

CRISIS INTERVENTION TEAM (CIT) TRAINING FOR EMERGENCY MEDICAL
SERVICES (EMS) PERSONNEL

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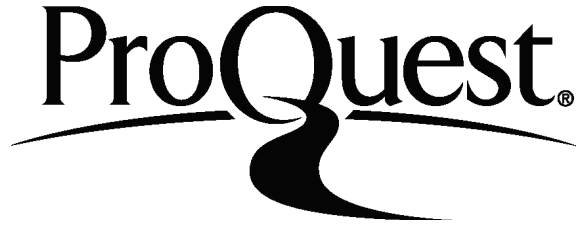
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Abstract

The purpose of this quantitative study is to determine if Crisis Intervention Team (CIT) Training needs to be extended to Emergency Medical Services (EMS) personnel based on the frequency of calls for service involving persons experiencing a psychological episode, assaults perpetrated by persons experiencing a psychological episode, and restraint use on persons experiencing a psychological episode administered by EMS personnel. Prior mental health training for EMS personnel and agency protocols for addressing violent patients will help determine if there is a need to extend CIT Training to EMS personnel. Additionally, this study will examine if EMS personnel are willing to undergo Crisis Intervention Training and if they believe the training would be beneficial when providing services to patients with psychological disorders. Although no research examines whether there is a need to extend CIT Training to EMS personnel, previous research suggests that mental health training for EMS personnel is effective by improving emergency responses, confidence levels of emergency responders, patient-provider communication, and the safety of patients and emergency responders. Therefore, it is hypothesized that there is a need to extend CIT Training to EMS personnel. Results of this study suggest that 60.2% of EMS personnel were not assaulted on duty, 45.2% came into contact with persons experiencing psychological disorders at low frequencies, and 60.2% restrained patients experiencing a psychological episode at low frequencies, despite their lack of CIT Training. However, 53.8% of EMS personnel reported that they would be willing to complete CIT Training and 85.7% of EMS personnel believe that CIT Training would be a valuable skill set to have when responding to calls for service involving persons experiencing a psychological episode. Surveys were administered face-to-face to Florida certified firefighters, paramedics, and EMTs employed with a central Florida fire agency. The survey was anonymous.

Crisis Intervention Team (CIT) Training for Emergency Medical Services (EMS)

Personnel

Because Emergency Medical Services are available 24 hours a day to respond to emergencies, EMS personnel (firefighters, paramedics and EMTs) can expect calls for service involving persons experiencing psychological episodes (Johnston, 1977). Johnston (1977) argues “for a system to continually confront the problems of patients in crisis and not prepare its workers to adequately intervene would seem to border on negligence” (p. 27). Extending CIT Training to EMS personnel, while rare, has proven to be effective and necessary.

Even though EMS personnel routinely respond to calls for service involving persons experiencing a psychological episode, very few EMS personnel have received mental health training. According to Mark Giulliano, program director of Westchester County Department of Community Mental Health, approximately three EMS personnel have completed Crisis Intervention Team (CIT) Training over the last several years (personal communication, December 4, 2014). However, Giuliano states that the firefighters he has spoken to indicate that they have a high number of calls involving people with serious psychological disorders (personal communication, December 4, 2014). Michael Woody, president of CIT International, states there have been 23 EMS personnel that have completed CIT Training in Ohio from May 2000 to October 2014 (personal communication, November 1, 2014). This is small number of CIT trained EMS personnel compared to the thousands of CIT trained law enforcement officers across the U.S. (Ritter, Teller, Marcuseen, Munetz, & Teasdale, 2010).

Traditionally, law enforcement officers have been the first responders to mental disturbance calls. This is partly due to the fact that law enforcement has the authority to detain individuals in crisis without a warrant (Bradbury, Ireland & Stasa, 2014). In addition, law

enforcement officers have defensive tactics skills and equipment to effectively and safely interact with psychologically unstable persons who may do harm to themselves or others. Typically, EMS personnel are responsible for handling non-psychological medical calls while law enforcement are responsible for calls involving psychologically distressed persons without comorbid medical conditions (Teller, Munetz, Gil, & Ritter, 2006). However, in Akron, Ohio, paramedics are dispatched to all 9-1-1 calls involving persons experiencing a psychological episode (Teller et al., 2006).

Over a six-year period, Akron law enforcement and EMS personnel received a combined 10,004 calls involving persons experiencing psychological episodes (Teller et al., 2006). EMS was responsible for 54% of the calls non-CIT trained police officers responded to and 42% of the calls CIT trained officers responded to (Teller et al., 2006). Likewise, Hampton (1980) conducted a study in five metropolitan cities of Georgia and found that mental health crises represent 15-40% of EMTs' calls for service (as cited in Hoge & Hirschman, p. 127).

Lack of Research

To date, no literature regarding CIT Training for EMS personnel exists. No agency, including the Florida State Fire Marshal, Florida Department of Health, Florida Professional Firefighters, Federal Emergency Management Agency (FEMA), Florida CIT Coalition, or CIT International, houses data on EMS calls for service involving persons experiencing a psychological episode. The average number of calls for service involving persons experiencing a psychological episode, assaults against EMS personnel perpetrated by an individual experiencing a psychological episode and CIT trained EMS personnel is unknown (personal communication, January 21, 2014). In addition, a Florida Gulf Coast library database search using keywords "Crisis Intervention Team Training", "Firefighters", "Paramedics", "Emergency Medical

Technicians”, and “Emergency Medical Services” produced only one relevant article on the topic. A Google search using the same keywords produced several articles about Critical Incident Stress Management Training, but a limited number about CIT Training for EMS personnel. Few agencies (Durham County, NC; Glendale Fire Department, AZ; Chandler Fire, Health and Medical Department; AZ; Surprise Fire Department, AZ) have implemented a crisis response program to better respond to calls for service involving persons experiencing a psychological episode. This study is the first to explore the need for CIT Training among an EMS population.

Crisis Intervention Team Training Programs

To address the issues involving the response to persons experiencing a psychological episode, the Memphis Police Department, Memphis Chapter of the National Alliance on Mental Illness, the University of Memphis, University of Tennessee, and mental health providers collaborated to develop the Crisis Intervention Team (CIT) program, which was established in 1988 (Memphis Police Department, 2011). The aim of the CIT program was to establish an educated, comprehensible, and safe strategy to respond to persons in psychological distress (Memphis Police Department, 2011). The Crisis Intervention Team is comprised of Uniform Patrol officers who completed CIT Training (Memphis Police Department, 2011). These officers, along with their regular duties, respond to calls involving persons experiencing a psychological episode (Memphis Police Department, 2011).

The CIT program was developed after a fatal incident involving the Memphis Police Department and a young, schizophrenic man who was suicidal (Browning et al., 2011). The man was well known by several other police officers to have a serious psychological disorder, but the police officers that responded to the call had not come into contact with him previously and were not aware of his condition (Browning et al., 2011). The man had a knife, which the police

officers demanded he drop, but instead, he made a sudden move toward the police officers (Browning et al., 2011). As a result, they shot him, as they were trained to do in a threatening situation (Browning et al., 2011). The man died due to his injuries (Browning et al., 2011).

Due to frequent encounters with persons experiencing a psychological episode, law enforcement officers are afforded the opportunity complete CIT training. Officers must request to participate in the training and the request has to be approved by their agency (Morabito, Kerr, Watson, Draine, Ottai, & Angell, 2012). In some cases, it is possible to be denied a request for training courses due to lack of manpower (Morabito et al., 2012). The duration of CIT training is 40 hours: eight hours a day, five days in a week (Browning et al., 2011). Officers that are approved to participate in the course undergo forty hours of training on mental illness, de-escalation tactics, and mental health laws (Morabito et al., 2012).

Extensive research on mental health training for first responders revealed that Crisis Intervention Training was the most widely used and successful training model. Currently, there are over 325 law enforcement agencies that utilize CIT Training programs and 2800 CIT Training programs in the United States (Ritter, Teller, Marcuseen, Munetz, & Teasdale, 2010; Usher, n.d.). Since its inception, the CIT program has been instrumental in improving interactions between law enforcement and persons experiencing psychological episodes (Browning et al., 2011; Morabito et al., 2010; Reuland, 2010; Ritter et al., 2010; Watson, Moarbitto, Draine, & Ottati, 2008).

Effectiveness of Crisis Intervention Team Training

The CIT program is responsible for decreasing the number of arrests of persons with mental illness, use of force on persons with mental illness, and officer injuries during interactions with mentally ill person (Browning et al., 2011; Memphis Police Department, 2011).

Additionally, police officers are able to identify persons with mental illness and help them to get the mental health treatment they need and deserve (Memphis Police Department, 2011). The CIT program has been recognized by the National Alliance on Mental Illness and the American Association of Sociology for its success and service to persons with mental illness (Memphis Police Department, 2011).

Past research concludes that law enforcement officers view their encounters with mentally ill persons to be “outside their expertise and responsibility and that they feel ill-prepared to provide services” (Morabito et al., 2012, p. 58). However, officers who completed CIT training reported feeling comfortable and equipped to handle encounters with mentally ill persons (Browning et al., 2011). Trained officers are more likely than un-trained officers to transport persons experiencing a psychological episode to emergency facilities rather than jail (Teller, Muntez, Gil & Ritter, 2006). In addition, Ellis (2014) found that after training, officers’ knowledge, perception, and attitude toward individuals with psychological disorders significantly improved. This suggests that CIT training may reduce the stigma and criminalization of the mentally ill (Ellis, 2014). Therefore, it is necessary for all first responders to be educated on the types of violent behaviors that can occur with serious psychological disorders in order to protect themselves and diffuse possibly threatening situations.

Crisis Intervention Team Training for EMS

Westchester County has received positive feedback from all of the non-law enforcement personnel in the CIT Training classes and they have all felt the training was relevant to their work (personal communication, December 4, 2014). Gilles Soucy, CIT coordinator for the State of Maine, states that most of their programs include EMTs, firefighters, hospital security, and law enforcement (personal communication, October 27, 2014). Because Maine has a small

population, they would never have enough participants if they designated a program for delivery to only one type of agency (personal communication, October 27, 2014). Therefore, they use a countywide approach; invite all agencies and departments, security staff, paramedics, firefighters, etc. within that county (personal communication, October 27, 2014). This interdisciplinary approach enables all types of emergency personnel to collaborate and acquire knowledge from each other (personal communication, October 27, 2014). Programs average about 25-30 attendees (personal communication, October 27, 2014). As far as curriculum, Maine uses the existing national law enforcement CIT Training model, but adds examples appropriate to the structure of the group (personal communication, October 27, 2014).

According to Michael Woody, president of CIT international, Summit County, Ohio (includes Akron) has EMS personnel in their CIT Training Courses (personal communication, October 27, 2014). EMS personnel work with 27 law enforcement agencies in the county and co-respond to mental disturbances when coded correctly (personal communication, October 27, 2014). Woody states that this approach to responding to mental disturbances has been successful because both EMS and law enforcement are able to effectively collaborate to respond to such calls for service (personal communication, October 27, 2014). Summit County has a combined Safety Communications Center, which ensures all personnel remain on the same terms (personal communication, October 27, 2014).

Existing Mental Health Training for EMS Personnel

The few existing mental health training programs in EMS agencies have been effective. This finding is consistent in other countries as well (Bradbury, Ireland & Stasa, 2014; Pajonk, Gartner, Sittinger, Knobelsdorff, Andresen, Moecke, 2004; Rees, Rapport, Thomas, John, & Snooks, 2014). A German study found that 81% of paramedics believe that mental health

training programs are important in order to effectively respond to psychiatric emergency situations (Pajonk et al., 2004).

John Hopkins developed “RAPID” PFA (psychological first aid), a psychological training program geared towards public health personnel, first responders, and first receivers (Everly, Lee McCabe, Semon, Thompson, Links, 2014). Everly et al. (2014) state “PFA is to the practice of psychotherapy as physical first aid is to the practice of medicine” (p. S25). Because mass disasters, terrorist attacks, and natural disasters are traumatizing for both survivors and emergency responders, PFA was specifically designed to help emergency personnel provide PFA to individuals in psychological distress while also maintaining their own mental stability in disaster situations (Everly et al., 2014). “RAPID” PFA training is conducted over a one day, 6-hour period (Everly et al., 2014). Results of this study conclude that after training participants’ knowledge of crisis intervention, self-confidence in their ability to apply PFA techniques, and self-confidence in their resiliency as a PFA provider increased (Everly et al., 2014).

Individuals with psychological disorders are at an increased risk of being involved in traumatic situations (Bradbury et al., 2014). Bradbury et al. (2014) argue that being placed in handcuffs and transported to an emergency mental health care facility is a distressing experience for anyone, but especially those with psychological disorders. As a result, New South Wales has taken initiative by revising the 2007 Mental Health Act in order to lessen police involvement in calls for help involving persons experiencing a psychological episode (Bradbury et al., 2014). Their goal is to expand state coercive authority to paramedics and licensed mental health practitioners (Bradbury et al., 2014). The revisions enable paramedics and mental health practitioners to detain and transport mentally ill persons who have attempted to harm or are at risk of harming themselves or others to declared mental health facility to be evaluated (Bradbury

et al., 2014). Additionally, this enables the care to be diverted from the criminal justice system to the health system (Bradbury et al., 2014). Under the 2007 Mental Health Act revisions, paramedics are authorized to use reasonable force, physical restraints, or sedatives when necessary (Bradbury et al., 2014). New South Wales paramedics use a fabric mechanical device when restraint is required (Bradbury et al., 2014). This device and paramedic care facilitates medical monitoring of the person being transported and reduces the need for police handcuffs and caged police vehicles (Bradbury et al., 2014). If safety concerns arise, paramedics and mental health practitioners are allowed to request police assistance (Bradbury et al., 2014).

Hoge and Hirschman (1984) conducted a study to evaluate the effectiveness of psychological intervention training for EMTs. Participants were 36 college students enrolled in EMT courses. Participants were divided into two conditions: psychologically trained condition and psychologically untrained condition. Participants in the psychologically trained condition completed two four-hour training sessions on “anxiety reduction skills, behavioral limit-setting skills, strategies for dealing with frequently encountered mental health problems, and the need to refer patients experiencing emotional distress or exhibiting disordered behavior” (p. 128). All participants were exposed to role-played medical emergency scenarios involving psychological issues. Participants were assessed on their ability to engage in conversation with the patient, specifically the length of the conversation and ensuring that the patient was the focus of the conversation. The variables analyzed were “exchanging names, acknowledging distress verbally, providing two types of information to the patient, offering to help contact a friend or relative of a grieving individual, permitting a grieving individual to view a deceased’s body, and the three components of the behavioral limit-setting procedure” (p. 128). Results conclude that 100% of the trained participants exhibited eye contact with the patient while approximately 50% of the

untrained participants made no eye contact with the patients. The conversational ability of the participants was rated on a nine-point scale with 1 being poor and 9 being superior. Trained participants scored an average of 6.3 while untrained scored an average of 4.1 on the scale. Results support the hypothesis that psychological intervention skills for EMTs can improve response styles to calls for service involving persons experiencing a psychological episode.

Tactical Training

Defensive tactics training is a vital aspect to the safety of all first responder positions, including those of EMS personnel. In the state of Florida, the minimum standard for law enforcement defensive tactics training is 80 hours (Florida Department of Law Enforcement, 2014). By contrast, there is no portion of the minimum standards training for Florida EMTs, paramedics, or firefighters that is devoted to defensive tactics (Division of State Fire Marshal, 2012; National Highway Traffic Safety Administration, 1998). A study conducted by the Peoria Fire Department found that the majority of EMS personnel have not received training in weapons management, management of violent situations, or self-defense training (United States Fire Administration, n.d.). In addition, the majority of EMS personnel do not routinely check patients for weapons (United States Fire Administration, n.d.). Almost all of the respondents in the study reported that they have restrained patients (United States Fire Administration, n.d.).

Attacks on EMS Personnel

EMS personnel routinely respond to emergency situations where individuals need rescue or medical assistance. EMS personnel are not usually perceived to be in imminent danger specifically when responding to routine medical calls. However, responding to emergency situations is becoming an increasingly dangerous task for EMS personnel. For example, EMS personnel have been attacked, injured, and taken hostage while on the job. A Google search of

“firefighters attacked” resulted in 749,000 entries and “firefighters taken hostage” produced 427,000 entries. Similar searches for articles regarding paramedics or EMTs that were attacked or held hostage also produced thousands of entries. Studies conducted on violence against EMS in the U.S. have varying results, but they all indicate that more than half of EMS personnel have experienced violence or threats of violence.

The first study to report violence against paramedics was conducted by Tintinalli and McCoy in 1993. Results confirmed that violent acts against paramedics on duty do occur (Tintinalli & McCoy, 1993). International studies show that approximately 60% of paramedics experienced physical violence while on the job (as cited in Boyle, Koritsas, Coles & Stanley, 2007, p. 760). In the U.S., 61% of EMS personnel have been assaulted while on duty and 25% sustained an injury from a violent encounter (Corbett, Grange, & Thomas, 1998; Mechem, Dickinson, Shofer & Jaslow, 2002). The National Association of Emergency Medical Technicians 2005 survey, *Experiences with Emergency Medical Services*, shows that 52% of EMS personnel surveyed were victims of assault perpetrated by a patient (Kirkwood, 2013). Results of a California study shows that of violent patient encounters, 79% were physical assaults and 21% were verbal threats (Kirkwood, 2013). The Angels of Mercy study found that 80% of firefighters surveyed were assaulted while on duty (N.A., 2013). Occupations that involve numerous face-to-face interactions are more likely to experience patient initiated violence than occupations with no face-to-face interactions (as cited in Boyle et al., 2007, p. 760).

Cases

There appears to be a trend among attacks on EMS personnel; the perpetrators were psychologically unstable and ambushed the firefighters. For example, in 2013, five Suwanee,

Georgia firefighter-paramedics and firefighter-EMTs responded to a man suffering from chest pain, a routine medical call, but once they arrived on scene, they were taken hostage by an armed man (Brumback & Henry, 2013; Clark & Lucas, 2013). The gunman specifically targeted firefighters rather than law enforcement due to their lack of defensive tactics and weapons (Brumback & Henry, 2013). In 2012, four firefighters responded to a house fire in Webster, New York and upon arriving on scene were shot by a convicted killer (Robbins & Kleinfeld, 2012). Two of the firefighters died, while the other two were hospitalized for their injuries (Robbins & Kleinfeld, 2012). EMS personnel were shot and killed when responding to routine emergency calls in Cape Vincent, New York and Saint Louis, Missouri, (CBSNews, 2008; N.A., 2009). Oklahoma firefighters were attacked by fireworks after arriving on scene to put out a dumpster fire, but no firefighters sustained injuries from the explosives (Shaw, 2014) While attempting to put out a suspicious string of house fires in Detroit, Michigan, residents threw bottles and rocks at the firefighters (Neavling, 2014). Jacksonville, Florida firefighters were victims of a drive by shooting outside of their fire station (Daraskevich & Gilliam, 2014). One firefighter was shot in the arm while the firefighters were fueling their ladder truck (Daraskevich & Gilliam, 2014). In Sacramento, California, a patient physically attacked two firefighters in separate incidences (Wong, 2013).

Frequency of Contact

Individuals with psychological disorders are often released from jail or psychiatric facilities into the community without receiving a continuation of necessary psychological treatment, which leaves these individuals at an increased likelihood of coming into contact with first responders. Military personnel and military veterans with traumatic brain injury and other psychological disorders have added to the already high rates of psychological disorders in the

U.S. Florida Baker Act allows for the transportation of persons experiencing psychological disorders via EMS to treatment facilities, if necessary (Florida Mental Health Act of 1971, 2005).. For this reason, EMS can expect to respond to a high volume of calls involving persons experiencing psychological episodes. If not handled appropriately, these interactions may become violent, so it is necessary to determine whether CIT Training is necessary (Browning et al., 2011).

Deinstitutionalization

The deinstitutionalization movement of the 1960s was established in order to transfer individuals with serious psychological disorders from state hospitals to community mental health programs (Koyanagi & Bazelon, 2007; Markowitz, 2011.). The goal of deinstitutionalization was to provide individuals with psychological disorders the opportunity to lead successful lives within the community with anti-psychotic medication and modern day treatment (Browning, Van Hasselt, Tucker, & Vecchi, 2011; Koyanagi & Bazelon, 2007; Markowitz, 2011). By some account, since policy makers with little knowledge of mental health were responsible for implementing the goals of community-based mental health programs, the expected improvement within the mental health care system inevitably failed (Koyanagi & Bazelon, 2007; Markowitz, 2011).

Living conditions and the care provided in state mental hospitals were often poor and unethical (Unite for Sight, n.d.). Coupled with the deinstitutionalization movement, this led to the closing of numerous state mental hospitals (Unite for Sight, n.d.). In addition, budget concerns strongly influenced politicians' decisions to close state mental hospitals (Koyanagi & Bazelon, 2007; Markowitz, 2011). In order for community mental health programs to succeed, sufficient funding for the programs was necessary (Koyanagi & Bazelon, 2007). However, state

funding for state mental hospitals was not reinvested into the community mental health programs (Browning et al., 2011; Koyanagi & Bazelon, 2007). As a result, there were shortages of mental health care services (Koyanagi & Bazelon, 2007). Instead of entering community mental health programs, most individuals with mental illness were placed with relatives or in nursing homes, both of which were unprepared to satisfy the needs of these individuals (Koyanagi & Bazelon, 2007; Markowitz, 2011).

Mentally Ill Population

Americans with psychological disorders often suffer from preventable and treatable medical conditions that turn into serious medical conditions which ultimately cause them to die over twenty years earlier than Americans without psychological disorders; thus, increasing the likelihood that EMS personnel will come into contact with individuals that have psychological disorders (National Alliance on Mental Illness, 2013). Over 90% of people who die from suicide suffered from at least one psychological disorder (National Alliance on Mental Illness, 2013). According to the National Alliance on Mental Illness (2013), an estimated one in four adults (about 61.5 million) in the United States experiences some form of psychological disorder in a given year. Approximately one in seventeen adults (about 13.6 million) suffer from a serious psychological disorder (National Alliance on Mental Illness, 2013). Similarly, about twenty percent of adolescents between thirteen and eighteen suffer from a severe psychological disorder in a given year (National Alliance on Mental Illness, 2013). The Center for Disease Control (2011) states that approximately fifty percent of adults in the United States will develop a form of psychological disorder during their lifetime.

Despite the prevalence of psychological disorders in the United States, very few individuals receive treatment for their conditions. About 60% of adults with psychological

disorders did not receive treatment within the last year (National Alliance on Mental Illness, 2013). This is most likely due to the high number of psychological disorders and lack of mental health awareness, education, and services.

Military Personnel

The traumatic experiences of battle have caused military personnel returning from war to suffer from a variety of disorders including post-traumatic stress disorder, traumatic brain injury, anxiety, and depression. According to the U.S. Department of Veteran Affairs (2014), approximately 5.2 million Americans suffer from PTSD in a given year. Between 7-8% of U.S. citizens will develop PTSD at some point during their lifetime (U.S. Department of Veteran Affairs, 2014). By contrast, 11-20% of Operations Iraqi Freedom and Enduring Freedom and 12% of Gulf War veterans suffer from PTSD in a given year (U.S. Department of Veterans Affairs, 2014). About 30% of Vietnam veterans were estimated to have suffered from PTSD during their lifetime (U.S. Department of Veteran Affairs). Those who sustained injuries in battle have higher rates of PTSD compared to those without injuries (MacGregor, Tang, Dougherty, & Galarneau, 2012).

In a given year, there are approximately 1.4 million individuals in the U.S. with traumatic brain injury (Twamley, Noonan, Savla, Schiehser, & Jak, 2009). Among the military population, between 15-23% of soldiers suffer from traumatic brain injury (Bryan, Clemans, Hernandez, & Rudd, 2013). Traumatic brain injury is a common injury among military personnel and results from a sudden penetration blast or blunt force trauma to the head (Farinde, 2014). Traumatic brain injury may cause numerous neurological and psychological disorders (Farinde, 2014). Traumatic brain injury may lead to comorbid conditions such as sleep disturbances, headaches, depression, anxiety and PTSD (Farinde, 2014). In addition, individuals with mild traumatic brain

injury are more likely to endorse suicidality than those without traumatic brain injury (Bryan et al., 2013).

Suicide among military personnel has increased drastically since Operation Enduring Freedom and Operation Iraqi Freedom (Bryan & Anestis, 2011). Military suicide rates exceed those of the general population (Bryan & Anestis, 2011). Individuals with traumatic brain injury and comorbid PTSD, depression, or insomnia are at an increased risk of suicidality (Bryan et al., 2013). PTSD and depression are known to increase the likelihood of suicidality (Anstey, Butterworth, Jorm, Christensen, Rodgers, & Windsor, 2004; Brenner, Betthausen, Homaifar, Villarreal, Harwood, Staves, & Huggins, 2011; Sher, 2009; Simpson & Tate, 2007). However, the interaction of both PTSD and depression appear to heighten each other's effects (Bryan et al., 2013).

Soldiers engage in more health risk behaviors including reckless driving and increased alcohol consumption post-deployment (Kelley, Athy, Cho, Erickson, King, & Cruz, 2012). These health risk behaviors are more prominent among individuals with PTSD (Kelley et al., 2012). Soldiers believed that their invincibility and survival skills increased after deployment (Kelley et al., 2012). Soldiers with PTSD and comorbid PTSD and traumatic brain injury are found to be less sociable, more aggressive, and more neurotic than those with without PTSD or traumatic brain injury or only traumatic brain injury (Kelley et al., 2012). Similarly, soldiers who experienced deployment reported engaging in risk seeking behaviors more than those who had not been deployed (Thomsen, Stander, McWhorter, Rabenhorst, & Milner, 2011).

Typically, military personnel with symptoms of traumatic brain injury or PTSD are not aware that they suffer from the condition (Jones, Young, & Leppma, 2010; Summerall, McAllister, Thomas, 2010). As a result, they will likely seek medical care from civilian doctors

who are not as educated in traumatic brain injury or PTSD as doctors employed with the Department of Veterans Affairs (Jones et al., 2010). Currently, military personnel are screened for traumatic brain injury and PTSD at the time of their re-deployment or entrance into the Department of Veterans Affairs system (Summerall et al., 2010). The traumatic brain injury screens are sensitive, but not specific (Summerall et al., 2010). Those with other psychological disorders may screen positive for a traumatic brain injury even if they do not (Summerall et al., 2010). Because there is a delay in the screening, evaluation and diagnosis of traumatic brain injury symptoms may be mistaken for PTSD (Summerall et al., 2010). The overwhelming number of military personnel with PTSD, traumatic brain injury, and mental health problems coupled with misdiagnosis and lack treatment will likely stress and already flawed mental health care system.

Mentally Ill Incarcerated

Jails and prisons are the largest providers for psychiatric services in the U.S. (Ditton, 1999; Lurigio, Fallon, & Dincin, 2000). The U.S. has one of the highest incarceration rates among developed countries, which has increased over the last 30 years (Anasseril, 2007). Steadman, Osher, Robbins, Clark, Case, & Samuels (2009) estimate that about two million people with serious psychological disorders in the U.S. are arrested and booked into local jails each year. In 2005, over half of all prison and jail inmates suffered from a psychological disorder (James & Glaze, 2006). According to the Bureau of Justice Statistics (BJS) (James & Glaze, 2006) 705,600 individuals with psychological disorders were in State prisons, 78,800 in Federal prisons, and 479,900 in local jails. The number of individuals with psychological disorders on probation or parole is two to four times greater than the general population (Prins & Draper, 2009). Common disorders among these inmates include mania, major depression, psychotic

disorder, personality disorders, anxiety disorder, PTSD, traumatic brain injury, suicidal behaviors, attention deficit hyperactivity disorder, and developmental disorders (Anasseril, 2007; James & Glaze, 2006). Because of limited community mental health treatment programs, the recidivism rate among offenders with psychological disorders is approximately 50% percent within three years of release from jail or prison (Binswanger, Stern, Deyo, Heagerty, Cheadle, Elmore, Koepsell, 2007).

Baker Act

The Florida Mental Health Care Act of 1971 was implemented in part due to the deinstitutionalization movement and high rate of persons with psychological disorders. Florida State Statute §§ 394.451-394.47891 Mental Health Act allows for the involuntary and voluntary commitment of an individual with a disabling mental, emotional, or behavioral disorder in order to receive emergency psychiatric services.

According to §§ 394.4625 of the Florida Mental Health Care Act of 1971 (2005), to be voluntarily committed, any individual 18 years old or older must be competent to provide informed consent to admission. Individuals 17 years old or younger must have a guardian provide informed consent and a hearing must be established to confirm the voluntariness of the consent (Florida Mental Health Act of 1971, 2005). A voluntary patient may be discharged within 24 hours of admission to the facility (Florida Mental Health Act of 1971, 2005). However, a voluntary patient who has not been transferred to involuntary commitment status may revoke consent or request discharge (Florida Mental Health Act of 1971, 2005). The request must be fulfilled within 24 hours of the request (Florida Mental Health Act of 1971, 2005).

To be involuntarily committed, §§ 394.463 of the Florida Mental Health Care Act of 1971 (2005) states that individuals must suffer from a form of mental illness that impairs their

ability to seek care voluntarily; determine that psychiatric care is necessary; without treatment, they are likely to neglect himself or herself which could result in harm to his or her well-being; or without treatment, the individual poses a threat to harm himself or herself or others (Florida Mental Health Act of 1971, 2005). For individuals who meet this criteria, an involuntary commitment process may begin via a court ex parte order, a certificate for involuntary commitment from a physician, psychiatric nurse, psychologist, mental health counselor and allied professions, or a law enforcement officer may take into custody and transport the individual to the nearest receiving treatment facility (Florida Mental Health Act of 1971, 2005). The law enforcement officer must write a detailed report of the case including the reasons for which the individual was taken into custody and transported to a psychiatric treatment facility (Florida Mental Health Act of 1971, 2005). The ex parte document, certificate for involuntary commitment and police report must be submitted to the Agency for Health Care Administration the next business day (Florida Mental Health Act of 1971, 2005). These documents will remain in the individual's clinical record (Florida Mental Health Act of 1971, 2005). Individuals who are involuntarily committed remain in a treatment facility for examination and care for a 72-hour period (Florida Mental Health Act of 1971, 2005).

Transportation

Per §§ 394.462 of the Florida Mental Health Care Act of 1971 (2006), each county in the state of Florida must assign a law enforcement agency to take an individual into custody after the entry of an ex parte order or implementation of a certificate of involuntary commitment.

Likewise, a law enforcement officer may transport an individual in custody for noncriminal or minor criminal behavior to the nearest public or private facility responsible for receiving and holding patients in psychiatric emergencies for psychiatric evaluation and treatment (Florida

Mental Health Act of 1971, 2005). If the individual is in custody for a felony, the individual must be processed the same as any other criminal: through the justice system (Florida Mental Health Act of 1971, 2005). The law enforcement officer must contact the nearest receiving treatment facility to coordinate the examination and treatment of the individual (Florida Mental Health Act of 1971, 2005). If the treatment facility is unable to provide adequate security, the treatment facility will not admit the individual, but rather provide examination and treatment where the suspect is held (Florida Mental Health Act of 1971, 2005). However, if the law enforcement officer believes that the individual has an emergency medical condition, the individual must be transported to the nearest hospital (Florida Mental Health Act of 1971, 2005). Law enforcement officers may request assistance from EMS personnel to ensure the safety of the officer and the patient (Florida Mental Health Act of 1971, 2005). In some jurisdictions, EMS personnel or a private transport company may be responsible for transporting individuals to receiving treatment facilities rather than law enforcement (Florida Mental Health Act of 1971, 2005).

Chapter 2

Research question

Is there a need for CIT Training for EMS personnel to improve the safety of EMS personnel when interacting with patients experiencing a psychological episode?

Hypothesis

Alternative Hypothesis: There is a significant relationship between the frequency of restraint on persons experiencing a psychological disorder and the frequency of contact with persons experiencing a psychological disorder.

Null Hypothesis: There is not significant relationship between the frequency of restraint on persons experiencing a psychological disorder and the frequency of contact with persons experiencing a psychological disorder.

Definition of Terms

Emergency Medical Service (EMS) personnel include certified Emergency Medical Technicians (EMTs), paramedics, and firefighters in the state of Florida.

The *DSM-5* defines mental disorder as “a mental syndrome characterized by clinically significant disturbance in an individual’s cognition, emotion regulation, or behavior that reflects a dysfunction in the psychological, biological or developmental processes underlying mental function” (American Psychiatric Association, 2013, p. 20). Examples of psychological disorders include, but are not limited to Personality Disorders, Schizophrenia, Psychotic Disorders, Bipolar Disorder (American Psychiatric Association, 2013).

Methodology

Design

This is a correlational research study designed to determine if there is a need for CIT Training based on frequency of calls for service involving persons experiencing a psychological episode, assaults perpetrated by persons experiencing a psychological episode, and restraint use on persons experiencing a psychological episode administered by EMS personnel. Ethical approval for this study was obtained from Florida Gulf Coast University.

Participants

Participants were Florida certified firefighter-EMTs and firefighter-paramedics employed with the Lakeland Fire Department (LFD). Participants’ years on the job range from less than a year to 26 years or more. This study was open to all 160 LFD firefighter-paramedics and

firefighter-EMTs. There was a response rate of 58% (n=93). Lakeland is a suburban city located between Tampa and Orlando, Florida with a population over 100,000.

Materials

A 15-question survey and a 2 ½-page handout summarizing Crisis Intervention Training were used in this study. Participants were asked to answer questions regarding their experience with persons who have psychological disorders, comfort level responding to calls involving persons experiencing psychological episodes, agency's protocol for handling violent patients, prior restraint training and perception of CIT Training. In addition, patients were asked about the number of years served as a first responder, frequency of restraint used on persons experiencing psychological disorders, and frequency of contact with persons experiencing psychological disorders.

Procedure

The principal investigator administered the surveys face-to-face to all three 24-hour shifts (A shift, B shift, C shift). Participants in A shift and C shift were surveyed in a group setting at the Lakeland Fire Department's Training Center over a two-day period. The principal investigator traveled to each of the Lakeland Fire Department's seven fire stations to survey participants on shift C over a one-day period. Participants on C shift were surveyed in a group setting at their designated fire station.

Prior to data collection, the principal investigator explained the purpose of the study to the prospective participants. Those (58%) who choose to participate in the study were verbally briefed on what Crisis Intervention Training is, its success, and how it pertains to EMS personnel. Participants were given a handout (Appendix A) summarizing the aforementioned details so that participants could follow along with what the principal investigator explained.

Participants were asked to complete a brief survey (Appendix B). The survey was a blind survey with no identifying information that could link the participant to the study.

Results

Frequency of contact, Frequency of Restraint, and Comfort Levels

Spearman's Rho correlations were conducted to determine if a relationship exists between the frequency of contact with persons experiencing a psychological episode and the frequency of restraint use on persons experiencing a psychological episode; comfort level responding to calls involving persons experiencing a psychological episode; and frequency of restraint use on person's experiencing a psychological episode and comfort level responding to calls involving persons experiencing a psychological episode.

A two-tailed test of significance conclude that there was a significant weak positive correlation between frequency of contact with persons suffering from psychological disorders and the frequency of restraint use on persons with psychological disorders $r_s(93) = .285, p < .05$. Thus, we reject null hypothesis. The correlation between years of service and comfort level responding to calls involving persons experiencing a psychological episode was approaching significance $r_s(92) = -.201, p = .055$. There was no statistically significant correlation between frequency of restraint use on persons experiencing a psychological episode and comfort level responding to calls involving persons experiencing a psychological episode $r_s(92) = .35, p > .05$.

Assaults against EMS personnel

A variation of Chi-Square tests was conducted to determine if a relationship exists between CIT Training and assaults on EMS personnel; assaults on EMS and the perpetrator of the assaults; assaults on EMS and experience with persons who have psychological disorders; and assaults on EMS and checking for weapons.

Fisher's Exact Test was conducted to determine if a relationship between CIT Training and assaults on EMS personnel exists. A two-tailed test of significance conclude that assaults on EMS personnel is independent of CIT Training indicating that no relationship exists $p= 1.000$. Likelihood Ratio was conducted to determine if there is a relationship between the assaults on EMS and the perpetrator of the assaults. A two-tailed asymptotic test of significance conclude that there is no relationship between the assaults on EMS personnel and the perpetrators of the assaults $p= .690$. A chi-square test of independence was conducted to determine if a relationship between assaults on EMS and experience with persons who have psychological disorders exists. There was a significant relationship between these two nominal variables, $X^2 (1, N= 93) = 4.139$, $p < .05$. A chi-square test of independence was conducted to determine if a relationship between assaults on EMS and checking for weapons exists. There was a significant relationship between these two nominal variables, $X^2 (1, N= 93) = 4.130$, $p < .05$.

Discussion

The purpose of this study was to determine if EMS personnel need CIT Training based on the frequency of calls for service involving persons experiencing a psychological episode, assaults perpetrated by persons experiencing a psychological episode, and restraint use on persons experiencing a psychological episode administered by EMS personnel. Prior mental health training for EMS personnel and agency protocols for addressing violent patients will help determine if there is a need to extend CIT Training to EMS personnel. Additionally, this study will examine if EMS personnel are willing to undergo Crisis Intervention Training and if they believe the training would be beneficial when providing services to patients with psychological disorders.

The results revealed that the majority of participants did not complete CIT Training 96.8% (n= 90) or a patient restraint training course with their agency 95.7% (n=89). In addition, 55.4% (n=51) of participants stated 'yes', 19.6% (n=18) stated 'no', and 25% (n=23) said they "don't know" if their agency has a written policy for handling violent patients. A crosscheck with LFD revealed that no such policy exists. The majority of participants stated that they would be willing 53.8% (n=49) to complete CIT Training where as 27.5% (n=25) were extremely willing, 15.4% (n=14) were somewhat willing, 2.2% (n=2) were slightly willing, and 1.1% (n=1) were not at all willing. The majority of participants 85.7% (n=78) believe that CIT Training would be a valuable skill set to have when responding to calls for service involving persons experiencing a psychological episode.

Results suggest that with an increase in contact with persons experiencing a psychological episode, there is also an increase of restraint use. Likewise, where there is an increase in EMS experience there is also an increase in restraint on patients experiencing a psychological episode. The majority of participants (79.6% (n=74)), however, restrained patients at low frequencies (1-5 times in the last year). The majority of participants reported coming into contact with persons who have psychological disorders only 1 to 5 times in the last year (45.2% (n=42)), while 29% (n=27) came into contact 6 to 10 times, 24.7% (n=23) came into contact 11 times or more, and 1.1% (n=1) came into contact 0 times. Participants who have experience interacting with persons who have psychological disorders were assaulted slightly more than those who do not have experience. However, the majority of participants were not assaulted on duty 60.2% (n=56) and do not have experience interacting with individuals who have psychological disorders 61.3% (n=57). Participants who routinely checked for weapons were assaulted slightly more than those who did not routinely check for weapons, yet the majority of

EMS personnel have not been physically assaulted 60.2% (n= 56) and do not routinely check patients for weapons 84.9% (n= 79). Very few participants reported “not at all comfortable” with calls involving persons experiencing psychological episodes while the majority of participants reported being “somewhat” to “extremely comfortable” when responding to such calls for service even despite their years of experience.

Assumptions and Limitations.

Data was collected via questionnaire. The principal investigator assured the participants, verbally and in written format, that no identifying data would link the participant to the questionnaire. Therefore, it is safe to assume that all participants gave honest answers.

Data was collected from only one agency. Future studies should collect data from multiple agencies in suburban, urban, and rural areas to compare responses and increase generalizability. Purposely recruiting and surveying agencies with CIT-trained EMS personnel would be beneficial to compare responses of those who have completed CIT Training to those who have not completed CIT Training. Additionally, surveying and comparing responses of CIT trained EMS personnel and CIT trained law enforcement may determine if CIT Training is as effective with EMS as it is with law enforcement. Such data may yield different results than this study. EMS personnel are not afforded the same opportunity to participate in CIT Training as law enforcement. Because of this, it makes it difficult to locate and recruit EMS personnel who have completed CIT Training.

There is limited archival data on Crisis Intervention Training for EMS personnel. Several agencies were contacted (Florida State Fire Marshal, Florida Department of Health, Florida Professional Firefighters, FEMA, CIT International, and the Florida CIT Coalition) regarding data on emergency calls for service involving psychiatric medical calls. No agency collects data

on these types of emergency calls for service. Future studies should try to obtain as much data on EMS calls for service involving persons with psychological disorders and assaults against EMS to.

Conclusion

Findings suggest that there is not a need for CIT Training among this sample of EMS personnel. Interestingly, EMS personnel who had experience interacting with persons with psychological disorders were assaulted more than those without experience. EMS personnel with more on-the-job experience used more restraint on patients experiencing a psychological episode more than those with less experience. Those who checked for weapons were assaulted more than those who did not check for weapons. Despite their lack of CIT Training, the majority of EMS personnel were not assaulted on duty, came into contact with persons experiencing psychological disorders at low frequencies, and restrained patients experiencing a psychological episode at low frequencies. However, the majority of EMS personnel reported that they would be willing to complete CIT Training and believe that CIT Training would be a valuable skill set to have when responding to calls for service involving persons experiencing a psychological episode. More research on CIT Training for EMS personnel needs to be conducted to determine if these findings are consistent and can be generalized among the EMS personnel population.

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Appendix A

Crisis Intervention Team (CIT) Training Program

What is Crisis Intervention Team Training?

The CIT program was developed after a fatal incident involving the Memphis Police Department and a young, schizophrenic man threatening suicide (Browning, Van Hasselt, Tucker & Vecchi, 2011). The man was well known by several Memphis police officers to have a psychological disorder, but the responding Memphis police officers were not aware of his condition (Browning et al., 2011). The man had a knife, which the police officers demanded he drop, but instead, he made a sudden move toward the police officers (Browning et al., 2011). As a result, they shot him, as they were trained to do in a threatening situation (Browning et al., 2011). The man died due to his injuries (Browning et al., 2011).

To address the issues surrounding emergency responses to persons experiencing psychological episodes, the Memphis Police Department, Memphis Chapter of the National Alliance on Mental Illness, the University of Memphis, University of Tennessee, and mental health care providers collaborated to develop the Crisis Intervention Team program, which was established in 1988 (Memphis Police Department, 2011). Officers that volunteer to participate in the program undergo forty hours of training on psychological disorders, de-escalation tactics, and mental health laws (Morabito, Kerr, Watson, Draine, Ottai, & Angell, 2012). The aim of the CIT Training program is to establish an educated, comprehensible, and safe strategy to respond emergency calls for service involving persons experiencing psychological episodes (Memphis Police Department, 2011).

Typically, the CIT Team is comprised of Uniform Patrol officers who completed CIT Training (Memphis Police Department, 2011). These officers, along with their regular duties,

respond to emergency calls involving persons experiencing psychological episodes (Memphis Police Department, 2011).

Is the Crisis Intervention Team Training successful?

Since its inception, the CIT Training program has been instrumental in improving interactions between law enforcement and persons experiencing psychological episodes (Browning et al., 2011; Morabito et al., 2010; Reuland, 2010; Ritter, Teller, Marcuseen, Munetz, & Teasdale, 2010; Watson, Moarbito, Draine, & Ottati, 2008). CIT Training is the most widely used mental health training program, employing over 325 law enforcement agencies (Ritter et al., 2010). The CIT Training program has been recognized by the National Alliance on Mental Illness and the American Association of Sociology for its success and service to persons with psychological disorders (Memphis Police Department, 2011). The CIT Training program is responsible for decreasing the number of arrests of persons with psychological disorders, use of force on persons with psychological disorders, and number of officer injuries during interactions with persons experiencing psychological episodes (Browning et al., 2011; Memphis Police Department, 2011).

Past research suggests that law enforcement officers without CIT Training perceive encounters with persons experiencing psychological disorders to be outside their area of expertise and responsibility and feel unequipped to provide services to this population (Morabito et al., 2012). After completing CIT Training, officers feel more comfortable and more prepared to handle encounters with persons suffering from psychological disorders (Browning et al., 2011). Trained officers are more likely than un-trained officers to transport these individuals to psychiatric facilities rather than jail (Teller, Muntez, Gil & Ritter, 2006). In addition, Ellis (2014) found that after training, officers' knowledge, perception, and attitude toward individuals

suffering from psychological disorders significantly improved. This suggests that CIT training may reduce the stigma and criminalization of the mentally ill (Ellis, 2014).

How does CIT Training pertain to Emergency Medical Services (EMS) personnel?

EMS personnel (firefighters, paramedics and EMTs) routinely respond to emergency calls involving persons experiencing psychological episodes, yet very few EMS personnel have received mental health training (Hoge & Hirschman; Teller, Munetz, Gil, & Ritter, 2006).

Because emergency services are available 24 hours a day, EMS personnel can expect emergency calls for service involving persons experiencing psychological episodes (Johnston, 1977).

Johnston (1977) argues “for a system to continually confront the problems of patients in crisis and not prepare its workers to adequately intervene would seem to border on negligence” (p. 27).

Extending CIT Training to EMS personnel may improve responses to calls for service involving persons experiencing psychological episodes, increase the safety of EMS personnel and patients, and improve collaboration with CIT trained law enforcement.

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Appendix B

Instructions: Please answer the following questions as honestly and as accurately as possible. Please write legibly in the answer box. **Your responses will be completely anonymous because your name will not be associated with your data.**

1. **How long have you been a first responder? (Circle one)**
 - a. < 1 year
 - b. 1-5 years
 - c. 6-10 years
 - d. 11-15 years
 - e. 16-20 years
 - f. 21-25 years
 - g. 26 years or more

2. **Does your agency have a written policy for handling violent patients? (Circle one)**
 - a. Yes
 - b. No
 - c. Don't know

3. **Have you completed a physical restraint training course or any similar course via your agency? (Circle one)**
 - a. Yes
 - b. No

4. **Do you routinely check patients for weapons? (Circle one)**
 - a. Yes
 - b. No

5. **Have you ever been physically assaulted while on duty? (Circle one)**
 - a. Yes
 - b. No

If answered No to previous question, skip to Question 7.

6. **Did the perpetrator of the assault suffer from a documented or undocumented psychological disorder? (Circle one)**
 - a. Yes
 - b. No
 - c. Don't know

7. **How many times in the last year have you restrained a patient experiencing a psychological episode? (Circle one)**
 - a. 0 times
 - b. 1-5 times
 - c. 6-10 times
 - d. 11 times or more

8. How many times in the last year have you come into contact with a person experiencing a psychological episode while on duty? (Circle one)

- a. 0 times
- b. 1-5 times
- c. 6-10 times
- d. 11 or more times

9. How comfortable are you responding to calls for service involving a person experiencing a psychological episode?

1	2	3	4	5
Not at all comfortable	Slightly comfortable	Somewhat comfortable	Comfortable	Extremely comfortable

10. Have you completed Crisis Intervention Team Training? (Circle one)

- a. Yes
- b. No

If answered No to previous question, skip to Question 12.

11. Upon completing Crisis Intervention Training, how prepared do you feel responding to calls for service involving a person experiencing a psychological episode? (Circle one)

1	2	3	4	5
Not at all prepared	Slightly prepared	Somewhat prepared	Prepared	Extremely prepared

12. How willing are you to complete Crisis Intervention Team Training? (Circle one)

1	2	3	4	5
Not at all willing	Slightly willing	Somewhat willing	Willing	Extremely willing

13. Do you believe Crisis Intervention Team Training would be a valuable skill set to have when responding to calls for service involving a person experiencing a psychological episode? (Circle one)

- a. Yes
- b. No
- c. Don't know

14. Do you have experience interacting with individuals who have psychological disorders other than responding to calls for service? (Circle one)

- a. Yes
- b. No

15. If answered yes to previous question, please explain.
