS providers during extreme circumstances. Moreover, working within the out-of-hospital settings adds further stress and challenges for the EMS providers putting them at higher risk during disaster response. The following section discusses how EMS is a unique and distinct system that is differ from the other health care professions.

EMS as a Unique and Distinct System

Although EMS is a part of the healthcare profession that shares many similarities with the overall healthcare system, it is considered a distinct and unique system. EMS personnel share the responsibility of providing medical care to patients during emergencies in conjunction with other healthcare professionals, such as physicians and nurses (Chapleau et al., 2009). They all collaborate to provide the best medical care.

The primary role of EMS personnel is to provide emergency care to patients outside of the hospital setting (NHTSA, 2020). EMS personnel work in the out-of-hospital environment where it is demanding and unpredictable. During disasters, EMS personnel are selflessly called on to fully devote themselves to the public good. They are expected to respond and provide medical services during these chaotic times, even if they are affected by a subsequent disaster themselves. Unlike other healthcare professionals who work in a controlled in-hospital environment, the call to duty during disasters is not new as many EMS personnel risk their lives on a regular basis (Trainor & Barsky, 2011). They may respond to a severe collision on the high-speed freeway or may run into burning and/or collapsed buildings to save lives alongside firefighter colleagues. Moreover, the working environment for most health care workers is stable

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and predictable with the availability of most required equipment and resources (Teter, Millin, & Bissell, 2014). EMS personnel usually respond to new scenes that are unpredictable where they must provide medical care on scene or in the ambulance where they have limited equipment and resources.

EMS responders usually deliver medical care in unique and dangerous environment. They often provide care to mobile populations who have a higher likelihood of having infectious or emerging disease. This situation can be intensified during public health disasters such as pandemics. While EMS system is an essential part of the continuum of health care, it has some unique challenges that put the EMS providers at more risks adding stressors that can emerge during disaster response. EMS providers work in collaboration with in-hospital staff such as physicians and nurses to provide a quality of care during crisis. However, they are not eligible to access to the patients' electronic health records (EHR) (Pfister, Ingargiola, & Ickowicz, 2014). When responding to public health disasters such as infectious outbreaks, this limited access to (EHR) can inhibit the ability of EMS providers to assess the likelihood of the patient of being exposed. This can increase the risk of infectious exposure for EMS providers and hence, their families to the infection.

Although all health care providers are involved whenever a disaster occurs, EMS personnel are among the first to respond in such events. Despite this crucial role, EMS providers are the least prepared component of community response teams. Few EMS personnel have received disaster response training for terrorist attacks, natural disasters, or other public health emergencies, and they do not receive adequate funding for disaster preparedness (Board et al., 2007; Hill, 2008).

Most EMS providers are hired through non hospital-based agencies. Therefore, they might have a different level of knowledge, training, and education on how to respond to disasters especially pandemics. They might receive a limited, low quality training and education about the importance of infection prevention (Woodside, 2013). In addition to have a difficulty in finding infection prevention resources that already changed or become out of date, Most EMS agencies face the challenge of lack of funding and limited staffing. This increases the likelihood of EMS providers exposure during pandemics.

Disaster training is crucial for EMS providers, as it will increase their self-confidence to respond appropriately and adequately during a disaster (Alrazeeni, 2015; Reilly, Markenson, & DiMaggio, 2007). Keinan (1988) argued that individuals that are well-trained prior to an event are more confident and can focus on their tasks, rather than focusing on the underlying danger. It is important to be familiar with a situation before it occurs, as this will reduce uncertainty and anxiety, and increase self-confidence for individuals who may exposed to a given situation.

The ability of a health system to respond effectively to a disaster depends on the people who work within the system. However, it is not realistic to expect that all healthcare workers will report to duty during disasters (Trainor & Barsky, 2011). Disasters can challenge the ability of emergency responders to respond to the needs of the communities they serve. As frontline responders to disasters, absenteeism among EMS personnel can affect the ability of the health system to effectively function during such critical times (Trainor & Barsky, 2011).

While research shows most healthcare workers feel obligated to respond to disasters, healthcare workers might be reluctant to report to work during catastrophic events, especially those involving a weapon of mass destruction or infectious disease outbreaks (Koh et al., 2005; Qureshi et al., 2005; Stangeland, 2010). A recent article titled, "Healthcare workers' willingness

to work during an influenza pandemic," suggested that especially after a pandemic, large numbers of healthcare responders might not be willing or able to report to duty and would instead stay home with immediate family members (Aoyagi et al., 2015). This reluctance may negatively impact the healthcare system's ability to meet "surge capacity needs" (Koh et al., 2005; Qureshi et al., 2005; Stangeland, 2010). As a result, emergency managers are asking, "Will our people show up when we need them most?" (Trainor & Barsky, 2011, p. 6). One key issue that might affect the willingness of healthcare workers (including EMS) to report to duty during a disaster is "role conflict."

Disaster-related role conflict is an acute issue for healthcare workers, particularly for EMS personnel as they are the frontline responders (Friedman, 1986). Although EMS personnel are expected to lead the response action during disaster, their duties and responsibilities as family members and community members must also be met. During normal conditions, several roles can be carried out without any obligation to make a choice between conflicting responsibilities, but in the time of crisis, individuals may find it is impossible to fulfill two roles and accomplish their requirements (Killian 1952, p. 314).

Several quantitative studies have explored the role conflict issue during disasters (Allen, 2000; Friedman, 1986; O'Sullivan et al., 2009; Rogers, 1984; Trainor & Barsky, 2011). Many quantitative studies discussed the factors that might affect the willingness to report to duty without addressing the work-family conflict issue. Factors that may affect willingness to report to duty without addressing the work-family conflict issue include personal safety, concerns about family responsibilities, working conditions, and training. As yet, there are no behavioral qualitative studies that addresses the work-family conflict for EMS personnel during an actual disaster or pandemic. Most of the available research studies are conceptual examining factors

that affect the willingness to respond to a hypothetical disaster. One qualitative research study discussed the risk perception and willingness of Australian Paramedics to respond during disasters. It addresses the paramedics' concerns of their family during a crisis without discussing the work-family conflict issues among them. Different forms of role conflict exist such as inter-role conflict and work-family conflict. For the purpose of this study, only the impact of work-family conflict will be explored to evaluate how this pandemic caused a conflict in personal and professional roles of the EMS providers.

This study contributes to the growing body of literature on role conflict during disasters. Since this study was conducted at the time of the COVID-19 emergence, it uses the COVID-19 pandemic as the type of disaster to discuss. The specific focus of this paper is to explore the nature of work-family role conflict among EMS workers. This study has important policy implications. To effectively prepare and plan for disaster response, it is imperative to accurately understand how individuals respond to disasters (Dynes et al., 1972). For instance, if individuals experience role conflict between their emergency roles and their family roles or other roles, a hindered organizational response will result.

This qualitative study provides important insights into the effects of role conflict on EMS providers during one of the worst pandemics in modern history. Specifically, the purpose of this study is to critically evaluate the sources of work-family conflict among EMS providers who responded during COVID-19 pandemic. Role theory with the work-family conflict pressure model were used to advance the study. The role conflict theory aids in analyzing the definitions of role and role conflict, the different approaches to role, and how the context of disaster has implications on role. Different forms of role conflict are discussed: inter-role conflict (two-hat syndrome), loyalty conflict, and work-family conflict. For the purpose of this study, only work-

family conflict will be used to direct this study. The work-family conflict pressure model helps in identifying the sources of work-family conflict among EMS providers, such as: time-based conflict, strain-based conflict, and behavior-based conflict.

This study examines the influence of COVID-19 on EMS providers and their professional and personal lives during the pandemic. Doing so can improve understanding of EMS provider behaviors during extreme crises such as COVID-19 pandemic and improve the preparedness, mitigation, response, and recovery policies of EMS providers and emergency managers more broadly. When referring to the literature, there is a dearth on studying the challenges faced by EMS providers during disasters. Very little attention is given to assessing these challenges and their influence on both personal and professional dimensions. The impact of disasters are often limited to news reports on the number of affected people and costs. However, there are more short and long-term effects of disasters on EMS providers that are often overlooked. The needs and concerns of EMS providers are usually neglected in the literature. A rich data exists in the literature regarding disasters including pandemics. Yet, a significant gap related to EMS providers working during pandemics were revealed through the literature. Few studies have addressed the impact of role conflict on EMS providers' willingness to respond or how responding to disasters may affect them personally and professionally. Since this study relies on timely insights from EMS providers who responded during a significant pandemic, it will contribute significantly to the field of disaster management. Advancing the understanding of EMS provider behaviors during disasters can assist policy makers, planners and emergency managers to improve the future disaster planning, response, mitigation, and recovery phases.

Statement of the Research Questions

Given the gaps in existing literature, this study focuses on investigating the sources of work-family conflict that can affect the willingness of EMS providers to report to duty during the COVID-19 pandemic. The research question that guides this study is: What are the sources of work-family conflict among EMS providers during COVID-19?

Addressing the Gap

Rich information exists in the literature regarding emergencies and disasters. Yet, a significant gap related to EMS providers working during disasters remains. Few studies have addressed the impact of role conflict on EMS providers' willingness to respond during disasters. To the knowledge of the researcher, there is no existing research study about work-family conflict issue for EMS providers during disasters.

As EMS providers have an invaluable key role in disaster response efforts, more research is needed to validate current findings and elucidate the needs and concerns of EMS providers who respond to disasters and other emergencies. There is a paucity of research describing role conflict and work-family conflict among EMS providers. EMS providers are expected to be the frontline in responding and providing care during the time of disasters when their services can greatly reduce human suffering. This creates more challenges for EMS providers, especially, when they respond to disasters such as COVID-19 pandemic. During disasters, EMS providers are faced with increased workload and overtime where they can devote more time and energy to respond to their duties and fail to meet all the expectations of their other familial role. This can create more conflict for the providers. It also can influence their willingness to report to their duties as they might prefer fulfilling the other familial role of taking care of the loved ones during crisis times. While this might be the reality during disasters, the EMS experiences and

concerns are lost within the expectation to respond which can personally affect them. The literature is still unclear regarding understanding work-family conflict sources, and concerns and needs of EMS providers who intend to respond during disasters.

The purpose of this study is to critically evaluate the influence of the work-family conflict phenomenon on EMS personnel. This study will serve as a resource to assist policymakers better understand this complex phenomenon. Achieving this could lead to the creation of innovative approaches that address reporting to duty during disasters. Moreover, the knowledge gained from this study will inform EMS education, research, and practice, as well as health policy related to the care of responders and their loved ones and create balance between work and family before, during, and after disasters.

Simply put, this study examines the available literature on role conflict (including work-family conflict) and disasters. It suggests new directions for future research to investigate the issue of work-family conflict among EMS personnel, not only to determine its scope during a pandemic, but also to investigate how EMS providers cope with and attempt to alleviate it. It also forwards mechanisms that can be used by employers to resolve conflicts and help balance the role between work and family.

CHAPTER II

REVIEW OF THE LITERATURE

Chapter Introduction

Disasters occur almost daily; over the past 20 years nearly three million deaths and over 800 million people have been negatively affected worldwide (Board et al., 2007; CRED, 2016). According to the Federal Emergency Management Agency (FEMA), 65 disasters have been federally declared annually in the United States (US) since 2001 (Board et al., 2007). Disasters, of any kind, can inflict human suffering. They can severely disturb human lives and the normal functioning of the natural environment (DiMaggio et al., 2005). In the aftermath of a disaster, the public depends on emergency responders to receive adequate medical care and support to respond and recover.

The term healthcare worker is used to describe all professionals participating in actions whose primary intent is to promote, protect, or improve the health of the population (Dal Poz et al., 2007; WHO, 2006). EMS personnel, including both Paramedics and EMTs, are considered among these healthcare workers who typically provide out-of-hospital medical care to patients with urgent needs. During disasters, EMS personnel are selflessly called on to fully devote themselves to the public good. They are expected to respond to and provide medical services during these chaotic times even if they are affected by disasters themselves. This call to duty is not new as many EMS personnel risk their lives on a regular basis (Trainor & Barsky, 2011).

They may respond to a severe road traffic collision or may run into burning and/or collapsed buildings to save lives. The availability of adequate EMS personnel in the immediate period of disasters is essential to achieve a successful response. However, disasters can affect the willingness of EMS personnel to report to duty for different reasons. A key reason is the resulting tension between professional obligations and family duty which is known as "role conflict" and specifically work-family conflict as it is difficult to separate a person's work life needs from the family and personal needs (Bailyn & Schein, 1976; Korman & Korman, 1980; Schein, 1978).

The existing literature demonstrates that role conflict can affect the willingness of healthcare workers to report for duty (Alwidyan, 2016; Barnett et al., 2010; Qureshi et al., 2005; Trainor & Barsky, 2011). However, it is important to consider that *willingness* is a distinct concept that differs from the *ability* concept. Qureshi et al. (2005) argued that ability refers to "the capability" of the individuals to report to work, whereas willingness refers to "personal decision" to report to work (Qureshi et al., 2005, p. 379). Moreover, Barnett et al. (2010) discussed that willingness to respond is an "attitudinal domain" that deals with the intention and decision-making process to report to duty. While ability to respond is a "knowledge and skill-based domain" that are requirements to be capable to respond. Qureshi et al. (2005) discussed that even if individuals are fully capable of responding, they might not be willing to report to work for additional reasons, such as concerns about self and family safety.

The research is currently unclear regarding the difference between willingness and ability to respond. The Australian Center for Prehospital Research (2008) shows that most of the healthcare workers report inability to work rather than unwillingness. The reason for this is that being unable to respond because of illness, for example, is more socially acceptable than being

unable to respond due to concerns about self-safety. There remains a gap in the literature regarding the effects of role conflict (specifically work-family conflict) on the willingness (decision) of EMS providers to report to work when disasters strike. Moreover, despite extensive study and debate regarding organizational behaviors, the relationship between work and family life is not well understood especially in the case of disasters (Friedman, 1986). For this reason, it is important to investigate the issue of work-family conflict among EMS providers during disasters. Many researchers indicated that role conflict during emergency periods of disasters is a traditional issue that is inherent in disaster studies (Friedman, 1986; Killian, 1952; Rogers, 1984). Killian (1952) revealed that the occurrence of some disasters where the impact exceeds the available resources and ability to manage the crisis can result in the "neutralization" of many previous expectations of existing roles. This neutralization could lead to the rise of uncertainty and ambiguity where the overlap between previously nonconflicting roles can occur. This issue can materialize when discussing the supposed conflict between the role of family member and that of a professional one.

Work-family conflict is a significant source of strain for many workers (Kahn et al., 1964). Previous studies showed that work-family conflict is associated with burnout between healthcare workers (Allen et al., 2000; Netemeyer et al., 1996). Healthcare workers are more frequently confronted with imbalance between work and family life (Pal & Saksvik, 2006; 2008; Simon et al., 2004). This can be more intense in times of crisis. During disasters, healthcare workers are faced with increased workload and overtime (Maunder et al., 2004). As a result, healthcare workers will devote more time and energy to respond to disasters and thus experience more work-family conflict (Zhang et al., 2010). Although numerous studies examined the issue of work-family conflict among different healthcare professionals such as physicians, nurses, and

midwives (Bettina, 2005; Gipson, 2009; Pal, 2012; Mansouri et al., 2016; Wang et al., 2012), no studies discuss this issue among EMS personnel.

This study qualitatively examines this key issue and its impact on EMS providers willingness to report to duty during disasters. To further understand the role conflict issue, *Role Theory* is selected as the theoretical framework to guide and design this study.

Theoretical Framework

Role Theory

The concept of role can be traced back to 1900 and it has foramlly existed within sociology since the 1930s. A seminal publications on the concept of role was, "The Study of Man," by anthropologist Ralph Linton (1936). The use and utility of role concept quickly spread and as its populairty increased within the social sciences (Biddle, 1986). Role is a central concept in the social studies and provides a bridge that connects social and psychosocial studies (Dynes, 1986). Researchers attempts to define role resulted in confusion and different conceptual views (Biddle, 1986; Dynes, 1986). Some refer to it as a social position or social status (Linton, 1936; Winship & Mandel, 1983). Others refer to a role as a behavior that is associated with a specific position (Biddle 1979; Burt 1982), while others view it as the expectations for a behavior that is associated with that specific position or status (Bates & Harvey, 1975; Zurcher, 1983). Although these different views persist within the current literature, it remains a terminological problem rather than substantive. Moreover, there is a general agreement between theorists that role theory contains a triad of concepts which are: social behaviors; identities assumed by social participants; and expectations for behaviors (Biddle, 1986). The basic idea of role theory is that individuals have different roles in life and these roles guide how individuals should behave. As a

result, individuals behave in different predictable ways depending on their respective social identities and the situation (Biddle, 1986).

Sociologists identified two different approaches to use role concept within the disaster tradition which are structuralist and interactionist (Dynes, 1986; Turner, 1976). Structuralists view a role as a set of expectations and behaviors that are determined within the social structure where the society places them on individuals (Dynes, 1986). In this case, the social structure regulates and defines specific behaviors as appropriate or inappropriate.

The second approach of interactionist views role as not fixed, but is the result from the interaction pattern between actors, as the role can be negotiated between them (Dynes, 1986). In this approach, individuals (actors) define and guide this interaction by defining the situation and accordingly, they will accept or refuse to fulfill the role. Turner (1976) discussed in this approach, behaviors are not fixed and socially predetermined, instead actors' behaviors are purposive, and individuals are involved in determining and modifying their presented roles.

For the purpose of this study, role is defined as a term that is used to "describe all of the expectations placed on a person because of their position in a group or organization" (Trainor & Barsky, 2011, p. 9). Each individual has a defined role, but also it is common to have different roles at the same time (for example being a paramedic, a father/mother, and a volunteer at the same time). Each role has a distinct set of expectations, duties to fulfill, values and norms that will define individual behavior and rights. Role conflict is generated when incompatibility occurs where fulfilling one role will be perceived as more difficult because of participation in the other (Allen & Armstrong, 2006; Greenhaus & Beutell, 1985; Grzywacz et al., 2006).

Role Conflict

Kahn et al. (1964, p. 19) defined role conflict as the "simultaneous occurrence of two (or more) sets of pressures such that compliance with one would make more difficult compliance with the other." Many factors, such as time and incompatible behaviors, contribute to the role conflict and it challenges an individual to fulfill each role (Grandey & Cropanzano, 1999). Killian (1952) compared the effect of multiple-group memberships on individual behavior during everyday life and during disasters. Killian (1952) indicated that, most of the time, the majority of people manage to function effectively as members of different roles. Newcomb (1950) also mentioned how being a member of different groups is relatively "nonconflicting" most of the time. The majority of people will fulfill different roles in different groups without undue conflict. This is because people are unaware and do not recognize the "cross pressures" between multiple roles (Sherif, 1948).

Moreover, during disasters, people are confronted with conflicting group loyalties. Killian (1952) indicated that during disasters, people will have conflicting loyalties and contradictory roles. When a disaster strikes, some individuals will not be able to manage the different roles effectively and they will find themselves faced with the dilemma of making an immediate choice to fulfill one role in favor of the other. As a result of this conflict, a shift and change in expectations occurs to make adjustment and adaptation to the different roles (Trainor & Barsky, 2011; Webb et al., 1999). Individuals might compartmentalize by delegating some responsibilities. Furthermore, they might develop a hierarchy of obligations across the different roles they are involved in, or turn to others to develop mutual support (Dynes, 1974; Friedman, 1986). Response to stress and tension during disasters vary from one person to another (Trainor

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& Barsky, 2011). Some people will adapt and do fine and others will not be able to effectively fulfill their duties.

As EMS personnel are part of the frontline providers who immediately respond during disasters, they are faced with the additional dilemma of making a timely decision to report to duty or to fulfill their other role of being a family member. Many studies discuss that EMS provider's primary concern when responding to a disaster is their family (Alwidyan, 2016; Barnett et al., 2010; DiMaggio et al., 2005; Mackler et al., 2007; Qureshi et al., 2005; Rogers, 1984; Smith, 2007). These studies discuss general factors that affect the willingness of providers to respond including family safety concerns, but no study to date has specifically discussed the impact of work-family conflict on the willingness of EMS providers to report to duty during disasters. Consequently, the current study examines the impact of work-family conflict on the willingness of EMS providers to report to duty during disasters.

 The following section discusses the two forms of role conflict which are inter-role conflict (the two-hat syndrome) and the work-family conflict. For the purpose of this study, the work-family conflict will be discussed in detail and the work-family pressure model will be used to examine how this conflict impacts the willingness to report during disasters.

Role Conflict Forms

1- Inter-Role Conflict (Two-Hat Syndrome)

One form of role conflict is inter-role conflict or in some literature referred to as "two-hat syndrome" which is related to professionals that hold multiple positions (Trainor & Barsky, 2011, p.11) where there is a set of opposing pressure resulting from the participation in different roles. The role pressure associated with the membership in one organization conflicts with the pressure arising from participation in another organizations (Kahn et al., 1964).

The literature indicates that EMS personnel are subject to considerable role conflict resulting in psychological stress (Quarantelli, 2008). Many EMS personnel work in two different stations or volunteer in their spare time. Demands from one role may conflict with the pressure of serving in another role. According to NHTSA (2014), one third of states rely on volunteers to respond to 911 emergency calls. Most of these volunteers have full-time or other paid jobs. During disasters, consequently, these volunteers might have a conflict between their paid and volunteer positions. In this case, these volunteers might have difficulties to participate in another role (Greenhaus & Beutell, 1985, p. 77).

Moreover, many firefighters also hold paramedic certifications, and usually, they use these certifications to work for other public safety agencies, hospitals, or private ambulance companies (Denlinger & Gonzenbach, 2002). One study indicated that 22.2% of fire and rescue department personnel in Atlanta also work for at least one other public safety agency (Black et al., 2002). During large-scale disasters, these firefighters with part-time EMS positions would face considerable difficulties fulfilling two positions.

Another form of role conflict is the work-family conflict. To clearly understand this form, the following section describes Killian's (1952) typology of role conflict and how individuals may face a conflict of loyalty within various groups during disasters.

2- Role Conflict Typology

Killian (1952) discussed a widely recognized sociological phenomenon of multiple-group memberships where, in each group, the member has specific expectations of how to behave within that group. Although being a member of different groups can create dilemmas and conflict, most people adapt to function efficiently as a member of different groups because most of them are "often being only vaguely aware of contradictions in their various roles" (Killian,

1952, p. 310). At the time of a disaster, a conflict of loyalty may arise within the various group memberships and individuals may be faced with the dilemma of making immediate choices between different roles. This conflict might create serious consequences that might affect the community and its ability to bounce back to normal.

Killian (1952) consequently developed a typology identifying four types of role conflicts. The first and most common type of role conflict is the choice between the family and other groups, primarily the employment or occupational group. In this type, Killian (1952) described how most individuals will resolve this conflict in favor of loyalty to family groups. On one hand, disaster responders are among those who have a conflict in disaster time between initiating the disaster response and assisting in the rescue and relief efforts. On the other hand, assuring the safety of their loved ones. This conflict can cause costly delay in disaster response effort and may affect the quality of response efforts (Friedman, 1986; Killian, 1952; Rogers, 1984). In some cases where the disaster responders' families are not involved in the disaster or they are ascertained to be safe and stable, disaster responders will report to duty to fulfill their job obligations. In other cases where their family is involved in a disaster, disaster responders may encounter and resolve community needs while they are responding to their family needs and in this case, the family loyalty responded to the benefit of community (Dynes, 1969; Dynes & Quarantelli, 1984).

The second and less common type of role conflict is the conflict between performing heroic roles of emergency and rescue workers, and playing occupational roles. In this type, first responders were compelled to be sympathetic and respond to community needs and provide help to the injured as loyal members of the community. On the other hand, they were obligated to

respond as they were called on to fulfill their duties as members in a specific occupational group (Killian, 1952).

The third type is the conflict between the loyalty to the employer and the loyalty to fellow employees as friends. Killian (1952) proposed that this conflict results essentially between concerns of life and concerns of property. He discussed that individuals who were more oriented and familiar with their fellow employees were more loyal to them. On the other hand, when there was no such familiarity, the loyalty was in favor of the organization.

The fourth and final type is the conflict between loyalty to the community and loyalty to other extra-community groups (Dynes 1969; Dynes & Quarantelli, 1984). In each of these types, Killian (1952) suggested the choices made between conflicting demands can cause serious consequences for response and recovery efforts. As a result, it is important to study and understand how these choices are made to enhance the effectiveness of disaster response. Killian (1952) argued the loyalty to primary groups (family and close friends) stands first in the hierarchy of group loyalties. The current study, therefore, aims to explore the first type of conflict in Killian's (1952) Typology (work-family conflict) and how it influences EMS providers' performances, specifically how it influences their willingness to report to duty when disaster strikes. The following section discusses the work-family conflict in detail and examines the sources of this conflict using the work-family pressure model.

3- **Work-Family Conflict**

Based on role theory, when people must fulfill their duty with a fixed number of resources, such as time and energy, conflict between work and family is generated and thus will influence their performance (Burke, 2004; Evans & Bartolomé, 1984; Zedeck & Mosier, 1990). Compressed time and energy can be applied during disasters, where immediate decisions are

needed, and limited resources are available to respond to disasters. According to Killian's (1952)

Typology, the resulting conflict, most of the time, is resolved in favor of family. This conflict is

related to work-family conflict and is defined as "a form of inter-role conflict in which the role

pressures from the work and family domains are mutually incompatible in some respect" (Kahn

et al., 1964; Greenhaus & Beutell, 1985, p. 77). Balancing the work and family conflict is

difficult. Research shows this work-family conflict generates pressure on the individual and

eventually deteriorate their performances in either the work or family domain (Ford et al., 2007;

Michel, 2009). This work-family conflict can negatively impact the satisfaction within the family

(Netemeyer et al., 1996) and negatively affect employees' attitudes toward work (Greenhaus &

Beutell, 1985; Rogers, 1984). Numerous studies have examined the work-family conflict during

disasters for various professions such as nurses, teachers, and engineers (Bullock & Waugh,

2004; Fu & Shaffer, 2001). One study examines the role conflict among healthcare workers

during the severe acute respiratory syndrome (SARS) outbreak of 2002-2004 finds most of the

nurses reported conflict between their willingness to report to work and their obligation to take

care of their children. Saakvitne (2002) describes the huge conflicts for her to report to duty

immediately after the 9/11 attack or taking care of her children. Rosser (2008) reports she can

only provide emergency help to those impacted only after she knows her family was safe from

the disastrous situation. Moreover, (Adams & Anderson, 2019) found emergency personnel who

experienced role conflict during Hurricane Katrina reported the safety of their loved ones was the

main concern as they reported to duty during the disaster. The main cause for this concern was

having little to no information about the status of their families, whether they are in safe

locations or not. Lack of communication between emergency personnel and family members was

a major cause for this concern. One of the personnel reported it took him about two to three

weeks before he could communicate with his family and ensure their safety. Other participants reported familial concerns affected their ability to focus on their professional responsibilities.

Few studies examine the impact of role conflict on emergency providers. Rogers (1984) found role conflict becomes more problematic when emergency personnel are partially united with their family. In this case, the response may be compromised because of conflict to respond to the need of immediate and extended family, relatives, friends, and even their pets at the time of impact. No studies were found to examine role conflict and specifically work-family conflict among EMS providers. As a result, this study examines this phenomenon among EMS providers. To achieve this, the Work-Family Conflict Pressure Model will be discussed to clearly understand the sources of this conflict and how these sources might influence the willingness of EMS providers to report to duty during disasters.

Work-Family Conflict Pressure Model

Greenhaus & Beutell (1985) developed a work-family conflict pressure model (See Figure 1 below). According to this model, there are three major sources of work-family conflict: 1) time-based conflict such as time commitment at work (e.g., hours worked), 2) strain-based conflict (role conflict and ambiguity), and 3) behavior-based conflict such as behavior required by an individual's work (or family) role that might compete with the pressure and expectations from an individual's family (or work) role.
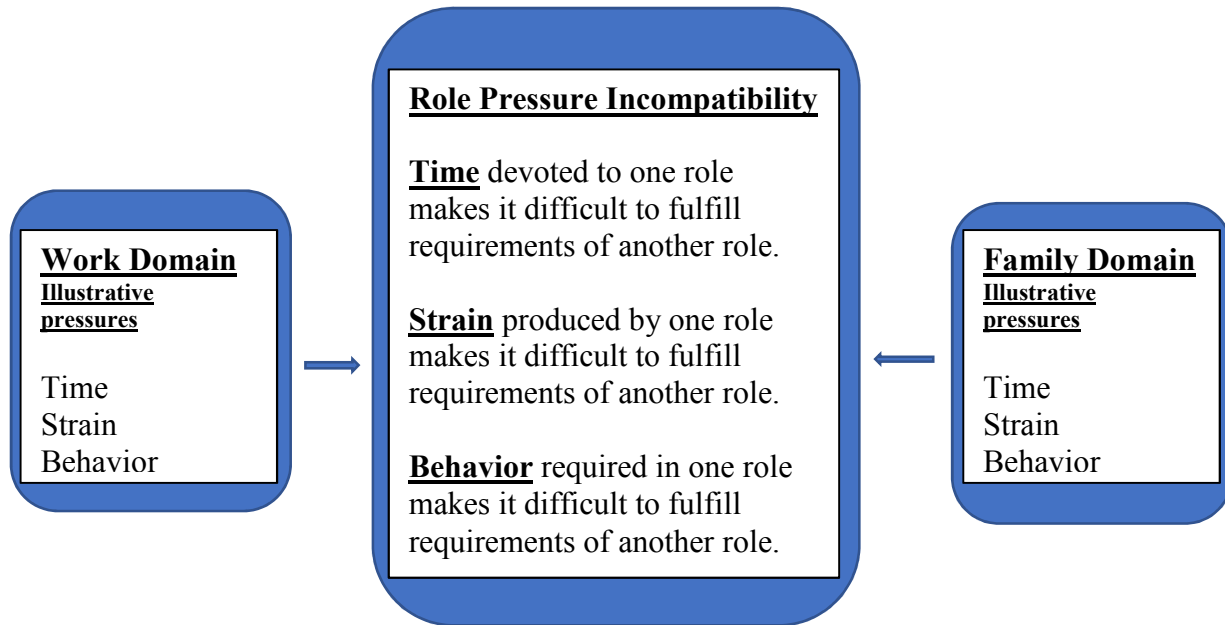
Figure 2.1: Work-Family Conflict Pressure Model. Source: (Greenhaus & Beutell 1985**)**

Time-Based Conflict

According to the work-family conflict pressure model, having multiple roles "may compete for person's time" (Greenhaus & Beutell, 1985, p. 77). The degree of time committed to fulfill one role can cause a conflict in fulfilling the demands of another (Greenhaus & Beutell, 1985; Michel et al., 2010). Moreover, time spent fulfilling one role cannot be devoted to fulfilling the other role (Ford et al., 2007; Greenhaus & Beutell, 1985; Voydanoff, 1988). This is because it is physically impossible to be in two locations (at work or with family) and to perform duties associated with both domains (work and family) at the same time.

This conflict can be intensified during disasters. According to Fritz's (1962) definition of disasters, they are events that are concentrated in time and space in which the community will face severe danger with losses to both its members and property. Consequently, a disruption in the ability to fulfill one or all the essential roles and functions will be prevented. This can be

applied to EMS providers as it is essential to initiate an immediate response when disasters strike. Considering the limited time that is available for EMS providers to make decisions regarding their demands toward both their profession and their families, a work-family conflict will arise.

Moreover, excessive work time, change in schedule shifts, and overload are consistent with time-based conflict (Kahn et al., 1964). In times of disasters, role-responsibilities are compressed in a limited time frame, imposed by the disaster agent (Rogers, 1984). During disasters, healthcare workers are faced with changes in shift schedules and increased workload and overtime (Maunder et al., 2004; Voydanoff, 1988; Zhang et al., 2010). As a result, some healthcare workers reported difficulty going home at the end the workday because they feel responsible and obligated to assist people during disasters, which resulted in work-family conflict (Maunder et al., 2004).

Another source of conflict related to family is the amount of time spent on family activities (Greenhaus & Beutell, 1985). Married individuals and parents might have more responsibilities and duties to fulfill within a family and thus experienced more work-family conflict than unmarried and nonparents (Greenhaus & Beutell, 1985; Herman & Gyllstrom, 1977). Moreover, studies find having children can influence the work-family conflict and affect the willingness to report to duty (King & King, 1996; Voydanoff, 1988). Having a large number of children and young children is associated with more work-family conflict, as the person will be more occupied with childbearing activities and responsibilities (Greenhaus, Kopelman & Connolly, 1983; Holahan & Gilbert, 1979; Pleck et al., 1980; Voydanoff, 1988). In the same instance, healthcare workers who are married and have children encountered more role conflict

to work during a disaster, as they were concerned about the wellbeing and safety of their families (Chaffee, 2009; O'Sullivan et al., 2009).

Strain-Based Conflict

Role strain occurs when it is difficult to meet the multiple demands of a single role or the more serious expectations of a role (Greenhaus & Beutell, 1985; Trainor & Barsky, 2011). According to the model illustrated in Figure 1, any work or family role characteristic that produces strain can contribute to work-family conflict (Greenhaus & Beutell, 1985).

Ambiguity, overload, and conflict an individual faces within the work role, and low level of employer's support and interaction, are positively related to work-family conflict (Carlson & Perrewé, 1999; Greenhaus & Beutell, 1985; Jones & Butler, 1980; Kopelman et al. 1983). Killian's (1952) statement about role conflict in disasters is consistent with the previous model. The occurrence of a disaster with an impact exceeding the available resources and mechanisms to manage it will result in neutralization of expectations of specific roles. This will result in the rise of an ambiguous state where there is an overlap in role expectation and thus more work-family conflict (Killian, 1952).

Available studies about the willingness to report to duty during disasters examined the sources of role strain that can hinder willingness to respond to disasters. The absence of accurate and timely information, a reduced belief in organizational continuity, and a perception that expectations about what should be accomplished are unreasonable or unclear can cause increased work-family conflict and hinder the willingness of healthcare workers to respond (Trainor & Barsky, 2011. P. 10). Moreover, Brodie et al., (2006) and Stangeland (2010) found that feelings of abandonment by leadership and lack of appropriate communication and information correlate with more role ambiguity, and thus more work-family conflict and decreased willingness to

report to duty (Brodie et al., 2006; Stangeland, 2010). Gerald et al., (2010) indicated the lack of information provided to emergency responders during the H1N1 pandemic resulted in a level of mistrust in the leadership. Lack of confidence in the employer to maintain employee safety during a disaster may also increase conflict and hinder the decision to report to duty (Arbon et al., 2013; Tippett et al., 2010). Some EMS personnel have identified inadequate or inappropriate personal protective equipment as a key factor to decrease their willingness to respond to catastrophic events (Ives et al., 2009; Reilly, 2007).

Role strain can also be influenced by fear for personal health and safety (Qureshi et al., 2005; Trainor & Barsky, 2011). Fear of being injured, fear of death, or fear of encountering an infectious disease in a pandemic can hinder the decision to report to duty (Cowden et al., 2010; Hsin & Macer, 2004; Martin, 2011). Studies show during a pandemic, many emergency responders fear being exposed to the illness and subsequently becoming ill themselves (Cowden et al., 2010; Damery et al., 2009; Masterson, et al., 2009). The decision to report to duty will be enhanced if the pathogen that causes the pandemic is understood and can be prevented and treated, and if there are available prophylaxis and appropriate infection control measures (Considine & Mitchell, 2008; Masterson, et al., 2009).

While many first responders will report feeling role conflict during disaster response, some of them will not. During face-to-face interviews with the first responders in Hurricane Katrina, some responders indicated role conflict was not an issue for them as they were able to focus on their professional roles because they already knew their family members were in a safe place (e.g., a shelter or a hospital) or they did not have family inside the disaster zone. Moreover, these providers had a sense that their families supported them by understanding their professional duties so they could have clear priorities (Adams & Anderson, 2019). Other

responders indicated feeling committed to their profession overrides their family responsibilities and causes no conflict issues for them. On the other hand, some responders experienced the opposite as they did not face role conflict because their professional duties did not take precedence over their familial responsibilities and some of them "stole time" to fulfill the family duty first (Adams & Anderson, 2019).

Behavior-based conflict

The work-family model illustrated in figure 1 proposed specific patterns of behavior within one role may be incompatible with the expectations of behavior in another role. At work, an individual is expected to be self-reliant, have emotional stability, and objectivity (Schein, 1973). While fulfilling family roles, individuals are expected to be "warm, nurturant, emotional, and vulnerable in his or her interactions with them" (Greenhaus & Beutell, 1985, p. 82). Failing to adjust behavior to comply with the expectations of both roles will result in a work-family conflict.

Personality is considered an essential element in analyzing role conflict (Adams & Anderson, 2019). The main differences in behavior result from the interaction between different personality structures and the role expectations. Different personality structures will lead to different coping mechanisms to alternate a role behavior. When there is inconsistency between individual's attitudes and behaviors, stress and psychological discomfort will result. According to Festinger (1957), most individuals will follow the instructions at work because of three factors: 1) they receive a justification of actions from an authority figure; 2) they internally explain the actions as even this is not what they want to do, but it is a part of the job; 3) they will assess the future rewards as worth the cost of compromising one's beliefs. Despite most people developing mechanisms to cope with their psychological discomfort, the effects of resulting role

conflict will lead to negative behavior. When individuals are unable to cope, they often engage in maladaptive behavior (Adams & Anderson, 2019). These behaviors can manifest as increased absenteeism from work, withdrawal or disengagement from work-related activities, diminished job performance, and inappropriate behavior in the workplace (Adams & Anderson, 2019).

At work, for EMS providers to be self-reliant, they need to be well-trained on how to effectively respond to disasters. Keinan (1988) argued individuals that are well-trained prior to an event are more confident and have the ability to focus on their tasks, rather than focusing on the underlying danger. It is important to be familiar with the situation before it occurs, as this will reduce role ambiguity, uncertainty, and anxiety, and increase self-confidence for individuals who are exposed to the situation.

Concerns of lack of capability to respond enhances the work-family conflict and affects the willingness to respond. Emergency responders need appropriate knowledge and training in disaster response so they can make informed decisions about working during disasters. One study conducted for Australian state-registered paramedics showed recent "training" and high perceived "personal reliance" were the factors associated with the highest willingness to respond (Stevens et al., 2010). DiMaggio et al. (2005) conducted a quantitative study and surveyed a nationally representative sample of 1,919 EMTs and paramedics in the United States in 2003. The purpose of the study was to assess the willingness to respond to catastrophic events such as terrorist incidents. The results showed EMS personnel who had received continuous medical education in the past two years were twice as likely to be willing to respond. Previous studies found healthcare providers are poorly prepared to respond to disasters, and they lack the required disaster training to respond with self-confidence as a result of lack of knowledge or skills (Huahua et al., 2011). Fung et al. (2008) conducted a study to examine the willingness of

healthcare workers to respond to a disaster. The results show 94% of the participants felt that they are inadequately prepared to respond effectively. This will raise the work-family conflict and thus impact the willingness to report for duty during disasters.

EMS lack both adequate training and the proper equipment for disaster response (Farra, Miller, & Hodgson, 2015; Board et al., 2007). To effectively perform their role in disaster response, EMS personnel should have the required evidence-based knowledge and skills to respond effectively (Alrazeeni, 2015; Longo & Starzl, 2002; Farra, Miller, & Hodgson, 2015).

Continued work-family conflict with the occurrence of different work stressors previously mentioned (increased workload, work ambiguity, decreased self-reliance, etc.) might lead to abandoning the work role in favor of family. According to the previously mentioned Killian's (1952) typology of role conflict, most people have dilemmas of loyalty that are associated with fulfilling roles of work and family. Majority of people "…resolved them [dilemmas] in favor of loyalty to the family or, in some cases, to friendship groups" (p. 311). This can have a major consequence on disaster response. Moore (1958) found until the family was united "…everything else was postponed and often reported to have been significant" (p. 254). This can be associated with delayed and abandoned behavioral expectations (Barton 1969; Mileti, 1985). Role abandonment is further discussed in the following section.

Role Conflict and Role Abandonment

The abandonment of one role (work or family) in favor of the other (work or family) is the most severe form of role conflict (Quarantelli, 1960). Nevertheless, role abandonment occurs when a person dismisses and abandons the responsibilities associated with his or her expected role (Greenhaus & Beutell, 1985; Trainor & Barsky, 2011). Mileti (1985) indicated that social emergencies such as a disaster create the necessary conditions for work-family conflict among

emergency personnel which in turn "elicits the abandonment of emergency roles; when emergency roles are abandoned, the community disruption associated with the disaster is augmented" (Rogers, 1984, p. 34).

Research shows role abandonment due to role conflict during a disaster rarely occurs (White, 1962; Rogers, 1984; Dynes, 1986; Kushma, 2007; Quarantelli, 2008; Trainor & Barsky, 2011). Literature demonstrates that during disasters, individuals tend to demonstrate responsible, positive, and adaptive behaviors such as compliance, orderliness, and altruism (DiGiovanni, 2003; Tierney, 2003). Role abandonment was widely examined in the 1950s and 1960s and was related to how individuals with disaster-related responsibilities would perform in light of family obligations (Chaffee, 2009). Dynes (1986) found that out of a sample of 443 individuals who worked for emergency related organizations, there were some reported role conflicts but no abandonment of duty responsibilities in favor of family obligations and responsibilities. The reason for this is that individuals usually chose to perform the tasks related to the emergency situations. The other emergency-irrelevant duties are temporarily suspended or even eliminated (Dynes, 1986). Dynes (1986) findings are similar to White (1962), who found 89% of the participants from different disaster relevant organizations reported they participated in the disaster response efforts without abandoning their duties to be with their families. However, White (1962) also found role conflict was an issue between these participants, and it related to the type and scope of the emergency situation the individual faces. Adams & Turner (2014) found several first responders who served during Hurricane Katrina reported experiencing role conflict between fulfilling their duties to respond and their obligations to their families. However, some of these responders reported that they coped with filling these multiple roles by taking "unauthorized time" from their professional duties to fulfill their personal and familial

obligations and responsibilities. Moreover, Dynes & Quarantelli (1977) found no evidence of role abandonment after examining 6,000 emergency workers in natural disasters that occurred between 1964 and 1974. However, one mass role abandonment was documented among first responders during Hurricane Katrina. 240 of 1,450 officers on the New Orleans police force apparently never reported for work, and later 51 officers were fired for "abandoning their posts" (Kushma, 2007). Quarantelli (2008) reports there is no other documented cases, in American disasters and catastrophes, of role abandonment similar to that which occured during Hurricane Katrina. Even if there is a clear significance to studying and explaining such mass abandonment, it may have little effect on being a consequence of role conflict or role strain as there was considerable evidence that the New Orleans department was unprepared and highly dysfunctional long before Katrina. It also was unable to carry out its responsibilities in any professional way (Quarantelli, 2008, p. 891).

While previous research studies focus on behavioral responses to disaster events find role conflict does not lead to significant numbers of abandoning work responsibilities during disasters, but it is considered an issue for first responders. They indicated that even role abandonment is rare to occur among emergency personnel during disasters, but it cannot be considered a "nonissue" in this field (Trainor & Barsky, 2011). Moreover, Chaffee (2007) discussed how role abandonment may now be a valid concern as the previous studies of the willingness of the healthcare providers to report to duty during certain disaster situations indicated. Moreover, Chaffee (2009) mentioned several factors that emerged and caused some questions about the accuracy of the previously supported study findings as the world is changing, including new threats and risks. Some of these factors include: 1) the increased vulnerability of societies to disasters (Bankoff et al., 2004), 2) the evolution of the nature of disasters to include

catastrophic industrial and technological potentials (Perrow, 1984), 3) the emergence of terrorism risk (Alexander, 2001; Garwin, 2002), and 4) the direct risks to healthcare personnel in biological outbreaks and pandemics such as COVID-19 and SARS (Koh et al., 2005).

It is important to note most of the previous studies examining role conflict have focused on its consequence of role abandonment. As a result, role abandonment has been conflated with role conflict. This means that role conflict only exists within the context of role abandonment (Adams & Anderson, 2019). However, Getzels & Guba (1954, p. 165) pointed out role conflict occurs when situations are so ordered where people are required to simultaneously fill two or more roles that are inconsistent, contradictory, or have mutually exclusive expectations. Accordingly, people are forced to cope with this conflict by choosing one alternative reaction: 1) to abandon one role because they are unable to resolve the conflict; 2) to attempt some compromise between roles; or 3) to withdraw either physically or emotionally from the roles altogether. During emergency situations, people might not be able to fully meet the expectations of all roles and they will experience deep guilt and dissonance, or even while failing to meet the expectations, they will be judged as ineffective in the management of one or another role by the defining groups (work or family). As role abandonment is rare to occur, individuals who experience role conflict and are challenged in resolving it, usually, they will not completely abandon their professional responsibilities. Instead, they may fulfill the role but ignore some of the role expectations which might lead to guilt. As a result, it is important to understand the concept of role conflict is not necessarily associated with actions that lead to role abandonment. In the recent COVID-19 epidemic, healthcare workers did not abandon their professional roles, but they had complex and conflicting thoughts and feelings about balancing their roles as healthcare providers and parents. They had a feeling of obligation toward their professional

responsibilities but also, they feared this new disease and felt guilty about potentially exposing their families to infection while working during the COVID-19 epidemic (Ramaci et al., 2020).

There are some factors that might affect the expression of role conflict through role abandonment. According to Adams and Anderson (2019) the disaster agent that causes it may affect the individual's decision to respond. This is because some situations such as terrorism events and biological outbreaks require a more urgent and immediate response to ensure the safety of loved ones (White, 1962). As a result, the type of disaster can affect whether the person will be affected by role conflict or not. Hurricane Katrina and the 2010 Chile earthquake and tsunami disasters are both considered as high consequence events that caused a massive amount of destruction and severely affected the response operations (Adams & Anderson, 2019). When interviewing the emergency personnel that participated in these disasters, Adams and Anderson (2019) found all of the responders reported to their professional duties without any role abandonment. However, with further investigation, half of the participants reported facing role conflict between their work and family obligations during disasters. The most common emerging theme was a general concern for the whereabouts of loved ones. The other responders who reported no role conflict, their shared personal stories showed some degree of role strain when prioritizing their multiple roles and responsibilities during disasters. The responders who faced role conflict because of family concerns reported dealing with these concerns by putting off thoughts about their concerns, seeking permission to leave, or leaving without permission (Adams & Anderson, 2019). On the other hand, during disease outbreaks and pandemics, there is more noticeable absenteeism among emergency personnel and other healthcare workers. In Canada, a high absenteeism was encountered during the H1N1 influenza pandemic in 2009 as 28% of Canadian healthcare workers reported absent from work due to illness or family care

(Young, 2017). Hawryluck et al. (2005) found absenteeism among healthcare workers is associated with a surge of extremely sick patients as this will increase the risk of exposure and disease among healthcare workers.

In summary, the literature suggests role abandonment does not exist within emergency personnel. The main reason for this is role conflict used to be expressed through role abandonment which is exceedingly rare to occur. But the reality is role conflict does not always lead to role abandonment. There should be more research to explain this phenomenon according to the responder's perceptions and feelings and how they describe their behavior when feeling torn between professional and familial obligations. When role conflict does not lead to role abandonment, it can be a complicated issue that can affect the willingness of responders to respond to duty during disasters. This study aims to critically evaluate the various sources and consequences of work-family conflict among EMS providers while they respond to COVID-19.

Consequently, the researcher identifies three factors—Time-Based, Strain-Based, and Behavior-Based Conflicts—that would generate work-family conflicts for EMS responders. This dissertation aims to critically evaluate these three factors to identify the sources of Work-family conflict among the responders.

CHAPTER III

METHODOLOGY

Introduction

Chapter three describes this study's methodology, including the philosophical

underpinnings, research design, sample, setting, data collection, data analysis, and rigor used to

address the following research question: What are the sources of work-family conflict among

EMS providers during COVID-19? The ethical considerations of human subjects are also

addressed, including a discussion of informed consent.

As previously discussed, role conflict can result when "incompatibility" occurs. This

means that fulfilling one role will be perceived as more difficult because of participation in other

roles (Greenhaus & Beutell, 1985). This might result in an undesirable state and imbalance

between work and family domains. As a result, it is important to understand the role conflict and

specifically the work-family conflict among EMS personnel and how it impacts their willingness

to report to duty during a disaster.

Research Design

Since the present research aims to gain a deep understanding of a phenomena, the

researcher consequently selects a qualitative research design in this dissertation. Qualitative

research has been defined in several ways. Strauss and Corbin (1998, p.10) identified qualitative

research as "any kind of research that produces findings not arrived at by any means of statistical

procedures or other means of quantification." Qualitative research is used when the nature of the

research question requires exploration (Stake, 2000). Qualitative study questions often begin with "how" or "what," so the researcher can gain an in-depth understanding of what is going on about the topic and capturing the points of view of other people (Patton, 2002; Seidman, 1991). According to Patton (2002, p. 20-21), "qualitative findings are longer, more detailed, and variable in content… yet, the open-ended responses permit one to understand the world as seen by the responders." By contrast, quantitative measures are succinct, parsimonious, and easily aggregated for analysis.

Moreover, qualitative methodology allows the researcher to explore phenomena, such as lived experiences, behaviors, emotions and thought processes, which are difficult to extract or learn about through conventional research methods (Jones et al., 2006; Strauss & Corbin, 1998). Qualitative research addresses broad questions related to personal experiences and realities by interacting with people in their natural environments, which in turn generates rich data that help us to understand a phenomenon thoroughly (Creswell, 2007; Patton, 2002). The main goal of qualitative research and, specifically, qualitative disaster research is to collect more in-depth, detailed data sets that reveal the lived experiences of participants in a dynamic social setting (Phillips, 2016).

Philosophical Foundation

The epistemological framing of this qualitative research is constructivist, also known as interpretivist, and focuses on understanding social meaning and interpreting others' realities and social meaning. It is associated with hermeneutic tradition, which seeks a deep understanding by interpreting the meaning of interactions, actions, and objects (Hesse-Biber, 2016). Constructivism asserts that different people construct meaning in different ways, even when experiencing the same event (Bloomberg & Volpe, 2012; Crotty, 1998). As a result, the only

way to understand social reality is from those enmeshed with it by reflecting on their everyday lives and existence; therefore, researchers working from constructivist traditions, value experience and perspective as important sources of knowledge (Hesse-Biber, 2016). Stake (1995) defines constructivism as a belief that knowledge is made up largely of social interpretations rather than awareness of an external reality.

This study employs a constructivist paradigm to examine and understand the nature of role conflict among EMS personnel who worked during disasters. The study's participants will construct reality based on their individual and shared experiences. This approach will allow EMS personnel to share their perspectives as they describe their own experience of deciding to respond to a disaster. The nature of role conflict and the process of how participants interacted with and made decisions of whether or not to respond to a disaster is complex and requires the constructivist epistemology to capture it. The goal of this approach is to describe the essence, or meaning, of the phenomenon named "EMS role conflict in disasters."

Sampling

Participation was limited to EMS personnel with experience of working in during COVID-19 to participate in the study. According to Merriam (1988, p. 48) the needs of qualitative research are best met by non-probability (purposive) sampling since the researcher wants to discover, understand, and gain insight into phenomena; therefore "one needs to select a sample from which one can learn the most." Rayan and Bernard (2000) argued that in purposive sampling, the researchers decide the purpose they want their informants (participants) to serve, and that they, the researchers, have to go out to find appropriate participants. Therefore, a typical case sampling method was utilized in the first instance. This sampling method can be helpful in providing a qualitative profile of a typical case to describe and identify what is typical to those

who are unfamiliar with the setting. It is important to understand that this sampling method is not used to make generalized statements about the experiences of all participants; it is illustrative rather than definitive thus, suitable for qualitative inquiry (Patton, 2002). A pioneer within in the US-based EMS field was contacted through email. This typical case has worked with EMS, Fire, and Public Health in 48 of the 50 states, most of the Canadian Provinces, Palestine, Australia, and throughout Europe. The purposes of the study were discussed with the questions, and the inclusion criteria. He subsequently connected the researcher with different EMS directors through different states and the researcher started from that point. A recruitment letter was sent to each EMS director. The reply was an approval to help by sending the recruitment letter to the emails of the EMS personnel. Once any EMS personnel respond to the email, a follow up email was sent to set up an appointment with a copy of the informed consent form. At the end of each interview, the interviewee was asked to recommend a coworker or any EMS provider in a different state that would like to participate in order to continue with the interview.

The inclusion criteria for the interviewees include: (a) the ability to read and write in English, and (b) EMS personnel (who are certified by the National Registry as either EMT, Advanced EMT, or Paramedic) who worked during COVID-19. Moreover, according to the previous literature, work-family conflict can affect the willingness to respond to a disaster. The perceived danger to the self and the responsibility for caring for family are the key barriers to willingness and ability to report to work during a disaster (Shapira et al., 1991; French et al., 2002; Qureshi et al., 2005). Since this research explores work-family conflict, other types of conflicts (Two-Hat Syndrome and loyalty conflict) mentioned previously was not included. Consequently, participants who work as a full time EMS provider who live with their families (spouse, children, or parents) and who do not hold positions in any other EMS relevant agencies

were recruited. The participants were recruited from different EMS agencies with different employment titles such as EMT, Advanced EMT, or paramedic. These different titles have different scopes of practice, different training, and education levels. This variation helps in understanding the different perspectives regarding role conflict and the factors that might influence the conflict. This would also help in gathering contradictory or overlapping perceptions and nuanced understandings different individuals hold (Rubin & Rubin, 2005, p. 67).

Since there is a variation in the number of COVID-19 cases and deaths between the states, I categorized these states according to the number of cases per 1,000,000 population. The latest CDC data concerning US COVID cases, by states in the last seven days as of July 6, 2020 to recruit participants (CDC, 2020) as shown in the following figure 3.1, were utlized. The states were then divided into the following two categories with the low reported cases and the high reported cases.

1. Number of COVID-19 cases per 1,000,000 population is between 0-10,000 cases (e.g., New Mexico, Colorado, Nebraska, North Dakota, South Dakota, Montana, Wyoming, Kentucky, New Jersey, West Virginia, New Hampshire, Maine, Vermont, Delaware, Maryland, Connecticut, and Oregon)

2. Number of COVID-19 cases per 1,000,000 population is between 10,001- more than 40,001 (e.g., California, Nevada, Florida, Tennessee, Mississippi, Alabama, Louisiana, Georgia, South Carolina, North Carolina, Arizona, Oklahoma, Washington, Idaho, Utah, Wisconsin, Ohio, Virginia, New York, Pennsylvania, Arkansas, Texas, and Illinois)

Figure 3.1: United States COVID-19 Cases as of July 6, 2020.

United States COVID-19 Cases in the Last 7 Days
By State and Jurisdiction

LATEST DATA
AS OF JULY 6, 2020

Cases reported
June 30, 2020
through July 6, 2020

- 0 - 167
- 219 - 673
- 1,053 - 2,517
- 2,644 - 3,401
- 4,435 - 7,647
- 8,559 - 64,809

Territories: AS FSM GU MP PR PW RMI VI

cdc.gov/coronavirus

CDC
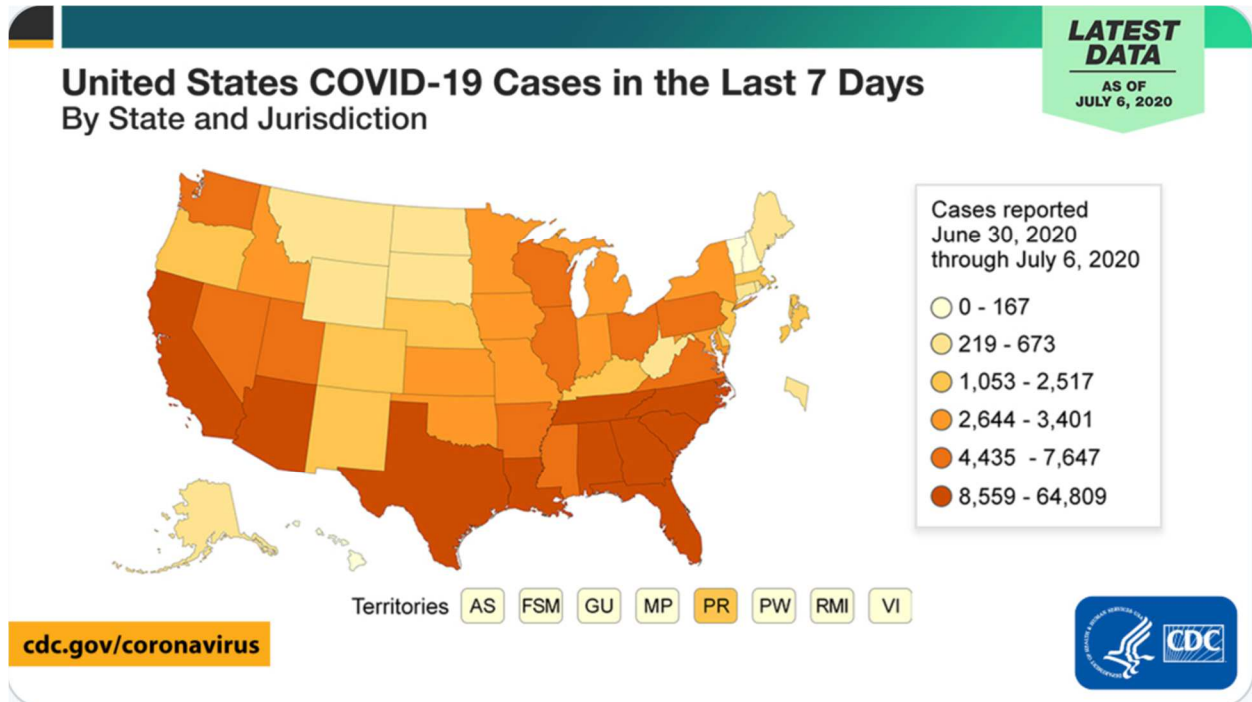
Saturation and redundancy were achieved with 15 interviews from each category when new interviews started to add nothing to the existing data and codes (Merriam, 2009).

The variations of the participants' positions and states are represented in Table 3.1 below.

Table: 3.1. INFORMATION OF THE INTERVIEW SAMPLE			
Participant code	EMS Job Title	State	Category
P1	Paramedic	Texas	2
P2	Paramedic	New York	2
P3	EMT	Washington	2
P4	EMT	Maryland	1
P5	EMT	Maryland	1
P6	Paramedic	Texas	2
P7	Paramedic	Colorado	1
P8	EMT	Maryland	1
P9	Paramedic	Delaware	1
P10	EMT	Colorado	1
P11	EMT	Pennsylvania	2
P12	Paramedic	New York	2
P13	EMT	West Virginia	1
P14	Paramedic	Wisconsin	1
P15	Paramedic	Maryland	1
P16	Paramedic	Missouri	2
P17	Paramedic	Wisconsin	1
P18	EMT	North Carolina	2
P19	Paramedic	New Jersey	1
P20	Flight Paramedic	Texas	2
P21	EMT	Colorado	1
P22	Paramedic	North Dakota	1
P23	Paramedic	Oregon	1
P24	Paramedic	Alabama	2
P25	Paramedic	Washington	2
P26	Paramedic	Illinois	2
P27	EMT	Connecticut	1
P28	Paramedic	California	2
P29	EMT	Georgia	2
P30	EMT	Oklahoma	2

The reason for choosing participants from these different categories is to make sure that the selected participants and settings are sufficient to provide the information needed for a full understanding of the work-family conflict and how it influences the willingness to report to duty during disasters (Moser & Korstjens, 2018). In qualitative research, the sampling plan enables the researcher to include a variety of settings and situations and a variety of participants,

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including extreme cases to obtain rich data (Kruger & Casey, 2015; Moser & Korstjens, 2018). That is why the researcher chose to interview participants from different states across the US. It is important to study the variation in response between different states to understand the variation in perspectives between the participants who respond within the highly affected states with COVID-19 and other states.

To find participants for this study, the researcher utilized the snowball sampling method. Snowballing is a type of purposive sampling that allows participants to use their professional and social networks to refer participants who could contribute to the study to the researcher (Hesse-Biber, 2016). This method is helpful in locating information-rich key informants or participants. Consequently, at the end of every interview, the researcher requested that the interviewee identify the next candidate for interviewing in this research.

For the purpose of this study, the exclusion criteria were the inability to speak or read English and EMS personnel who did not previously respond to a disaster. There was no exclusion criteria based on gender, age, race, or ethnicity. The researcher conducted this study at the time of the COVID-19 epidemic. As a result, the type of disaster that the participant responded to will be controlled to be the COVID-19 epidemic.

Sample Size

In qualitative studies, there are no strict criteria for determining sample size (Lincoln & Guba, 1985; Patton, 2002). Marshall (1996) indicated that the appropriate sample size for a qualitative study is one that adequately answers the research question. It is difficult to specify the sample size before starting the data collection process. In practice, the number of required participants will be identified as the study progresses when both data "saturation" and "redundancy" occur (Marshall, 1996; Lincoln & Guba, 1985). Data saturation was reached when

no new themes, categories, or explanations emerge from the data, while data redundancy reaches

when themes start to repeat themselves (Merriam, 2009). As a result, the sample size for this

study is thirty participants where both saturation and redundancy were achieved.

Data Collection

Before beginning with data collection, Institutional Review Board (IRB) approval from

Oklahoma State University was requested, as shown in appendix I. Participants were contacted

through e-mail with an IRB approved recruitment letter as shown in appendix II. Once the

participant responded to the invitation letter, an IRB approved follow up email was sent (see

appendix III) to make arrangements to meet using zoom. The study was explained, any questions

were answered, and signed informed consent obtained from each participant. A copy of the IRB

approved consent form was provided to each participant as shown in appendix IV.

In-Depth, Semi-Structured Interviews

Qualitative interviews result in thick descriptions of the subject being studied that enable

readers to make decisions about transferability of study results (Merriam, 2002). Interviews are

used to reveal someone's perspective when we cannot observe it. The purpose of conducting this

qualitative interview is to gain qualitative data that demonstrate how work-family conflict the

willingness of EMS personnel to report to duty during disasters. A semi-structured interview

approach used with a set of open-ended questions to encourage the participant to respond freely

and openly to questions (See Appendix V for the IRB approved semi-structured interview

questions).

Each interview lasted between 40 to 60 minutes. I guided the interviews to the extent that

each topic of interest is included. Interview questions were modified to relate to the research

question. Hesse-Biber (2016) suggested the interview guide should employ prompts or probes to

give structure to the interview and allow the participants to use their own voice in telling their stories. A probe is an effective way of getting a participant "to continue on with what he or she is talking about, to go further or to explain more, perhaps by virtue of an illustrative example" (Hesse-Biber, 2016).

Interviews were audio-recorded with participants' approval, and handwritten notes taken during each interview to track key points to return to later in the interview or to highlight important ideas. Before starting with each interview, I provided some information about myself to establish rapport with participants and gain their trust. Each participant was reminded of the purpose of the study, research procedure, his/her right to withdraw from the study at any time he/she wants, expected benefits, and protection of confidentiality.

Each interview was transcribed verbatim by listening to the audiotapes; the resultant transcripts were then presented to each participant for their review further to ensure accuracy. To protect the participants' identities, each one was assigned a pseudonym, and all study materials including the transcripts were coded with identification letters known only to the researcher.

Data Analysis

Data analysis in qualitative research is "intellectual craftsmanship" that should be done artfully with a great amount of methodological knowledge and intellectual competence to transform data into findings (Hesse-Biber, 2016, Paton, 2014). No formula exists for that transformation and there is no single way to accomplish it and thus, data analysis is a creative process, not a mechanical one (Denzin & Lincoln, 2003). Qualitative research studies involve a continuous interplay between data collection and data analysis as they are both iterative processes and work interactively (Hesse-Biber, 2016; Strauss & Corbin, 1998). As a result, "There is no particular moment when data analysis begins. Analysis essentially means taking

something a part" (Stake, 1995, p. 71). Which in this case, not only means understanding how work-family conflict influences the willingness of EMS personnel to report to duty during disasters, but also identifying and defining the patterns emerged from work-family conflict and the decision-making process. Qualitative data analysis, then, gives meaning to first impressions and final compilations. It is an analysis that tells the story EMS personnel experienced during disasters and how it is affected by work-family conflict. It also gives a clearer picture of their intentions to make (and their results from making) decisions whether or not to attend work during a disaster.

The purpose of data analysis is to answer the research question and to understand the participant's perspectives. Marshall & Rossman (2006) defined qualitative analysis in terms of organizing and attributing meaning to the data. To accomplish these tasks, the researcher will follow the three-phase procedure described by Hesse-Biber (2016) which includes: (a) data preparation, (b) data exploration, and (c) specification and reduction of data.

Data Preparation

This phase involves immersion into the data and "getting intimate with the data" (Esterberg, 2002, p. 157). That will be accomplished by transcribing all interviews verbatim and reading and re-reading all transcriptions. The main objective of immersing oneself in interview transcripts is to "load up your memory" with the collected data (Esterberg, 2002. p. 157). After transcribing each interview, I spent time in reading and rereading the transcript until I heard the participant's voice while I read through his/her experience. While reading through each transcript, the interesting statements and quotes that can form a code or theme were highlighted for further analysis (Saldana, 2013). During this stage, the focus was on understanding how the participants viewed their experiences of role conflict during the Covid-19 pandemic.

After the transcribing and "precoding" of each interview completed, each transcript was uploaded into ATLAS.ti for further analysis and coding. Using this software enable the researcher to save time by avoiding having lots of paper prints and highlights. This software acts like a "container" that keeps all the data that related to this project in one place. Manual analysis usually required a lot of clerical tasks that consumes time and also required a lot of concentration and care in order not to mix parts of transcriptions. ATLAS.ti software enabled the researcher to deal with this large amount of qualitative data. It offers a variety of tools that provide the flexibility to "manage, extract, compare and explore the data within the text which has a meaning for the analysis" (Chikondi & Mkwinda, 2013. P. 3). Although, this software organized the transcribed data for analysis it was not used to analyze the data, this was conducted by the researcher (Chikondi & Mkwinda, 2013). Consequently, once the transcribed interviews were uploaded into ATLAS.ti, I the analysis steps of preparation, exploration, specification and reduction of the data were conducted as discussed below.

Data Exploration

During this phase metaphors about what could be going on in the collected data were created by comparing two interviews and then cluster interviews that are similar or different and ask about ideas or factors that are similar or different among the participants (Hesse-Biber, 2016). The exploration phase involved a technique that is described as the "first run through the data" technique which is accomplished by creating a memo (Hesse-Biber, 2016). Memos are "sites of conversation with ourselves about our data" (Clarke, 2005, p. 202). Thus, memos were created to aid in the brain dumbing process and mark up the transcripts by highlighting what was determined to be important.

Ideas were written down during the reading of the interview transcripts. The process of writing memos is an analytic process and not just data recording. It helped the researcher to reflect on the data and engage with it (Holloway & Galvin, 2016).Analytical memos were used to note down ideas and thoughts about the data as well as the reasons for grouping them in a particular way. These Memos were stored on the researcher's computer to help go back and forth between the data.

Specification and Reduction of Data

After gaining more familiarity with the data through multiple reviews and writing a brief memo containing impressions about the participant and the interview, the data was then coded. Coding is assigning meaning to a chunk of text, which can be a word, several words, or full paragraphs (Hesse-Biber, 2016). Coding is achieved by creating sections of data and assigning labels or names to proceed toward the development of categories, themes, or major constructs to break the data into manageable sections (Halloway & Galvin, 2016). Saldaña (2009, p. 45) discussed the reverberative nature of coding as "comparing data to data, data to code, code to code, code to category, category to category, category back to data, etc.," the qualitative analytic is "cyclical rather than linear." There are two main sections for coding methods that were used in this study: First Cycle and Second Cycle coding methods.

First Cycle Coding Methods

First cycle coding occurs during the initial coding process and is simple and direct (Saldaña, 2009). There are several subcategories for the first cycle coding, but it is not necessary to use all of them in the analysis. Since each "qualitative study is unique, the analytical approach used will be unique" (Patton, 2014, p. 433), The chosen coding method(s) that is/are appropriate to the nature and goals to this study. No researcher can "claim final on the 'best' way to code

qualitative data" (Saldaña, 2009, p. 47). This study analysis used different types of coding during the first cycle coding. Elemental coding methods of initial, in vivo, descriptive, and process coding used in this study, in addition to, affective coding methods that include emotion coding.

Initial coding

This line-by-line coding helps identify information that both participants and researcher consider important (Halloway & Galvin, 2016). Initial coding gives a name to specific pieces of data. The codes may be words, expressions, or other chunks of data. The goal of initial coding is to remain open to all possible directions indicated by readings of the data (Charmaz, 2006, p. 46). This coding method was used as an opportunity to reflect deeply on the contents of the data and to begin taking ownership of them. It is truly open-ended for a researcher's first review of the corpus and can incorporate in vivo coding or process coding or other selected methods (Saldaña, 2009, p.66).

In Vivo Coding

In vivo code refers to a word or short phrase from the actual language found in the qualitative data record, "the terms used by [participants] themselves" (Strauss, 1987, p. 33). In vivo coding is applicable for this study because it addresses the research question from the perspective of the participants. In vivo codes were used to single out words or phrases used by participants to prevent imposing the researcher's own framework and ideas on the data. In the initial stages of coding, line-by-line and in vivo coding helped me to prioritize and honor the participant's voice (Saldaña, 2009, p.74). Using in vivo codes as the sole coding method for the first cycle data analysis may limit the researcher's perspective on the data, a perspective that "can contribute to more conceptual and theoretical views about the phenomenon or process" (Saldaña, 2009, p. 76). For this reason, descriptive coding was also used.

Descriptive Coding

Descriptive coding summarizes a word or short phrase the basic topic of a passage of qualitative data (Saldaña, 2009, p. 70). It is a straightforward method for qualitative research. It categorizes data at a basic level to provide the researcher an "organizational grasp of the study" (Saldaña, 2009, p. 73) and it is essential groundwork for Second Cycle coding and further analysis and interpretation (Wolcott, 1994, p. 55). This coding method is applicable for this study since it includes passages from different participants who discuss the same topic from different perspectives.

Emotion Coding

Since this study deals with sensitive traumatic experience for EMS personnel, encountering a great deal of emotions throughout the study was anticipated. For this reason, emotion coding is particularly applicable for this study because it explores interpersonal participant experiences and actions. Corbin & Strauss (2008, p. 7) indicated that individuals cannot separate their emotions from their actions; emotions are "part of the same flow of events, one leading into the other." Thus, it is important to code emotion since they are "universal human experience and they provide deep insight into the participants' perspectives, worldviews, and life conditions" (Saldaña, 2009, p. 86).

After a few interviews were coded, the same codes reoccured. This decreased the number of the new developed codes. A table was developed to identify the developed code with a possible theme and an example quote. This helped in keep tracking of these codes and using them for more quotation when analyzing more transcriptions. Sometimes, the code name had to be edited it in order to appropriately fit the context. After the first cycle coding, a total of 86 codes were developed. The codes were then reviewed and similar codes were merged together.

This reduced the number of codes to 68 codes which ensured that no codes had similar or close contents. After identifying the codes for all of the transcribed interviews, the second cycle coding was initiated as discussed in the following section.

Second Cycle Coding Methods

Second cycle coding methods are advanced ways of organizing and reanalyzing data coded through first cycle methods (Saldaña, 2009, p. 149). These methods require fitting categories one with another to develop a coherent synthesis of the data corpus (Morse, 1994). The primary goal for the second cycle coding is to develop a sense of categorical, thematic, conceptual, and/or theoretical organization from the First Cycle coded data. For this study, Focused Coding was used to categorize the data based on thematic or conceptual similarities.

Theming the Data

A theme is an outcome of coding, categorization, and analytical reflection, and it is defined as "an abstract entity that brings meaning and identity to a recurrent [patterned] experience and its variant manifestations. As such, a theme captures and unifies the nature or basis of the experience into a meaningful whole" (DeSantis &Ugarriza, 2000, p. 362). A theme describes and organizes possible observations or interprets aspects of the phenomenon by functioning to categorize a set of data into an implicit topic that organizes a group of repeating ideas (Boyatzis, 1998; Saldaña, 2009). During this phase, the researcher's creative abilities were used to interpret not only what each participant said but also what each participant truly meant. After reading and re-reading all the coded statements, a formulation of meaning for each significant statement that extracted from the transcripts was created and carefully assemble them into themes that are common to all participants. To achieve this, the codes were classified into groups and categories where each one of them contains relevant codes. This is known as a group

coding within the ATLAS.ti software. After that, themes were developed from the views and perceptions of the participants using the notes and memos already recorded after each interview. It was anticipated that the themes would be distinctive, but with statements that have common characteristics. Paragraphs and tables were used to introduce each of the identified themes and sub-themes. Each sub-theme supported by exemplar significant statements made by the participants during the interview along with the formulated meaning supported by the findings from the related literature introduced throughout the interpretations.

Once analysis of the 14 interviews was completed, the transcriptions and the developed codes were reviewed in conjunction with the advisor. A gap in collected information was noticed with some topics being not fully covered and validated. More probes to the interview questions guide were added to make the questions more focused and more specific to collect a directly related data to the themes. At this stage, the already developed codes are more obvious and the new collected data validated the developed themes and provide more evidence to their trustworthiness. These codes were refined and ammended and new ones created. Once, the researcher felt that the data analysis was not adding any new idea to the developed themes, the interview analysis was determined to have reached saturation with 30 interviews meaning that no further interviews were needed.

Methods to Ensure Data Quality

To ensure the data quality and increase the trustworthiness of the study, strategies recommended by renowned qualitative researchers were employed. There are several strategies to increase the trustworthiness of the research such as (a) credibility, (b) transferability, (c) dependability, and (d) confirmability (Lincoln & Guba, 1985). A description of each of these concepts is included in the following sections.

Credibility

Credibility in qualitative research means the degree of confidence in the truth value of the study findings and the accurate interpretation of the data (Whittemore et al., 2001). Member checking is one of the strategies that can be used to achieve credibility by verifying the data and the interpretation of the data (Lincoln & Guba, 1985; Merriam, 2002). After developing the themes, the participants were provided with an opportunity to discuss the interpretation of the data. Some of the participants mentioned that they expected to see these findings. This is an indication that the findings remained faithful to the participants' perceptions and views. Credibility was also achieved by triangulation of the data. According to Lincoln and Guba (1985), triangulation is the corroboration of results with alternative sources of data. Triangulation was accomplished by validating data against a second source such as journals and memos. Moreover, consultation with an expert in the field was utilized as an alternate data source. A peer debriefing mechanism was also utilized to ensure credibility by meeting regularly with the advisor and contacting the dissertation committee members to review the interview guide before conducting the study and to discuss the findings.

Transferability

Transferability seeks to determine if the results relate to other contexts and can be transferred to other contexts (Lincoln & Guba, 1985; Miles & Huberman, 1994). In this study, transferability was enhanced by providing a thick, rich description of the contexts, perspectives, and findings that surrounded participants' experiences. By providing adequate detail to draw a well-defined context, readers were provided with the opportunity to determine the extent to which their situation matches the research context and whether the results are transferable to

other circumstances or not (Merriam, 2002, p. 31). To further increase the likelihood of transferability, field notes were composed directly after completing every interview.

Dependability

Dependability refers to whether or not the results of the study are consistent over time and across researchers (Lincoln & Guba, 1985; Miles & Huberman, 1994). To address dependability in this study consultation with a peer debriefer was utilized. Triangulation occurred through consultation with the dissertation advisor, committee members, and peer reviewers. They were asked to comment on all aspects of the study, particularly data collection, analysis, and results to determine if the conclusions were similar to mine. They were also asked to comment on the clarity of the research plan and its potential for consistency over time and across researchers. This peer debriefing limited the extent to which own beliefs and prejudices might, unintentionally, affect and inform the data interpretation.

Confirmability

Confirmability assumes the findings are reflective of the participants' perspectives as evidenced in the data, rather than reflecting the researcher's own perceptions or bias. In qualitative studies, the researcher takes an active role in the collection and interpretation of others' meaning (Stake, 1995). As a result, the qualitative researcher must be good and trustworthy. It is important to avoid narrow thinking in a qualitative study. Researchers should learn to understand their research as their participants do, rather than impose their own assumptions (Stake, 1995, p.109). to achieve confirmability in this study, a detailed data collection process, data analysis, and interpretation was provided. The researcher also wrote down their thoughts about coding, the reasons for merging codes together, and an explanation of the meanings of each theme. Moreover, to ensure the trustworthiness of this study, the researcher

assessed how thier background and position could influence the research process. I a journal was kept to reflect on the research process with regard to the researcher's values and interests.

Methods to Protect Confidentiality

Individuals may only be willing to participate in a study and share information for research purposes with an understanding that the information will remain protected from disclosure outside of the research setting or to unauthorized persons. The need to protect confidentiality by handling, storing, and sharing research data in a way that avoids improperly divulging information was clear. Confidentiality was protected by storing all collected data on an encrypted, password protected and secured external hard drive that remained only in possession of the principal investigator. In addition, files containing electronic data were closed when a computer left unattended. Only the principal investigator or individuals working directly on the research had access to the stored data. The participants' names were changed to conceal their identity. Each participant assigned to a number such as participant 1, participant 2, and so on. All demographic information and transcriptions were numerically coded. This ensured that participants' identities will not be associated with any part of the written report of the research including data analysis.

CHAPTER IV

FINDINGS AND DISCUSSION

The resulting qualitative data provided further insight into the EMS providers'
experiences of work-family conflict during the COVID-19 pandemic. In analyzing the data to
this prompt, patterns and themes that emerged from the data were identified. Because of the large
amount of data per theme, relevant subthemes and categories that existed within each theme
were also identified, when applicable. The resulting themes, subthemes and categories are
presented below. Along with sample quotes from a specific theme or category. The reason for
choosing these quotes was because they were representative of the other quotes within the
category and they also served to illustrate the wide range of content that existed within the
responses. To add more emphasis to the participants voices and perspectives, all quotations are
italicized. In the following section, the sources of work-family conflict were identified according
to the Work-Family Pressure Model by Greenhaus and Beutell (1985). According to this model,
there are three major sources for work-family conflict, 1) time-based conflict, 2) strain-based
conflict, 3) behavior-based conflict. These three major sources will be the main themes for the
findings of this study. All the subthemes emerged from voices, views, perspectives, experiences,
and opinions of the research participants while answering the interview questions.

The Sources of Work-Family Conflict

Interviews began by asking the participants about their concerns while responding to
COVID-19 pandemic. This was done to investigate the sources of strain-based conflict that are

related to different factors that are related to work stressors. Different prompt questions were also used to probe, investigate and understand these sources. Time-based conflict is related to the inability to fulfill the tasks in one role as expected because of having to devote more time in the other role. , In order to assess the factors that are related to time-based conflict, participants were asked how responding to this pandemic affected their schedule, workload, and overtime. They were also asked them how responding to COVID-19 affected the time they usually spent with their family member. Finally, to investigate the behavior-based conflict sources, participants were asked how this pandemic affected their interaction and connection with their family members? And what behavioral change they noticed this pandemic caused? The following sections discuss the emerged themes of these three conflict sources and the different subthemes for each one of them.

4.1-   Strain-based Conflict

This form of conflict involves role-produced strain and occurs when the strain or the stress in one role limits one's ability to complete responsibility in the other role. Most of the participants shared the same concerns and fears regarding to responding to this pandemic. The following figure shows the major subthemes that emerged as the strain-based conflict sources.

Inadequate Resources:
1- Lack of PPEs
"There were a few weeks where that [lack of PPE] was very, very tenuous. It was really stressful for personnel...We needed to save what we had for going into infectious patients' homes and so we didn't have the liberty to just wear them any time. Some people thought that it was ridiculous."
2- Inadequate Training and Skills
"Our training before this pandemic did include things, like infectious diseases and how to deal with them. But obviously COVID is very different from other infectious diseases we learned about."

Fears and Concerns:
1- Family Safety Concern
"There is always a concern about bringing something home to your family that they didn't go out and get themselves"
2- Personal Safety and Being a Burden on the System
"You don't want to be a burden on the system. So, if I get sick, my partner will get sick too, and we have to take a day off. Then somebody else has to work for us"

Strain-Based Conflict Sources

Lack of Confidence in the Employer
"I feel like there's a lack of leadership going on, I feel like there's no advocation for their employees"
"I don't really feel like my job really is prepared to deal with [COVID-19]. Kind of feels like you don't get a lot of support in a lot of ways."

Role Ambiguity:
1- Uncertainty
"At the beginning I was very concerned, like I said, there was a lot of unknown. I would say like anxiety was a lot higher."
2- Changing SOPs
"The first couple of weeks like every couple of hours, we'd get a new SOP [Standard Operation Procedures] and it would override the Previous one, and every time you come to work there would be a stack of what we have to read through. It was constantly updating, almost to the point like every hour."
3- Inappropriate Information Communication
"There was a lot of information that was new and maybe not grounded in any sort of basis. So, it was a lot of do this. Don't do that. I know I felt the stress of it...So; It was overwhelming and almost too much information to filter because it didn't feel reserved and Put out in unorganized fashion."

Figure 4-1: Strain-Based Conflict Sources

The following subthemes discuss the major strain-based conflict for the EMS providers during responding to COVID-19.

4.1.1- Fears and Concerns

COVID-19 is a large-scale pandemic that poses unique challenges for EMS providers. The occupational risk of becoming infected or potentially exposing family and friend to infection caused a lot of concerns. Most of the participants became emotional about their fears of infecting their family members including children, spouses, dependent elderly parents, or other family members as a result of their own occupational exposure to this virulent disease. Moreover, most of the participants expressed their concerns regarding to getting the virus and then passing it to their coworkers or partners as they spent a long time with them in the back of the ambulance or at the station. This section discusses these different fears that EMS providers have during

responding to COVID-19. These fears include personal concerns, family concerns, and coworkers' concerns.

4.1.1.1- Personal and Family Safety Concern

Most of the participants of this study did not show a major concern about their own safety and wellbeing. But instead they were worried that they will contract the virus and then pass it to their families.

P13: "[My concern is] *getting the virus and passing it to my family*."

P23: "*My main concerns probably, I guess my safety like as it relates, you know, coming home after a shift to my family. That's like my biggest concern*."

The reason to show less personal concern is the inherent risky job nature for the EMS providers. They expressed how they are used to work in high risk environment and how they are ready to respond whether it was an accident, a fire, earthquake or infectious outbreak.

P19: "*The concerns that I would normally have for myself and my own safety, I think are inherent in the job that we do. So, regardless of what it is that I'm responding to, whether it's a national crisis, you know, a pandemic or fires, I think it's inherent in the job, too*."

While the personal risk seemed to be of a less concern, all of the participants expressed a concern regarding to family members and loved ones. Nearly all of the participants who referenced to their own safety, they justified it with the reference of their family. They expressed how fear of passing this disease to the family members is on the back of their heads all the time. Concerns about family safety created a work-family conflict for the providers. It created a lot of stress for them as they felt guilty to bring the virus home after finishing a shift. They felt the fear of infecting their family members as being a potential carrier. An interviewee (P7), for example, reported:

"*My main concern would be bringing it home back to my family [...] my husband is also a paramedic. He comes home as well too. We're worried about him bringing stuff home [...] I am worried about them. On top of that, I'm always worried also about my parents.*"

These concerns are also relevant to the vulnerable family members who have more risk factors to become critically ill if they get infected. This created more distress for the participants as they felt the responsibility of protecting their family members. An interviewee (P13) described concerns as:

"*My wife has asthma and my parents are older, now in their sixties. My sister who has diabetes, and other friends and family members, who have pre-existing conditions. So, my primary concern would obviously be getting the virus and then passing it on to family members who have medical problems.*"

The family concern, although not directly derived from the virus, created psychological burdens for the EMS providers and affected their morale in responding to their duties during this pandemic. The participants mentioned some of the consequences that might rise up in case one of the family members get infected and become severely ill. They expressed the need to take time off as sick leave or even to quit their jobs if they have no other option, in order to take care of the sick family member. An interviewee (P7), for instance, expressed concerns in a case one family member was infected by COVID-19:

"*I'm worried about my parents. I know if they get sick, I gotta take care of them. My dad who lives a good five hours away from here. He's being tested today because his girlfriend tested positive, so, if he gets severely ill, I'm gonna have to possibly drop everything here and go take care of him.*"

Another case scenario that would create psychological burden for the participants was in case they got infected and have to be quarantined. The participants expressed concerns about the lack of the primary care provider of the family, because of having to be quarantined and being unable to fulfill the role within the family. If a family member is infected and thus, he or she must be quarantined, it would also generate some financial concerns and burdens. An EMS responder (P23) reported:

> "[My partner] *had to stay home and she did not get reimbursed for those missed days. So, she was very stressed out like she told me that she had to go and call her mom and her mom was gonna have to help her pay her rent and all of her accessory bills and everything.*"

Moreover, some of the workplaces did not offer quarantine accommodation settings for the EMS providers. As a result, for the providers who do not have appropriate places within their houses to quarantine themselves, they must pay for hotel rooms out of pocket to eliminate the risk of exposure to their family members. This adds further financial burden to them.

4.1.1.2-   Co-Workers Safety Concern and Being A Burden

The concerns and fears during responding to this pandemic were not limited only to the family members and other loved ones. The participants also expressed their concerns toward their co-workers too. EMS providers usually works in teams of two. Every team spend a long time with each other in the same shift, in the station and the back of ambulance. They also work in an uncontrolled, unpredictable environment, which adds to their risk of exposure. As a result, participants expressed their fears of being infected and expose their co-workers.

P23: "*Just making sure that the best precautions that I can… just, so I don't spread it not just to my family, but also co-workers. Since we are on so, you know, a kind of close whether we're just sitting in the ambulance or at the station. I just don't want it affect others, I guess.*"

Moreover, the guilt feeling emerged from having a concern of being sick and absent from work. In this case, they will be a burden on the already exhausted system. Exposure and infection of many of EMS providers caused staff shortage. This is because the guidelines at the beginning of this pandemic, recommended to quarantine any provider who is exposed or infected for 7 to 14 days. This will add more burden on the available providers as they have to work more in order to cover for the absent co-workers. This adds more guilt feeling for the providers as they expressed that with absenteeism, they let their co-workers down. Moreover, they felt obligated to their workplace to respond and take care of their patients who need help and rely on them to provide care.

P19: "*You don't want to be a burden on the system. So, if I get sick, my partner will get sick too, and we have to take a day off. Then somebody else has to work for us and then also, my sickness could affect another people of my station. So then, if you become kind of a nucleus of sickness, you know, our staffing might be affected. I don't want to let anyone down.*"

4.1.2- Role Ambiguity

When the participants were asked about their major concern to respond during the COVID-19 pandemic, most of their concerns are relevant to "role ambiguity." Role ambiguity occurs when the EMS providers are unclear about their work functions and tasks they are required to accomplish. The participants described the sources of role ambiguity related to failure of the employer or the supervisor to provide clear, proper, and understandable strategies and protocols to the EMS providers, which ultimately led toward ambiguity about what the EMS

providers are supposed to do. Another source of role ambiguity is the lack of organized

information regarding this pandemic which leads to uncertainty of how to deal with it and how to

protect oneself and others from exposure. The following subthemes further discuss these

emerged sources of role ambiguity according to the views and perspectives of the participants.

4.1.2.1-   Uncertainty

One source of role ambiguity during the COVID-19 pandemic is the uncertainty and the

unknown dimensions about this disease, especially at the beginning of this pandemic when there

was no treatment or vaccine. Most of the participants described how they were stressed and

confused by not having enough information about the COVID-19 virus, and how to deal with it.

Uncertainty is a work stressor that can be considered as a source of strain-based conflict. This

type of conflict was clearly reflected by the participants in the direction of work to family. The

participants reported having some resulting mental strain of being stressed, confused,

apprehensive, and anxious.

P26: "At the beginning I was very concerned, like I said, there was a lot of unknown. I would say

like anxiety was a lot higher."

P11: "When all this started, it was awful, a lot of unknown, and also, a lot of really poor

information that was just circulating around."

P20: "It was a lot of uncertainty. I would say it was a lot of apprehension about doing the things

that we would normally do."

Some participants described how this disease has a different nature than previous

infectious outbreaks which caused them anxiety and confusion. Moreover, they described how

the initial information about this disease was inadequate and lacked the appropriate interpretation

about its morbidity and mortality. An interviewee (P19) reports: "*Initially, the thought was,*

you're going to have to go and wear some sort of, like decontamination suit, like you're going on

a hazardous materials call, because this virus is so deadly that anybody that comes in contact

with it will die."

Moreover, the interviewees revealed that there was not enough information regarding the

signs and symptoms of the disease, the virus transmission, and the appropriate protective gear to

wear while responding to possible infected patients. An interviewee (P13), for instance, reported

having to prepare their own individual protective gear to minimize the impact of this pandemic:

"*For a while there, I was wearing my own personal N95 respiratory protection, because when*

this [the pandemic] first started, we didn't have enough of that at work, and they were still trying

to understand the, I guess how the disease works and the recommendations on how to wear

PPE." Since EMS providers respond to calls without knowing the full medical history of the

patients, many interviewees described their concerns of having inadequate information about the

possible infected patients as they will receive the alerts from the dispatcher only. This caused

them confusion and apprehension on how to respond to this pandemic. An EMS provider (P6)

told me:

> "*I guess the main thing; you never know what you would walk into. Because how we deal*
>
> *with it out there, is our dispatch role* [to] *ask the caller questions, basically, just* [about]
>
> *symptoms of COVID-19. So, sometimes we get a call out and we get a positive PPE alert,*
>
> *we wear full suits, N95 masks, goggles, gloves. So, sometimes when it comes to an*
>
> *unknown PPE alert, it is up to the judgement call of whether we want to risk walking in*
>
> *with just a mask and gloves and possibly getting exposed.*"

4.1.2.2- Changing Standard Operation Plans (SOPs)

Another source for role ambiguity emerged among the participants. Having to deal with the continuously changing SOPs and guidelines to respond caused a lot of confusion for the providers. Moreover, there were no clear guidelines on how to deal with this pandemic and how to protect EMS providers. The instructions were not easy to follow too, which caused them to feel more concerned about their risk of being exposed or being safe at work. An interviewee (P19) says: *"Guidelines seemed to change almost daily in the very beginning, because of the many unknowns, there were a lot more concerns about exposure risk and the safety of being at work."*

P 10*: "The first couple of weeks like every couple of hours, we'd get a new SOP* [Standard Operation Procedures] *and it would override the Previous one, and every time you come to work there would be a stack of what we have to read through. It was constantly updating, almost to the point like every hour."*

As a result, the lack of a comprehensive plan with clear SOPs and guidelines to respond and deal with this pandemic generates more concerns and possible role conflicts between EMS providers. Part of the reasons for this lack of planning might be the unexpected large magnitude of this pandemic and the unknowing around this new COVID-19. The participants worry about their family members safety and wish to gain more information from their coworkers or supervisors, but it seems difficult to obtain a plan or specific measures to deal with this situation. An EMS provider (P5) told me:

> *"I have a big concern…at least with my employer. We don't really have any sort of policy for things like a quarantine and what to do if we have an exposure. I ended up… my partner came down with COVID, and I found out from him maybe three days later. And it was kind*

of up to me to decide if I wanted to get tested or not, and they were pretty much like if you

don't have symptoms there is nothing to worry about. So, we are having some issues with

what to do."

The ambiguity of the response policies is also linked to the lack of appropriate information and communication, which will be discussed in the next section.

4.1.2.3- Lack of Appropriate Information Communication

Lack of appropriate information and communication is another source of role ambiguity that increases the confusion of the EMS providers. Although many news reports, webpages, and technical reports provided rich coverage of this pandemic, this unorganized information (or at least not proofed by the Center for Disease Control, CDC) generates huge confusions for EMS providers. The production of information about this pandemic is rapidly growing in a way that leads to a situation of information overload which created more strain-based conflict for the participants. While the data communicated during any disaster should be clear, understandable, organized, and uniformed; the participants expressed a sense of overwhelming information influx during this pandemic. The rate of influx of this information was fast and from multiple sources such as the CDC, WHO, stations administration, coworkers, social media, family, and friends. The participants described this influx as hectic, overwhelming, frustrating, dizzying, and confusing. An interviewee (P18) said:

"*It was dizzying, because you get an email one day this and this. And an email next day*

never mind, and email the following is a never mind, and then they say, you know, we're

going to put in the safety measure and then they realized operationally they couldn't do the

safety measure because they had a problem with where do you get the supplies from or

something like that. So, at the beginning, sometimes, it seems like two to three times a day,

you get an email, and it might contradict the previous email. So, I would say from like

March to the end of April was a very confusing time."

P19: "*There was a lot of information that was new and maybe not grounded in any sort of*

basis. So, it was a lot of do this, don't do that, do this, don't do that…I know I felt the

stress of it… I mean, documents were coming out every day from our own administration,

from the city itself, from the health and human services in San Diego, and then any

associated education or side job that you had, and then the news media…It was

overwhelming and almost too much information to filter because it didn't feel reserved

and put out in an organized fashion."

P26: "[Communication was] *poor just because a lot was very frustrating. You know*

everyone is confused, like I was just told this policy that's beginning of a shift, and then

they changed it, and then trying to tell the next shift, and then when I came back two or

three days later, you know, what's the policy now?…It was like confusion. I'd say there's

a lot of miscommunication on where it was because you asked the manager and

supervisor and two of them had different answers."

P20: "*I would describe it* [information communication] *like information overload, but*

also light and not enough. We're getting inundated with information but from different

people and from different resources. So, we're getting a lot of information, but we're still

confused, basically so frustrated."

Because of this information overload with the influx, it seems like the EMS

administrators were unable to transfer and arrange the COVID-19 relevant information and facts

into clear guidelines and policies of operations to tell the EMS providers. Many participants

expressed how unsatisfied they were with the information communication process, especially, at the beginning of this pandemic. An interviewee (P10) expressed their frustration as:

"*The communication was hectic because it seemed in the first couple of weeks like every couple of hours, we'd get a new SOP* [Standard Operating Procedures] *and it would override the previous one, and every time you come to work there would be a stack of what we have to read through. Because the guidelines are constantly changing in which county is running it and with the CDC* [Center of Disease Control and Prevention] *and with the army. It was constantly updating, almost to the point like every hour.*"

Other participants complained of how they felt the stress of information influx as it was not evidenced based and continuously changing and coming from multiple sources. An interviewee (P20) says: "*I would describe it* [information communication] *like information overload, but also light and not enough. We're getting inundated with information but from different people and from different resources.*"

Another concern for the participants was the failure of the communication between EMS agencies and the hospitals. Some participants expressed how the communication failed between the hospital and the station itself in alerting them about patients who tested positive to COVID-19 and to alert them on what PPE needed for specific patients. There was a lack of communication cooperation in responding to this pandemic between different agencies and hospitals. These participants described this information failure as frustrating, scary, and not great which caused them to be more confused and stressed.

P1: "*I do think that communication kind of failed as far as alerting us to when we interacted with patients come back positive for COVID. I don't necessarily see that as fault in our system, but rather that fault in our*

communication between the hospitals and the system. There is sometimes when

we transport people with low suspicion of COVID, and later on, found out from

the hospital that they are positive."

P18: "[My concern is] *continuity of care* [and] *effective communication in*

between multiple levels. A lot of times with what I'm seeing is, you know, the

sending hospital says one thing, the people that sent us to go get the patient

sometimes say something else. And then I'm finding out something complete

different when I get to the main hospital. A lot of times of breakdowns in

communication, as far as, what needs to be provided and what safety measures

are in place…[Communication] *was not great.*"

P5: "[We responded to] *nursing homes and they have whole floors now dedicated*

to COVID, and sometimes they're not telling us which patients have it or not. It's

just strange that there are places that tests that won't give us that information…

Some places are treating it like it's protected patient information… It's a little

scary."

P22: "*It* [reporting exposure] *was frustrating, you know, it took so long. We were*

still going home to our families and we won't know for 14 days later that we were

exposed. I think it is reporting problem or logistical problem to get information to

who needed to get it."

4.1.3- Lack of Confidence in The Employer

Confidence in the leader or employer is an issue that emerged through the interviews as a
source of work stressor. Leadership trust can affect the willingness to respond for the EMS
providers as it can motivate the providers to effectively participate in the response phase.

Usually, lack of trust in the employer can lead to noncompliance with the guidelines and instructions. One participant described how leadership trust is important to respond. He indicated that even when having inadequate training or unclear guidelines to respond, if the providers trust their leaders, they will be able to follow their guidelines and to respond more comfortably and effectively.

> (P19): "*Trust in the leadership that you have above and around you, you know, you could have 100 people that have never had any training before, but if they trust… if you were my leader, and I trust you, regardless of what you say, I'm going to follow your guidelines if you're calm in the process of the exposure, of the response. I also, should be calm, knowing that you have the education and training to empower, to direct me to be safe.*"

Another issue that is related to employer trust was the lack of support. The participants felt that their employers were not supportive and not serious in protecting their own safety and their families too. Flexibility was also assured as being an important factor to motivate the providers to respond effectively, especially when it comes to family safety. The leaders should know how to give the providers the opportunity to be able to balance between their work and family life

> P11: "*It is important that the employer make it conscious about making sure that he knows that our family is very important. So consequently… there's no question as to whether I can do those things to the very liberal with regards to letting me take the time to be with my family and do the things I need to do.*"

Moreover, the participants discussed how important for the employer to be transparent and trustworthy in communicating information regarding to possible exposures. Some participants complained of lack of leadership and lack of transparency in providing adequate information that

is required to protect their safety. They described how their employers where not prepared on how to protect them or what to do in case the EMS providers got infected.

P23: "*I've never yet been notified, like hey, you're exposed to a patient… Even when my coworker tested positive, the only way that I probably found out about is if I hadn't been trying to plan like a girls dinner that she was invited to… the supervisor would have never contacted me and said you were in contact with this person within these amount of days, so, I advise you to go and get tested on. I've never been contacted about any of that. So, I mean, it's kind of scary.*"

This same participant also viewed that her supervisor was not able to protect them and to be an advocate for their safety. P23: "*I feel like there's a lack of leadership going on, like I understand that I have a really good relationship with the supervisors and staff, but I feel like there's no advocation for their employees, or letting them know like, hey, your coworker has this, and you should probably go get tested.*" She continued to describe how her supervisors didn't know the protocols on how to deal with the exposure cases. P23: "*I called two supervisors* [regarding me getting exposed to my partner who tested positive to COVID] *and it was like, they just didn't know what to do, I feel like there is no protocol set in place, if this happens, this is what we're gonna do. There is none of that. It was just very informal and they* [my supervisors] *asked me over the phone, they're like, well, are you showing signs and symptoms? There was no sense of direction. He* [my supervisor] *was like well just I don't know but call HR* [Human Resources] *and see what they got to say… Sometimes they're in the dark about things, and I don't know that's just the lack of communication or lack of leadership.*"

Another participant also described the lack of support she faced at work during this pandemic. P5: "*I don't really feel like my job really is prepared to deal with* [COVID-19]. *Kind of feels like you don't get a lot of support in a lot of ways.*"

Another participant expressed how the company she worked with didn't deal with the pandemic seriously. P7: "*They've* [the company I worked for] *been pushing things. They haven't been really super serious about all of this…it's not been consistent on.*"

4.1.4- Lack of resources

This section discusses how the lack of resources including lack of personal protection gear and inadequate education and training affected the psychological status of the EMS providers causing them more stress.

4.1.4.1- Lack of Protective Gear (PPE)

At the beginning of this pandemic the news reported a lack in the protective gears for the medical field in general including EMS. Most of the participants reported that they had a shortage in PPEs for some time, especially at the beginning of this pandemic. Most of them expressed being concerned because of this shortage. Some of them also expressed feelings of being anxious, worried, scared, angry and stressed because of this shortage.

P19: "*There was a concern regarding the shortage of PPEs…*[My wife was] *trying to ask too many questions…She would see something on the media and ask almost of a validation of its truthfulness or the impact of us versus the global, that the media was portrayed.*"

P28: "*There was a few weeks where that [lack of PPE] was very, very tenuous. It was really stressful for personnel because we didn't have enough for them. We*

needed to save what we had for going into infectious patients' homes and so we

didn't have the liberty to just wear them any time."

Other concern regarding to the PPE shortage was the requirement of reusing them, especially the N95 masks. The participants shared their feelings of being anxious and distressed because they had to reuse the same PPEs. This also caused them to feel unsafe in their workplace as they were not sure how to protect themselves and their family members if they can't change the PPE and prevent the contamination. Moreover, the participants felt angry as they are having only one N95 mask that is available for the whole shift.

P20: "*We* [EMS providers] *were concerned about it* [shortage of PPEs],

especially because my department did see it…our stockpile was pretty much

depleted in a month. So, we're having to reuse N 95. We definitely had a

shortage which caused some concern for us."

P23: "*It* [lack of PPEs] *was kind of scary… just knowing, like, Oh, technically, I*

need to switch my mask out because we were in contact with this person, but we

can't because we don't have any. That was stressful…We just didn't know what to

do at that point, because like, how do I disinfect this [N95 mask]*? So, we didn't*

know what to do."

P12: "*We were actually worried…There Was a decrease in morale…You can see*

a lot of anger in the people [EMS providers] *because they were told, you know,*

this is your mask for the shift and we don't care if you have a COVID patient or

not…One mask per shift…There was a lot of justifiable anger over them."

Lack of resources in the workplace caused a lot of tension and stress for the providers. While the EMS providers know all the risks that are associated with this job, they also need to

feel that they are safe and protected at their workplace. They need to feel comfortable and safe when entering their homes after a shift, that they will not expose their family members. Workplace support is essential for the providers' morale as they need to feel that their workplace is an advocate for their safety. An interviewee (P28) who faced a lack of PPE during this pandemic expressed how they felt angry and mad because they felt unprotected.

> "*There were a few weeks where that [lack of PPE] was very, very tenuous. It was really stressful for personnel because we didn't have enough for them. We needed to save what we had for going into infectious patients' homes and so we didn't have the liberty to just wear them any time. Some people thought that it was ridiculous. And there were some people that were mad because they had to wear masks and they didn't. So, they think that this was a hoax.*"

The shortage of PPEs during COVID-19 was not a surprise. The unexpected large magnitude of this pandemic made it difficult to ensure the appropriate number of PPEs around the world. This pandemic hit almost all of the world's countries and caused closures in airports between countries. This stopped the import and export process around the world countries and made more difficult to have a new source of PPEs. This shortage is an indication that the health care system is not well prepared to respond to a pandemic. It also suggests that it might be difficult to follow the previously established procedures and guidelines regarding the use and the adherence of protective gears. The organization has to add how to find extra sources of protective gears into the comprehensive plan.

Shortage of PPE during COVID-19 pandemic was not the only challenge for the participants. The stress that was associated with the usage of PPE also emerged in the interviews. Some participants reported how having to wear the whole set of protective gears when

responding to a patient caused them a lot of stress and anxiety. Especially, when they have to respond to the patients calls during hot summer. The new guidelines recommend that the EMS providers should respond outside of the patient's house to decrease the chance of exposure. They were weighed down by the PPE, their movement was difficult, and their protective goggles became blurred quickly, which made the work much more difficult. Moreover, having to stand next to the ambulance by the hot engines in the already hot summer caused the providers to sweat and to feel uncomfortable and sometimes anxious.

> P18: "*The Issues become occasionally if you have to do any procedure with all the material on* [protective gears]*, like goggles fog up hard time seeing, its hot, you're sweating.*"

> P19: "*It's it* [wearing PPE] *is stressful. I mean, it is this if not a conscious stress, a subconscious stress that weighs on people.*"

> P1: "*A lot of things that we're doing right now are stressing me. Like 100 degrees outside I mean, you know, we're showing up in PPEs and it's very distressing and frustrating and anxiety producing.*"

4.1.4.2- Inadequate Training and Education

Responding to a pandemic requires the EMS providers to have a specific training and education that targets the safe way to wear the protective gear without contamination and to use the appropriate infection control measures. The previous training and education of the participants included basic understanding about infectious diseases. However, the unexpected magnitude of this pandemic and the unknown virus caused the providers to feel uncomfortable with their training and education level. An interviewee (P4) expressed their concern as:

"So, our training before this pandemic did include things, like infectious diseases and how to deal with them. But, obviously COVID is very different from other infectious diseases we learned about [...] it [previous training] *gives you a basic understanding of the seriousness of the situation. But obviously you have to have COVID specific training to deal with the pandemic now.*"

P13: "*Our training was not enough, we've dealt with pandemics and infectious diseases before, but not of this magnitude.*"

Inadequate training caused the participants to feel nervous and uncomfortable to respond during this pandemic. They were worried to expose themselves and their families as they were not confident on how to use the disinfectant machines or to don (put on) or doff (take off) their PPE safely without contaminating themselves.

P23: "*Before COVID-19 I didn't know how to use PPEs, or how to use a disinfecting fogger machine. My knowledge was very limited. So, I guess after this pandemic initially started, I actually had to figure out how to use the proper PPE and how to don and doff them and everything in between… It* [training] *was very limited, very.*"

Another challenge that faced the participants was being unfamiliar with the previous training courses and context as these were provided a long time ago. The participants indicated that pandemic policies usually have a low usage and there should be more orientation for the providers to be familiar with them whenever they need. Moreover, they indicated that even though they have had a previous pandemic targeted training in the past years, but they were not able to recall it as they never used the training in real life.

P13: "I personally don't recall working during the Ebola outbreak. I think we

have policies in place, but because it was low usage policy and it wasn't

something that everyone goes familiar with."

This is an indication of the importance of offering more targeted education on how to

deal with infectious outbreaks and pandemics. Moreover, one of the participants reported

that "you don't use it, you lose it." This is an indication that the continuous education that

the providers usually receive did not indicate the required information about how to

respond to pandemics. These kind of training and education should be included in the

comprehensive plan. This will make sure the providers are ready and able to respond

effectively in the future.

4.2-   Time-Based Conflict

EMS providers who are already working in a stressful field are susceptible to all three

types of work-family conflict including time-based conflict. During COVID-19 pandemic, some

EMS providers are facing extra mandatory shifts with longer working hours and increased

working loads. This can disrupt home and family life and contribute to time-based conflict which

can lead to a decreased quality of life and can lead to frustration at work. The interviews revealed

some time-based conflict sources where the EMS provider has to devote more time at work with

more workload. This increased time spent at work and increased work demands resulted in some

conflict where it decreased the time spent with family members. This section discusses all the

emergent subthemes about the sources of time-based conflict for the participants as shown in the
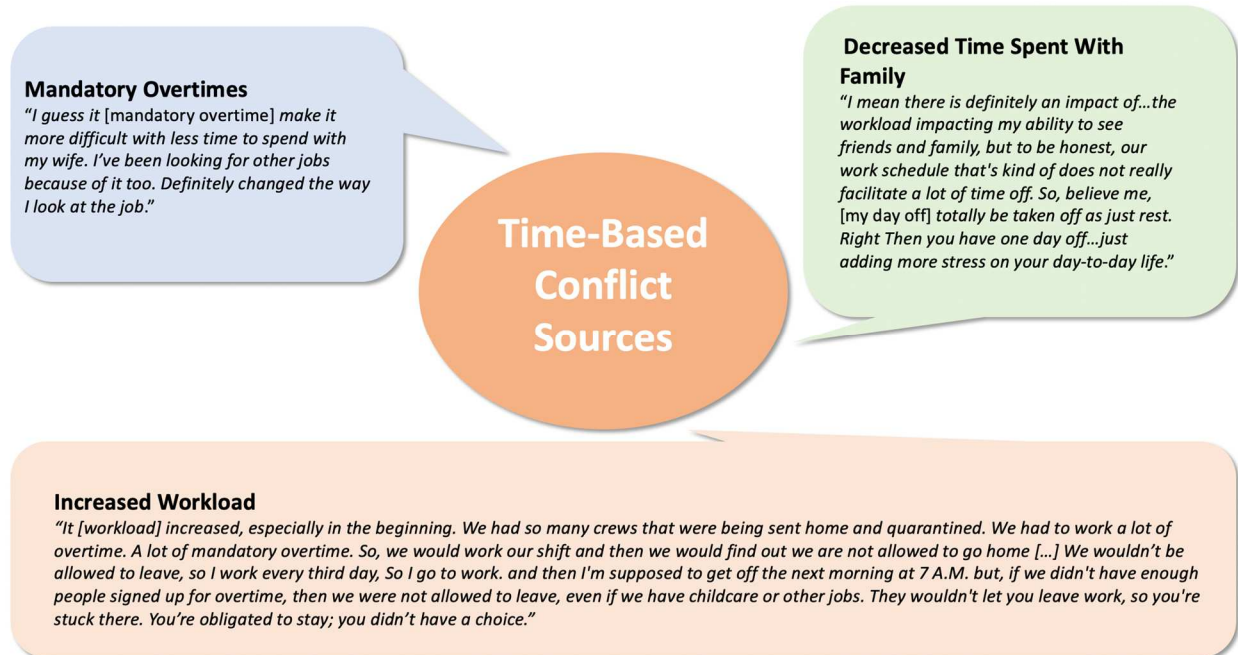
following figure (4-2).

Mandatory Overtimes
"*I guess it* [mandatory overtime] *make it more difficult with less time to spend with my wife. I've been looking for other jobs because of it too. Definitely changed the way I look at the job.*"

Decreased Time Spent With Family
"*I mean there is definitely an impact of...the workload impacting my ability to see friends and family, but to be honest, our work schedule that's kind of does not really facilitate a lot of time off. So, believe me,* [my day off] *totally be taken off as just rest. Right Then you have one day off...just adding more stress on your day-to-day life.*"

Time-Based Conflict Sources

Increased Workload
"*It* [workload] *increased, especially in the beginning. We had so many crews that were being sent home and quarantined. We had to work a lot of overtime. A lot of mandatory overtime. So, we would work our shift and then we would find out we are not allowed to go home [...] We wouldn't be allowed to leave, so I work every third day, So I go to work. and then I'm supposed to get off the next morning at 7 A.M. but, if we didn't have enough people signed up for overtime, then we were not allowed to leave, even if we have childcare or other jobs. They wouldn't let you leave work, so you're stuck there. You're obligated to stay; you didn't have a choice.*"

Figure 4-2: Time-Based Conflict Sources

4.2.1- Increased Workload and Mandatory Overtime

During the COVID-19 pandemic, some EMS providers faced extra mandatory shifts with longer working hours and increased workloads. This can disrupt home and family life and contribute to time-based conflict. This section discusses the views of the participants about how this pandemic changed their schedule, workload, and time spent with family, and how these changes created a conflict between their roles as providers and as family members.

As mentioned previously, the COVID-19 pandemic created risks and burdens for EMS providers. In addition to the uncertainties, as I discussed previously, participants expressed how they were asked to work longer shifts in a more stressful environment where they had to wear the uncomfortable PPE and to take additional disinfection measures.

P13: "*Everything that happened at work, there was a lot of frustration, there was a lot of tiring, running calls, wearing the extra stuff, and going through all the extra steps.*"

The additional work shifts forced EMS providers to spend more time on the stations and thus spend less time to meet the demands of the family member role. This created a conflict and inhibited their ability to achieve work-family life balance. Moreover, exposure and getting infected resulted in many EMS providers to be self-quarantined and absent from work for 7 to 14 days. This caused increased pressure on the available providers as they had to spend more hours at work or cover for the absent ones and to do extra mandatory shifts. The total working hours increased because of the shortage staff. The available providers have to work more hours as they have to wait for other providers from other stations to arrive and cover for them to be able to leave work. Moreover, the providers were not allowed to take any time off, especially at the beginning of this pandemic, as they have to keep showing up and cover for the absent EMS providers.

> P1: "*Initially, there was some change* [to our schedule] *because of the fact that we have some exposures and some portion of our workforce just taken out…We have certain policies enacted and one of those policies was that we weren't allowed to take any time off because we have the highest rate of people out of our workforce… This was kind of frustrating.*"
>
> P5: "*I guess our situation is a little unique, because we have so many people who are off sick now. We have… we call them relief trains. So, like a person coming to relief me, is coming from this fire house, and he is getting relieved by guy coming from this firehouse, who is getting relief by this other guy from the other firehouse. I'm gonna held over Two hours, three hours a day, because I waited for all these people to kind of start this train of relieves so it's been terrible. We have so few*

people now. So, we're working extra all the time, and then we have so many people off."

P22: "*It* [workload] *increased, especially in the beginning. We had so many crews that were being sent home and quarantined. We had to work a lot of overtime. A lot of mandatory overtime. So, we would work our shift and then we would find out we are not allowed to go home [...] We wouldn't be allowed to leave.*"

All these extra shifts and overload created a conflict for the participants between their roles as EMS providers and their roles as family members. They have difficulties meeting the family life demands such as taking care of kids and parents and maintaining the home. They have less available time to fulfill these demands during this pandemic. As a result, an interviewee (P22) expressed how this caused them to be upset, stressed, frustrated, and overwhelmed:

"*It was really bad for morale. Everybody was really upset because people still had to get to their kids who were home by themselves. They had to go home and take care of kids and old ones, their grandparents or parents. Or they had other jobs they needed to get to, but they were told, they are not allowed to leave.*"

P27: "*So I work every third day, So I go to work. and then I'm supposed to get off the next morning at 7 A.M. but, if we didn't have enough people signed up for overtime, then we were not allowed to leave, even if we have childcare or other jobs. They wouldn't let you leave work, so you're stuck there. You're obligated to stay; you didn't have a choice.*"

Another EMS provider (P1) expressed his frustration as:

"*The workload impacting my ability to see friends and family[...] So, believe me,* [my day off] *totally be taken off as just rest. Right then you have one day off […] just adding more stress on your day to day life.*"

Spending extra time at work can affect the time that usually spent with family causing decreased connection and interaction with family members. the following section discusses the subtheme of decreasing time spent with family during this pandemic and the perspectives of the providers about this concern.

4.2.2- Decreased Time Spent with Family

The participants were asked how the increased workload and overtime affected the time they usually spent with their families? Most of them responded that having to devote more time at work affected their quality time with their family. They expressed their frustration and disappointment of having to stay at work and losing time that they usually spend with family. This group mainly includes the participants who were obligated to do mandatory overtime.

P5: "*That can be frustrating, like my boyfriend who work as a police officer did this* [overtime] *as well. So, there are times, you know, he* [my boyfriend] *works the night shift, and I won't see him because I got a hold over.*"

P22: "*I guess it* [mandatory overtime] *make it more difficult with less time to spend with my wife. I've been looking for other jobs because of it too. Definitely changed the way I look at the job.*"

P1: "*The workload impacted my ability to see friends and family, but to be honest, our work schedule that's kind of does not really facilitate a lot of time off. So, believe me,* [my day off] *totally be taken off as just rest. Right Then you have one day off…just adding more stress on your day to day life.*"

Decreased family time in addition to the stressors at work caused the EMS providers to change their lifestyle in order to adjust to the new expectations. These changes are considered among the behavior-based sources of conflict which is discussed in the following section.
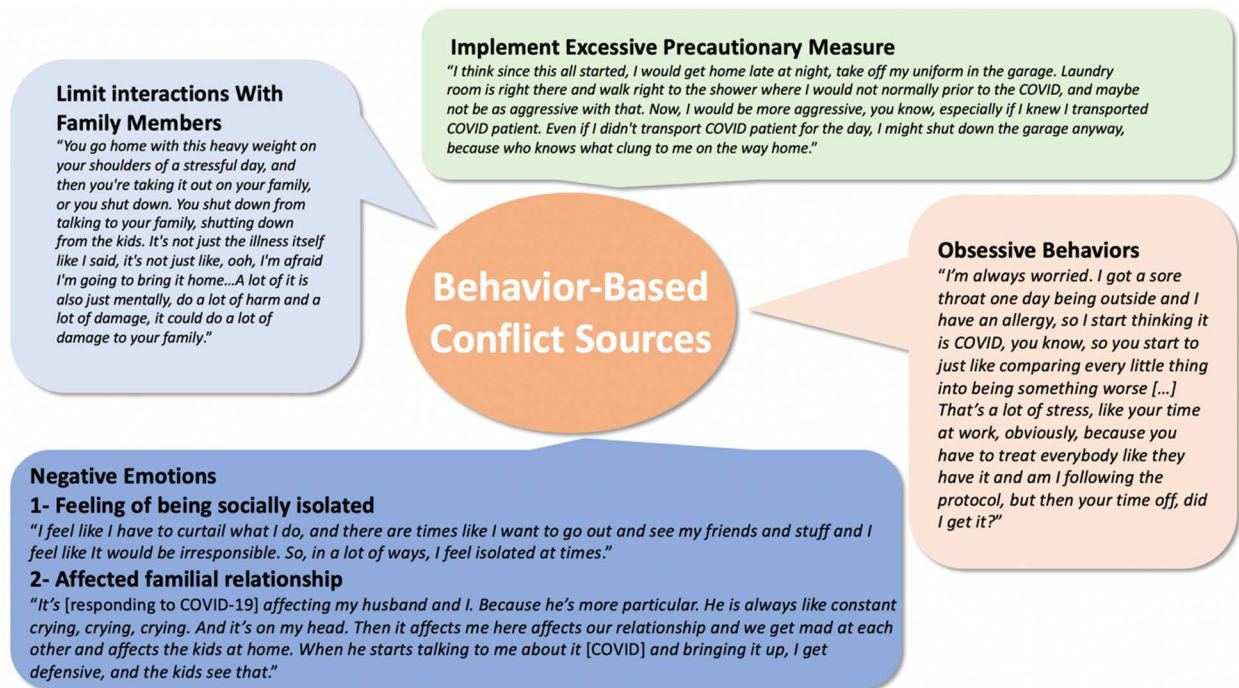
4.3- Behavior-Based Conflict

Limit interactions With Family Members
"You go home with this heavy weight on your shoulders of a stressful day, and then you're taking it out on your family, or you shut down. You shut down from talking to your family, shutting down from the kids. It's not just the illness itself like I said, it's not just like, ooh, I'm afraid I'm going to bring it home...A lot of it is also just mentally, do a lot of harm and a lot of damage, it could do a lot of damage to your family."

Implement Excessive Precautionary Measure
"I think since this all started, I would get home late at night, take off my uniform in the garage. Laundry room is right there and walk right to the shower where I would not normally prior to the COVID, and maybe not be as aggressive with that. Now, I would be more aggressive, you know, especially if I knew I transported COVID patient. Even if I didn't transport COVID patient for the day, I might shut down the garage anyway, because who knows what clung to me on the way home."

Behavior-Based Conflict Sources

Obsessive Behaviors
"I'm always worried. I got a sore throat one day being outside and I have an allergy, so I start thinking it is COVID, you know, so you start to just like comparing every little thing into being something worse [...] That's a lot of stress, like your time at work, obviously, because you have to treat everybody like they have it and am I following the protocol, but then your time off, did I get it?"

Negative Emotions
1- Feeling of being socially isolated
"I feel like I have to curtail what I do, and there are times like I want to go out and see my friends and stuff and I feel like It would be irresponsible. So, in a lot of ways, I feel isolated at times."
2- Affected familial relationship
"It's [responding to COVID-19] affecting my husband and I. Because he's more particular. He is always like constant crying, crying, crying. And it's on my head. Then it affects me here affects our relationship and we get mad at each other and affects the kids at home. When he starts talking to me about it [COVID] and bringing it up, I get defensive, and the kids see that."

Figure 4-3: Behavior-Based Conflict Sources

4.3.1- Implement Excessive Precautionary Measures

This pandemic added some new practices and changes to the lifestyle for EMS providers. They became more vigilant and more precautious not to get the virus to their homes. All of the participants reported that they changed their initial interaction with their family members once they are back home. They would not interact immediately with them as they usually do. All of the participants reported that they changed clothes or uniforms first and then took a shower before interacting with the family members, in order to limit their risk of exposure.

P18: "*I think since this all started, I would get my home late at night, take off my*

uniform in the garage. Laundry room is right there and walk right to the shower

where I would not normally prior to the COVID, and maybe not be as aggressive

with that. Now, I would be more aggressive, you know, especially if I knew I

transported COVID patient. Even if I didn't transport COVID patient for the day,

I might shut down the garage anyway, because you know who knows what clung

to me on the way home."

Having to deal with this pandemic and all the behavioral changes that followed, added more burden on the EMS providers and affect their social lives, personal behaviors and interpersonal relationships. One participant reported that some of his coworkers showed some unexpected overly cautious behaviors of furtherly isolating and separating themselves away from other workers as they were anxious to be exposed.

P20: "*I've seen some interesting adaptations…There have been a few people who*

have relegated in cells to like a completely separate area, like greater than the 6

feet distance. We're cooking together at the station, but there was a gentleman

who would bring his own meals instead. It was another gentleman who would

spend much all day out in his car. Another one would stay in the engine because

he became very apprehensive about patient care."

4.3.2- Limit Interactions with Family Members

Another behavioral adjustment to this pandemic was limiting the direct interaction with family members. This caused emotional distress as they were not able to greet their children once they are home as usual. The participants described how they had to limit their direct interactions with their family members in order to limit their risk of exposure. They had to change their usual behavior and practices in order to protect them.

P23: "*When I would come home from shift in the morning, usually before the pandemic, I would come in and kind of say hi to everyone, have coffee trying to get my day started. But now it's like I come home and do like straight to the shower and backup all my clothes. I had like a checklist of things like, washing clothes, taking off and wiping down my boots… once that's done, then I like start my day.*"

P2: "*I was by myself with very little interaction with kids. I take my clothes off and put them in a bag, go straight to shower. It was my shower, nobody else will use it. No immediate contact with them. It was pretty much as quarantine situations.*"

The main cause for these practices is the unknown and the uncertainty of the mode of transmission for COVID-19 virus. Moreover, not having enough information about how to effectively treat this virus caused the providers to be more concerned. As a result, they started to change their usual behaviors in order to mollify the effect of these concerns. Avoiding close contact with others, excessive using of disinfectants and sanitizers, and isolate self when being exposed or sick were among these behaviors. All of these changes in the lifestyle caused a work-family conflict for the providers. They were trying to change their behaviors to meet the expectation of having the responsibility to protect family members by avoiding direct interaction with them.

4.3.3- Obsessive Behaviors

Due to the highly contagious nature of COVID-19 virus and the uncertainty and the limited information about its transmission, EMS providers felt a constant fear of becoming infected and then expose others. Although the providers reported their compliance and adherence to the required PPE and infection control measures, they were in a constant fear and stress to expose themselves unintentionally at workplace and transmit the virus to others. As a result, the providers showed some obsessive behaviors where they consider everything and everywhere as contaminated. This situation led to continuous stress, anxiety, and panic among the providers. It also caused them to be continuously worried about their exposure. As a result, they had to do some adjustments to their usual lifestyle to protect themselves and their family. One of these adjustments is excessive disinfection and taking all the possible infection control measures.

> P5: "*I was more cautious, and that became anxiety [...] I just remember the first couple of times with COVID people coughing or being sick [...] I need to shower; I need to change my clothes [...] There is no way to get rid of this panic completely [...] It looked kind of permeated the day where you kind of have, like a level of anxiousness.*"

> P1: "*I'm always worried. I got a sore throat one day being outside and I have an allergy, so I start thinking it is COVID, you know, so you start to just like comparing every little thing into being something worse [...] That's a lot of stress, like your time at work, obviously, because you have to treat everybody like they have it and am I following the protocol, but then your time off, did I get it?*"

Another participant talked about how applying these extra precautions at work are for mental reasons more than for physical as most of her coworkers are getting more anxious of being infected.

> P7: "*I'm doing it [precautionary measures] for everybody else too, because I know even outside of work, people are thinking about it and people are judging you and they get concerned…for me it's mentally and it's really gotten to me. It's got everybody we've all gone crazy, really, and super obsessive about this and it's hard on everybody and I get it. I think mental, even mentally, that makes everybody better. It's not just the physical illness that we could possibly get. It's also I mean, mentally debilitating. I get too pressed about an anxiety about it.*"

The continuous stress from being exposed to the disease and then passing it to family members created a situation As this pandemic caused EMS providers to be more stressed, anxious, and overwhelmed, the organizations should not ignore this issue and should implement some measures in order to prevent this stress to become a diagnosed psychological illness. Some of these measures are discussed in the recommendation section.

4.3.4- Negative Emotions

Beside the uncertainty around this virus, the participants were mainly concerned about exposing their family members and brining this virus home with them. This caused them a continues stress that will continue even when they are home as some participants describe that the feeling of anxiety and fear is setting in the back of their heads all the time. This continuous stress and fear of exposing others negatively affected some of the participants familial relationships. Stress spillover to family domain was described by various negative emotions such

as stressful, fatigued, angry, isolated, harm, damage, mad, and defensive. The following subthemes of feeling socially isolated and increased familiar fights are furtherly discussed.

4.3.4.1- Feeling of Being Socially Isolated

Having this continuous stress about exposing others created a feeling of being socially isolated. The providers felt that they had to stay home in their time off so they will not expose other family members and friends. An interviewee (P5), for instance, said:

"*I feel like I am at risk to get it in a way [...] I mean, I know I wear PPE, but I worry [...] I feel like I have to curtail what I do, and there are times like I want to go out and see my friends and stuff and I feel like It would be irresponsible. So, in a lot of ways, I feel isolated at times.*"

From the other hand, some of the participants needed to be socially isolated for some time in order to alleviate some of the stress that they faced during responding to this pandemic.

P17: "[When I got home after deployment], *I slept for fifteen hours the day that I got home and the next day. To be honest, the first 48 hours I was kind of disaffected, I needed to regroup myself, I have time alone, and it's just time to unwind, to try to process everything that I've just been through in the last couple of weeks.*"

Moreover, the providers needed their own private space to process what they have to deal with at work in order to meet the behavioral expectations when dealing with family members.

P17: "*I have to say that I'm happy to be home, But I found myself, because of the intensity of deployment…I was very mentally fatigued. I needed to get home and needed to not* [be] *deployed for a while. The single biggest thing that I need was time away just to be able to mentally unwind to process for things that I would think they were issues in different hospitals in which we worked.*"

EMS personnel as healthcare workers must deal with these lifestyle changes at both work and personal life. This added more burden on them as frontline providers and had a critical impact not only on their social lives, but also on personal behavior and interpersonal relationships. Some of the providers showed unexpected overly cautious behavior. They isolated and separated themselves away from other coworkers as they were anxious to be exposed.

P20: *"I've seen some interesting adaptations [...] There have been a few people who have relegated in cells to like a completely separate area, like greater than the 6 feet distance. We're cooking together at the station, but there was a gentleman who would bring his own meals instead. It was another gentleman who would spend much of the day out in his car. Another one would stay in the engine because he became very apprehensive about patient care."*

4.3.4.2- Affected Familial Relationships

Responding to COVID-19 had affected the EMS providers relationships with their families too. Some of them reported increased fights with their family members since the beginning of this pandemic as they are feeling more stressed than before. The main cause for these fights was related to concerns about getting exposed to COVID-19.

P7: *"It's* [responding to COVID-19] *affecting my husband and I. Because he's more particular. He is always like constant crying, crying, crying. And it's on my head. Then it affects me here affects our relationship and we get mad at each other and affects the kids at home. When he starts talking to me about it* [COVID] *and bringing it up, I get defensive, and the kids see that."*

P21: *"I would say we were more stressed. and had times where we get angry at each other's.*

At times, there were disagreements. Also, sometimes there were arguments, we would end up fighting…One time, I came home and tried to go straight to bed, my mom ended up yelling at me. We had a heated discussion until I ended up showering and then I was able to go to bed."

P7: "*…He* [my husband] *drove me bonkers and he still drive me bonkers, because he'll constantly look at articles, which is fine, he's researching. He wants to know about COVID. He wants to know anything about it. But when he starts talking to me about it and bringing it up, I get defensive and the kids see that.*"

P9: "*You go home with this heavy weight on your shoulders of a stressful day, and then you're taking it out on your family, or you shut down. You shut down from talking to your family, shutting down from the kids. It's not just the illness itself like I said, it's not just like, ooh, I'm afraid I'm going to bring it home…A lot of it is also just mentally, do a lot of harm and a lot of damage, it could do a lot of damage to your family.*"

P5: "*I used to live pretty close to my parents. So, we meet pretty weekly. Now I'm not going over there out of obviously safety concerns. My brother lives out a state, obviously, but we communicated pretty regularly and now I would say honestly, I didn't talk to my brother. Probably for almost two months. He had made a comment about something like I went out with my mother to ocean city or something, and he was like what? Will catch COVID and kill grandma…So like you know…Our relationship was better before this.*"

Chapter Summary

This chapter summarizes and conveys the words of study participants regarding the sources of work-family conflict while responding to the COVID-19 pandemic. One research question was used to guide this research study: What are the sources of work-family conflict among EMS providers during COVID-19? The specific study population was 30 certified EMS providers from 20 different states around the United States. EMS providers who were eligible and interviewed for the study were currently working as an EMS provider and responded during COVID-19 pandemic. The purpose of the data analysis process was to unearth themes and patterns that describe the sources of work-family conflict among EMS providers. The analysis revealed the following major themes: 1) strain-based conflict sources with the subtheme of: fears and concerns, role ambiguity, lack of confidence in the employer, lack of resources including PPE and inadequate training and education, 2) time-based conflict sources with the subtheme of increased workload and mandatory overtime, and decreased time spent with family, 3) Behavior-based conflict sources with the subthemes of: implementing excessive precautionary measures, limiting interaction with family members, obsessive behaviors and negative emotions of feeling socially isolated and affected familial relationship.

The following Chapter interprets and discusses these findings. It relates and connects these findings with the available literature. In addition, the following chapter includes limitations of the study, conclusions, recommendations to achieve work-family balance, and finally recommendations for future studies, and the significance of the findings to leadership.

CHAPTER V

CONCLUSION

Introduction

This study employed qualitative methodology to examine and understand the sources of work-family conflict among EMS providers who worked during the COVID-19 pandemic. The participants constructed reality based on their shared individual experiences. This approach allowed them to share their own perspectives as they described their own experience of how work-family conflict affected their decision to report to duty during this pandemic. Analysis of the findings explored how the participants' views and perspectives relate to the current literature and if there are any similarities or differences between them.

Results of this study demonstrated several challenges and concerns for EMS providers while responding to the COVID-19 pandemic. These challenges and concerns caused participants to be overwhelmed and stressed at work. Work-related stress can spillover into an individual's personal life affecting their physical and emotional interactions with family members. This was evident for the participants as they showed heightened levels of stress during this pandemic. The heightened stress with the commitment to the organization as EMS providers affected the participants' personal life causing more conflict. As a result, their family life could suffer which can affect the life quality and the relationships within a family (Dacey, 2019). Moreover, this conflict caused some psychological distress among the participants leading to feelings of frustration, being overwhelmed, and stress. These findings are congruent with

previous literature on work stress spilling over to family life and jeopardizing familial relationships and causing frustration toward work (Lambert et al., 2002; Frone, 2003; Lambert et al., 2010; Hall et al., 2010; Shreffler et al., 2011). Inability to manage the work-family conflict can influence the decision of EMS providers to report to duty during the pandemic. While all of the participants showed their willingness to keep responding during the pandemic, most of them expressed being frustrated toward responding. The following sections integrate and discuss the major findings in the qualitative analysis and how they relate to the previous literature.

Sources of Work-Family Conflict

The idea of work-family conflict is that individuals are stressed at work, and as a result, they tend to bring this stress home with them (Frone, 2003). Work-related stress can spillover into an individual's personal life which can affect their physical and emotional interaction with their family members or loved ones (Hall et al., 2010). EMS providers are considered among healthcare workers who already work in highly stressful fields (Hall et al., 2010; Hartley, 2013). Working during a disaster can increase the level of work stressors for EMS providers causing more stress spillover into family. This study focuses on how the sources of work family-conflict influence the willingness of EMS providers to report to their duty during disasters and specifically during COVID-19 pandemic.

The heightened stress that resulted to responding to this pandemic with the commitment to the organization and the role of EMS providers can jeopardize their personal life. As a result, the family life could suffer which can affect the relationships within a family and life quality (Dacey, 2019). Moreover, this conflict can cause psychological distress among EMS providers and can negatively impact the job satisfaction causing frustration towards the job (Lambert et al.,

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2002; Lambert et al., 2010; Shreffler et al., 2011). Inability to manage the work-family conflict, can influence the decision of EMS providers to report to duty during this pandemic.

According to the work-family role pressure incompatibility model by Greenhaus and Beutell (1985), there are three major sources for the work-family conflict that were assessed in this study, strain-based, time-based, and behavior-based conflicts. The core idea of this model that any role characteristic that affects a persons' time involvement, strain or behavior within a role, can produce conflict between this role and the other role. The following sections discuss the sources of conflict for this study participants and relate them to the available literature.

5.1-   Strain-Based Conflict Sources

This form of conflict involves role-produced strain and occurs when the strain or the stress in one role limits one's ability to complete responsibility in the other role (Greenhaus and Beutell, 1985; Dierdorff and Ellington, 2008). Stress usually includes individuals' reaction to different situations. Work stress is the process of interaction between the individual and the work environment which includes accumulation of negative emotions that generated by the work (Tsai and Chen, 1996; Kristensen et al., 2005). Physiological and psychological symptoms may result if the events in the work environment were evaluated as more that the individuals can bear (Lazarus and Folkman, 1984). Some of these symptoms include insomnia, fatigue, anxiety, as well as, increased family conflicts, decrease work quality, and interpersonal relationship disorders (Reardon et al., 2020; Raines, 2000).

Work stress is prevalent among healthcare settings such as nursing, emergency medicine and EMS (Arora et al., 2013; Adrianssens et al., 2015; Boland et al., 2018). However, the occupational environment for paramedics is conducive to stressors such as regular exposure to traumatic and emotionally taxing situations (Regehr et al., 2002), uncontrolled, dynamic

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environments (Maguire et al., 2018), physical fatigue (Maguire et al., 2014), and irregular working hours and high workloads (Courtney et al., 2010; Patterson et al., 2010). All of these stress factors are becoming more prevalent and heightened since the beginning of COVID-19. The major stressors for the healthcare workers during the severe acute respiratory syndrome (SARS) were facing more worries from their family members, experiencing fear of the unknown disease and also becoming a transmitter of the disease. Moreover, healthcare workers experienced more challenges related to their professional skills of personal infection control (Hung et al., 2005). As a result of these stressors, most of them experienced fear, exhaustion, and stress (Jonas-Simpson, 2003). These stressors were consistent with what the participants of this study reported.

5.1.1- Fears and Concerns

COVID-19 is a large-scale pandemic that poses unique challenges for EMS providers because of the occupational risk of becoming infected or potentially exposing family and friend to infection. Most of the participants became emotional about their fears of infecting their family members including children, spouses, dependent elderly parents, or other family members as a result of their own occupational exposure to this virulent disease. Moreover, most of the participants expressed their concerns regarding to getting the virus and then passing it to their coworkers or partners as they spent a long time with them in the back of the ambulance or at the station. This section discusses these different fears that EMS providers have during responding to COVID-19 and relates them to the available literature.

5.1.1.1- Personal and Family Safety Concern

Most of the participants of this study did not show a major concern about their own safety and wellbeing. but instead they were worried that they will contract the virus and then pass it to their

families. These findings are consistent with the literature. In a study that discussed the factors that affect the willingness of EMS providers to report during a disease outbreak, Alwidyan (2017) found that some of the participants did not show any self-concern to report to duty during an outbreak. These participants explained that responding to a pandemic is one of many risks that associated to EMS filed. They expressed that they have no concerns to respond as long as they practice the appropriate precautionary measures with adequate protective gears. Ives and colleagues (2009) found that their study participants were reluctant to express their concerns regarding to their safety. However, many of them stressed the importance of having effective PPEs.

While the personal risk seemed to be of less concern, all of the participants expressed a concern regarding to family members and loved ones. Nearly all of the participants who referenced to their own safety, they justified it with the reference of their family. Damery and colleagues (2010) discussed that healthcare workers may be willing to take necessary risks as they perform their professional role but were unwilling to endanger their family.

Family safety concern was the main source of role conflict that was revealed in the results. Almost all of the participants showed that they have some degree of fear and concern about passing this virus to their family members and beloved ones. These findings are consistent with many previous studies that explored the concerns among healthcare providers to respond to disasters and specifically to a disease outbreak (Dimaggio et al., 2005; Mackler et al., 2007; Ives et al., 2009; Gershon et al., 2010; Barnett et al., 2010; Alwidyan, 2017; He et al., 2020). Trainor and Barsky (2011) reported that the main source of role conflict is uncertainty regarding the safety of family members and loved ones and also the feeling that they are obligated to do something to help them.

In another study that discussed the willingness of EMS providers to respond to duty during disasters, DiMaggio (2005) found that concern for family was the most frequently cited reason for unwillingness to respond. These results are consistent with both Edeghere and colleagues (2015) and French and Colleagues (2002), as they both discussed that the healthcare workers in their studies demonstrated more concern about the risk for their family. Ives and colleagues (2009) conducted a study for healthcare workers in UK and their response to a pandemic influenza, their findings showed that the interviewees demonstrated a great concern for their children and dependents. For some healthcare workers, responding to a pandemic caused them a lot of struggle to cope with their desire to fulfill obligations at workplace and concerns for family during infectious disease outbreaks (O'Sullivan, 2009).

Most of this study's participants demonstrated that they mollified these concerns by feeling able to mitigate the risk of passing the virus by employing infection control measures or minimizing the direct contact with the family members. Ives and colleagues (2009), found that their study participants viewed the duty to their family as one of many competing claims. They reported that the concern about taking the virus home and infecting one's was not a barrier to their ability to respond. The participants believed that they were in a position to negate the risks by implementing adequate precautionary measures for infection control. The deep mutual trust and the love that characterize the close relationship with the immediate family members entail strong obligations towards them. One of these obligations is to avoid negligently harming each other (McConnell, 2020). As a result, healthcare workers ought to take more burdensome measures than usual to avoid negligently infecting their loved ones.

Exposing the family members to the virus was not the only concern for EMS providers. Absence of the primary care provider for the family was another concern. Any EMS provider

who was exposed or tested positive, had to be quarantined for some time from 7 to 14 days. In a recent study that discusses the concerns of healthcare providers during COVID-19, the results showed that one concern for healthcare workers during responding to this pandemic was fear of getting infected or coming in contact and being isolated or quarantined (Mohindra, 2020). This study recommended that the administration should reassure the healthcare workers that the family's needs will be a priority to take care of them.

5.1.1.2- Coworkers Safety and Being Burden

While family safety was the main concern among the participants, some of them showed a further concern regarding their coworkers. They were afraid to transmit this infection to their partners. In a study that was conducted in Canada to understand the concerns of the Healthcare workers to respond during the severe acute respiratory syndrome (SARS), some of the participants expressed that their concerns were not limited toward family members. They also described having feelings of guilt toward their jobs and coworkers too (O'Sullivan, 2009). The feeling of guilt was not limited to exposing coworkers, but also to be a burden on the system, in general, in case they had to be quarantined and take days off. The concern of being quarantined and the resulted understaffing mentioned several times in the literature (Ives et al., 2009; Young, 2017; Laventhal et al., 2020; Graham, 2020). Ives et al (2009), found that many of their study participants had a concern about being sick and being absent from work. They reported that with absenteeism, they are letting both patients and colleagues down. This concern can be described as a simple work ethic of feeling a sense of loyalty and obligation to workplace. This feeling emerged from the participants' belief that the coworkers depend upon them doing their job, and by being sick or absent from work, they will be a burden on their system, and they will let their partners down. Moreover, Young (2017) discussed that working in the front line in unpredictable

environment, make EMS providers at more risk to be exposed and may result in absence from work, which can impact the business continuity by causing shortage in the responding EMS providers and increase the burden on the available providers.

5.1.2- Role Ambiguity

another source about role ambiguity emerged among most of the participants was role ambiguity. The uncertainty and unknowing regarding this pandemic with the lack of appropriate, honest communication influenced the role ambiguity for the providers. Work stressors are considered as the main sources for role strain. Role ambiguity and conflict are major sources for role strain (Greenhaus and Beutell, 1985). All of the participants in this study reported some degree of role ambiguity.

5.1.2.1- Uncertainty

The participants of this study expressed how there was a significant uncertainty regarding how to respond to this pandemic, especially at the beginning. P6: "*you never know what you are walking into.*" It is known that the prehospital setting is unpredictable environment (Young, 2017; Maguire et al., 2018). The EMS providers usually respond to calls without knowing the full medical history of the patients. As a result, they are in an increased exposure to the agent of disease which can increase the EMS providers concerns to respond. Watt and colleagues (2010), argued that infectious disease knowledge about avian influenza was essential for EMS providers to prepare them to be safe by detecting the appropriate protective gears to wear before responding. They also found that the more knowledge the EMS providers learn about the infectious disease, the less concerned they will be to report to duty. Alwidyan (2017), argued that EMS providers do not have enough knowledge about the pathophysiology of diseases, and they are not trained on how to diagnose patients on the prehospital settings. As a result, this lack of

information about infectious diseases can influence the EMS providers willingness to report to duty, especially during an outbreak. All of these findings are consistent with what this study participants reported. Many concerns about COVID-19 disease itself raised during the interviews. Some of these concerns were regarding to the morbidity and the mortality of this disease, how this virus can transfer from person to person, and the appropriate measures and policies to deal with this pandemic. In a qualitative study that was conducted to understand the paramedics concerns to respond to pandemics, the participants expressed greater concerns about the nature of the infection or how the presenting symptoms could affect them (Young, 2017). The participants reported that they will be more hesitant to respond to an outbreak if it is a lethal one.

Another source of role ambiguity that emerged through the interviews was the lack of consistency in the protocols and guidelines that were provided to the EMS providers to respond to this pandemic. While protocols and guidelines are important resources to ensure that the healthcare sector is prepared to respond to pandemics (WHO, 2009; CDC, 2014), most of the participants reported lack of preparedness plan to respond to this pandemic. This finding was consistent with Young (2017) findings as the participants reported that they hoped if a pandemic plan existed or if they were aware of its existence.

Institutions have the obligation of reviewing and revising policies and procedures continuously in order to improve patient care and system operations, even in the midst of pandemic conditions (Laventhal et al., 2020). This obligation includes thorough, relevant, and concise information to healthcare providers in a timely matter. The institution is responsible to provide basic medical information about the infectious disease and the guidelines to provide patient care. It is also responsible to provide a provision of adequate supplies of PPE, plans for

alternative workload assignments, schedules. Moreover, it has the responsibility to adhere to and to remain up to date with the Center for Disease Control and Prevention recommendations, in addition to state and local ordinance (Biddison et al., 2014; Devereaux et al., 2014; Ditcher et al., 2014; Healthcare workers and employers, 2020). While it is an obligation to keep up to date in regard to information about COVID-19, there was a major problem in communicating this information. All of the participants expressed how there was an overload in the data they received everyday about the new guidelines and protocols. They described how this data will change multiple times even in one day. Moreover, some of the participants reported the multiple sources of the data they received and how, sometimes, they could not rely on this data as it was not evidence based.

5.1.2.2- Inadequate Information Communication

Communication strategies in healthcare field are essential to disseminate accurate information (Roberts & Bryce, 2015; Smith et al., 2009). The administration communication with the EMS providers should be clear and trustworthy in order to prepare them to respond during a pandemic and to decrease their concerns while responding (Adini et al., 2014). A previous study that was conducted in Australia to examine how paramedics perceived the risk during responding to disasters. It showed that some of the participants reported that in order for them to be satisfied with the communication process, it should be "decent", "sufficient", "accurate" and received in a timely manner in order to help them make decisions (Smith et al., 2009, p. 24).

Once the World Health Organization (WHO) classified COVID-19 as a pandemic, a significant amount of knowledge and information about the disease and its impacts emerged. The stream of information has grown immensely with the spread of the disease (Poonia and

Rajasekaran, 2020). The rate of influx of this information is fast and from multiple sources such as the CDC, WHO, stations administration, coworkers, social media, family, and friends. The production of information about this pandemic is rapidly growing in a way that leads to a situation of information overload. This can affect all the healthcare workers including EMS and also it might impede the adoption of evidence-based practice (Klerings, 2015). The innovation of information technology including the recent development in social networking technology aided in this information overload situation and increased the access to information leading to the complaint that there is "too much information" (Klerings, 2015; Rathore and Farooq, 2020). The problem of this information overload is not only the amount of data, but also the constant change of data (Poonia and Rajasekaran, 2020). This can be overwhelming and stressful for the EMS providers as they try to keep up with the most updated information and even to get access to it. All of this can cause role ambiguity as the EMS providers might be unclear about their work functions and tasks that they are required to accomplish. The findings herein are consistent with the previous literature. In a study that was conducted in Toronto, Maunder et al. (2004) found that at the beginning of SARS outbreak, the healthcare workers had to tolerate uncertainty, and to face conflicting claims about the virus from many sources which not all of them peer reviewed. Moreover, they found that rapidly changing medical information and procedures identified as one of the factors that may have contributed to the distress experienced by healthcare workers during SARS. The stress level increased especially when the rational for this changing is not always immediately apparent. Young (2017) found that the some of the study participants confirmed the sense of "drowning in communications" and described the influx of information during outbreak as "white noise" (P. 57).

Despite that EMS administrations are not the main source of information about this pandemic, they are responsible to keep up to date with the information they receive and also to keep communicating with the different information resources in order to receive the information in a timely manner (Smith et al., 2009). Moreover, they have to deliver this information in a clear, understandable way to the EMS providers in order to help them to make decisions during responding to outbreaks.

The participants of this study described their dissatisfaction with the communication process between the different responding agencies. This same dissatisfaction with communication about the outbreak was reported in a study that examined the concerns for paramedics to respond during pandemics (Smith et al., 2009). The participants discussed the importance of information communication during an outbreak. One participant described the failure of communication as making paramedics "flying blind". Another participant reported being more willing to report to duty if there was sufficient information about the outbreak. Young (2017) conducted a qualitative study to examine the concerns of paramedics to responding to pandemics in Canada. The study participants expressed inconsistent awareness and understanding of the pandemic information communication. Effective, clear, and open communication during a pandemic is essential throughout all the pandemic phases to enhance staff morale and also their compliance with the directions and guidelines to respond. Robert and Bryce (2015), discussed the importance of communication with a focus on transmitting clear and robust messages in order to reduce the healthcare workers confusion during a pandemic response. Not only a consistent internal communication is important during a pandemic, but also collaboration with other agencies such as hospitals is essential to inform the EMS providers to respond effectively and safely and to provide a high-quality care to the patients. Young (2017)

discussed the importance of collaboration with other healthcare institutions during pandemic in order to promote the sense of confidence amongst EMS providers to respond cohesively. Collaboration is very important to ensure that EMS providers are highly informed during a pandemic as it supports broad consultations and cooperative working relationships. Moreover, communication with the responders during a pandemic can enhance their trust with their employers. Confidence in employer was a major theme that emerges during the interviews. The following section discusses this theme with the different perspectives of the participants and relate these views and perspectives to the available literature.

5.1.2.3-   Lack of Employer Confidence

Confidence in the leader is an issue that emerged through the interviews as a source of work stressors. Greenhaus and Beutell (1985) reported that low level of leader support and trust is considered one important source of work stress. Confidence in the employer is essential as it can be a motivator or a demotivator to respond during a pandemic. Ives et al. (2009) stated that providing the healthcare workers with clear information, guidance and support seemed to be as important motivators for them to respond. The previous literature about leadership trust during pandemics discusses the importance of this trust relationship. Goulia and colleagues (2010) found that most of the healthcare workers perceived sufficiency of information about H1N1 influenza prognosis from their employers. They also described that these healthcare workers showed reduced levels of stress among other healthcare workers. This was not the case in the current study, as most of the participants reported lack of leadership and lack of transparency in providing them with appropriate and timely information required to protect them.

Achieving leadership trust increases the healthcare workers motivation and willingness to effectively participate in the response (Jehn et al., 2011). Otherwise, insufficient information

may lead to noncompliance with the recommendations that is provided by the supervisors and employers (Maltezou, 2010). Moreover, healthcare workers, including EMS providers, are considered as essential component of the disaster response (Seale et al., 2012). Therefore, it is crucial to support them and understand their perceptions regarding the effectiveness of the implemented measures and how these measures will protect them (Seale et al., 2012). This will help in enhancing the EMS providers preparedness for pandemics and make them more willing to respond. For EMS providers, it is essential to feel that their employers put their well-being and personal protection as their priority (Robinson et al., 2009). Some of the participants in the current study expressed their feelings of being unprotected and unsupported by their employers. Devnani (2012) conducted a systematic review of the literature to assess the factors that associated with the healthcare workers willingness to respond during a pandemic. The results showed that confidence in employer was one major factor to hinder or to increase the workers willingness to report to their duty during a pandemic. In another qualitative study to understand the factors that affect the willingness of EMS providers to respond to a hypothetical pandemic, Alwidyan (2017), found that most of the participants reported confidence in their employers. Some of them, described how their employers are keeping them informed and sharing the most up to date and accurate information with them. They also reported that they trust their employers not to withhold any information that is important to their safety. EMS providers confidence in their employers that they will be supportive and provide them with all they need to protect them and their families is essential effect on their willingness to respond (Trainor & Barsky, 2011).

Most of the available literature includes hypothetical studies that examined the facilitators and the barriers to respond to a hypothetical pandemic or high-risk infection (Smith et al., 2009; Alwidyan, 2017; Young, 2017). Most of the participants in these studies believed that

their employers are doing a good job in protecting and supporting them. Other studies that examined this topic after an actual pandemic or infectious outbreak, showed that some healthcare workers complained of leadership problems and reported lack of confidence in their employers. Seale et al. (2009) conducted a study to explore the healthcare providers attitudes to avian influenza. They found that the participants complained of lack of confidence in their employers' preparedness plan. The reason for this seemed to be an actual lack of planning, or lack of the healthcare workers awareness of any planning that has been conducted. This is consistent with the results of the current study as some of the participants also complained of lack of preparedness regarding how to deal with the EMS providers who got infected. Another study showed that healthcare worker who worked during H1N1 pandemic in 2009 in Japan complained of lack of plans about what they should do or how they would be reimbursed in case they become infected (Imai et al., 2010). It is essential for any healthcare provider to feel that their well-being and safety are regarded as of paramount importance by their employers. Ives et al. (2009) found that their study participants reported lack of information about pandemic influenza. Moreover, they did not know what is expected from them during this crisis. All of this gave them the impression that their employers did not care about them or take their needs seriously. Which is congruent with the findings of this study. The current study participants felt that their employers were unserious when it comes to their safety and protection. They felt that their employers where not standing as advocate to their employees' safety.

5.1.2.4- Lack of resources (PPEs)

At the beginning of the pandemic the news reported on a lack of protective gear for the medical field in general including EMS. Most of the participants reported they had a shortage in PPE for some time, especially at the beginning of the pandemic. Most of them expressed being

concerned because of this shortage. Some of them also expressed feelings of being anxious, worried, scared, angry, and stressed because of this shortage.

Lack of resources, especially PPEs, is not a surprising challenge for healthcare providers during pandemics. However, recent literature (Adams and Wu, 2020; Alwidyan, 2016; Seale et al., 2009; Tippett et al., 2010; Watt, 2007) showed that shortage of protective gear was not a major concern for the providers. During SARS and Ebola, the availability of supplies was not the major challenge to their response. Instead, the main concern was the decreased confidence in the effectiveness of the provided protective gear. The current study contradicts these previous studies since most of the participants reported the lack of PPE as a major challenge during the pandemic. The shortage of the protective gear during COVID-19 might be related to the large magnitude of this pandemic and how it affected almost every country around the world. This affected the ability of the industry sector to meet the huge requirement of PPEs across the world. Moreover, most of the airports were closed between countries which made it difficult to import and export PPE around the world, especially at the beginning of this pandemic. This shortage in the protective gear indicates that the health care system is not well prepared to respond to a pandemic. It also suggests it might be difficult to follow the previously established procedures and guidelines regarding the use and the adherence of protective gear. Moreover, it suggests that the healthcare system is inadequately resourced and that the used protective equipment, procedures and guidelines are not adequate or appropriate to adhere to comfortably. Further studies should be conducted to investigate the reasons of this shortage and how to alleviate it.

One study by Ardebili and colleagues (2020) found that all participants reported shortage of the protective devices and difficulty of using them as the main challenges during COVID-19. This is also what the participants of the current study reported as they expressed how scared and

anxious to have to reuse PPE when responding to calls. In the previous infectious outbreaks such as SARS and Ebola, the lack of PPE was not a major challenge for healthcare providers. Other issues regarding PPE emerged during these outbreaks. In a national study to investigate the Australian paramedic's perception of risk in relation to pandemic influenza, Watt (2007) and Tippett (2007) both found that decreased confidence in the effectiveness of PPE, and strategies for protection from exposure were highly associated with higher levels of perceived risk. Furthermore, Seale and Colleagues (2009) conducted a study to examine the attitudes and intended behavior of healthcare workers during a pandemic. The findings showed that one challenge was the lack of confidence in the effectiveness of the protective measures provided. Another qualitative study that investigated the factors that influence the EMS providers willingness to respond to a pandemic outbreak, found that the participants reported no issue with the availability of supplies, but instead, they showed a concern about their confidence in the employer to provide appropriate PPE during a pandemic(Alwidyan, 2017). The current study contradicts with this last study as most of the participants reported lack of PPE as a major challenge during this pandemic. The shortage of the protective gear is an indication that the health care system is not well prepared to respond to a pandemic. One of the reasons for this shortage is the size of this pandemic as it hits almost all the countries around the world. It also suggests that it might be difficult to follow the previously established procedures and guidelines regarding the use and the adherence of protective gears.

The lack of PPE during COVID-19 pandemic was not the only challenge for the participants. The stress that was associated with the usage of PPE also emerged in the interviews. Some participants reported how having to wear all the protective gears when responding to a patient caused them a lot of stress and anxiety. The difficulty of using the protective devices was

also reported by other studies (Ardebili et al., 2020; Kuo et al., 2020; Yu et al., 2007; Maunder et al., 2003; Kuo et al., 2003). The participants of these studies reported extreme discomfort caused by wearing protective equipment for a long period to effectively prevent the exposure to the source of infection. The difficulty and the inconvenience of the protective gears caused increased level of stress among the healthcare providers. The current study's participants reported that the environmental factors of hot summer and humidity made it more difficult to wear the protective gear. When the EMS providers have a possible COVID-19 patient, they have to wear all the available PPE such as the full gown, goggles, or face shield, N95 mask, and gloves. All of these findings suggest that the healthcare system is inadequately resourced and that the used protective equipment, procedures and guidelines are not adequate or appropriate to adhere to comfortably. Further studies should be conducted to investigate more about the reasons of this shortage and how to alleviate it. Also, a future research is required to understand the effect of difficulty using the available PPE on both EMS providers and the patients too.

5.1.2.5-   Inadequate Education and Training

Education and training are an essential part of pandemic preparedness. All the participants in this study raised the importance of education and training. Previous research noted their importance to prepare for, and respond to a pandemic, too (Shaban, 2006; Chaput et al., 2007; Hui et al., 2007; Tippett et al., 2010; Hashim et al., 2012). The participants in the current study believed that their training was inadequate. They did not feel comfortable responding to this pandemic with their previous training level. Moreover, they were unconfident on how to use the PPEs safely to protect themselves and their family members. In general, the knowledge of EMS providers about infectious disease mechanisms and control procedures are still poor

(Shaban, 2006). With the large magnitude of this disease and the many unknown clinical dimensions about it, the participants felt overwhelmed and frustrated with their previous training.

These results echoed several previous studies in that healthcare providers usually face inadequate education and training regarding infectious disease outbreaks (Chow-In Ko et al., 2004; Gershon et al., 2009; Tippett et al., 2010; Patel et al., 2017; Alwidyan, 2016; Young, 2017; Sultan et al., 2020). In a study by Alwidyan (2016), about two thirds of the participating EMS providers indicated being satisfied with their skills during everyday events, but not during infectious outbreaks. Moreover, only about half of the same participants indicated that they received adequate training before the outbreak of Ebola. While the participants of this study indicated their current level of education is adequate to respond to everyday incidents comfortably, they also reported the need for extra targeted training to respond to this pandemic. While EMS providers do not need to be trained on how to diagnose or treat infected patients (Bissell et al., 1999), it is important to train them on how to deal and appropriately use the specific protective gear that will be used during a highly infectious outbreak like COVID-19. The participants also reported being unfamiliar with the previous training courses and context as they were provided a long time ago. They also were unable to recall the training as they never used it in real life before. This is an indication of the importance of the continuous education and how it should target the response to infectious outbreaks including large magnitude ones. Some of the participants indicated being trained to respond to Ebola in 2014. They reported how this training helped them to respond to COVID-19, but at the same time, they mentioned they never repeated this training in the following years after the outbreak. Moreover, as COVID-19 is a newly emerged disease that is highly contagious and virulent, the participants felt they were

uncomfortable with their previous training as they never experienced an outbreak of this magnitude. One participant indicated that, "you don't use it, you lose it."

Disaster preparedness training can positively influence the response of the healthcare providers and promote the willingness to report to duty. As a result, it is important to provide a disaster specific training to equip the providers to respond effectively.

5.2- Time-Based Conflict Sources

EMS providers who are already working in a stressful field are susceptible to all three types of work-family conflict including time-based conflict. During COVID-19 pandemic, some EMS providers are facing extra mandatory shifts with longer working hours and increased working loads. This can disrupt home and family life and contribute to time-based conflict which can lead to a decreased quality of life and can lead to frustration at work (Lambert et al., 2002; Lambert et al., 2010; Shreffler et al., 2011). The following section discusses the factors of time-based conflict that emerged during data analysis, including increased workload and overtime and less time spent with family. Moreover, this following section relates these findings with previous literature.

5.2.1- Increased Workload and Overtime

The participants of this study reported how frustrated they were because this pandemic affected their work schedule. Specifically, increased the shift length as they have to spend more time in the station or work obligatory overtime as a result of shortage in EMS personnel because many of them were sick and quarantining themselves. These findings are consistent with the previous literature. In general, work stress can have negative implications on the physical and psychological well-being (Mandy and Tinley, 2004). One main source of work stress includes excessive workloads, long working hours, and time pressure. COVID-19 pandemic caused a

shortage in the healthcare workers in general and in EMS providers in specific. Exposure and getting infected resulted in many EMS providers to self-quarantine and being absent from work for 10 to 14 days. This caused increased pressure on the available providers as they have to spend more hours at work or to cover extra mandatory shifts. Previous studies have shown that work overload and high job demands can deplete a worker leading to emotional exhaustion (Parasuraman & Alutto, 1984; Adriaenssens, 2015; Schmitt, Den Hartog, & Belschak, 2015). As a result, it is not shocking that some of the participants felt upset and frustrated because of increased working hours and overload during this pandemic. Pourvakhshoori and colleagues (2017) found that participants complained of long working hours after a disaster. They stated that long-term work had a negative impact on their physical and psychological conditions. Some of these participants had to provide long and continuous health care services. The main reason for this extra work load is the lack of staff and the unavailability of relief staff to fill for the worker's shifts so they have to work for a long period of time to provide services, and this is consistent with what the current study's participants faced.

Again, the type of disaster usually can influence the job stress that is related to increased working load. In a study that discussed the factors that affect the willingness of healthcare providers to work in hypothetical disasters, it showed that healthcare workers are more willing to work extra hours to respond to mass casualty than to an infectious outbreak (Steffen et al., 2004). The participants of the current study reported frustration and stress that are related with more workload and less time spent with the family. In order to reduce the risk of anxiety that is related to increase workload during COVID-19, the organization has to reduce the intensity of work per unit of time. This can be achieved by maximizing the number of healthcare workers involved in the disaster response and create more flexible schedules (Chen et al., 2020).

Spending extra time at work can affect the time that usually spent with family causing decreased connection and interaction with family members. The following section discusses the discusses this finding and relates it to the available literature.

5.2.2- Decreased Time Spent with Family

As mentioned in the previous section, increased working overload with mandatory overtime is one of the work stressors that can impact the interaction and connection with family members as it can decrease the time spent with family (Foster, 2008). In the current study, the participants showed how they had a decreased time to spent with their family and how this casused them to be more stressed as they have kids and older parents to take care of. All of this can result in work-family conflict, as the EMS providers won't be able to have a work-life balance. Work-family conflict usually occurs when work life interferes with family life (Grzywacz et al., 2006). During COVID-19 pandemic, some of the participants experienced work and family conflict because of competing demands between work and family as a result of work overload with increased mandatory overtime. This conflict can result in a stress that negatively spills over into the EMS providers personal and professional lives. Reported increased workload and decreased time spent with family were also found in studies that discussed the psychological impact of COVID-19 on the healthcare workers (Sultana et al., 2020; Wallace et al., 2020). These factors and others such as high risk of infection, lack of experience in managing the disease, and significant lifestyle changes, can increase the incidence of psychological problems among healthcare providers such as fear, anxiety, depression and insomnia (Maunder et al., 2006; McAlonan et al., 2007). In a study that was conducted in china to explore the risk factors for psychological problems among healthcare workers during COVID-19, Chen and

colleagues (2020) found that increased workload during the outbreak can increase the occurrence of both anxiety and depression.

Reported increased workload and decreased time spent with family were also found in studies that discussed the psychological impact of COVID-19 on the healthcare workers (Sultana et al., 2020; Wallace et al., 2020). These factors and others such as high risk of infection, lack of experience in managing the disease, and significant lifestyle changes, can increase the incidence of psychological problems among healthcare providers such as fear, anxiety, depression, and insomnia (Maunder et al., 2006; McAlonan et al., 2007; Chen et al., 2020).

When the individuals are unable to achieve work-family balance, a failure to adjust behavior to comply with the expectations of a specific role occurs. The following section discusses the finding of the consequences of the work stressors spillover to the participants' family life.

5.3-   Behavior-Based Conflict Sources

The idea behind work-family conflict is that when demands in the work domain conflict with demands in the family domain. The competing demands may cause individuals to experience constant pressure and internal conflict, because they have to make the choice between the needs of the family and commitment to work (Grzywac et al., 2006). Behavior-based conflict occurs when individual feels being constantly connected to the workplace while at home (Dacey, 2019). If individuals are stressed at workplace, they can bring this stress home with them (Frone et al., 2003). This will cause individuals to fail to adjust behaviors to comply with expectations. When individuals reported that the behaviors at their work were incompatible with their expected at home, emotional exhaustion can occur (Dacey, 2019). The participants of this study reported stress and exhaustion during this pandemic. The following sections discuss the findings of

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sources of behavior-based conflict among participants and relate these findings with the available research studies.

5.3.1- Implement Excessive Precautionary Measures

Number of participants reported being aggressive in implementing excessive disinfection control measures in order to limit their family risk of exposure. The main cause for these practices is the unknown and the uncertainty of the mode of transmission for COVID-19 pandemic and the methods of treatment were unknown. The new issue with this pandemic is that healthcare workers are not the only ones to apply all these practices, as nearly all the people around the world are taking these precautions in order to prevent the transmission of this virus. A previous study on SARS reported that the people started to do the same at the beginning of SARS outbreak. They started to change their normal behaviors by avoiding close contact with others. They also used cleaning detergents and sanitizers all the time, and wear facemasks and isolate themselves if they had a fever (Chou et al., 2010). EMS personnel as healthcare workers have to deal with these lifestyle changes at both work and personal life. This adds more burden on them as frontline providers and can have a critical impact not only on their social lives, but also on their personal behaviors and interpersonal relationships.

5.3.2- Negative Emotions (Feeling of Socially Isolated, Limited Interaction with Family Members and Affected Familial Relationships)

Beside the uncertainty around this virus, the participants were mainly concerned about exposing their family members and brining this virus home with them. This caused them a continues stress that will continue even when they are home as some participants describe that the feeling of anxiety and fear is setting in the back of their heads all the time. This continuous stress and fear of exposing others negatively affected some of the participants familial

relationships. Stress spillover to family domain was described by various negative emotions such as stressful, fatigued, angry, isolated, harm, damage, mad, and defensive. These results are in line with previous research studies that indicated that the challenge to balance work and family life can affect the marital, romantic, and familial relationships (Cowlishaw et al., 2010; Frone, 2000; Hall et al., 2010). Some participants described being isolated from family members and friends, and others described that they needed their own space to process what they must deal with at work and alleviate their stress before interacting with family members. This is in line with what Wagner et al. (2014) and Lewis et al. (2017) found. They indicated work-related stress during infectious outbreaks can cause individuals to be less motivated to engage with family members and negatively impact the family life.

Most of these participants of the current study described how they carry the burden of stressful work they did during this pandemic home with them. The findings of this study are in line with the work-family conflict theory in that they support the idea that stress in one domain can spill over into another (Lambert et al., 2010). Dealing with COVID-19 pandemic with all the uncertainty around it, caused the participants to face daily stress and mixed feelings of being obligated to respond and fear for exposure for family members and loved ones. This continuous work stress spillover can lead to emotional exhaustion as the previous participants reported that the behaviors of their job were incompatible with their expected behaviors at home. Emotional exhaustion can lead to decrease the willingness to report for duty for the healthcare providers as they can distance themselves emotionally and cognitively from their job (Maslach et al., 2001). One study showed that the healthcare providers experienced mixed feelings after responding to a disaster. They were in conflict with their emotions due to being unable to provide assistance as they have concerns regarding their families and also because of lack of resources

(Pourvakhshoori, 2017). A study showed that individuals who experienced the stress of one role that interfere with the other role, couple burn out can result (Decay, 2019). Moreover, when the behaviors of work are incomputable with the expected behaviors at home, couple burn out can result (Greenhaus & Beutell, 1985; Decay, 2019). Pines and Nunes (2003), defined couple burn out as physical, emotional, and mental exhaustion as it applies to person's relationship. Couple burnout can happen between married and unmarried individuals and it can lead to compromised family relationships. This continuous work stress caused the participants to face tension in their familial relationships. Some of the participants reported being angrier which led to increased fights with their family members while responding to this pandemic. These findings are in line with the previous literature (Pourvakhshoori et al., 2017; Decay, 2019) as it indicated that healthcare providers experienced mixed feelings after responding to disasters as they felt the obligation to respond and, at the same time, the concerns about family members. These mixed emotions caused them to face more tensed familial relationships.

This pandemic changed the participants' lifestyles and added some new practices and behaviors for EMS providers as they became more vigilant and more precautious not to pass the virus to their homes. One cause of the lifestyle changes is the deep mutual trust and the love that characterizes the close relationship with immediate family members. This relationship entails strong obligations towards family members. One of these obligations is to avoid negligently harming each other (McConnell, 2020). As a result, the participants ought to take more burdensome measures than usual to avoid negligently infecting their loved ones. All the participants reported they changed their initial interaction with their family members once they were back home. They would not interact immediately with them as they usually do. Participants

all reported that they changed clothes first and then took a shower before interacting with the family members, to limit their exposure.

The main cause for these practices is the unknown clinical dimensions and the uncertainty of the mode of transmission for COVID-19 and the unknown methods of treatment. A previous study on SARS reported healthcare workers started to do the same at the beginning of the SARS outbreak. They started to change their normal behavior by avoiding close contact with others. They also used cleaning detergents and sanitizers all the time, and wore facemasks and isolate themselves if they had a fever (Chou et al., 2010). EMS personnel as healthcare workers must deal with these lifestyle changes at both work and home. This adds more burden on them as frontline providers and can have a critical impact not only on their social lives, but also on their personal behavior and interpersonal relationships.

As this pandemic caused EMS providers to be more stressed, anxious, and overwhelmed, the organizations should not ignore this issue and should implement some measures to prevent this stress from becoming a diagnosed psychological illness. Moreover, the impact of the resulting psychological distress can impact the willingness of EMS providers to report to their duty during disasters.

Recommendations

This section discusses the recommendations that the EMS providers suggested to achieve more balance between their roles as EMS Providers and their roles as family members. This section includes two parts. The first one includes the strategies that the EMS providers can do to achieve this balance and mollify their concerns. The second part includes the strategies that the employers can do to mollify the EMS providers concerns. Moreover, this section compares and relates each part with the available literature.

EMS Providers Strategies to Mollify Concerns

1. **Communication with family members**

The participants showed the importance of the family unit. Most of the participants expressed that the support network that comes from the family made them more resilient by mollifying their concerns during this pandemic. This is congruent with the previous studies during SARS (Hung et al., 2005; Pan et al., 2005; Chen et al., 2006; Chen et al., 2020). Most of the participants mentioned that communication with family members to mollify the concerns as the main intervention to decrease their stress. Communication with family is considered as the core of psychological intervention for healthcare providers during COVID-19 (Chen et al., 2020).

This study found concerns about family safety is a key factor for role conflict during the pandemic. These concerns can cause many psychological consequences for both the providers and their families. A lack of family support and social isolation had negative psychological consequences on the providers who chose to isolate themselves away from their families during SARS (Chan and Huak, 2004). While some of this study's participants reported the feeling of being isolated and the increased tension in familial relationships, most of them also reported they mollify their concerns through active communication with their family members. They reported how they kept the family members updated about their safety during work to alleviate some of the stress. One participant (P4) expressed how he shared information with his wife to mollify his concerns. He stated: "*I lessen the concerns by talking with her* [my wife] *and sharing information with her.*" Other participants expressed how their partners were supportive to them during this pandemic which helped to alleviate their concerns. One participant reported (P27): "*She's* [my wife] *been very, very supportive. She knew what I was doing in terms of extra*

precautions I was taking prior to coming home, which will greatly reduce the potential risk of her."

This is congruent to what Guo et al. (2005) found about sharing emotional experience with significant ones as it decreased the burden and helped with resilience of the healthcare workers during a pandemic.

2. Implementing Extra Precautionary Measures

Another strategy participants used to mollify their concerns was to take all possible precautionary measures, at both work and home, to protect themselves, families, and coworkers. These strategies included cleaning the truck before the start of the shift and in between patients, wearing appropriate protective gear, washing hands, and thoroughly cleaning the work uniform and taking it off before entering the home after shifts. One participant reported that being vigilant and taking extra precaution is a part of the safety-minded culture of EMS. This participant (P19) reported:

> "*I'll make sure all of my equipment for work stays at work, you know, properly clean before coming home, and there's no cross contamination with any stuff. I think it's also inherent in our* [EMS] *own culture to be safety minded. It's the wearing masks, only entering a building if we need to with a confirmed case because they do pre-screening with our dispatch center.*"

This is congruent with a study conducted by Chou et al. (2010). The healthcare providers believed that using all the standard precautionary measures in addition to using protective clothing and practicing diligent hand washing can decrease their concerns of contracting the virus or bringing it home.

3. Maintain Health and Wellbeing

Pandemics such as COVID-19 can be stressful for people in general and for healthcare providers in specific. Having to be on the frontline in taking care of the patients and dealing with the unknowns can cause fear and anxiety and can be overwhelming. To some degree, it is inevitable to feel exhausted and isolated during the pandemic. Mitigation strategies can have the greatest effect in decreasing these fears (Andrew et al., 2009). Coping with this stress in a healthy way can result in more resilient EMS providers who are resistant to stress, fatigue, and feeling overwhelmed. Maintaining health and wellbeing during the pandemic is essential to enhance the immune system for the EMS providers and to cope with the resulting stressors. Some participants reported that having a healthy lifestyle helps in mollifying concerns regarding being exposed to the pandemic. Participant 23 explained how she is trying to stay healthy to enhance her immune system. She stated:

> "*Keeping me on top of my own health and wellness. I'm taking all my vitamins and trying to eat more vegetables and kind of clean up my diet as well, so I can have the optimum chance to stay healthy…with this whole pandemic, we* [my fiancé and I] *both have been trying to stay as healthy as we can. I was following my doctor checkups and making sure we get our yearly immunizations and trying not to drink excessively or eat all the junk food.*"

In a study by Chou et al. (2010) to examine the experience of healthcare workers during SARS, the results showed healthcare workers realized the need to maximize their health by enhancing their immune system by eating a healthy diet and having supplemental vitamins. They also tried to get enough sleep and exercise daily.

Some participants reported that working out every day helps relieve some of the stress. Participant 28 stated: "*I do like to work out, so fortunately, I would come home, and I just work out, trying to work out with my wife and my kids and I would be kind of aware to alleviate some of the stress*." Shechter et al. (2020) found that exercising was the most commonly used coping strategy among 657 American healthcare workers during COVID-19.

The organizations can have a role in maintaining the health of the EMS providers by offering programs that are directed toward healthy lifestyle, diet, and exercise, to provide support for the staff, maintain their physical wellbeing, and lower their stress. These programs should include access to healthy meals and hydration (Adams and Walls, 2020; Liu et al., 2020; Shanafelt et al., 2020), and offering the providers regular breaks to rest (Liu et al., 2020; Kang et al., 2020; Ho et al., 2020). The employer also has a responsibility in mollifying the EMS providers concerns during responding to pandemics. The following section discusses the recommended employer strategies that emerged from the participants' perspectives.

Employers Strategies to Mollify Concerns

In order for the EMS providers to respond safely during the pandemic, they must have a safe working environment. This can be achieved through having strong organizational leadership that addresses the concerns of its providers, has clear organizational guidelines for safety and wellbeing, and creates a consistent communication with the providers. In a recent study by Shanafelt et al. (2020) to identify what the healthcare professionals require from their employers during COVID-19, five things emerged between them: hear me, protect me, prepare me, support me, and care for me. This section discusses recommendations for the employers to mollify their providers concerns according to the participants' perspectives.

1. **Communication with EMS providers**

When the participants were asked how the employers should mollify their concerns, they mentioned the importance of communicating with them. One participant reported (P13) how his employers did a good job in communicating the important information with them. He stated:

> "*They've* [my employers] *been very good about having daily briefings at the same time every day where they have the sheriff's office and the health department, the EMS Department, and the Department of Emergency Management. All this briefing will last for 20 minutes every day. They've been disseminating information on how to respond.*"

Communication with the employees is essential not only during pandemics but even before the beginning of an outbreak. It is important that the employer informs the providers about the local arrangements for preparing for an outbreak (Robinson et al., 2009). Informed employees are more ready to understand the importance of preparation measures for a pandemic such as training on how to effectively and appropriately use the PPE and other infection control measures. This will result in more compliance among the providers with more willingness to respond during an outbreak with less negative consequences. Communication also ensures the dissemination of accurate information among the providers (Gershon et al., 2010; Smith et al., 2009). The current study participants recognized the importance of organization communication with the EMS providers to alleviate their concerns. One participant (P10) explained the need for transparent communication to keep them informed about how to protect their safety. He stated:

> "*Having leadership who are transparent in communication, that way, everybody is kept informed of what's going on with the policies to respond and to make everybody as safe as possible and to limit the unnecessary exposure.*"

Ideally, the organization should establish a trust relationship with the providers even before the outbreak situation (Maunder et al., 2006). Increased confidence in the employer can cause more adherence to the guidelines and protocols among providers and can mollify the concerns to respond. As a result, it is always a good idea that the employer asks the providers what type of information they need to know each day in order to mollify their concerns to respond. Moreover, the employer should provide accurate and clear information in a timely manner for the providers to increase their adherence with the protocols and guidelines.

The source of information should also be trusted and reliable, as some participants complained of having several unreliable unscientific sources for their station information. Participant (20) stated the importance of relying on the expertise to disseminate the information to the EMS providers. He reported: "*I think that would have been better if we rely more on experts in the field rather than other people. For example, to rely on the public health officials who are epidemiology specialists rather than our medical director who is just an emergency physician.*"

Uncertainty emerged as a major strain that can result in role conflict. Therefore, it is important to make sure that the providers are getting the most updated information in a timely manner that comes from trusted sources only. This can be achieved by establishing a communication line with the formal responsible agency. This aids in disseminating the information and provides access to the providers to this line to decrease the possibility of rumors and disruptions (Auf der Heide, 2006).

Moreover, Robinson et al. (2009) suggested that communication during a pandemic should be two-way. This means that the providers should always receive up-to-date information, but they also need to provide their opinions back to the organization. The role of organization

here is to respond to feedback in a timely manner and address the providers' concerns as much as possible.

Lastly, participants recognized the importance of bridging the gap in information about this pandemic. Participant (16) stated: "*One main thing is bridging the communication gap between the multiple disciplines to get the information out.*" Bridging this gap can be achieved through establishing a clear communication between the organization itself and other agencies (Chan and Huak, 2004). This also can be achieved by expanding the relationship with different health care institutions to have the opportunity of broadening the collaboration to achieve a cooperative pandemic response.

2. **Implement Safety Practice Guidelines**

This policy includes all the possible guidelines that insure the safety of the EMS providers and others and minimize the contamination and transmission of this virus. The participants described some of these guidelines. Some of them mentioned the importance of hand washing and hygiene as participant (P19) stated: "*We have guidelines in order for us to follow safe practices, handwashing, good hygiene that reduces exposure. I think they're great and then also giving personnel the latitude at the station to be comfortable, you know, not instilling more fear.*" Others recommended the importance of using decontamination equipment as participant (P20) stated: "*They spent some money and bought us more equipment that can help us with the decontamination process.*" Finally, some participants mentioned the strategy of EMS screening for possible signs and symptoms as participant (P19) stated:

> "*They implemented screening every morning and night and then the next morning, so three times a shift. We check our own symptoms and temperatures within our own crew and document the information and then anytime anybody has any symptoms, they go get*

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tested. So that gave a little bit more ease for us as far as coming home and for me and for

her [my wife]."

Trainor and Barsky (2011) indicated that the EMS organizations are responsible to

mitigate the risks involved with response to the possible extent. This includes planning for

vaccination for both the providers and their families and preparing other non-pharmaceutical

protections such as protective gear of mask, gloves, gowns, etc. Moreover, the employers should

make sure the measures they implemented are appropriate for the particular pandemic that the

providers will respond to. Making sure that all the required protective equipment is available is

not enough. Employers should also make sure all providers are properly educated and trained on

how to effectively use this equipment.

3. **Educate and Train EMS Providers**

Training and educating the EMS providers will make them more oriented and more

empowered to make the best decision about how they will respond and protect themselves and

others. One participant (P19) stated that:

> "*Educating properly and giving people good grounded and scientific research based*
>
> *studies that we can make good decisions on what we should do, you know, because you*
>
> *don't want to be just a simple follower of guidelines or information, but you want to be*
>
> *empowered to make the right decision for all of us.*"

Education and training about infectious outbreaks are essential in preparing oriented and

confident responders. They can help in protecting the safety of the EMS providers from

contracting the disease (Firew et al., 2020). It is unreasonable for the employer to assume all the

EMS providers know how to don and doff PPE without contaminating themselves and others.

There is a need to train all the providers, even the senior ones on how to practice this safely

(Robinson et al., 2009). This education and training should be a part of the continuous education to make sure the providers continuously update their knowledge about infectious outbreak, as it does not occur frequently.

Establishing regular education and training about infection control measures and the use of PPE will help instill confidence in the providers to better prepare them to respond during an actual outbreak once it occurs (Robinson et al., 2009). During the SARS outbreak, the healthcare providers who received education training were more likely to maintain a positive attitude toward providing patient care. They were also more likely to reduce their fear of contracting the infection and to reduce the negative feelings they had (Su et al., 2007; Tzeng, 2004).

One method to support the pandemics training and education of the EMS providers is the simulation or drill-based training with the use of hands-on training (Gershon et al., 2009; Young, 2017). These kinds of training sessions should be conducted on a regular basis and involve EMS leaders and other related agencies. They should also discuss all the aspects of infectious outbreak preparation such as training on how to safely use the PPE and other infection control measures. During the pandemic period, an online education can be offered to EMS providers through publishing the relevant guidelines, books, handbooks, manual documents, and others with related required information about the pandemic (Vizheh et al., 2020). Online educational videos and articles can help to refresh the EMS providers information regarding how to protect themselves and others during response.

Trainor and Barsky (2011) indicated that education and training for EMS providers before pandemics can prevent role strain and role conflict from evolving into role abandonment. They can ensure the deep sense of responsibility that EMS providers already have by knowing what is supposed to be done and how it is supposed to be done (Hope et al., 2010).

4. **Communication with The Providers' Families**

One participant who is in an administrative position suggested to communicate with the providers' families because they are the vital support network for them. This participant (P28) stated:

"*I can send a message out to the families. I think that we need to be better and not forget about how vital that support network is for our personnel, and that we look at each other in these uniforms all the time. You forget that when we go home, we take off the uniform to be a mom, dad, brother, sister. We need to educate families, to reach out to them or make sure that they know that we're taking care of their kids and wives and moms and dads.*"

All the participants reported having concerns about the safety of the family members. One strategy to alleviate this concern is by establishing a framework to support the providers' family to respond. This can facilitate the family preparedness, address their needs, and provide effective communication from and to the family (Trainor and Barsky, 2011; Fritz, 1987; Sturdivants, 2009). Communication is essential not only between the providers and their families (Friedman, 1986), but also the employers should work on communicating with the families and keep them informed with the updates during the pandemic (Smith, 2007). This can alleviate the stress and keep providers calm, stable, and more focused on their work (DHHS, 2005).

5. **Prepare a Comprehensive Preparedness Plan**

As mentioned earlier, some of the participants complained that their administration did not have any prepared plan for how to deal with the employees' exposure. Others mentioned how they experienced a lack in the pandemic education and training, and the required PPE to use. These participants recommended that there should be a more specific prepared plan on how to deal with

this pandemic. Participant (P23) reported the importance of having a prepared plan to know how to deal with this pandemic. He stated: "*Kind of preparing a plan about what we're going to do if the whole station or mass amounts of employees catch the virus that we're dealing with. Because I guess that not knowing what we're going to do about, that is kind of scary.*"

This plan should include further education and training sessions about infectious outbreaks, effective and adequate stockpiles of PPE to use, and have the required guidelines to deal with pandemics (Gershon et al., 2010; Ives et al., 2009; Young, 2017). This would make the EMS providers more comfortable and safer to respond during the pandemic.

Having pre-set protocols and guidelines is important in assisting the healthcare field including EMS to respond to pandemics (WHO, 2009; CDC, 2014). There should be a prepared pandemic plan in place that detects how to deal with all emergent issues once the pandemic occurs. These plans can support the EMS providers and the healthcare system in general and can provide awareness on how to keep themselves safe and decrease the risk of exposure (Mitchell et al., 2012). EMS managers should not only prepare these plans, but also, they have the responsibility of making them available to the EMS providers and make sure they are oriented to these plans.

6. **Provide Mental Health Care**

Most of the participants of this study reported the availability of mental health care programs. Some participants expressed how helpful it would be if their workplace offered programs to take care of the highly stressed EMS providers as participant (P7) stated:

"*Maybe if my company takes it more seriously, if we do need to call out because we are stressed. Even if we do have something called CISM which is just something when you*

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have PTSD or something traumatic happens to you, you talk to a counselor, talk to a coworker, and then get debriefed. If they maybe offer that more, it would be great."

Others mentioned the inconvenience of using mental health services. They described how many steps are involved in the process. They also related this inconvenience to the nature of the culture among EMS, as seeking mental healthcare is considered a stigma. Participant (P5) stated that:

"*There are a bunch of channels that have to go through to activate that* [mental health programs]. *I think a lot of people think either that it's shameful or they just don't wanna deal with it, so they don't. We also have the option that there is mental health center in the state, we have permission to go to, but we also like I said, we have to get approval on these things in time off work to use that. I think people feel like, no I don't wanna go through all that…I think they're probably super underused.*"

This recommendation is in line with what Sultana (2020) indicated about how group-based counseling or peer-support sessions can be effective measures to address the psychological distress among healthcare providers and to improve their mental health during the COVID-19 pandemic.

One important responsibility of the employers during a pandemic is to pay full attention to the EMS providers response to such a stressful event. They should take all possible efforts to offer more social support for the providers and provide them with appropriate and convenient resources to help them (Chen et al., 2020; Kisely et al. 2020). EMS managers should be oriented and trained on how to detect the signs of distress or psychological injury among the providers such as avoidance, mood change, and anxiety (Hu et al., 2020; An et al., 2020; Chen et al., 2020).

Conclusions

Disasters of all types occur almost daily around the world, affecting a wide range of the population. An estimated 300 million people were affected by disasters globally in 2016 (CRED, 2016). Pandemics are considered among the public health disasters that can pose the greatest threat to humanity. Several infectious outbreaks have occurred such as the deadly Spanish flu in 1918, SARS in 2003, and Ebola in 2014. A recent global pandemic of COVID-19 hit the world hard in 2020 causing many morbidities and mortalities around the world. These pandemics can impose a burden on the healthcare organizations (Hawryluck et al., 2005; Taubenberger & Morens, 2010). Frontline staff including EMS providers have an integral role in disastrous events response and can be significantly impacted during these events. The major impact is the inability to balance between work domain and life domain which can result in a conflict. Several sources of this conflict have been identified according to the work-family theory.

Work-family conflict can be a contributing factor that influences the willingness of the EMS providers to respond during this pandemic. Role stress, and work-family conflict are some concerns that EMS providers encounter that impact work-life balance. Organizational leaders are responsible to formulate strategies to address the work-life conflict concerns among EMS providers to ensure an effective response with high quality patient care.

This study provides a unique opportunity to study the work-family conflict sources among EMS providers during responding to the COVID-19 pandemic. Several studies investigated the factors that affect the willingness of EMS providers to report to disasters (Alwidyan, 2016; Gershon et al., 2010; Smith et al., 2009; Hui et al., 2007). However, to the researcher's knowledge, no study to date has used the work-family conflict theory to investigate the sources of conflict among EMS providers. Moreover, this is the first EMS study that

investigates this during an actual pandemic. This provided the opportunity to document the actual experiences and actions of the participants after responding to an actual disaster. The literature review contained studies that assessed factors that inhibit or motivate the willingness to respond for a hypothetical disaster case scenario only. However, the gap in the literature presented the challenge of describing and understanding the need for the research study.

This study found that all the sources of the work-family conflict are available among the providers and can influence the decision to respond. Strain-based conflict caused a lot of stress among the participants, particularly, because of their concerns about the safety of their families and loved ones. Almost all the participants reported family safety as their main concern during responding to COVID-19. They indicated the fear of transmitting this infection sat in the back of their minds all the time causing them a lot of fear and anxiety. Moreover, uncertainty regarding this pandemic caused a lot of concerns among all the participants as they indicated that they never know what they are walking into through their work. Lack of information regarding this pandemic caused significant role ambiguity among the participants. Moreover, lack of transparency and appropriate communication also was a major theme among the participants. Communication failure between the EMS stations and other related organizations was reported too. On the other hand, EMS employers had a great role in affecting the decision of the participants to report to duty. Some of the participants reported that their employers failed in communicating all the required information to them during this pandemic. They also reported the lack of preparedness and the specific guidelines to deal with this pandemic.

Time-based strain also has different sources that can affect the participants willingness to respond and caused them to feel overwhelmed, frustrated and upset. Increased workload and mandatory overtime caused a lot of negative emotions among the participants. Regarding

behavior-based conflict, there was an obvious failing among some of the participants to comply with their expected behavior at work with ones at home. The stress, exhaustion, and anxiety caused the participants to show unexpected behavior with their family members. Some of them choose to limit the interaction with their family members when back from work until they make sure they disinfect themselves.

Other participants reported that they needed to isolate themselves from the family members to unwind what they had experienced during work. Moreover, some participants reported affected relationships with their family members because of being stressed and overwhelmed during the pandemic. Lack of appropriate protective gear and lack of adequate knowledge about pandemics added more stress and negative emotions among the participants.

Finally, participants offered several recommendations that they can implement to lower their concerns to respond. These recommendations include maintaining their health and wellbeing, apply extra precautionary measures, and communicate with family members. Moreover, the participants reported other strategies that the employers can implement to mollify concerns and achieve balance between work and personal life such as educate and train the providers before and after pandemics, educate the public to comply with the instructions, prepare a comprehensive response plan that includes stocking adequate and effective protective gear, offer mental health care, continuously communicate with the EMS providers and their families and to implement the required safety guidelines.

It is important to mention that this study is not necessarily generalizable and there is a need for further research. The sample size do not provide a comprehensive pool of experience and knowledge of the participants about working during disasters. However, the in-depth, open, and honest discussion with this study participants does highlight areas of significance. Despite

these limitations, this study provided the participants an opportunity to discuss their concerns to respond during this pandemic and how these concerns affected their ability to balance between their work domain and personal life domain. Further future research is needed to expand these results and study these resources more and relating them to different demographic variables such as gender, ethnicity, years of experience, age, and others.

Recommendations for Future Research and Actions

This study used EMS viewpoints to describe and understand the sources of work-family conflict during COVID-19. While this study was a path to understand some of the research questions, it also created more. As this study is the first to be performed for the EMS providers, it also can form a base to conduct further research in different approaches about this area. The scope of this qualitative study was focused on a small group of EMS providers who responded during the COVID-19 pandemic. Additional research is needed to validate the themes discovered through the in-depth interviews with the 30 providers around the United States. The interviews were conducted in August 2020, roughly six months following the declaration of this infectious outbreak as a pandemic. One recommendation is to replicate this study in different periods of time during this pandemic including the peak times. This can provide more understanding on how the EMS providers form their decision to respond under more work situational stress and pressure. Moreover, as this study was conducted in several states, it is recommended to conduct further studies to compare between the views and perspectives of the EMS providers around the states during this pandemic. Sources of work-family conflict depend on the type of disasters. As a result, it is recommended to conduct this study with different disaster types such as natural or man-made disasters.

Future research can be either qualitative or quantitative in approaches. The topic would also benefit from future studies using qualitative and quantitative research methods. Qualitative studies could be used to explore the EMS providers' beliefs, values, and motivations regarding working during disasters. The information might help organizational leaders understand why EMS providers stay in highly stressful work environments and allow them to develop strategies to help them cope with work-life balance. Quantitative studies could focus on identifying the extent of work-family conflict among EMS providers during this pandemic using a larger sample size to be able to generalize the results for the EMS providers population. They can also identify the effectiveness of the mentioned strategies in achieving work-life balance. Identifying the degree of effectiveness of work-life balance strategies and the extent of work-family conflict that exists using a larger sample size to generalize the results to the EMS population. Moreover, quantitative research can be used to identify the different factors that affect the work-family conflict such as gender, race, age, socioeconomic status, marital status, number of children, years of experience, employment settings, status, and others. It can also identify the different relationships between these factors. For example, a descriptive comparative study may be designed to compare viewpoints of EMS providers with more than 10 years of experience to the perspectives of EMS providers with less than five years of experience, which could add rich information to the subject area.

Implications

Implication for EMS Education

Based on this study's findings, EMS educators should be proactive in the planning process. They should take the responsibility of developing a targeted education and teaching programs that are specific to pandemic response. The teaching and training curriculum should

incorporate this study's findings to enhance the knowledge and skills of EMS providers on how to safely use the protective gear and to establish the infection control measures. Classrooms and clinical settings are important in understanding the challenges that the EMS providers might face during responding to disasters. As a result, it is essential to promote the participation of EMS providers in the learning process to benefit from their experiences in developing tailored teaching methods to increase participation and learning.

Implication for Policy

The current study contributes to the growing body of literature on role conflict during disasters. Since this study was conducted at the time of the COVID-19 emergence, it used the COVID-19 pandemic as the type of disaster to discuss. The specific focus of this study was to explore the nature of work-family role conflict among EMS workers and how it affects the willingness to report to duty during COVID-19 pandemic. This study has important policy implications. It provides a foundation for EMS providers to become proactive in developing disaster response plans and policies. The EMS providers that respond during this pandemic can provide useful insights to the emergency managers and policy makers regarding the work-family imbalance that resulted during disaster response. Moreover, to effectively prepare and plan for disaster response, it is imperative to accurately understand how individuals respond to disasters (Dynes, Quarantelli, and Kreps, 1972). For instance, this study provides the organizations with a foundation to understand the sources of work-family conflict that influence the willingness of EMS providers to respond. As a result, the organization will be able to assess their surge capacity and prepare for any future disasters including pandemics. Emergency managers should be able to expect the number of the providers who are able and willing to respond during disasters and disease outbreaks. Therefore, this study findings also provide a base to understand the required

strategies to enhance the willingness of the providers and mollify their concerns when responding during disasters.

Limitations of The Study

A researcher must recognize that all research methodologies and studies have limitations and strengths (Marshall and Rossman, 2006). Several limitations of this study merit discussion. A challenge to recruitment was experienced due to the nature of the topic and chosen purposive snowball sampling method. Some of the participants refused to participate in the study because they were afraid of being recognized even though their anonymity was assured. After initial contact, about four participants did not reply to the follow-up emails. Two other participants never showed up for the interview and did not reply to my emails. One participant asked if there was a survey that she could complete in five minutes as she did not have extra time for the interview. Moreover, another limitation was the inability to recruit participants who decided to abandon their duty to report during this pandemic. This made it difficult to study and analyze how the work-family conflict sources influenced the willingness to respond to this pandemic.

In qualitative studies, there are no strict criteria for determining sample size (Lincoln and Guba, 1985; Patton, 2002). Marshall (1996) indicated that the appropriate sample size for a qualitative study is one that adequately answers the research question. In practice, the number of required participants will be identified as the study progresses when both data "saturation" and "redundancy" occur (Marshall, 1996; Lincoln and Guba, 1985).

Given the small sample size (n=30) and the constructivist approach adopted, the findings cannot be generalized to other EMS populations. Nevertheless, results could be transferred to other contexts by enhancing a thick, rich description of the contexts, perspectives, and findings surrounding participant's experiences. Moreover, the purpose of this qualitative research was to

critically evaluate the sources of work-family conflict and its influence on the providers'
willingness to respond rather than generalize the findings to other populations. However, more
studies are needed to learn more about work-family conflict during disasters.

Another limitation to this study may result from the data collection process. Since
information obtained during the interviews is dependent on what the interviewee is willing to
share, the nature of their information will be limited to his or her own perspective and
experiences. This, however, aligns to the constructivist perspective adopted as Patton (2002)
stated that perceptual data are in the eye of the beholder. Triangulation of data by using multiple
investigators, sources of data or data collection methods may help to confirm emerging data and
ensure the accuracy of themes that will result from the interview transcript.

Using purposive snowball sampling strengthened this study as the participants provided
rich information about the research topic. In qualitative research, the researcher is considered as
an instrument that facilitates the study. Since the researcher has a background in the healthcare
field as a nurse and a paramedic, and was affected directly by this pandemic, a potential for bias
existed. To avoid this bias, a personal journal was maintained throughout the analysis to remain
aware of my beliefs, values, and assumptions. Moreover, to increase the credibility, the
researcher periodically met with the advisor throughout the process to discuss the interpretations
and avoid bias toward own perspectives.

REFERENCES

Adams T, & Turner M (2014). Professional responsibilities versus familial responsibilities: an examination of role conflict among first responders during the Hurricane Katrina disaster. Journal of Emergency Management, 12(1), 45–54. doi:10.5055/jem.2014.0161 [PubMed] [CrossRef] [Google Scholar]

Adams, T. and Anderson, L. (2019). Policing in Natural Disasters: Stress, Reliance, and the Challenges of Emergency Management. Philadelphia, PA: Temple University Press.

Adams, R., & Wu H. (2020). Balancing Patient Health, Personal Risk, and Family Responsibilities During the COVID-19 Pandemic. Natural Hazards Center Quick Response Grant Report Series, 316. Boulder, CO: Natural Hazards Center, University of Colorado Boulder. Available at: https://hazards.colorado.edu/quick-response-report/balancing-patient-health-personal-risk-and-family-responsibilities-during-the-covid-19-pandemic

Adams, J. G., & Walls, R. M. (2020). Supporting the health care workforce during the COVID-19 global epidemic. *The Journal of the American Medical Association*, 323(15):1439–40. https://doi.org/10.1001/jama.2020.3972

Adriaenssens, J., De Gucht, V., & Maes, S. (2015). Determinants and prevalence of burnout in emergency nurses: A systematic review of 25 years of research. International Journal of Nursing Studies.52(2): 649– 61. https://doi.org/10.1016/j.ijnurstu.2014.11.004

Allen, T. D., Herst, D. E., Bruck, C.S., & Sutton, M. (2000). Consequences associated with

    work-to-family conflict: A review and agenda for future research. Journal of

    Occupational Health Psychology, 5(2): 278-308. https://doi.org/10.1037//1076-

    8998.5.2.278

Allen TD, Herst DE, Bruck CS, Sutton M. (2000). Consequences associated with work-to-family

    conflict: a review and agenda for future research. J Occup Health Psychol., 5 (2): 278-

    308.

Allen, T.D., & Armstrong, J. (2006). Further examination of the link between work-family

    conflict and physical health: The role of health-related behaviors. American Behaviorial

    Scientist, 49:1204-1221. https://doi.org/10.1177/0002764206286386

Alexander, Y. (2001). Terrorism in the twenty-first century: An overview. In: Y. Alexander & S.

    Prior (Eds.), Terrorism and medical responses: U.S. lessons and policy implications (pp.).

    Transnational Publishers.Alexander, D. (2002). *Principles of emergency planning and*

    management. Oxford University Press.

Alexander G, Wynia M. (2003). Ready and willing: physicians' sense of preparedness for

    bioterrorism. Health Aff. 22:189–197.

Alexander, A. J. (2005). "A Multiphase Disaster Training Exercise for Emergency Medicine

    Residents: Opportunity Knocks." *Academic Emergency Medicine*12.5 .404–409.

    Web.

Alwidyan, M. T. (2016). Reporting for duty during disease outbreaks. Natural Hazards Center.

    XL(8). https://hazards.colorado.edu/article/reporting-for-duty-during-disease-outbreaks-

    the-views-of-emergency-medical-service-providers

Alwidyan M. A., Joseph E. Trainor, Richard A. Bissell. (2020). Responding to natural disasters vs. disease outbreaks: Do emergency medical service providers have different views? International Journal of Disaster Risk Reduction, Volume 44, 2020,

An, Y., Yang, Y., Wang, A., Li, Y., Zhang, Q., Cheung, T., Ungvari, G. S., Qin, M. Z., An, F. R., & Xiang, Y. T. (2020). Prevalence of depression and its impact on quality of life among frontline nurses in emergency departments during the COVID-19 outbreak. *Journal of Affective Disorders*, 276(1):312–315. https://doi.org/10.1016/j.jad.2020.06.047

Aoyagi, Yumiko et al. "Healthcare Workers' Willingness to Work During an Influenza Pandemic: a Systematic Review and Meta☐analysis." Influenza and other respiratory viruses 9.3 (2015): 120–130. Web.

Arbon P, Ranse J, Cusack L, Considine J, Shaban RZ, Woodman RJ, Bahnisch L, Kako M, Hammad K, Mitchell B. (2013). Australasian emergency nurses' willingness to attend work in a disaster: a survey. Australas Emerg Nurs J. May;16(2):52-7. doi: 10.1016/j.aenj.2013.05.003. Epub 2013 Jun 3. PMID: 23773536.

Auf der Heide, E. (2006). The importance of evidence-based disaster planning. *Annals of Emergency Medicine* 47(1): 34–49. https://doi.org/10.1016/j.annemergmed.2005.05.009

Augustine, J. J., McGinnis, K. (2009). Communications. In D. C. Cone, R. E. O'Connor, R. L. Fowler (Eds). *Emergency Medical Services: Clinical Practice and Systems Oversight Volume 2—Medical Oversight of EMS* (pp 516–34). Kendall Hunt.

Bailyn, L. (1970). Career and Family orientations of husbands and wives in relation to marital happiness. Human relations, 1970, 23, 97-113

Bailyn, L., & Schein, E. H. (1976). Life/career considerations as indicators of quality of employ-

  ment. In A. D. Biderman & T. E Drury (Eds.), Measuring work quality for social

  reporting. New York: Wiley.

Bankoff G, Frerks G, Hilhorst D. (2004). Mapping vulnerability—Disasters, development, &

  people.Earthscan.

Barton. Allen H. (1969). Communities in disaster: A Sociological Analysis of Collective Stress

  Situations. Garden City. NY: Doubled

Barnett, D. J., Levine, R., Thompson, C. B., Wijetunge, G. U., Oliver, A. L., Bentley, M. A.,

  Neubert, P. D., Pirrallo, R. G., Links, J. M., & Balicer, R. D. (2010). Gauging U.S.

  emergency medical services workers' willingness to respond to pandemic influenza using

  a threat- and efficacy-based assessment framework. *PloS ONE*, 5(3), e9856.

  https://doi.org/10.1371/journal.pone.0009856

Bashir, M. F., Ma, B., Bilal, Komal, B., Bashir, M. A., Tan, D., & Bashir, M. (2020). Correlation

  between climate indicators and COVID-19 pandemic in New York, USA. *The Science of*

  the Total Environment, 728(138835). https://doi.org/10.1016/j.scitotenv.2020.138835

Bates, F. L., Harvey, C. C. (1 975). The Structure of Social Systems. New York: Wiley

Bauchner, H. & Sharfstein, J. (2020). A bold response to the COVID-19 pandemic: Medical

  students, national service, and public health. *The Journal of the American Medical*

  Association. https://doi.org/10.1001/jama.2020.6166

Biddison, L. D., Berkowitz, K. A., Courtney, B., De Jong, C. M., Devereaux, A.V., Kissoon, N.,

    Roxland, B. E., Sprung, C. L., Dichter, J. R., Christian, M. D., & Powell, T. (2014).

    Ethical considerations: Care of the critically ill and injured during pandemics and

    disasters: CHEST consensus statement. *Chest*. 146(4 Suppl):e145S–e155S.

    https://doi.org/10.1378/chest.14-0742

Biddle, B. J. (1986). Recent Developments In Role Theory. Ann. Rev. Social. 1986. 12:67-92

    Copyright © 1986 by Annual Reviews Inc.

Bissell, R. A., Seaman, K. G., Bass, R. R., Racht, E., Gilbert, C., Weltge, A. F., … Doherty, R.

    (1999). Change the scope of practice of paramedics? An EMS/public health policy

    perspective. Prehosp Emerg Care, 3(2), 140–149.

    http://doi.org/10.1080/10903129908958923

Bissell, R., & Kirsch, T. (2013). Public health role in catastrophes. In Preparedness and

    Response for Catastrophic Disasters.

Brodie, M., Weltzien, E., Altman, D., Blendon, R. J., & Benson, J. M. (2006). Experiences of

    Hurricane Katrina evacuees in Houston shelters: Implications for future

    planning. *American Journal of Public Health* 96(8): 1402–1408.

    https://doi.org/10.2105/AJPH.2005.084475

Black, Ellen and Denlinger, Rebecca. (2002). Two-hat project survey. Survey of 47 public safety

    agencies in the metropolitan Atlanta region.

Blackwell, T., Brennan, K., & DeAtley, C. (2009). Medical support for hazardous material

    response. In: D. C. Cone, R. E. O'Connor, R. L. Fowler (Eds.), *Emergency medical*

    services: Clinical practice and systems oversight volume 4—Special operations medical

    support (pp. 186–202). Kendall Hunt.

Bloomberg, L. D., & Volpe, M. (2012). *Completing your qualitative dissertation: A road map from beginning to end* (2nd ed.). Sage.

Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development*. Sage.

Bogucki, S, & DeAtley, C. (2009). ICS and NIMS. In D.C. Cone, R. E. O'Connor, R. L. Fowler (Eds). Emergency medical services: Clinical practice and systems oversight volume 4—Special operations medical support (pp 3–10). Kendall Hunt.

Buick, J. E., Cheskes, S., Feldman, M., Verbeek, P. R., Hillier, M., Leong, Y. C., & Drennan, I. R. (2020). COVID-19: What paramedics need to know! *CJEM*, 22(4), 426–430. https://doi.org/10.1017/cem.2020.367

Bullock, H. E. Waugh, I. M. (2004). Caregiving Around the Clock: How Women in Nursing Manage Career and Family Demands. 08 November 2004. https://doi.org/10.1111/j.0022-4537.2004.00385.x

Burke, R.J. (2004), "Work and family integration", Equal Opportunities International, Vol. 23 No. 1/2, pp. 1-5. https://doi.org/10.1108/02610150410787828

Burt, R. S. (1982). Toward a Structural Theory of Action: Network Models of Social Structure, Perception, and Action. New York: Academic

Carlson, D. S., & Perrewé, P. L. (1999). The role of social support in the stressor-strain relationship: An examination of work-family conflict. Journal of management, 25(4), 513-540.

Catlett, C.L., Jenkins, J.L., & Millin, Michael G. (2011). Role of emergency medical services in

disaster response: Resource document for the national association of EMS physicians

position statement. *Prehospital Emergency Care*, 15:3, 420-425.

https://doi.org/10.3109/10903127.2011.561401

Center for Disease Control and Prevention (2014). Emergency preparedness and response.

Retrieved from http://bt.cdc.gov/

Center for Disease Control and Prevention. (2014). Updated preparedness and response

framework for influenza pandemics. Morbidity and Mortality Weekly Report 63(6).

Retrieved from http://www.cdc.gov/mmwr/pdf/rr/rr6306.pdf

Centre for Research on the Epidemiology of Disasters (CRED) (2016).

Chaffee, M. (2007). *A predictive-correlational study of the willingness of personnel in a military

hospital to work in a disaster*. University of Maryland Press.

Chaffee, M. (2009). Willingness of health care personnel to work in a disaster: An integrative

review of the literature. *Disaster Medicine and Public Health Preparedness*, 3(1), 42–56.

https://doi.org/10.1097/DMP.0b013e31818e8934

Chan A.O., & Huak, C.Y. (2004). Psychological impact of the 2003 severe acute respiratory

syndrome outbreak on health care workers in a medium size regional general hospital in

Singapore. *Occupational Medicine*, 54(3):190–196.

https://doi.org/10.1093/occmed/kqh027

Chapleau, W., Burba, A., Pons, P., & David, P. (2009). The Paramedic. McGraw-Hill Higher

Education

Chaput, C. J., Deluhery, M. R., Stake, C. E., Martens, K. A., & Cichon, M. E. (2007). Disaster
training for prehospital providers. *Official Journal of the National Association of EMS
Physicians and the National Association of State EMS Directors*, 11(4), 458-465.
https://doi.org/10.1080/00207450701537076

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative
analysis*. Sage.

Chen, J., Liu, X., Wang, D. Jin, Y., He, M., Ma, Y., Zhao, X., Song, S., Zhang, L., Xiang, X.,
Yang, L., Song, J., Bai, T., & Hou, X. (2020). Risk factors for depression and anxiety in
healthcare workers deployed during the COVID-19 outbreak in China. *Social Psychiatry
and Psychiatric Epidemiology*, 56, 47-55. https://doi.org/10.1007/s00127-020-01954-1

Cheryl, H. (2008). EMS response to mass casualty incidents: The critical importance of
automatic statewide mutual aid and MCI training. http://hdl.handle.net/10945/3898Chou,
T. L., Ho, L. Y., Wang, K. Y., Kao, C. W., Yang, M. H., & Fan, P. L. (2010). Uniformed
service nurses' experiences with the severe acute respiratory syndrome outbreak and
response in Taiwan. *The Nursing clinics of North America*, 45(2), 179–191.
https://doi.org/10.1016/j.cnur.2010.02.008

Chikondi R. N. and Mkwinda E., 2013. Benefits and Challenges of Using ATLAS.ti. The Digital
Repository of Technische Universität Berlin, URN urn:nbn:de:kobv:83-opus4- 44224,
http://nbn-resolving.de/urn:nbn:de:kobv:83-opus4-44224.

Chow-In Ko, P., Chen, W., Huei-Ming Ma, M., Chiang, W., Su, C., Huang, C., . . . Lin, F. (2004). Emergency medical services utilization during an outbreak of severe acute respiratory syndrome (SARS) and the incidence of SARS-associated coronavirus infection among emergency medical technicians. Academic Emergency Medicine, 11(9), 903-911. doi:10.1197/j.aem.2004.03.016

Clarke, A. E. (2005). *Situational analysis: Grounded theory after the postmodern turn*. Sage.

Cone, D. C., & Cummings, B. A. (2006). Hospital disaster staffing: if you call, will they come? *American Journal of Disaster Medicine*, 1(1), 28–36.

Considine, J., & Mitchell, B. (2009). Chemical, biological and radiological incidents: preparedness and perceptions of emergency nurses. *Disasters*, 33(3), 482–497. https://doi.org/10.1111/j.1467-7717.2008.01084.x

Corbin, J., & Strauss, A. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (3rd ed.). Sage.

Courtney B., Morhard R., Bouri N., Cicero A. Expanding practitioner scopes of practice during public health emergencies: Experiences from the 2009 H1N1 pandemic vaccination efforts. Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science. 2010;8(3):223–231.

Cowden, J., Crane, L., Lezotte, D., Glover, J., & Nyquist, A. C. (2010). Pre-pandemic planning survey of healthcare workers at a tertiary care children's hospital: Ethical and workforce issues. Influenza and Other Respiratory Viruses, 4(4), 213–222. https://doi.org/10.1111/j.1750-2659.2010.00145.x

Cowlishaw, S., Evans, L., & McLennan, J. (2010). Work-family conflict and crossover in volunteer emergency service workers. Work & Stress, 24(4), 342–358. doi:10.1080/02678373.2010.532947

Creswell, J. (2007). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed.). Sage.

Crotty, M. (1998). The foundations of social research: Meaning and perspective in the research process. Sage.

Dacey, E. (2019). Work-family conflict, job burnout, and couple burnout in high-stress occupations. *Walden Dissertations and Doctoral Studies*. 6413. https://scholarworks.waldenu.edu/dissertations/6413

Daifallah Alrazeeni. (2015). Saudi EMS Students' Perception of and Attitudes toward their Preparedness for Disaster Management. Journal of Education and Practice.Vol.6, No.35.

Dal Poz M.R., Y. Kinfu, S. Dräger and T. Kunjumen. (). Department of Human Resources for Health World Health Organization. Available at: http://www.who.int/hrh/documents/counting_health_workers.pdf

Damery, S., Wilson, S., Draper, H., Gratus, C., Greenfield, S., Ives, J., Parry, J., Petts, J., & Sorell, T. (2009). Will the NHS continue to function in an influenza pandemic? A survey of healthcare workers in the West Midlands, UK. *BMC Public Health*, 9, 142. https://doi.org/10.1186/1471-2458-9-142

Damery, S., Draper, H., Wilson, S., Greenfield, S., Ives, J., Parry, J., . . . & Sorell, T. (2010). Healthcare workers' perceptions of the duty to work during an influenza pandemic. Journal of Medical Ethics, 36(1), 12-18. doi:10.1136/jme.2009.032821

Darcy, C., McCarthy, A., Hill, J. & Grady, G. (2012). Work–Life Balance: One Size Fits All? An Exploratory Analysis of the Differential Effects of Career Stage, European Management Journal, vol. 30, no. 2 , pp 111-120

Deepak, A.D., Hasan, K.S., Joshua L.M.D., Victor, N.F.D., David, A.M., Erin, A.B. (2020). COVID-19 for the cardiologist: a current review of the virology, clinical epidemiology, cardiac and other clinical manifestations and potential therapeutic strategies. JACC; Basic to Translational science

Denlinger, Rebecca F., and Kristin Gonzenbach. (2002). The two-hat syndrome: Determining response capabilities and mutual aid limitations. First to Arrive: State and Local Responses to Terrorism. No. 11. [Cambridge, Mass.]: Harvard University. John F. Kennedy School of Government. 193-205. Aug. 2002. Belfer Center for Science and International Affairs.

Denzin, N. K., & Lincoln, Y. S. (2003). The landscape of qualitative research: Theories and issues (2nd ed.). Thousand Oaks, CA: Sage.

Department of Homeland Security U.S. Fire Administration. (2007). I-35W bridge collapse and response. Technical report, August 2007. Available at: http://www.usfa.dhs.gov/downloads/ pdf/publications/tr 166.pdf. Accessed January 20, 2020.

DeSantis, L., & Ugarriza, D. N. (2000). The concept of theme as used in qualitative nursing research. Western journal of Nursing Research 22(3),351-72.

Devnani, M. (2012). Factors associated with the willingness of health care personnel to work during an influenza public health emergency: An integrative review. *Prehospital and Disaster Medicine*, 27(6), 551–566. http://doi.org/10.1017/S1049023X12001331

Devereaux A.V., Tosh P.K., Hick J.L., Hanfling D., Geiling J., Reed M.J. (2014). Engagement

and education: Care of the critically ill and injured during pandemics and disasters:

CHEST consensus statement. Chest. 2014;146(4 Suppl):e118S–e133S.

DiGiovanni C. (2003). The spectrum of human reactions to terrorist attacks with weapons of

mass destruction: Early management considerations. Prehosp Disaster Med.

2003;18:253–257.

DiMaggio, Charles, et al. (2005). The willingness of U.S. emergency medical technicians to

respond to terrorist incidents. *Biosecurity and Bioterrorism: Biodefense Strategy,*

Practice, and Science 3.4 (2005): 331–337. Web.

Draper H, Wilson S, Ives J, Gratus C, Greenfield S, Parry J, Petts J, Sorell T. (2008). Healthcare

worker's attitudes to working during pandemic influenza: A multi-method study. BMC

Public Health., 8: 192-10.1186/1471-2458-8-192.

Dynes, Russell, E, L. Quarantelli and Gary Kreps. (1972). A perspective on disaster planning

Newark, Delaware: Disaster Research Center, University of Delaware.

Dynes S. Quarantelli H. (1977). Structural factors in the minimization of role conflict: A

reexamination of the significance of multiple group membership in disasters. Columbus:

Ohio State University Disaster Research Center.

Dynes, R. "The Concept of Role in Disaster Research." University of Delaware Disaster

Research Center Preliminary Paper No. 105.

https://udspace.udel.edu/bitstream/handle/19716/2516/PP%20105%20DSpace%20Ready.

pdf?sequence=1

Dynes, Russell R., and E. L. Quarantelli. (1986). "Role Simplificiation in Disaster." Role

    Stressors and Support for Emergency Workers: Proceedings from a 1984 Workshop

    Sponsored by the National Institute of Mental Health and the Federal Emergency

    Management Agency: 23-37. University of Delaware Disaster Research Center

    Preliminary Paper No. 183.

Edeghere, O., Fowler, T., Wilson, F., Caspa, R., Raichand, S., Kara, E., … Olowokure, B.

    (2015). Knowledge, attitudes, experience and behaviour of frontline health care workers

    during the early phase of 2009 influenza A(H1N1) pandemic, Birmingham, UK. Journal

    of Health Services Research & Policy, 20(1), 26-30. doi:10.1177/1355819614554243

Ehrenstein, B. P., Hanses, F., & Salzberger, B. (2006). Influenza pandemic and professional

    duty: Family or patients first? A survey of hospital employees. *BMC Public Health*.

    6(311). https://doi.org/10.1186/1471-2458-6-311

Esterberg, K. G. (2002). Qualitative methods in social research. Boston, MA: McGraw-Hill.

Evans, P., & Bartolomé, F. (1984). The changing pictures of the relationship between career and

    family. Journal of Organizational Behavior, 5(1), 9-21.

Farra, Sharon L ; Miller, Elaine T ; Hodgson, Eric. (2015). Virtual reality disaster

    training: Translation to practice. Nurse education in practice. -01, Vol.15 (1), p.53-57

Federal Emergency Management Agency. (2008). Declared disasters by year and state. Retrieved

    February 14, 2017 from http://www.fema.gov/news/disaster_totals_annual.fema

Federal Emergency Management Agency Incident Management Handbook FEMA B-761

    November 2017. Retrieved from: https://www.fema.gov/media-library-

    data/1511798700826-

    e38977943819bb12064e3144cca7c576/FnlRvwIMH20171026v1945(508).pdf

Festinger, L. (1957). A theory of cognitive dissonance. Stanford, CA: Stanford University
Press.

Fitz Gerald, G., Shaban, R., Arbon, P., Aitken, P., Considine, J., Clark, M., et al. (2010).
Pandemic (H1N1) 2009 influenza outbreak in Australia: Impact on emergency
departments. Brisbane: Queensland University of Technology

Friedman, Barbara J. (1986). Role conflict and role abandonment in disasters: A need for
empirical reorientation. 1986. University of Delaware Disaster Research Center
Preliminary Paper No. 109.

Firew T, Sano ED, Lee JW, et al. (2020). Protecting the front line: a cross-sectional survey
analysis of the occupational factors contributing to healthcare workers' infection and
psychological distress during the COVID-19 pandemic in the USA. BMJ
Open 2020;10:e042752. doi: 10.1136/bmjopen-2020-042752

Ford, M. T., Heinen, B. A., & Langkamer, K. L. (2007). Work and family satisfaction and
conflict: A meta-analysis of cross-domain relations. Journal of Applied Psychology,
92(1), 57-80.

Fritz, Charles. (1987). "Emergency Worker Role Conflict: Potential Significance for Policy and
Theory." 1987. Unpublished Paper.

Fritz, Charles E. (1961). Disaster. In Robert K. Merton and Robert A. Nisbet (Eds.),
Contemporary Social Problems (pp. 651-694). New York: Harcourt, Brace and World.
Google Scholar

French, E. D., Sole, M. L. and Byers, J. F. (2002). A comparison of nurses' needs/concerns and
hospital disaster plans following Florida's Hurricane Floyd. *Journal of Emergency
Nursing*, 28(2), pp. 111 – 17.

154

Frone, M. R. (2003). Work-family balance. In J. Quick & L. Tetrick (Eds.), Handbook of

occupational health psychology (pp. 143–162). Washington, DC: American

Psychological Association.

Fu, C.K. and Shaffer, M.A. (2001), "The tug of work and family: Direct and indirect domain□

specific determinants of work□family conflict", Personnel Review, Vol. 30 No. 5, pp.

502-522. https://doi.org/10.1108/EUM0000000005936

Fung O.W.M., Loke A.Y. & Lai C.K.Y. (2008) Disaster preparedness among Hong Kong nurses.

Journal of Advanced Nursing, 62(6), 698–703.

Garrett, A. L., Park, Y. S., & Redlener, I. (2009) Mitigating absenteeism in hospital workers

during a pandemic. *Disaster Medicine and Public Health Preparedness*, 3 (Suppl 2):

S141-S147. https://doi.org/10.1097/DMP.0b013e3181c12959

Garry Stevens, Alison Jones, George Smith, Jenny Nelson, Kingsley Agho, Melanie Taylor,

Beverley Raphael. (2010). Determinants of paramedic response readiness for CBRNE

Threats. Biosecur Bioterror. 2010 Jun; 8(2): 193 202. doi: 10.1089/bsp.2009.0061.

Garwin R. (2002). The many threats of terror. In: Silvers R, Epstein B, eds. Striking Terror—

America's New War. New York: New York Review Books; 2002.

Gershon R, Qureshi K, Stone P, et al. (2007). Home health care challenges and avian influenza.

Home Health Care Manag Pract. 2007;20:58–69.

Gershon RRM, Vandelinde N, Magda LA, et al. (2009). Evaluation of a pandemic preparedness

training intervention of emergency medical services personnel. Prehosp Disaster Med.

2009;24(6):508-511. doi: 10.1017/S1049023X00007421

Gershon, R., Magda, L., Qureshi, K., Riley, H., Scanlon, E., Carney, M. T., et al. (2010). Factors associated with the ability and willingness of essential workers to report to duty during a pandemic. *Journal of Occupational & Environmental Medicine*, 52(10), 995-1003.

Getzels, J. W. and Guba, E. G. (1954). Role, Role Conflict, and Effectiveness: An Empirical Study. American Sociological Review. Vol. 19, No. 2 (Apr., 1954), pp. 164-175 (12 pages). Published By: American Sociological Association

Gipson-Jones, T. (2009). Perceived work and family conflict among African American nurses in college. Journal of Transcultural Nursing, 20(3), 304–312. https://doi.org/10.1177/1043659609334849

Grandey, A. A., & Cropanzano, R. (1999). The conservation of resources model applied to work-family conflict and strain. *Journal of Vocational Behavior*, 54, 350-370.

Greenhaus, J. H. and Beutell, N. J. (1985). Sources and conflict between work and family roles. *Academy of Management Review*, 10, pp. 76 – 88.

Grzywacz, J. G., Frone, M. R., Brewer, C. S., & Kovner, C. T. (2006). Quantifying work family conflict among registered nurses. *Research in Nursing & Health*, 29(5), 414- 426.

Guo J.N., Lee B.E., Lee C.X. (2005). Work-related stress and coping behaviors during SARS outbreak period among emergency nurses in Taiwan. *Chang Gung Nursing*. 2005;16(2):139–151. [Google Scholar]

Ha KG, Cohen DJ. (1991). From plague and tuberculosis to AIDS: A reflection on the medical profession. Tex Med. 1991;87:76–80. [PubMed] [Google Scholar]

Hall, G. B., Dollard, M. F., Tuckey, M. R., Winefield, A. H., & Thompson, B. M. (2010). 4 Job

    demands, work–family conflict, and emotional exhaustion in police officers: A

    longitudinal test of competing theories. Journal Of Occupational And Organizational

    Psychology, 83(1), 237–250. doi:10.1348/096317908X401723

Hashim, A., Jean-Gilles, L., Hegermann-Lindencrone, M., Shaw, I., Brown, C., & Nguyen-

    VanTam, J. (2012). Did pandemic preparedness aid the response to pandemic (H1N1)

    2009? A qualitative analysis in seven countries within the WHO European region.

    Journal of Infection and Public Health, 5(4), 286-296. doi:10.1016/j.jiph.2012.04.001

Hawryluck, L., Lapinsky, S. E., & Stewart, T. E. (2005). Clinical review: SARS—lessons in

    disaster management. *Critical Care* (London, England), 9(4), 384-389.

    doi:10.1186/cc3041

Herman JB, Gyllstrom KK. Working Men and Women: Inter- and Intra-Role

    Conflict. Psychology of Women Quarterly. 1977;1(4):319-333. doi:10.1111/j.1471-

    6402.1977.tb00558.x

Hesse-Biber, Sharlene Nagy. (2016). The practice of qualitative research: Engaging students in

    the research process (Kindle Locations 6288-6290). SAGE Publications. Kindle Edition.

Ho CS, Chee CY, Ho RC. (2020). Mental health strategies to combat the psychological impact of

    COVID-19 beyond paranoia and panic. Ann Acad Med Singap. 2020;49(1):1–

    3. [PubMed] [Google Scholar]

Hogan DE, Lairet J. Triage. (2002). In: Hogan DE, Burstein JL (eds). Disaster Medicine.

    Philadelphia, PA: Lippincott Willliams & Wilkins, 2002, pp 10–5.

Holahan CK, Gilbert LA. Conflict Between Major Life Roles: Women and Men in Dual Career

    Couples. Human Relations. 1979;32(6):451-467. doi:10.1177/001872677903200602

Holloway, Jimmy; Galvin, Kathleen. (2016). Qualitative research in nursing and healthcare
(Kindle Locations 7396-7399). Wiley. Kindle Edition.

Hope, K., D. Durrheim, D. Barnett, C. D'Este, C. Kewley, C. Dalton, N. White, J. Kohlhagen,
and J. Links. (2010). "Willingness of frontline health care workers to work during a
public health emergency." Australian Journal of Emergency Management 25.3 (2010):39-
47. 17 Dec. 2010.

Hsin, Dena Hsin-Chen, and Darryl R. J. Macer. (2004). Heroes of SARS: Professional roles and
ethics of health care workers. *Journal of Infection* 49.3 (2004): 210–215. Web.

Hu D. (2020). Frontline nurses' burnout, anxiety, depression, and fear statuses and their
associated factors during the COVID-19 outbreak in Wuhan, China: A large-scale cross-
sectional study. EClinicalMedicine. 2020:24. [PMC free article] [PubMed] [Google
Scholar]

Hui, Z., Jian-Shi, H., Xiong, H., Peng, L., & Da-Long, Q. (2007). An analysis of the current
status of hospital emergency preparedness for infectious disease outbreaks in Beijing,
China. AJIC: American Journal of Infection Control, 35(1), 62-67.
doi:10.1016/j.ajic.2006.03.014

Hung HC, Weng LC, Fang CY. (2005). Stresses and adjustment behaviors of surgical nurses
caring for SARS patients. J Evid Based Nurs. 2005; 1(1): 45– 51.

Imai, H., Matsuishi, K., Ito, A. et al. (2010). Factors associated with motivation and hesitation to
work among health professionals during a public crisis: a cross sectional study of hospital
workers in Japan during the pandemic (H1N1) 2009. BMC Public Health 10, 672 (2010).
https://doi.org/10.1186/1471-2458-10-672

Irma Klerings, Alexandra S. Weinhandl, Kylie J. Thaler. (2015). Information overload in

    healthcare: Too much of a good thing? Volume 109, Issues 4–5, 2015, Pages 285-290.

    ISSN 1865-9217

Ives J, Greenfield S, Parry J M, Draper H, Gratus C, Petts J I, et al. (2009). Healthcare workers'

    attitudes to working during pandemic infuenza: A qualitative study. BMC Public Health,

    9(56).

Jesse S. Michel, Jacqueline K. Mitchelson, Shaun Pichler, Kristin L. Cullen. (2010). Clarifying

    relationships among work and family social support, stressors, and work–family conflict.

    2010. *Journal of Vocational Behavior* 76 (2010) 91–104

Jones A. P., Butler M. C. A. (1980). Role transition approach to the stresses of organizationally-

    induced family role disruption. Journal of Marriage and the Family, 1980,42, 367–

    376.Google Scholar

Jones, S. R., Torres, V., & Arminio, J. (2006). Negotiating the complexities of qualitative

    research in higher education. New York: Routledge.

Jones S. (2020). Spanish minister says older people found "dead and abandoned." *The*

    Guardian, 2020. Available: https://www.theguardian.com/world/2020/mar/23/spain-

    distributes-650000-testing-kits-as-coronavirus-deaths-rise-steeply [Accessed Mar 2020].

Kahn, R. L., Wolfe, D. M., Quinn, R., Snoek, J. D., & Rosenthal, R. A. (1964). Organizational

    stress. New York: Wiley, 1964.

Kaji A, Koenig K, Bey T. (2006). Surge capacity for healthcare systems: A conceptual

    framework. Acad Emerg Med. 2006;13:1157–1159.

Kang L, Li Y, Hu S, Chen M, Yang C, Yang BX, Wang Y, Hu J, Lai J, Ma X, Chen J, Guan L, Wang G, Ma H, Liu Z. (2020). The mental health of medical workers in Wuhan, China dealing with the 2019 novel coronavirus. *Lancet Psychiatry*. 2020;7(3):e14. doi: 10.1016/S2215-0366(20)30047-X. [PMC free article][PubMed] [CrossRef] [Google Scholar]

Keinan, G. (1988). Training for dangerous task performance: the effects of expectations and feedback. Journal of Applied Social Psychology, 18(4), 355-373.

Killian, Lewis. (1952). The significance of multiple-group membership in disasters. *The American Journal of Sociology*, 42.4 (1952):309-314.

King, L. A., & King, D. W. (1996). Relationships of job and family involvement, family social support, and work–family conflict with job and life satisfaction. *Journal of Applied Psychology, 81*(4), 411–420. https://doi.org/10.1037/0021-9010.81.4.411

Kisely, S., Warren, N., McMahon, L., Dalais, C., Henry, I., & Siskind, D. (2020). Occurrence, prevention, and management of the psychological effects of emerging virus outbreaks on healthcare workers: Rapid review and meta-analysis. British Medical Journal, 369, m1642. http://dx.doi .org/10.1136/bmj.m1642

Koh D, Lim M, Chia S, et al. (2005). Risk perception and impact of severe acute respiratory syndrome (SARS) on work and personal lives of healthcare workers in Singapore: What can we learn? Med Care. 2005;43:676–682.

Kopelman R. E., Greenhaus J. H, Thomas F. Connolly. (1983). A model of work, family, and interrole conflict: A construct validation study. Organizational Behavior and Human Performance. Volume 32, Issue 2, 1983, Pages 198-215, ISSN 0030-5073, https://doi.org/10.1016/0030-5073(83)90147-2

Korman, A. K., & Korman, R. W. (1980). Career success personal failure. Englewood Cliffs, NJ: Prentice-Hall, 1980

Kruger R, Casey M. (2015). Focus groups: A practical guide for applied research. Thousand Oaks (CA): Sage; 2015.

Kushma, Jane. (2007). Role abandonment in disaster: Should we leave this myth behind?" *Natural Hazards Observer* 31.5 (2007):4-5.

Lambert, E., Hogan, N., & Berton, S. (2002). The impact of work-family conflict on correctional staff job satisfaction. American Journal of Criminal Justice, 27, 35– 52. https://doi-org.ezp.waldenulibrary.org/10.1007/BF02898969

Lambert, E., Hogan, N. L., & Altheimer, I. (2010). The association between work-family conflict and job burnout among correctional staff: A preliminary study. *American Journal of Criminal Justice*, 35(1–2), 37–55. doi:10.1007/s12103-009-9067-1

Lanzilotti S, Galanis D, Leoni N, et al. (2002). Hawaii medical professionals' assessment. Hawaii Med J. 2002;61:162–173.

Laventhal NT, Basak RB, Dell ML, Elster N, Geis G, Macauley RC, Mercurio MR, Opel DJ, Shalowitz DI, Statter MB, Diekema DS. (2020). Professional obligations of clinicians and institutions in pediatric care settings during a public health crisis: A review. J Pediatr. 2020 Sep;224:10-15. doi: 10.1016/j.jpeds.2020.06.054. Epub 2020 Jun 23. PMID: 32585238; PMCID: PMC7308757.

Lerner EB, Schwartz RB, McGovern JE. (2009). Prehospital triage for mass casualties. In: Cone DC, O'Connor RE, Fowler RL (eds). Emergency Medical Services: Clinical Practice and Systems Oversight Volume 4—Special Operations Medical Support. Dubuque, IA: Kendall Hunt, 2009, pp 11–5.

Lerner, E Brooke; Cone, David C; Weinstein, Eric S; Schwartz, Richard B; Coule, Phillip L; et al. (2011). Mass Casualty Triage: An Evaluation of the Science and Refinement of a National Guideline. Disaster Medicine and Public Health Preparedness; Philadelphia Vol. 5, Iss. 2, (Jun 2011): 129-137. DOI:10.1001/dmp.2011.39

Lewis, J. D., Enfield, K. B., Perl, T. M., & Sifri, C. D. (2017). Preparedness planning and care of patients under investigation for or with Ebola virus disease: A survey of physicians in North America. American Journal of Infection Control, 45(1), 65-68

Lincoln, Y. S., & Guba, E. G. (1985). Naturalistic inquiry. Newbury Park, CA: Sage.

Link RN, Feingold AR, Charap MH, Freeman K, Shelov SP. (1988). Concerns of medical and pediatric house officers about acquiring AIDS from their patients. Am J Public Health. 1988;78:455–459. doi: 10.2105/AJPH.78.4.455. [PMC free article] [PubMed] [CrossRef] [Google Scholar]

Linton, Ralph. (1936). The Study of Man. NY: Appleton.

Liu, Q. D. Luo, E. Haase Joan, et al. (2020). The experiences of health-care providers during the COVID-19 crisis in China: A qualitative study. Lancet Glob. Health (2020), 10.1016/S2214-109X(20)30204-7

Longo, Margaret F, and Thomas E Starzl. (2001) November Bulletin. 2002.

Mackler N, Wilkerson W, Cinti S. (2007). Will first-responders show up for work during a pandemic? Lessons from a smallpox vaccination survey of paramedics. Disaster Manag Response. 2007;5:45–48.

Madhav N, Oppenheim B, Gallivan M, et al. (2017). Pandemics: Risks, impacts, and mitigation.

    In: Jamison DT, Gelband H, Horton S, et al., editors. Disease Control Priorities:

    Improving Health and Reducing Poverty. 3rd edition. Washington (DC): The

    International Bank for Reconstruction and Development / The World Bank; 2017 Nov

    27. Chapter 17. Available from: https://www.ncbi.nlm.nih.gov/books/NBK525302/ doi:

    10.1596/978-1-4648-0527-1_ch17

Maguire BJ, O'Meara P, O'Neill BJ, Brightwell R. (2018). Violence against emergency medical

    services personnel: A systematic review of the literature. Am. J. Ind.

    Med. 2018; 61: 167– 80.

Mandy A, Tinley P. (2004). Burnout and occupational stress. Journal of American Podiatric

    Medicine Association, 94(3): 282–291. https://doi.org/10.7547/0940282

Mansouri, Y. Jahani, H. Shahdadi, and M. Khammari. (2016). Relationship between work-family

    conflict and marital satisfaction among nurses and midwives in hospitals of Zabol

    University of Medical Sciences. The Journal of Qazvin University of Medical

    Sciences 20.3 (2016): 48-56. Web.

Marshall, MN. (1996). Sampling for qualitative research. *Family Practice* 1996; 13: 522-525.

Marshall, C., & Rossman, G. (2006). Designing qualitative research (4th ed.). Thousand Oaks,

    CA: Sage.

Martin, S. D. (2011). Nurses' ability and willingness to work during pandemic flu. *Journal of*

    Nursing Management, 19(1), 98-108.

Martens K, Hantsch C, Stake C. (2003). Emergency preparedness survey: Personnel availability

    and support needs. Ann Emerg Med. 2003;42 (Suppl 1):389.

Maslach, C., Schaufeli, W.B., Leiter, M. P. (2001). Job burnout. Annual Review of Psychology, 52 (2001), pp. 397–422.

Masterson, L., Steffen, C., Brin, M., Kordick, M., & Christos, S. (2009). Willingness to respond: Of emergency department personnel and their predicted participation in mass casualty terrorist events. *Journal of Emergency Medicine*, 36(1), 43-49.

Maunder, Robert, et al. (2004). Factors associated with the psychological impact of severe acute respiratory syndrome on nurses and other hospital workers in Toronto. *Psychosomatic Medicine* 66.6 (2004): 938-942.

Maunder RG, Lancee WJ, Balderson KE, et al. (2006). Long-term psychological and occupational effects of providing hospital healthcare during SARS outbreak. Emerg Infect Dis 2006;12:1924–32. 10.3201/eid1212.060584 [PMC free article] [PubMed] [CrossRef] [Google Scholar]

McAlonan GM, Lee AM, Cheung V, et al. (2007). Immediate and sustained psychological impact of an emerging infectious disease outbreak on health care workers. Can J Psychiatry 2007;52:241–7. 10.1177/070674370705200406 [PubMed] [CrossRef] [Google Scholar]

McConnell D. J. (2020). Balancing the duty to treat with the duty to family in the context of the COVID-19 pandemic. Med Ethics 2020;46:360–363.

McGovern JE. (2009). Mass casualty and patient movement. In: Cone DC, O'Connor RE, Fowler RL (eds). Emergency Medical Services: Clinical Practice and Systems Oversight Volume 4—Special Operations Medical Support. Dubuque, IA: Kendall Hunt, 2009, 97–110.

Merriam, S. A. (1988). Conducting effective interview. In Case study research in education (1st ed., pp. 71-86). San Francisco, CA: Jossey-Bass.

Merriam, S. B. (2002). Qualitative research in practice: Examples for discussion and analysis. San Francisco, CA: Jossey-Bass.

Miles, M. B. & Huberman, A. M. (1994). Qualitative data analysis: An expanded source book. (2nd ed.). Thousand Oaks, CA: Sage.

Mileti, Dennis S. 1985. "Role Conflict and Abandonment in Emergency Workers." Emergency Management Review 2:20-22.

Mitchell, R., Ogunremi, T., Astrakianakis, G., Bryce, E., Gervais, R., Gravel, D., . . . Weir, C. (2012). Impact of the 2009 influenza a (H1N1) pandemic on Canadian health care workers: A survey on vaccination, illness, absenteeism, and personal protective equipment. AJIC: American Journal of Infection Control, 40(7), 611-616. doi:10.1016/j.ajic.2012.01.011

Mohindra, R., R, R., Suri, V., Bhalla, A., & Singh, S. M. (2020). Issues relevant to mental health promotion in frontline health care providers managing quarantined/isolated COVID19 patients. *Asian Journal of Psychiatry*, 51, 102084. https://doi.org/10.1016/j.ajp.2020.102084

Moore, - H. E. et al. (1963). Before the Wind: A Study of the Response to Hurricane Carla. tiashington: National Academy of Sciences, 1963.

Moore, Harry Estill. (1958). Tornadoes over Texas: A Study of Waco and San Angelo in Disaster. Austin. TX: U of Tx P.

Morse, j. M. (1994). Emerging from the data: The cognitive processes of analysis in qualitative

inquiry. In J. M. Morse (Ed.), Critical issues in qualitative research methods. Thousand

Oaks, CA: Sage

Moser, A., & Korstjens, I. (2018). Series: Practical guidance to qualitative research. Part 3:

Sampling, data collection and analysis. *The European Journal of General*

Practice, 24(1), 9–18. https://doi.org/10.1080/13814788.2017.1375091

Muzafir Sherif. (1948). An outline of social psychology (New York: Harper & Bros., 1948), pp.

I22-25,

National Highway Traffic Safety Administration, United States Department of Transportation.

National EMS Scope of Practice Model (2007).

National Institute of Mental Health [NIMH]. (2010). What is post-traumatic stress disorder?

Retrieved March 12, 2010 from http://www.nimh.nih.gov/health/topics/post-traumatic-

stress-disorderptsd/index.shtml

Netemeyer RG, Boles JS, McMurrian R. (1996). Development and validation of work–family

conflict and family-work conflict scales. J Appl Psychol. 1996, 81 (4): 400-410.

Nicholas Genes (2 September 2005). Disasters and emergency medicine. Medgadget.com.

Archived from the original on 12 June 2009. Retrieved 5 April 2012.

Available: http://www.nremt.org/nremt/downloads/Scope%20of%20Practice.pdf Accessd

12 February 2017.

O'Sullivan, T. L., Amaratunga, C., Phillips, K. P., Corneil, W., Eileen, O. C., Lemyre, L. and

Darcie, D. (2009). If schools are closed, who will watch our kids? Family caregiving and

other sources of role conflict among nurses during large-scale outbreaks. *Prehospital and*

Disaster Medicine, 24(4), pp. 321 –5.

Pal, Suchitra. (2012). A Qualitative inquiry into work-family conflict among Indian doctors and
nurses. Work (Reading, Mass.) 42.2 (2012): 279-288. Web.

Pal S.O. & Saksvik P. (2006). A comparative study of work and family conflict in Norwegian
and Indian hospitals. Nordic Psychology 58 (4), 298–314.

Pal S.O. & Saksvik P. (2008). Work-family conflict and psychosocial work environment
stressors as predictors of job stress in a cross-cultural study. *International Journal of
Stress Management* 15 (1), 22–42.

Pan S.M., Feng M.C., Wu M.H. (2005). Voices from the frontline: Nurses' impact and coping
during the 2003 SARS outbreak in southern Taiwan. Evid Based Nurs. 2005;1(2):149–
156. [Google Scholar]

Parasuraman, S., & Alutto, J. A. (1984). Sources and outcomes of stress in organizational
settings: Toward the development of a structural model. Academy of Management
Journal, 27(2), 330–350.

Patel R., Wattamwar K., Kanduri J., Nahass M., Yoon J., Oh J., Shukla P., Lacy C.R. (2017).
Health care student knowledge and willingness to work in infectious disease outbreaks.
Disaster Med. Public Health Prep. 2017;11:694–700. doi: 10.1017/dmp.2017.18.

Patton, M. Q. (2002). Qualitative research & evaluation methods (3rd ed.). Thousand Oaks, CA:
Sage

Patton, Michael Quinn. (2014). Qualitative research & evaluation methods: Integrating theory
and practice. FOURTH EDITION. SAGE Publications, Inc

Perry R. (2006). What is a disaster? In: Rodriguez H, Quarantelli E, Dynes R, eds. Handbook of
Disaster Research. New York: Springer; 2006:1–15.

Perrow C. (1984). Normal Accidents. New York: Basic Books; 1984.

Petkova M. Dozens of Bulgarian doctors resign amid COVID-19 crisis. Aljazeera, 2020.

    Available: https://www.aljazeera.com/news/2020/03/dozens-bulgarian-doctors-resign-

    covid-19-crisis-200318151643933.html [Accessed 2 Apr 2020].

Piko B. F. (2006). Burnout, role conflict, job satisfaction and psychosocial health among

    Hungarian health care staff: A questionnaire survey. *International Journal of Nursing*

    Studies, 43(3), 311–318. https://doi.org/10.1016/j.ijnurstu.2005.05.003

Phelps, S. (2007). Mission Failure: Emergency medical services response to chemical,

    biological, radiological, nuclear, and explosive events. Prehospital and Disaster

    Medicine, 22 (4), 293-296.

Phil B. Fontanarosa and Howard Bauchner. (2020). COVID-19—Looking beyond tomorrow for

    health care and society. JAMA. 2020;323(19):1907-1908. doi:10.1001/jama.2020.6582

Phillips, Brenda. (2016). Qualitative disaster research. Understanding qualitative research.

    Oxford University Press.

Pleck et al., (1980). J Pleck, G Staines, L Lang. Conflicts between work and family life. Monthly

    Labour Review (1980), pp. 29-32

Ploeg van der E, Kleber RJ. (2003). Acute and chronic job stressors among ambulance

    personnel: Predictors of health symptoms. Occup Environ Med. 2003, 60: 40-46.

    10.1136/oem.60.suppl_1.i40.

Poonia SK, Rajasekaran K. (2020). Information overload: A method to share updates among

    frontline staff during the COVID-19 pandemic. Otolaryngology–Head and Neck Surgery.

    2020;163(1):60-62. doi:10.1177/0194599820922988

Pourvakhshoori N, Norouzi K, Ahmadi F, Hosseini M, Khankeh H. (2017). Nurse in limbo: A

    qualitative study of nursing in disasters in Iranian context. PLoS ONE 12(7): e0181314.

    https://doi. org/10.1371/journal.pone.0181314

Quarantelli, EL. (1960). A note on the protective function of the family. Marriage and Family

    Living 22-263-264.

Quarantelli, E.L. (2008). Conventional beliefs and counterintuitives realities. Social Research:

    An International Quarterly of the Social Sciences 75.3 (2008):873-904.

Qureshi K, Merrill J, Gershon R, et al. (2002). Emergency preparedness training: A pilot study. J

    Urban Health. 2002;79:413–416.

Qureshi, K., Gershon, R. R. M., Sherman, M. F., Staub, T., Gebbie, E., McCollum, M., Erwin,

    M. J. and Morse, S. S. (2005). Health care workers' ability and willingness to report to

    duty during catastrophic disasters. Journal of Urban Health: Bulletin of the New York

    Academy of Medicine, 82(3), pp. 378– 88.

Ran B, Saad O, Daniel B, George E. (2006). Local public workers' perceptions toward

    responding to an influenza pandemic. 2006, BMC Public Health, 6: 99-

Rathore FA, Farooq F. (2020). Information overload and infodemic in the COVID-19 pandemic.

    JPMA. The Journal of the Pakistan Medical Association. 2020 May;70(Suppl 3)(5):S162-

    S165. DOI: 10.5455/jpma.38.

Ryan, G. W., & Bernard, H. R. (2000). Techniques to identify themes in qualitative

    data. Handbook of Qualitative Research. 2nd ed. Thousand Oaks, CA: Sage Publications.

Reilly MJ. Markenson D. DiMaggio C. (2007). Comfort level of emergency medical service

    providers in responding to weapons of mass destruction events: Impact of training and

    equipment. *Prehospital and Disaster Medicine*. Web. 2007;22(4):297–303.

Roberts, K. A., & Bryce, E. (2015). Pandemic preparedness of BC paramedics. *Canadian Journal of Infection Control*, 30(4), 225-231. Retrieved from http://ipaccanada.org/photos/custom/OldSite/cjic/vol30no4.pdf

Robinson, H.R. Sutherland, D.J. Spooner, T.J. Bennett, C.H. Lit, C.A. Graham. (2009). Ten things your emergency department should consider to prepare for pandemic influenza. Emerg Med J, 26 (2009), pp. 497-500

Rogers, George Oliver. (1984). Continuity, role conflict and emergency response. Pittsburgh: University of Pittsburgh, 1984.

Rosser, B. R. S. (2008). Working as a psychologist in the Medical Reserve Corps: Providing emergency mental health relief services in hurricanes Katrina and Rita. *Professional Psychology: Research and Practice*, 39(1), pp. 37 – 44.

Rubin, H. J., & Rubin, I. S. (2005).Qualitative interviewing (2nd ed.): The art of hearing data (2nd ed.). SAGE Publications, Inc. https://www.doi.org/10.4135/9781452226651

Saakvitne, K. W. (2002). Shared trauma: The psychotherapist's increased vulnerability. *Psychoanalytic Dialogues*, 12(3), pp. 443 – 50.

Saldaña J. (2009). The coding manual for qualitative researchers. SAGE Publications Led. ISBN 978-1-84787-548-8

Schein, V. E. (1973). The relationship between sex role stereotypes and requisite management charcteristics. Journal of Applied Psychology, 1973, 57, 95-100.

Shaban, R. Z. (2006). Paramedic Knowledge of Infection Control Principles and Standards in an Australian Emergency Medical System. Healthcare Infection, 11(1), 13. http://doi.org/10.1071/HI06013

Shanafelt T, Ripp J, Trockel M. (2020). Understanding and addressing sources of anxiety among health care professionals during the COVID-19 pandemic. JAMA. 2020;323(21):2133–4. 10.1001/jama.2020.5893. [PubMed]

Shapira, Y., Marganitt, B., Roziner, I., Shochet, T., Bar, Y. and Shemer, J. (1991). Willingness of staff to report to their hospital duties following an unconventional missile attack: A state wide survey. *Israel Medical Science Journal*, 27, pp. 704 – 11

Shechter A. (2020). Psychological distress, coping behaviors, and preferences for support among New York healthcare workers during the COVID-19 pandemic. Gen. Hosp. Psychiatr. 2020;66:1–8.[PMC free article] [PubMed] [Google Scholar

Shiao JS, Koh D, Lo LH, Lim MK, Guo YL. (2007). Factors predicting nurses' consideration of leaving their job during the SARS outbreak. Nurs Ethics. 2007;14:5–17. doi: 10.1177/0969733007071350.[PubMed] [CrossRef] [Google Scholar]

Shreffler, K. M., Meadows, M. P., & Davis, K. D. (2011). Firefighting and fathering: Work-family conflict, parenting stress, and satisfaction with parenting and child behavior. *Fathering*, 9(2), 169–188. doi:10.3149/fth.0902.169

Simon M., Kummerling A. & Hasselhorn H.M. (2004). Workhome conflict in the European nursing profession. *International Journal of Occupational and Environmental Health* 4 (8), 384–391.

Smith, E. (2007). Emergency health care workers' willingness to work during major emergencies and disasters. Aust J Emerg Manage. 2007;22:21–24.

Smith, E., Morgans, A., Qureshi, K., Burkle, F., & Archer, F. (2009). Paramedics' perceptions of risk and willingness to work during disasters. *Australian Journal of Emergency Management*, 24(3), 21-27.

Stake, R. E. (1995). The art of case study research: Perspectives on practice. Thousand Oaks, CA: Sage.

Stake, R. E. (2000). Qualitative Case Studies. In N. K. Denzin, & Y. S. Lincoln (Eds.), The SAGE Handbook of Qualitative Research (2nd ed., pp. 443-466). Thousand Oaks, CA: Sage.

Stangeland, Paula Ann. (2010). Nurses' experiences of responding to calls for emergency service and working during Hurricane Ike. 1 Dec. 2010. Print.

Sterud, T., Hem, E., Ekeberg, Ø. et al. (2008). Occupational stressors and its organizational and individual correlates: A nationwide study of Norwegian ambulance personnel. BMC Emerg Med 8, 16 (2008). https://doi.org/10.1186/1471-227X-8-16

Strauss, A., & Corbin, J. (1988). The basics of qualitative research: Techniques and procedures for developing grounded theory. (2nd ed.). Thousand Oaks, CA: Sage.

Strauss, A. L. (1987). Qualitative analysis for social scientists. Cambridge: Cambridge University Press.

Sturdivant, Brian E. "Support Framework for First Responder Family Members: A Proposed Model for Increasing Responder Effectiveness." Thesis. Naval Postgraduate School, 2009.

Sultana A, Sharma R, Hossain MM, Bhattacharya S, Purohit N. (2020). Burnout among healthcare providers during COVID-19 pandemic: Challenges and evidence-based interventions (2020).

Sultan MAS, Løwe Sørensen J, Carlström E, Mortelmans L, Khorram-Manesh A. (2020). Emergency healthcare providers' perceptions of preparedness and willingness to work during disasters and public health emergencies. Healthcare (Basel). 2020 Oct 29;8(4):442. doi:

Su T.P., Lien T.C., Yang C.Y. (2007). Prevalence of psychiatric morbidity and psychological adaptation of the nurses in a structured SARS caring unit during outbreak a prospective and periodic assessment study in Taiwan. J Psychiatr Res. 2007;41(1–2):119–130. [PMC free article] [PubMed] [Google Scholar]

Taubenberger, J. K., & Morens, D. M. (2010). Influenza: The once and future pandemic. *Public Health Reports*, 125(3 suppl), 15-26. doi:10.1177/00333549101250s305

Teck W, Gerald K, Seng C, Meena S, Kelvin K, Sin C, David K. (2008). A cross-sectional study of primary-care physicians in Singapore on their concerns and preparedness for an avian influenza outbreak. Ann Acad Med Singapore. 2008, 37: 458-464.

Teter, J., Millin, M., & Bissell, R. (2014). Hand Hygiene in Emergency Medical Services. Prehospital Emergency Care, 19(2), 313–319.

Theodore Newcomb. (1950). Social psychology. (New York: Dryden Press, 1950), p. 44

Tierney K. (2003). Disaster beliefs and institutional interests: recycling disaster myths in the aftermath of 9 –11. In: Clarke L, ed. Terrorism and Disaster: New Threats, New Ideas. Vol 11. New York: Elsevier; 2003:33–51.

Tippett, V. C., Watt, K., Raven, S. G., Kelly, H. A., Coory, M., Archer, F., et al. (2010). Anticipated behaviors of emergency prehospital medical care providers during an influenza pandemic. *Prehospital and Disaster Medicine*, 25(1), 20-25.

Tiziana Ramaci; Massimiliano Barattucci ; Caterina Ledda ; Venerando Rapisarda. (2020). Social stigma during COVID-19 and its impact on HCWs outcomes. Sustainability, 01 May 2020, Vol.12(3834), p.3834

Trainor, J., & Barsky, L. (2011). Reporting For Duty? A Synthesis of Research on Role Conflict, Strain, and Abandonment Among Emergency Responders During Disasters And Catastrophes.

Turner, R. H. (1976). The real self: From institution to impulse. Am. J. Sociol. 8 1:986-1016

Tzeng H.M. (2004). Nurses' professional care obligation and their attitudes towards SARS infection control measures in Taiwan during and after the 2003 epidemic. Nurs Ethics. 2004;113:277–289. [PubMed] [Google Scholar

United States Department of Veterans Affairs. (2010). National center for PTSD: Advancing science and promoting understanding of traumatic stress. Retrieved March 12, 2010 from http://www.ptsd.va.gov/

Vizheh M, Qorbani M, Arzaghi SM, Muhidin S, Javanmard Z, Esmaeili M. (2020). The mental health of healthcare workers in the COVID-19 pandemic: A systematic review [published online ahead of print, 2020 Oct 26]. J Diabetes Metab Disord. 2020;1-12. doi:10.1007/s40200-020-00643-9

Voydanoff, P. (1988). Work Role Characteristics, Family Structure Demands, and Work/Family Conflict. Journal of Marriage and Family. Vol. 50, No. 3 (Aug., 1988), pp. 749-761 (13 pages). Published By: National Council on Family Relations

Wagner, D. T., Barnes, C. M., & Scott, B. A. (2014). Driving it home: How workplace emotional labor harms employee home life. Personnel Psychology, 67(2), 487– 516. doi:10.1111/peps.12044

Wahlquist C . (2020). Coronavirus: Union defends staff of Sydney aged care home after "most"

    call in sick. *The Guardian*, 2020.

    Available: https://www.theguardian.com/world/2020/mar/05/coronavirus-union-defends-

    staff-of-sydney-aged-care-home-after-most-call-in-sick [Accessed Mar 2020].

Walensky RP, del Rio C. (2020). From mitigation to containment of the COVID-19 pandemic:

    Putting the SARS-CoV-2 genie back in the bottle. JAMA. Published online April 17,

    2020. doi:10.1001/jama.2020.6572

Wallace CL, Wladkowski SP, Gibson A, White P. (2020). Grief during the COVID-19

    pandemic: Considerations for palliative care providers. J Pain Symptom Manag.

    2020;60:e70.

Wang, Y., Chang, Y., Fu, J. et al. (2012). Work-family conflict and burnout among Chinese

    female nurses: The mediating effect of psychological capital. BMC Public Health 12, 915

    (2012). https://doi.org/10.1186/1471-2458-12-915

Watt, K., Tippett, V. C., Raven, S. G., Jamrozik, K., Coory, M., Archer, F., & Kelly, H. A.

    (2010). Attitudes to living and working in pandemic conditions among emergency

    prehospital medical care personnel. Prehospital and Disaster Medicine, 25(01), 13-19.

    doi:10.1017/s1049023x00007597

Webb, Gary R., Michael Beverly, Megan McMichael, James Noon, and Tabitha Patterson.

    (1999). Role improvising under conditions of uncertainty: A classification of types.

    University of Delaware Disaster Research Center Preliminary Paper No. 289. 1999.

White, Meda H. (1962). Role-Conflict in Disasters: Not Family but Familiarity

    First. Washington, DC: National Academy of Sciences, National Research Council

Whittemore, R., Chase, S. K., & Mandle, C. L. (2001). Validity in Qualitative Research. Qualitative Research, 11(4), 522–537. http://doi.org/10.1177/104973201129119299

WHO announces COVID-19 outbreak a pandemic.http://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/news/news/2020/3/who-announces-covid-19-outbreak-a-pandemicWinship, C., Mandel, M. 1983. Roles and positions: A critique and extension of the blockmodeling approach. In Sociological Methodology 1983-1984, ed. S. Leinhardt, pp. 3 14-44. San Francisco: Jossey-Bass

Wolcott, H. E (1994). Transforming qualitative data: Description, analysis, and interpretation. Thousand Oaks, CA: Sage.

World health report. Health workers. 2006. Available at: http://www.who.int/whr/2006/06_chap1_en.pdf

Yin, Huahua, *et al*. (2011). "A Survey of the Practice of Nurses' Skills in Wenchuan Earthquake Disaster Sites: Implications for Disaster Training." *Journal of Advanced Nursing* 67.10 (2011): 2231–2238. Web.

Young KM, Cooper CL. (1999). Stress in ambulance personnel. Stress in Health Professionals. Edited by: Firth-Cozens J, Payne PL. 1999, John Wiley and Sons Ltd, 119-131.

Young L. (2017). Paramedics' Confidences and Concerns About Infectious Disease Pandemics. ProQuest.

Zedeck, S., & Mosier, K. L. (1990). Work in the family and employing organization. *American Psychologist, 45*(2), 240–251. https://doi.org/10.1037/0003-066X.45.2.240

Zhang YL, Cao BH, Yang Q, Lei H, Ma JF. (2010). Analysis on the work-family conflict among medical staff. China J Health Psychol. 2010, 18 (12): 1457-1458.

Zuger, A., & Miles, S. H. (1987). Physicians, AIDS, and occupational risk. Historic traditions and ethical obligations. JAMA. 1987;258:1924–1928. doi: 10.1001/jama.258.14.1924. [PubMed] [CrossRef] [Google Scholar]

Zurcher, L. A. (1983). Social Roles: Conformity, Conflict, and Creativity. Beverly Hills, Calif: Sage

APPENDICES

APPENDIX A: IRB Approval Form

Oklahoma State University Institutional Review Board

Date:	07/24/2020
Application Number:	IRB-20-342
Proposal Title:	Role Conflict Among EMS Personnel and Their Willingness to Report to Duty During Disasters
Principal Investigator:	RAWAN TAWALBEH
Co-Investigator(s):	Ray H Chang, Ph.D.
Faculty Adviser:	Haley Murphy
Project Coordinator:	
Research Assistant(s):	
Processed as:	Exempt
Exempt Category:	

Status Recommended by Reviewer(s): Approved

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in 45CFR46.

This study meets criteria in the Revised Common Rule, as well as, one or more of the circumstances for which <u>continuing review is not required.</u> As Principal Investigator of this research, you will be required to submit a status report to the IRB triennially.

The final versions of any recruitment, consent and assent documents bearing the IRB approval stamp are available for download from IRBManager. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:
1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be approved by the IRB. Protocol modifications requiring approval may include changes to the title, PI, adviser, other research personnel, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms.
2. Submit a request for continuation if the study extends beyond the approval period. This continuation must receive IRB review and approval before the research can continue.
3. Report any unanticipated and/or adverse events to the IRB Office promptly.
4. Notify the IRB office when your research project is complete or when you are no longer affiliated with Oklahoma State University.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact the IRB Office at 405-744-3377 or irb@okstate.edu.

Sincerely,
Oklahoma State University IRB

APPENDIX B: IRB Approved Recruitment Letter

Recruitment Email

July 28, 2020

Re: Role Conflict Among EMS Personnel and Their Willingness to Report to Duty During Disasters.

Dear Sir/ Madam,

I am writing to let you know about an opportunity to participate in a voluntary research study about (Role Conflict Among EMS Personnel and Their Willingness to Report to Duty During Disasters). This study is being conducted by Rawan Tawalbeh, a PhD student at Fire and Emergency Management Administration program, Oklahoma State University.

Participation includes 45- 60 minutes interview that will be conducted online, using Skype or Zoom applications according to your convenience. The interviews will be recorded and transcribed by the researcher. There will be no compensation for participation in this research study.

To be eligible to participate in this research study, you must be:
(a) Able to read and write in English.
(b) Certified as an Emergency Medical Services personnel (Certified by the National Registry as either a Basic EMT, Intermediate EMT, or EMT-Paramedic) and reported to duty during COVID-19.

If you would like additional information about this study, please contact the principal investigator.

Thank you for your consideration, and once again, please do not hesitate to contact the principal investigator if you are interested in learning more about this Institutional Review Board approved project.

Principal Investigator: Rawan Tawalbeh, PhDc, MS, RN
E-mail: rtawalb@okstate.edu
Department of Fire and Emergency Management Administration
Oklahoma State University

Approved: 07/24/2020
Protocol #: IRB-20-342

APPENDIX C: IRB Approved Follow Up Email

Follow up Letter

Dear Sir/Madam,

Thank you for agreeing to participate in the research study titled "Role Conflict Among EMS Personnel and Their Willingness to Report to Duty During Disasters".

I am writing to determine the most convenient time, date, and online application for you to conduct the interview. Please fill out the following sections and send it back to me at your convenience.

Preferable interview date: --/--/----
Preferable interview time (please expect 45-60 minutes interview): ---- am -----pm
Preferable Online application (please select one): -- Zoom or – Skype

Also, attached is a PDF copy of the informed consent for the research study. Please print out, sign, scan or take a photo and send it back to me as replay to this email.

Thank you for your consideration, and once again, please do not hesitate to contact us if you have any question or concern.

Principal Investigator: Rawan Tawalbeh, PhDc, MS, RN
E-mail: rtawalb@okstate.edu
Department of Fire and Emergency Management Administration
Oklahoma State University

APPENDIX D: IRB Approved Informed Consent Form

Role Conflict Among EMS Personnel and Their Willingness to Report to Duty During

Disasters

Statement of Informed Consent

You are being asked to participate as a subject in the research project entitled, "Role Conflict Among EMS Personnel and Their Willingness to Report to Duty During Disasters" under the direction of Rawan Tawalbeh

- Pursuing Ph.D. in Fire and Emergency Management Administration, Oklahoma State University, Stillwater, OK.
- MS, Emergency Health Services, University of Maryland, Baltimore County, Baltimore, MD.
- BSN, Nursing Science, Jordan University of Science and Technology.

Purpose of The Study:

The purpose of the study is to examine the impact of work-family conflict on the willingness of EMS providers to report to duty during disasters. You are being asked to participate because you were identified as EMS personnel (EMT or Paramedic) who worked in the field during COVID-19.

Procedures Related Only to The Research

The interviews will be conducted online (using Skype or Zoom applications according to your convenience). The interviews will be recorded and transcribed by the researcher.

Confidentiality

The researcher will remove all identifiable information related to the participant during transcription. Transcriptions and any collected data will be saved in the principal investigator's password protected computer that only the principal investigator knows. The audio records will

Approved: 07/24/2020
Protocol #: IRB-20-342

be saved on the same computer and will be deleted after transcription. Only the principal investigator or individual working directly on the research study will have access to the stored data. Any names or identifying information will be changed to conceal participant identity and will not be associated with any part of the written report of the research. The principal investigator works to ensure confidentiality to the degree permitted by technology. It is possible, although unlikely, that unauthorized individuals could gain access to the interview because it is online. Interviews involves risks similar to a person's everyday use of the internet. If you have concerns, you should consult the principal investigator.

Risk of Participant

There are no known risks which are greater than those ordinarily encountered in daily life. In order to reduce the risk of COVID-19, this interview will be conducted through phone or online according to your preferences.

Number of Subject Participating and The Duration of Your Participation

The anticipated number of subjects involved in the study will be 42. The length of time for your participation is approximately one hour.

Benefit to the Subject

There are no immediate benefits to you or the other participants, but you will have the opportunity to tell your story about deciding to work during a disaster. This study will help in understanding the sources of work-family conflict and how these sources impact EMS personnel willingness to report to work during a disaster. Additionally, it will reveal the factors that facilitate or hinder their willingness to work. The researcher hopes to use the findings of this study to help shed light on the needs and concerns of EMS personnel while they are making their decision to report to work during a disaster.

Reimbursement for Expenses

There will be no reimbursement for participation in this study.

Participant Rights

Your participation in the study is completely voluntary, and you have been told that you may refuse to participate or stop your participation in this project at any time without penalty or loss of benefits. You have the right to refuse to answer any question during the interview without explanation of cause or justification. Informed consent is required of all persons in this project. Whether or not you provide a signed informed consent for this research study will have no effect on your current or future relationship with the researcher or Oklahoma State University.

Procedures for Withdrawal

You may withdraw from the study at any time with no consequences or effect to your position. If at any time you wish to withdraw from the study call Rawan Tawalbeh at (657) 272-2885.

Contacts

If you have any questions, concerns, input or complaints, before, during or after the research study, or if you need any further information regarding your rights, please contact the principal investigator, the advisor, or the Internal Review Board Office listed below.

Rawan Tawalbeh – Principal Investigator

E-mail: rtawalb@okstate.edu

Phone number: (657) 272-2885

Dr. Haley Murphy– Advisor
E-mail: haley.c.murphy@okstate.edu

Institutional Review Board Office

Address: 223 Scott Hall, Stillwater, Ok 74078

E-mail: irb@okstate.edu

Phone Number: (405) 774-3377

Signatures

The purpose of this research study, procedures to be followed, risks and benefits have been explained to me. I have been allowed to ask questions, and my questions have been answered to my satisfaction. I have been told who to contact if I have additional questions. I have read this consent form and voluntarily agree to participate as a subject in this study. I am free to withdraw my consent at any time. A copy of this consent form has been given to me.

_____ _____

Signature of Subject   Date

Using appropriate language that is understandable, I have discussed this project and the items listed above with the subject.

_____ _____

Signature of Person Obtaining Consent   Date

APPENDIX E: IRB Approved Semi-Structured Interview Questions

1. Would you please briefly introduce yourself, your experience on serving as an EMS provider?

2. What are your main concerns for responding to this pandemic?

    a. How do these concerns affect your willingness to report to duty during this pandemic?

    b. Are there any other factors that could affect your willingness to report to duty during COVID-19 pandemic?

    c. What are the things your employees can do to mollify these concerns?

3. How does this pandemic affect your working hours and schedule?

    a. Are there any changes to your shift schedule, increase in the workload (increased hours of work) or overtime?

        a) If yes, how did this change affect the time that you usually spend with your family?

    b. How do you think the changes in working hours will influence the EMS personnel willingness to respond to this pandemic?

4. At the beginning of this pandemic, the news reported the shortage of protective gear for the medical and EMS providers. Do you or your family members worry about your safety due to the shortage of protective gear?

    a. If you and your family members do worry about your working safety; what are the things you did to mollify these concerns?

    b. If not, did you observe other EMS providers have similar issues? How did they

       mollify these concerns?

5. Does your previous training equip you to respond to the COVID-19?

    a. If yes, do you and your family members feel more comfortable to respond to this

       pandemic, why?

    b. If no, how does the lack of previous training affect your willingness to respond to

       this pandemic (You can also discuss possible concerns from your family

       members, if you have).

6. What are the things that could make you less concerned to report to this pandemic?

7. Is there any question you think I have to ask, but I did not?

8. Would you please recommend a coworker for me to continue this interview?

VITA

Rawan Ali Tawalbeh

Candidate for the Degree of

Doctor of Philosophy

Dissertation: SOURCES OF ROLE CONFLICT: A CRITICAL EVALUATION OF EMERGENCY MEDICAL SERVICE WORK-FAMILY CONFLICT DURING THE COVID-19 PANDEMIC

Major Field: Fire and Emergency Management Administration

Biographical:

Education:

Completed the requirements for the Doctor of Philosophy in Fire and Emergency Management Administration at Oklahoma State University, Stillwater, Oklahoma in May, 2021.

Completed the requirements for the Master of Science in Emergency Health Services at University of Maryland, Baltimore County, Baltimore, Maryland in 2012.

Completed the requirements for the Bachelor of Science in Nursing at Jordan University of Science and Technology, Irbid, Jordan in 2008.

Experience:

Instructor and clinical coordinator at California Career Institute, full time lecturer at Jordan University of Science and Technology, teaching and research assistant at Jordan University of Science and Technology and at University of Jordan, registered nurse in Jordan and the USA

Professional Memberships:

Registered nurse, Jordan Nursing and Midwives Council, 2008. Emergency Medical Technician-Basic (EMT-B), University of Maryland Baltimore County, 2010. Registered nurse, California Board of Nursing, 2017.