

Running head: THE PSYCHOLOGICAL IMPACT OF INVESTIGATING CRIME SCENES

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The Psychological Impact of Investigating Crime Scenes

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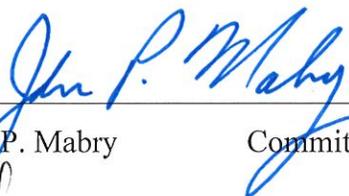
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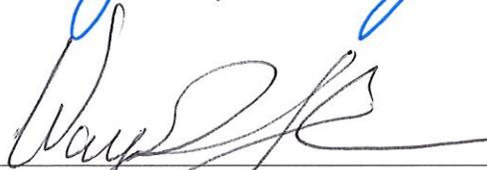
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Abstract

The goal of this study was to determine if there are stressful or psychological impacts from investigating crime scenes. This was accomplished by analyzing ninety-four anonymous surveys that had been distributed to various law enforcement agencies across the country. The surveys asked professional crime scene processors various questions about their careers, home life, and wellbeing. IBM SPSS Statistics was used to analyze questions about physical health, mental health, job position, duties, schedule, and crimes investigated. The surveys were thirty-seven questions each, with several having multiple answer options. The study found the majority of participants did not have any diagnosed disorders but did desire to either quit or retire due to impact on family life or from repeated exposure to tragic violence. Most agencies offer some type of post-crime counseling, but the bulk of participants did not utilize this resource. However, the vast majority of participants did think that counseling would be helpful and favored having the option in their career field.

Introduction

Problem Statement

The current literature available on psychological trauma experienced by crime scene investigators is not adequate enough to determine the extent to which technicians are traumatized by the scenes they investigate. The current research focuses heavily on traumatic exposure of veterans and first responders, leaving many questions about the impact of traumatic exposure on crime scene technicians. Research has failed to evaluate if those who process crime scenes are negatively impacted by their experiences. One paper has been published regarding crime scene technicians but noted that no information on this subject was found. The lack of research on this topic is evident from examining the current literature.

Processing any crime scene, especially those involving children, the elderly, sexual assaults, and murder, undoubtedly imparts disturbing thoughts and memories on those who investigate them. There is no research on the traumatic effects of exposure that searching a scene for evidence, collecting and handling that evidence, viewing autopsies, and, in some cases, processing evidence back at the lab has on a person. Literature focuses on police officers, EMTs, and veterans who are often involved on the front lines or who deal with criminals. Research is very miniscule across forensic science and criminal justice, nor is it found among medical examiners, pathologists, or funeral service workers. However, several subject matter experts are beginning to present their work with happy and calming visuals to help those learning to receive more than just negative and traumatic information. The lack of research in this area is detrimental to those who work this career, especially with the influx of interest due to television shows and movies. This study seeks to shed light on this topic in order to develop strategies to help current and future crime scene technicians deal with traumatic exposure.

Research Questions

- 1) What internal coping mechanisms do experienced crime scene technicians report that they consider most effective?
- 2) What types of crime scenes do technicians report impacting them the most, regarding negative thoughts and memories?
- 3) What are the long-term effects on the technicians of prolonged exposure to crime scenes?
- 4) What are the most common psychological and physical symptoms resulting from constant exposure to violent crime scenes?

Purpose of the Study

The purpose of this study was to determine if investigating crime scenes traumatizes crime scene technicians. I proposed conducting a psychological assessment of crime scene technicians, as there is currently no research on them. I examined the answers regarding their lives and psyche to determine if there were signs of traumatic exposure. The ultimate goal of this research was to determine if crime scene technicians are impacted negatively by investigating scenes, and if they are, deciding how to help them cope with and manage this trauma.

Significance of the Study

There are volumes of research regarding trauma impacting first responders and veterans, but less research regarding trauma impacting crime scene technicians. Trauma is highly talked about regarding veterans and first responders, yet little is known about how crime scene investigators are impacted by the carnage present at many scenes. This research provides a more in-depth understanding of how investigating crime scenes impacts the crime scene technicians. The anonymous surveys were analyzed to identify trends on how technicians are impacted by

different cases and how coping mechanisms are formed based on their varying backgrounds. Due to the wide variety of backgrounds and unique crimes committed, it is nearly impossible to predict how different scenes impact different officers. The research, however, focused on technician demographics, years on the job, types and number of scenes investigated, and similar relevant details. Common responses were evaluated to determine how many crime scene technicians, on average, are negatively affected by investigating violent crime scenes. By examining how technicians are impacted by the scenes, and what coping mechanisms they employ to deal with this impact, strategies can hopefully be suggested to reduce trauma to past, current, and future technicians.

Limitations of the Study

This was an exploratory study regarding trauma exposure to crime scene technicians. The sample size was one of the limitations as we only had access to a small number of agencies across the United States. The goal of this study was to have a sample size of 50-100 respondents. Due to the small sample size and limited agencies participating, certain variables were impossible to fully evaluate, such as weather, geographic location, etc. Research on a larger sample size of crime scene technicians would help create a more thorough understanding of the depth and breadth of the trauma impact on technicians.

Key Terms

This study will utilize the following definitions:

Post-Traumatic Stress Disorder (PTSD)- a mental health condition triggered by someone experiencing or witnessing a traumatic event, characterized by “intrusive memories of the event” that caused trauma (Misis, 2012).

Secondary Traumatic Stress (STS)- emotional duress that someone experiences from hearing about the trauma experienced by someone else, the DSM-5 [diagnostic manual for psychologists] now identifies STS as a form of PTSD” (Brady, 2016).

Coping- a person’s pattern of responses to stressful stimuli (Kumari and Mukhopadhyay, 2016).

Burnout due to family status- this is when an investigator wants to leave their career due to having a spouse, children, or family. Often seen when working crimes that remind investigators of their family.

Law Enforcement- patrol officers and other investigators; although crime scene processors are law enforcement, they are part of a specialized unit.

Disorder- an illness that disrupts normal physical or mental functions; causes significant difficulty, distress, impairment, and/or suffering in someone’s daily life (Oxford Learner’s Dictionary).

Literature Review

Post-Traumatic Stress Disorder (PTSD) has been defined as a mental health condition triggered by someone experiencing or witnessing a traumatic event. It is characterized by “intrusive memories of the event” that caused trauma (Misis, 2012). Secondary Traumatic Stress (STS), which according to Brady (2016) “the DSM-5 [diagnostic manual for psychologists] now identifies STS as a form of PTSD”, has been described as emotional duress that someone experiences from hearing about the trauma experienced by someone else. These are often discussed and researched in police, paramedics, other first responders, and victims of traumatic events. These disorders are particularly applicable to veterans, who are constantly exposed to war, violence, and death all while being away from family and often in another country; this also leaves their primary support system halfway across the world. Police officers often face danger

from criminals while protecting the public, and deal with the aftermath of their violent crimes. Police officers serve in the front line apprehending suspects while knowing they may not make it home. First responders are often the first on the scene and serve as firefighters or paramedics. These first responders encounter heinous injuries and life threatening obstacles. Victims live through traumatic experiences, be it from another person, natural event, accident, or animal. They may live through an event that many others did not survive or they may have experienced the event alone. However, neither PTSD nor STS are discussed in terms of crime scene investigators (CSIs) and how these disorders, trauma, and stressful situations impact CSIs jobs. These careers force people to see the aftermath of atrocious crimes and the task of reconstructing what happened. This undoubtedly causes trauma to those experiencing the process of piecing together what happened, even if there is no research on the topic, recognizing such.

These experiences impact people in different ways. There is a plethora of research out there about how different people are impacted by trauma as well as how they cope with mental conditions caused by the traumatic experiences they endure. Several examples of how people cope with these mental conditions are by using humor, by receiving counseling, therapy, or debriefings. Alternatively, some do not cope well as they use maladaptive mechanisms and suffer from alcoholism, divorce, and suicide.

The majority of research focuses on police officer stress, first responder tension, and victim trauma. However, one author has focused on the trauma experienced by CSIs when investigating death scenes (Waugh 2013). Research for this literature review was conducted by searching through various databases at the University of Central Oklahoma library for articles about the topic. Originally forty-four articles were found in these databases and were then narrowed down to twenty-four usable articles based on their abstracts, results, and conclusions.

The articles used were found through the UCO library database by searching for keywords “trauma”, “coping”, “crime scene investigators”, “PTSD”, “STS”, “therapy” and “law enforcement”. This literature review is structured by organizing the research into three sections: the trauma first responders experience, ways this trauma impacts their lives, and ways to combat this trauma. This information is useful to anyone interested in forensics with a goal of becoming a CSI. This study is designed to cast light on the impact the career has on psychological well-being and whether this impact can be treated or prevented. The literature review’s target audience is the entire forensic science field, specifically those who are CSIs, or strive to be. These groups are significant because they are the ones mainly impacted by this study. The purpose of this review is to evaluate literature on the trauma encountered as a LEO, how the trauma encountered impacts LEO, and how to combat the trauma they experience.

Trauma Experienced

Police, paramedics, other first responders, and forensic examiners, all experience trauma from a multitude of different factors while on the job, from saving lives to having to apprehend violent suspects. There is no one set form of trauma in the criminal justice field due to the fact that every case and every crime scene is different. Oftentimes the trauma is not caused by one event or case, but rather from a buildup of cases over time. Certain types of cases or crimes impact the professionals more directly.

According to Seigfried-Spellar (2017), this was especially true when dealing with child pornography investigations. Child sex crimes have an incredibly high turnover rate for investigators as well as high stress levels that may lead to “behavioral changes, absenteeism, secondary traumatic stress, fatigue, anxiety, and feelings of worthlessness” (Seigfried-Spellar, 2017). According to Brady (2016), these investigators also often experience negative health and

occupational outcomes, depression and high rates of turnover. Digital forensic technicians must critically examine the child pornography as the more severe pictures may result in a crime with a harsher punishment. These often include direct and indirect exposures to “stories, images, and audio/video files [that depict] these crimes against children” (Brady, 2016). According to Seigfried-Spellar (2018) “law enforcement investigators are at an increased risk for experiencing emotional distress as a result of working child exploitation cases” which is often due to the heinous crimes committed against children, who are so innocent and pure. These investigators are also more likely to experience burnout from lack of emotional energy, empathy, and reduced personal accomplishment due to their experiences in child exploitation (Brady, 2016). Oftentimes these investigators must deal with “child sex abuse materials [as well as] interact with the child victims” (Seigfried-Spellar, 2018). These cases are harder for investigators to compartmentalize, which causes more emotional distress and less psychological well-being for those involved in child pornographic cases. This therefore increases burnout and turnover rates. However, there is still “limited research on work-related stress.... for forensic examiners” (Seigfried-Spellar, 2018) as well as a lack of understanding “how individual and work-related factors impact burnout” (Brady, 2016).

Another factor that influences the trauma that first responders experience, specifically police officers, is the culture surrounding these first responder careers. Police culture is strong due to the “shared experiences, hazards of the job, and authority to use force” which unites officers together (Steinkopf, 2015). This can benefit officers by creating a brotherhood that “creates a cloak of protection”, but it can also be detrimental by creating an “us versus them” mentality that is heightened by loyalty, machismo, and authoritarianism (Steinkopf, 2015; Woody, 2005). These factors can be an issue in maintaining relationships as interrelationship

problems can be seen as a challenge to their authority and position in those relationships.

According to Steinkopf, (2015), officers may even avoid relationships with people outside of law enforcement by embracing this “us versus them” mentality, creating much difficulty for mental health professionals, family, and friends to help LEOs. Mental health treatment can help officers not use maladaptive coping mechanisms like “substance use, domestic violence, and suicide”, but it is incredibly difficult to openly utilize this option due to the negative stigma mental health treatments receive in the police culture (Steinkopf, 2015). This negative stigma is typically from the fear that officers will lose their position or job if deemed unfit for duty due to psychological evaluations indicating STS or PTSD. On top of this stigma, Woody (2006), notes that LEOs are forced to operate with “discretionary behavior, especially when making decisions in the line of duty.” Each decision made by LEOs is subject to scrutiny by the public. Constantly being watched by the public increases the “barrier between the law enforcer and the public”, creates a stronger police bond, and adds stress onto LEOs concerning the decisions they make (Woody, 2006). These are only researched among LEOs, but not with non-officer forensic technicians who also must bond and work together to collect and process evidence in often-brutal cases.

Incidents faced occasionally as part of the job of law enforcement impact officers greatly. These events, including “physical injury, a shooting injury, death of a co-worker, hostage situation, LEO suicide.... and exposure to a dead body” can cause acute stress with immediate psychological and physiological reactions (Mak, 2013). Similarly, first responders, specifically ambulance workers, experience trauma where people die in their care. According to Mak (2013), oftentimes ambulance workers “blamed themselves on their inability to help” those who die while in the ambulance care. Many emergency workers experience PTSD symptoms “even if they are not exposed to major disasters” (Clohessy and Ehlers, 1999). These responders

experience stress due to the fact that they are still exposed to extremely stressful conditions, they see many distressing scenes, and may lose patients under their care (Clohessy and Ehlers, 1999). According to Mak (2013), once these ambulance technicians realize that they cannot help everyone, their feelings of professional confidence and self-esteem drop dramatically. This in turn leads to self-blame, self-doubt, and feelings of inadequacy. According to Clohessy and Ehlers (1999), ambulance workers tend to try to combat these feelings by mentally disengaging from others causing detachment, which will further these feelings and cause problems in the workplace. Oftentimes these responders don't want to abandon their victims, which leads to failure to recognize emotional, physical, behavioral, or attitudinal changes they go through (Mak, 2013). According to Mak (2013), investigators often experience more trauma than typical patrol officers due to the fact that they experience these acute stressors more directly and often than patrol officers. Investigators experience more "pressure to follow leads, make cases, and save victims" in heinous crimes than patrol officers face performing more routine tasks (Mak, 2013). Research discusses how encountering these acute stressors impacts first responders, however, no research discusses the forensic technicians who are forced to process evidence that deal with death, sexual assault, and crimes against children that these first responders deal with.

Another way that police are impacted by trauma is that LEOs are often targets of crime or terrorism themselves. According to Wilson, Poole, and Trew (1997), "police and prison officers have been regarded as 'legitimate targets' by terrorist organizations." In fact, in Ireland in the last twenty years "9000 officers suffered injury and over 300 have been killed" ranking Ireland the most dangerous place to be a police officer (Wilson, Poole, and Trew, 1997). Police officers around the world are constantly seeing fellow LEOs being targeted, attacked, or killed by terrorists, criminals, or people who view the police as bad. The constant "sense of danger or

uncertainty about personal safety creates stress” for LEOs (Woody, 2005). Police officers viewing their colleagues being attacked, dealing with the “threat of violence [and the] fear of death or injury” is something that constantly forces LEOs to be on guard and heightens psychological and physiological responses. In fact, crime scene investigators are also required to process the scenes in which fellow officers are the victims. There was no research on how forensic technicians are impacted by seeing and processing the violence against LEOs, or if there is violence that forensic technicians face as well.

There were however, two articles found regarding the trauma that forensic technicians are exposed to. According to the American Society of Crime Lab Directors (2019), “stress is routinely experienced in nearly all forensic disciplines” because they can all be “touched by violence and stress.” These forensic technicians must work different aspects of homicides, sexual assault, burglaries, and other heinous crimes committed against other people. Not only do the forensic technicians have to handle and process evidence, participate in autopsies, and testify in court, they also must deal with large “caseload size, managing backlogs, inadequate funding/staff, emotional exhaustion” and more (American Society of Crime Lab Directors, 2019). One reason for the gap in the literature is because oftentimes CSIs are “civilian employees working in a support staff position” rather than being in a LEO position and receiving benefits financially, emotionally, and physically (Waugh, 2013). These technicians experience the trauma at a scene exponentially when working a homicide case. According to Waugh (2013), the CSIs that support homicide investigators likely “experience the same type of traumatic event-related stress.” These articles theorize that forensic technicians experience stress along with first responders, however Waugh (2013) did not find any conclusion proving that CSIs did in fact experience trauma.

Trauma Impacts

Trauma manifests itself in an abundance of ways and therefore has different effects on people (Waugh, 2013). These manifestations reach different aspects of LEOs' lives and relationships, often impacting people in ways they never would've guessed. A few of the obvious effects that trauma has on LEOs are compassion fatigue and other cognitive deficits, relationship and familial problems, as well as maladaptive coping practices that can negatively impact their lives.

According to Craig and Sprang (2009), compassion fatigue is when "indirect exposure to trauma can involve significant emotional, cognitive, and behavioral changes" to those not directly harmed by the trauma but associated with it in another way. In fact, traumatic exposure is "associated with vaster levels of structural and functional changes in the brain", specifically in the hippocampus (Levy-Gigi, Richter-Levin, Keri, 2014). These changes are brought about by the idea of vicarious traumatization, which can alter "sense of meaning, connection, identity, and worldview" of CSIs who are witnessing trauma every day at work (Craig and Sprang, 2009). This is supported by Levy-Gigi, Richter-Levin, and Keri (2014), in that those exposed to trauma may struggle with use of "contextual information and aversive events." This means that exposure to trauma may cause those exposed to associate a context or stimuli with the outcome of the trauma. This makes it incredibly difficult for CSIs to go to work and not associate their careers with trauma and its negative effects. Craig and Sprang (2009) also mention that too much stress will lower self-efficacy and could eventually lead to burnout. This compassion fatigue brought about from an abundance of trauma exposure can "negatively impact their psychological well-being" (Craig and Sprang, 2009). This is especially concerning for LEOs, such as investigators, who are directly involved with victims and must discuss and relive the trauma experienced.

Research shows that recounting the trauma that victims experienced negatively impacts the investigators and victim advocates, but there is no evidence that suggests the same could be true for CSIs (Brady et al, 2019). Forensic technicians recreate the crime scenes and the trauma that was experienced in order to conclude what occurred. This reconstructing process must negatively impact the CSIs psychological well-being and should be further looked into. Levy-Gigi, Richter-Levin, and Keri (2014) mention CSIs and how their brains are impacted by trauma but focus specifically on those who are sworn officers.

Trauma also impacts LEOs by affecting their different relationships. These relationships can include those with romantic partners, children, friends, and colleagues. According to Brady et al (2018), LEOs become much more “overprotective of their children and increasingly cautious of those who interact with [them].” In addition to being overprotective, LEOs often express “concerns about not being emotionally available” to their families (Brady et al, 2018). Law enforcement and investigations impact the anxieties in how to raise their children due to the crimes the LEOs encounter. Brady, et al (2018) also notes that regarding friends and family, LEOs tend to put up “barriers [when] discussing the negative effects of work.” Respondents noted that there was an “emotional distance between friends and family members” because they did not want to discuss work during their off time (Brady et al, 2018). According to Brady et al (2018), these participants struggle to separate work from their personal lives by creating an “internal [silence] and withdrawal effect” by choosing not to discuss work with others. Most respondents noted they did not want to make others feel uncomfortable or traumatized as a main reason for isolating themselves. The main consequences impacting familial relations were “more conflicts... increased irritability and distrust... and decreased motivation to spend time with friends and family” (Brady et al, 2018). This article strongly depicts how relationships are

impacted by trauma experienced by LEOs. However, it only focuses on interviewers and investigators of child crimes, rather than on forensic technicians and CSIs.

Another main issue with how trauma impacts LEOs is by using maladaptive coping mechanisms, those that are actually harmful rather than productive. The major maladaptive mechanism used to cope is alcohol. In fact, according to Fields-Salain et al (2017), police officers “are two times as likely of succumbing to alcohol-related liver disease and lung cancer” due to their maladaptive coping strategies of drinking and smoking. Denton et al (2016) notes “one-quarter of all police officers in the [US] are afflicted with alcoholism.” Many LEOs do not want to admit that they cannot handle certain aspects of their job, for fear of losing their position, so they remain silent and turn to coping mechanisms such as drinking. Officers tend to “isolate their feelings and become extremely uncomfortable in expressing their emotions” as a way to cope with their jobs (Wolford, 1993). Wolford (1993) also noted that many police officers cope with maladaptive methods because of stressors “indirectly associated with police work” such as relationship problems after dealing with a domestic violence case. Denton et al (2016) notes that “domestic violence is two to four times more common within police families” than within the general US population. Drinking, especially with other LEOs, may allow officers to open up about their negative emotions, prompting them to drink more to facilitate discussing the “negative feelings they are carrying with them” (Wolford, 1993). Officer using alcohol as a way to discuss their feelings rather than seeking help from a professional has been noted due to the stigma and fear of losing their job. However, Wolford (1993) only mentions LEOs, while forensic technicians and CSIs often work the exact same cases. More research needs to be conducted on how CSIs cope and if they also use maladaptive mechanisms.

Lastly, trauma also negatively impacts the physical well-being of LEOs. According to

Gharibian et al (2015), stressors that officers experience are associated with “poor sleep, subclinical cardiovascular disease, cancer... high blood pressure, and high cholesterol.” According to Fields-Salain et al (2017) these impacts increase the LEO mortality rate to “twenty-one times larger than [individuals] who are not employed in the profession.” These physical consequences drastically increase the mortality rate among LEOs. Gharibian et al (2015) also note that LEOs experience “fatigue, occupational health-related concerns (e.g. back pain), [difficulty] finding time to stay in good physical condition, and [struggling to eat] healthy at work.” The body’s reaction to increased stress and arousal in turn decreases the “energy for other tasks, such as maintaining the immune system” (Gharibian et al, 2015). Many LEOs do not seek treatment for these issues due to the stigma against seeking professional help among law enforcement. Even worse, eventually LEOs may turn to suicide. According to Denton et al (2016), in 2008 there were “450 documented police officer suicides as opposed to 150 in-the-line-of-duty deaths.” The amount of stress and PTSD encountered in LEO careers is the main reason for “such a high rate of suicide among police officers” (Denton et al, 2016). In fact, Denton et al (2016) notes that suicide is “the second leading cause of death of police officers.” CSI physical well-being needs to be further looked into, especially due to the ravenous consequences facing fellow LEOs exposed to the same stressful stimuli.

How to Combat Trauma

Law enforcement officers go through traumatic experiences as part of their careers. Several articles have discussed how LEOs cope and combat the stress and trauma they experience in their jobs (Kumari and Mukhopadhyay, 2016; Misis, 2012; Leonard and Alison, 1999; Raphael and Meldrum, 1995; Scott, 2007; Stephens and Long, 1998; Kyle, 2008; Kelley, 2004; and Denton, 2016). Typically LEOs use either adaptive or maladaptive coping

mechanisms. According to Kumari and Mukhopadhyay (2016), coping is defined as “a person’s pattern of responses to stressful stimuli.” The two types of strategies used most often are active and passive coping. Active is used when “the stressor or threat is controllable or escapable” whereas passive is used when the “stressor is uncontrollable or inescapable” (Kumari and Mukhopadhyay, 2016). Most often, active strategies are considered more adaptive and passive coping strategies are considered more maladaptive, such as relying on social support or isolating oneself (Kumari and Mukhopadhyay, 2016; Misis, 2012). Which type of strategy employed depends heavily on the person and the trauma a person experiences. Misis (2012) points out that “community... may [also] discourage them from engaging in self-destructive coping mechanisms.” Kumari and Mukhopadhyay (2016) found that avoidant, or passive, strategies only provide short-term stress relief, but may be “counterproductive in the long term because it prevents [the] assimilation and resolution of the trauma.” Additionally, Kumari and Mukhopadhyay (2016) stated that the active coping strategies “may increase distress initially but [allow] for and appropriate action and eventual resolution.” According to Fields-Salain et al (2017), LEOs are more likely to use adaptive coping strategies when they “[receive] stress management training.” Kumari and Mukhopadhyay (2016) provide a structure for the types of coping strategies used. Some examples of adaptive coping strategies employed by LEOs are “[listening] to music, [engaging] in a hobby or social activity, and [praying] or [attending] church (Misis, 2012). LEOs, specifically those in rural agencies, were the focus of these studies, CSIs should be further looked into to determine which style of coping strategy is employed.

One strategy that is commonly used among LEOs is the use of humor. According to Scott (2007) “humor as a stress reducing mechanism is.... a characteristic of emergency care culture.” Humor allows first responders to “not simply [work] among the doom and gloom” during a very

melancholic job (Scott, 2007). In addition, according to Kyle and Ryan (2008), watching a “laughter producing video produced a degree of overall anxiety-reduction” among participants in their study. This insinuates that not only does humor among colleagues reduce stress, but also watching funny videos do as well. LEOs use humor as “a primary coping mechanism to manage stress and prevent burnout” especially when involved in death scenes (Scott, 2007). This gallows humor is dark humor that is utilized in desperate situations in order to help cope or get through the situation. LEOs need to be careful to ensure they are not overheard and deemed insensitive among onlookers. Police are not the only ones who work death scenes; CSIs must be hands on collecting evidence and processing the scenes. Therefore they should be looked into on how they utilize humor and if it helps decrease stress.

Social support has long been a focus on how to keep trauma victims from experiencing PTSD. According to Stephens and Long (1998), the “more social support resources that individuals report, the fewer their PTSD symptoms.” This shows that even having experienced trauma, having a social support system in place can help prevent PTSD symptoms from developing. Likewise, having less “social support was associated with PTSD symptoms, anxiety, depression, and alcohol abuse” (Stephens and Long, 1998). Talking about “traumatic experiences and their associated emotions” may help people overcome and resolve the trauma they endured (Stephens and Long, 1998). In fact, according to Stephens and Long (1998) “disclosure of emotional experiences” specifically with those who endured the trauma as well “[may be] the most important therapeutic behavior for relieving posttraumatic anxiety.” Expressing emotions at work and with peers who go through the same experiences as well as support from supervisors and non-work sources decreases psychological disorder symptoms (Stephens and Long, 1998). According to Kelley et al (2004) many agencies “have established peer support programs” as

well as critical incident groups to allow coworkers to discuss the trauma they go through together, otherwise known as debriefing (Raphael and Meldrum, 1995; Leonard and Alison, 1999). LEOs are “less resistant to peer support programs than to professional clinicians.” Peer support, debriefing, and critical incident groups are much more supported than attending counseling due to there being less stigma against talking with peers than with “seeing a shrink” (Kelley et al, 2004; Raphael and Meldrum, 1995). In fact, peer support programs are actually unofficial and confidential. According to Leonard and Alison (1999), another factor on social support is the level of situational features available as well as previous life incidents and how those impact LEOs. Those who are overlooked by the department receive less help from colleagues and are therefore less “less satisfied with any help received” (Leonard and Alison, 1999). Kelley et al (2004) and Stephens and Long (1998) discuss how social support can assist police officers in dealing with trauma encountered on the job, but more research needs to be done on if this will carry over to CSIs.

Methods

Sample/Participants

This study used a survey questionnaire to interview current and past crime scene technicians. Using actual technicians allowed for an inside perspective from those who are actually involved with the crime scenes. Approval was obtained from the Internal Review Board (IRB) at the University of Central Oklahoma in order to work with human subjects. This IRB approval allowed researchers to work with people and ensure that every party involved understood all standards, confidentiality, and limitations. Participants and agencies were selected based on professional liaison between faculty members at University of Central Oklahoma’s Forensic Science Institute and law enforcement. The sample included numerous crime scene

technicians from Oklahoma, Texas, and many other agencies across the country. The researcher selected the agencies to recruit for this study. The purpose was to learn first-hand from the technicians what crimes scenes, types of evidence, and type of crimes impacted the investigators' psyches. By understanding the psychological impact, researchers can better learn how to treat and further prevent the trauma these professionals experience. Data was collected from each survey, analyzed, coded, and compared.

Data Collection

Through professional networking with the staff at the University of Central Oklahoma's Forensic Science Institute, anonymous surveys were sent to personnel at law enforcement agencies in both Texas and Oklahoma for voluntary participation by their crime scene units. Those contacts then further dispersed the survey to colleagues interested in participating as well. The survey was anonymous in order to increase participation. By maintaining anonymity, technicians were more likely to answer without fear of repercussions or facing any negative stigma at work.

Confidentiality was very important in this research and no names were recorded. Information from the surveys is only accessible by members of the research team. Basic information as well as a psychological assessment were evaluated. This survey delved into crime scene technicians' experiences and feelings both professionally and at home.

Data Analysis

The data was analyzed using IBM Statistical Package for the Social Sciences (SPSS), to look for common themes of trauma exposure among crime scene technicians. SPSS is a software package that allows users to statistically analyze data. It is commonly used in research in order to examine results from research studies. Researchers evaluated information relating to (1) job title

(2) number of years on the job (3) did the technician experience previous trauma (4) types and number of crime scenes investigated (5) specific investigations that are troubling and why (6) coping mechanisms (7) marital and family status and (8) medical issues and counseling (family, couple, single, and group sessions) history. Information regarding age, sex, and race was not solicited. Statistics were calculated based on each individual questions' participation; several questions did not have the full 94 answer.

All information was examined and compared to determine common characteristics regarding how crime scene investigators are impacted by investigating crime scenes. This information cast insight into different demographic makeups of crime scene units and how different people are impacted by this exposure to crime. Researchers were mindful of the importance of confidentiality and protocols required by the IRB. The IRB prevented researchers from disclosing any information that could identify the participants in the study.

Results

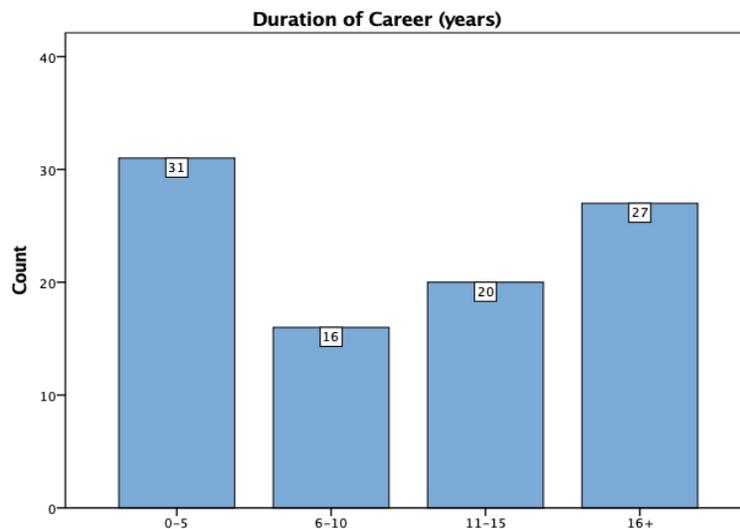
Data analysis was performed on the data collected quantitatively from the surveys distributed. Researchers utilized SPSS to analyze the responses, both fill-in and multiple choice. The questions primarily focused on agency, counseling and debriefing, types of crimes investigated, physical and psychological well-being, and any traumatic crimes investigated. These areas were deemed relevant and material in order to attain the goals of the study, that being whether there is a traumatic impact of investigating crime scenes.

Researchers analyzed ninety-four survey responses. One hundred and one total surveys were received, however seven were incomplete and could not be analyzed due to the possibility of skewing data. Participants were informed that they could skip any question on the survey if they were not comfortable answering a question or if it did not apply to them. The ninety-four

survey responses chosen for analysis were complete or almost entirely complete. The questions noted in this section will focus on the primary goal of this research, to determine if this career has a traumatic impact on those who investigate crime scenes. For the survey questions see Appendix 1; for the Survey Code Sheet see Appendix 2; and for the graphs for each question, see Appendix 3.

Graph 1- Duration of Career so Far

How long have you been in this career?

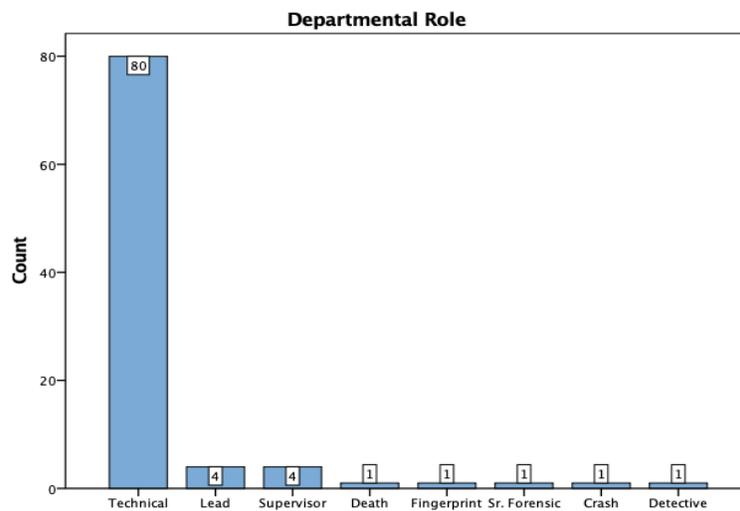


The survey began by asking for demographics of the participants in order to gain information about the nature of the participants' careers. Most participants have been in the field from 0 to 5 years, 31 participants selected this option for approximately 33%. Researchers started with 0 years for the crime scene investigators that are new to the career, this could include being in the field just a few months. Rookies may be impacted more by the scenes they process since they have not yet been desensitized to death. On the other hand, they may be less impacted by the scenes they investigate if they process every scene with their trainer. The next most selected answer was crime scene investigators that have been in the career for more than 16 years, 27

participants selected this option for approximately 29%. The second most selected answer was being in the career 6 to 10 years, 16 participants chose this option for about 17%. The third most selected choice was for 11 to 15 years, 20 participants for roughly 21%. The majority of participants were either just beginning their career or had been in the career for an extended period of time, more than 16 years.

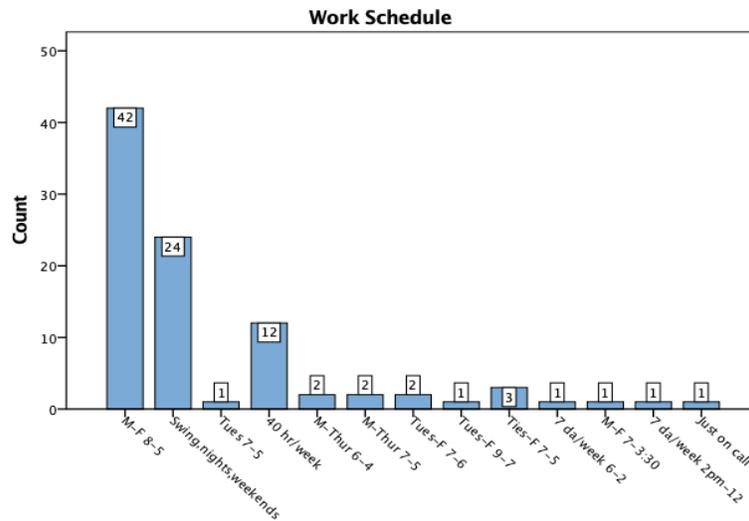
Graph 2- Job Title

What is your role in the department?



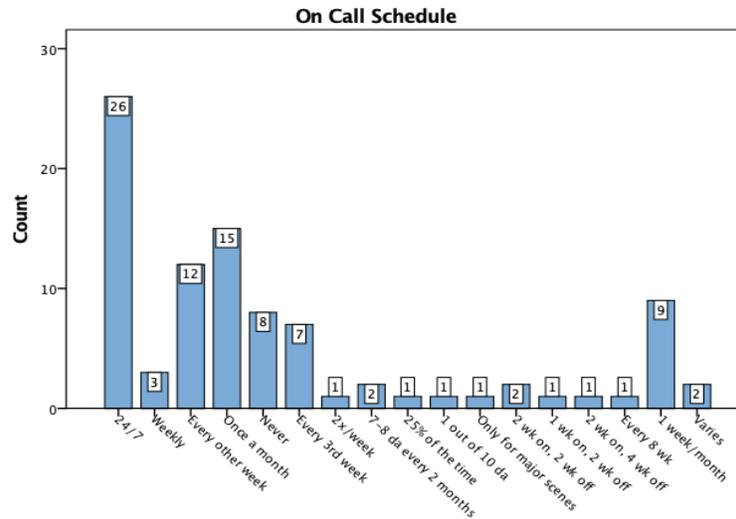
Research participants hold a variety of different job titles. The survey offered the answer choices of Technical Investigator, Lead Investigator, and the option for write-in for any job title not included. Of the 93 respondents, 79 hold the title of Crime Scene Investigator, or Technical Investigator, accounting for approximately 85%. Other job titles written-in include Death Investigator, Supervisor, and Detective. Researchers were successful in targeting crime scene investigators as participants in the survey.

Graph 3- Work Schedule
What is your work schedule?



The next question focusing on the general makeup of the participants' careers focused on their work. There was a multitude of different answers regarding work schedules. The question had answer options as well as write-in options for any work schedules not listed. The most common work schedules were Monday-Friday 8:00am-5:00pm, 42 respondents selected this choice for approximately 45% of participants. The second most common selection was shifts (swing, nights, weekends, etc), which was selected by 23 respondents for approximately 25%. Finally, working 4 10-hour shifts was the third most common with 12 respondents for approximately 13%. The results of this question were very interesting as this job is typically assumed to have very odd or inconvenient hours, when in reality most participants stated it was a typical 8:00am-5:00pm workday.

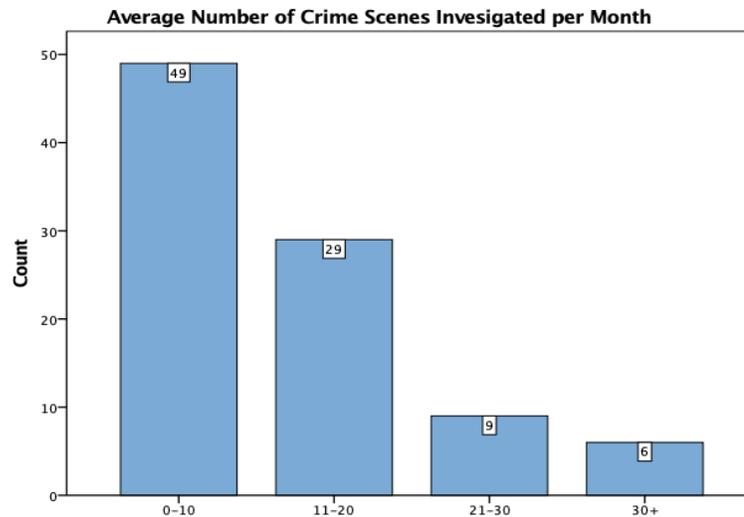
Graph 4- On Call Schedule
How often are you on call?



On-call responsibilities were another question that had a wide variety of different answers. These answers included 24/7, once a month, only for major scenes, and many more. The three most common answers for on-call schedules were 24/7, 25 out of 93 respondents selected this for approximately 27% of participants. The second most selected choice was once a month with 15 out of 93 respondents for about 16%. The third most common answer option was every other week, with 12 respondents or roughly 13% of the 93 participants. This question showed the much wider variety of on-call responsibilities compared to the set work schedule of crime scene technicians. This wide variety impacts personal life and can create disruptions at home. This can in turn increase stress on crime scene investigators.

Graph 5- Crime Scenes Investigated per Month

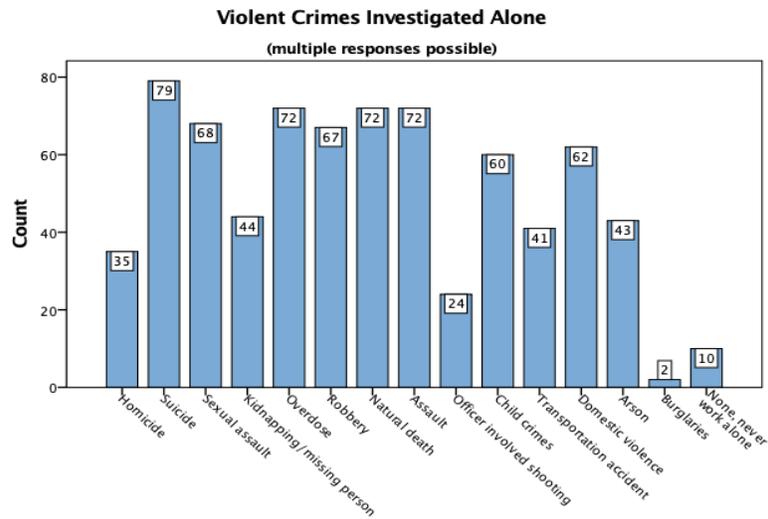
How many crime scenes do you investigate (on average) per month?



The next few survey questions asked participants about their careers and the types of crimes participants investigate. The first question on crime scenes asked about the number of scenes investigated per month, on average. Most respondents stated they investigated 0 to 10 crime scenes per month, 49 participants chose this option for approximately 53%. The second most chosen amount was 11 to 20 crime scenes per month, 29 respondents opted this choice for roughly 31%. The least selected option was 30 or more scenes per month, which received 6 options for about 6%. Most participants reported processing less than 20 crime scenes per month, this could be due to the large number of municipal agencies that most participants work at, see Appendix 3 Graph 26, or that most crimes happened when participants were either not working or not on call.

Graph 6- Violent Crimes Investigated Alone

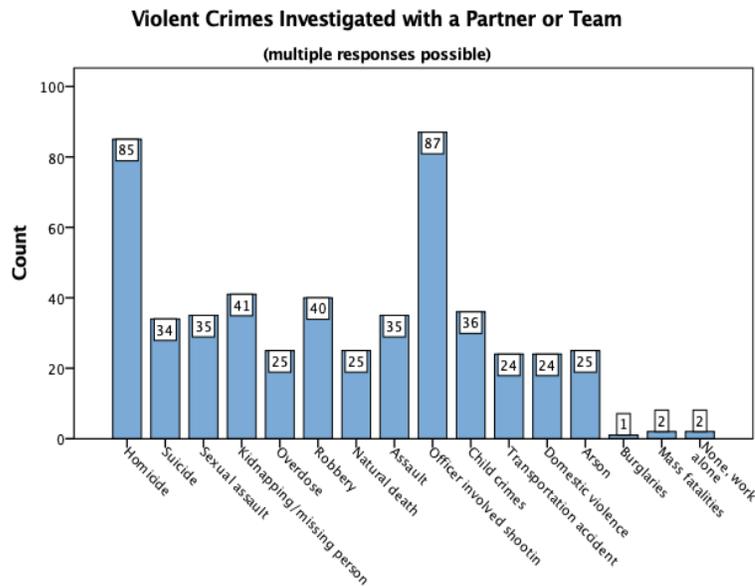
What violent crimes do you investigate alone?



Researchers then asked what types of crime scenes the participants investigated both alone and as a team. When asking this question researchers kept in mind that there is likely always a detective or police officer on scene, but the focus was on which types of crimes were processed alone versus processed with processed with multiple investigators. The question included 13 different options, with multiple answer selection allowed. There were also spaces for write-in answers for unique situations not described. “Burglaries” was an option that was written in by 2 participants. “Mass fatalities” was written in one time and joined with homicides, deemed fitting by researchers due to the lack of specification and assumed nature of mass fatalities. Lastly, “none” was written in by 10 participants, suggesting that those participants investigate every crime as a team. Several participants selected every option listed by researchers, suggesting that they work every crime scene on their own. But, as an overall, every crime appears to be investigated both alone and as a team.

Graph 7- Violent Crimes Investigated with Partner or Team

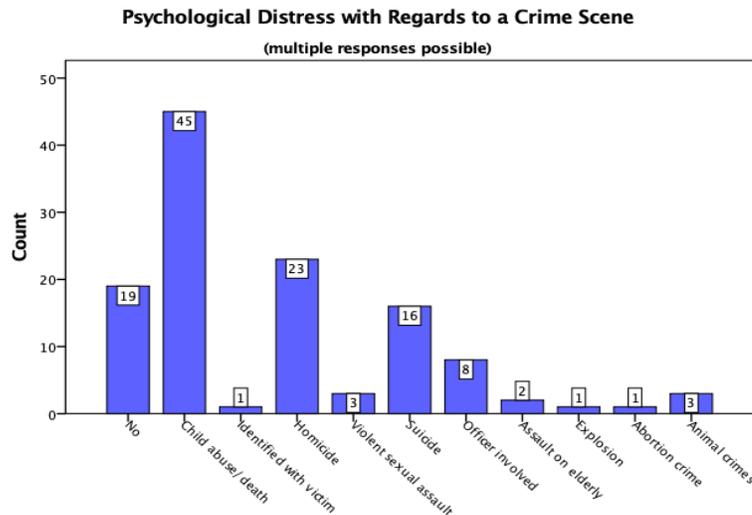
What violent crimes do you investigate with a partner or team?



On the other hand, when participants were asked about what crimes they investigated as a team, there were 2 that drastically stuck out to researchers. The first is homicides, which received 85 selections accounting for about 90% of participants. The other answer choice that stood out was officer involved shootings. This answer selection received 87 votes for approximately 93% of participants. This was important because even if every other crime was investigated alone, for the majority of participants these crimes are investigated as a team. “Burglaries” was an option that was written in by 1 participant, about 1%. “Mass fatalities” was written in by 2 participants accounting for about 2%. Lastly, “none” was written in by 2 participants, suggesting that those participants investigate every crime alone.

Graph 8- Crimes That Stuck Out to Respondents

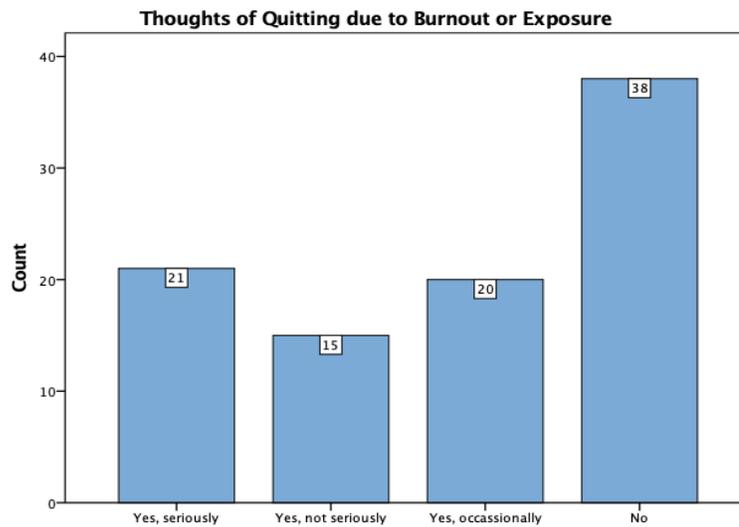
Has any crime scene stood out to, or stuck with, you, in regard to psychological distress? If yes – what was the nature of the crime?



The next question addresses a major point of the research. This question directly asks if crime scenes cause psychological distress, and if so, what nature crime causes this concern. The responses to the question were in the context of violent crimes. Many participants added or included details describing specific events and how they felt when investigating these scenes. The most common answer was child abuse or death, with 45 of 94 responses selecting this option for approximately 48% of participants. Homicide was the next most selected choice with 23 out of 94 responses or roughly 24% of participants opting this choice. Both of these crimes are incredibly heinous scenes that leave negative lasting impressions.

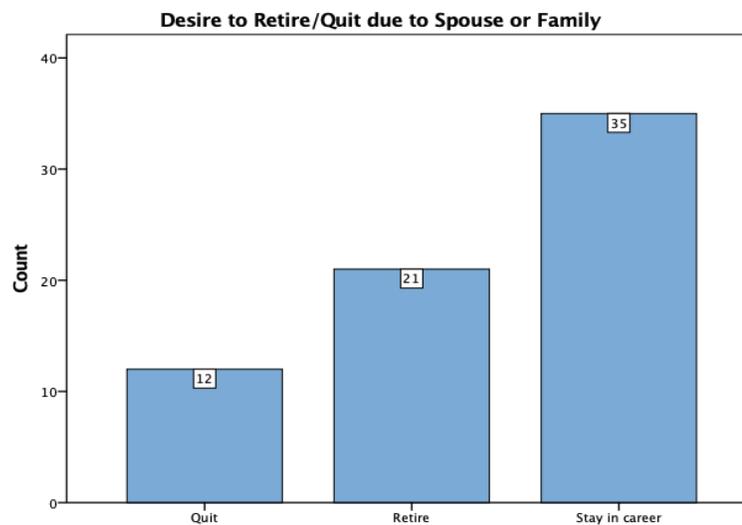
Graph 9- Thoughts of Quitting Due to Burnout or Exposure

Have you had thoughts of quitting or changing careers due to burnout or exposure?



Graph 10- Desire to Quit or Retire due to Family or Spousal Impact

If you have a spouse or family – has this made you want to retire or quit your career? (1 being least likely and 3 being most likely)



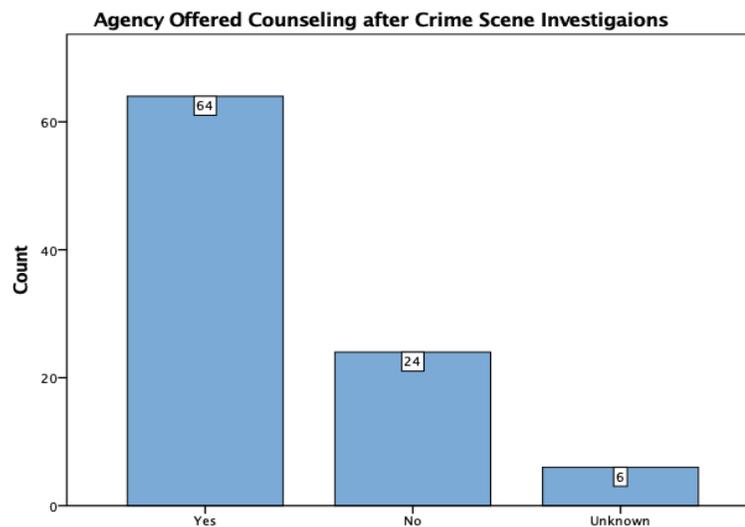
The next question was whether participants ever had thoughts or desires to leave their career due to the traumatic scenes they have encountered or due to the impact on their personal family life. The question was asked in order to evaluate how participants view their careers based

on what they are exposed to. The question measures their desire to change professions due to the nature of their careers. The majority of participants answered “no”, 38 responses or around 40% of participants. This means 60% of participants thought about quitting their career to some degree. However, only 21 out of 94 participants seriously considered leaving their career, approximately 22%. This suggests that although this career may be emotionally taxing, most investigators do not seriously consider leaving their profession.

The second question was asked to see how having a spouse or family impacted how participants viewed their careers. Most participants had the desire to stay in their careers, 35 out of 68 participants or approximately 51%. On the other hand, 12 respondents expressed the desire to quit, for about 18%. This suggests that crime scene investigation does not impact investigators’ families enough to change career paths.

Graph 11- Counseling Offered by Agencies

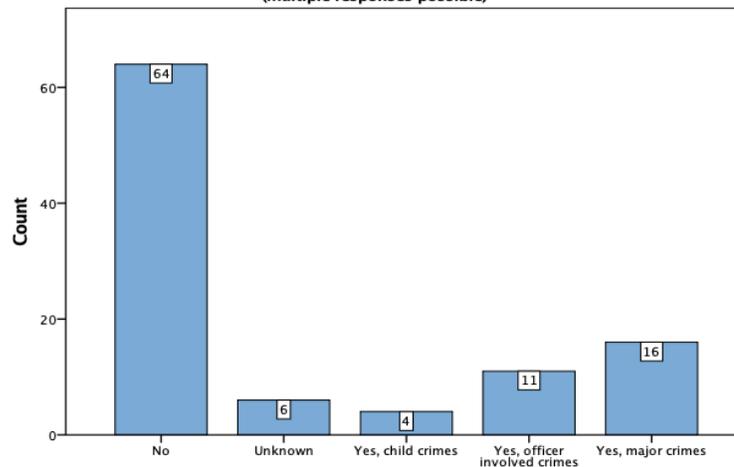
Does your agency offer counseling or debriefing after crime scene investigations or after crimes worked?



Graph 12- Counseling Required by Agency After Crimes

**Does your agency require any sort of counseling or debriefing after working a crime scene?
If so, for what types of crimes?**

Agency Required Counseling or Debriefing after Working a Crime Scene
(multiple responses possible)



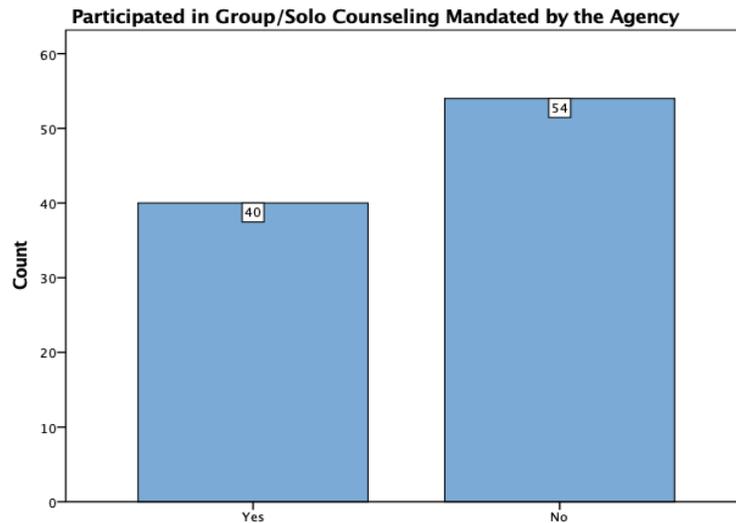
The next question sought to find out if the agencies that employed the participants offered any form of counseling or debriefing to address traumatic crime scenes, either offered to employees periodically or required after working, especially disturbing scenes. Most participants stated they worked at municipal agencies (see Appendix 3 Question 6), meaning they work for city police departments. Most participants stated that their agency did offer some sort of counseling available to employees, 64 out of 94 participants, or about 68%. Out of 94 participants 6 were unsure if their agency offered counseling or not. On the other hand, most participants, 24 out of 94 respondents, or about 26%, stated that their agency did not require any sort of counseling after working crime scenes.

This is compared to the roughly 33% of participants, total, who said their agency requires counseling after major crimes, officer involved crimes, or child crimes. Those responses were about 17%, 12%, and 4%, individually, respectively. This is important because agencies offer

counseling but do not require it after working gruesome scenes. This means that it is up to the crime scene investigators to seek out professional help if they want to utilize it.

Graph 13- Participation in Counseling Mandated by Agency

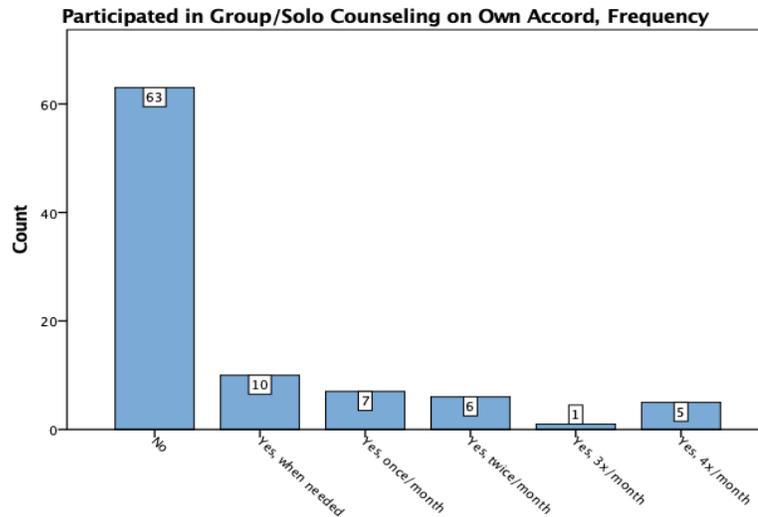
Have you ever participated in group or solo counseling mandated by your agency?



The next question asked who has participated in counseling or debriefing mandated by their agency. The majority of participants stated that they have not participated in either solo or group counseling, 54 out of 94 respondents for about 57%. This suggests that the service of counseling offered by agencies is either not being utilized when needed, or it is not needed at all. This will be compared to investigators attending counseling on their own accord outside of their agency.

Graph 14- Participated in Counseling on Own Accord

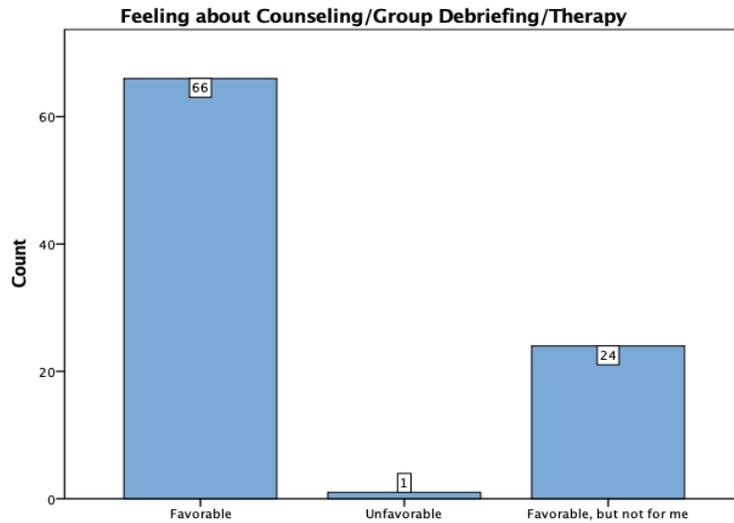
Have you ever participated in group or solo counseling on your own accord? If yes, how often per month?



Researchers then asked whether participants sought out counseling on their own when it was not made available by their agencies. Again, most participants stated “no” they do not attend counseling on their own accord, 63 out of 92 participants or approximately 68%. Those that do receive counseling on their own did so occasionally as a personal “check-up”, 10 respondents out of 92 or about 11% of total participants. Several participants stated that the counseling they did receive did not pertain to their careers and was instead for other personal reasons. This again suggests that most crime scene investigators do not seek out counseling either from their agency or on their own.

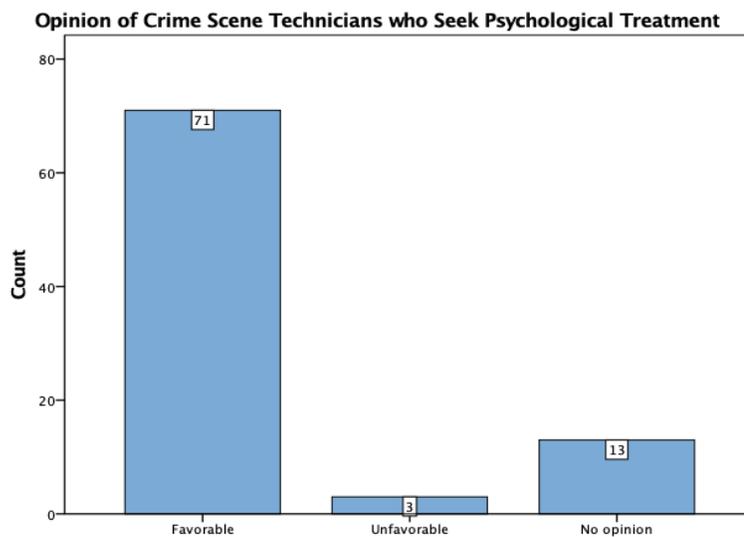
Graph 15- Feelings about Counseling

How do you feel about counseling, group debriefing, or therapy? (1 being least accurate and 3 being most accurate)



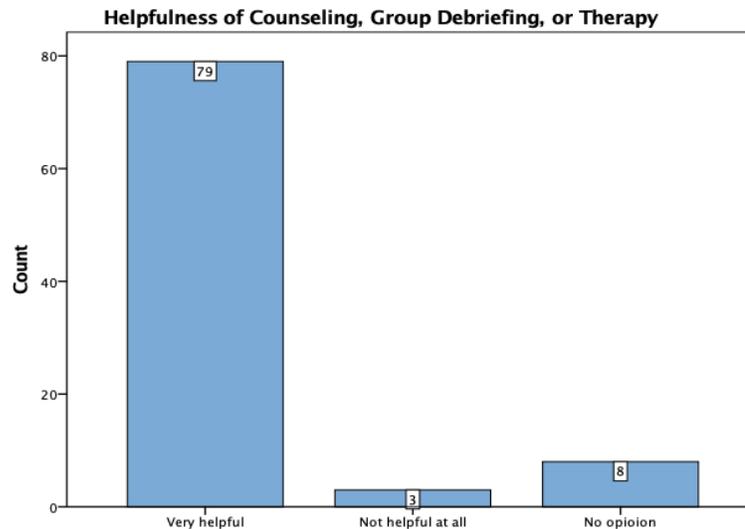
Graph 16- Opinion of Technical Investigator who Seek Counseling

How do you view crime scene technicians who seek psychological treatment? (1 being least accurate and 3 being most accurate)



Graph 17- Perception of Helpfulness of Counseling

Do you think counseling, group debriefing, or therapy would be helpful in this career? (1 being least accurate and 3 being most accurate)

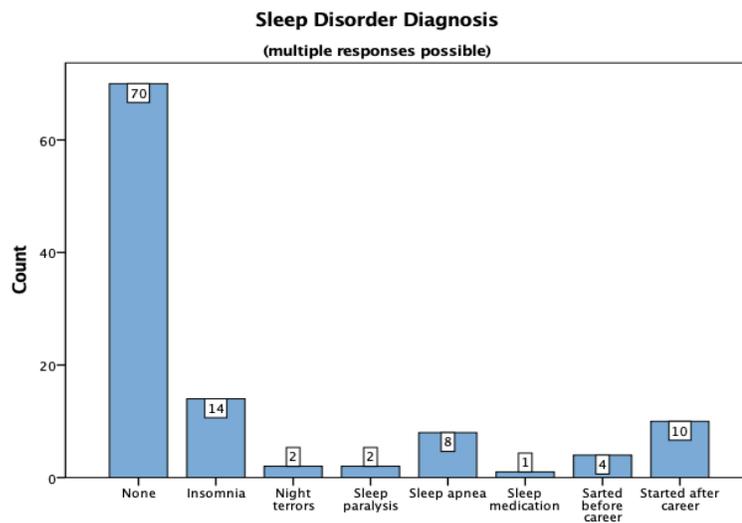


After viewing how many participants did partake in counseling, either mandated by their agency or on their own, researchers examined how participants viewed counseling in general. We asked participants three main questions: how they viewed counseling; how they viewed crime scene technicians who participated in counseling; and do they deem counseling helpful in this career. With the former question, almost every participant stated that they viewed counseling as favorable to some degree. Out of the 91, 66 participants stated “favorable” for about 73%. Out of those remaining, 24 stated “favorable, but not for me” for approximately 26% of total participants. This shows that overall, 99% of participants view counseling as a positive form of help. Regarding the question of viewing technicians who seek counseling, 71 participants stated that they viewed crime scene technicians who seek counseling as “favorable” for roughly 82% of total participants. Of the 87 participants, 13 indicated that they had no opinion regarding other technicians who seek help, for about 15% of total participants. Finally, for the question regarding helpfulness of counseling in this career, 79 participants voiced that they believe counseling

would be very helpful, for about 88%. This is compared to the 8 who had no opinion, about 9%, and the 3 that found it not helpful at all, roughly 3%. These results show that many crime scene investigators find counseling advantageous and that there is no negative stigma associated with investigators who partake in it.

Graph 18- Sleep Disorder Diagnoses

Have you been diagnosed with a sleep disorder? If yes, what sleep disorder? Did this start before or after beginning your career? (Specify before or after in text box)

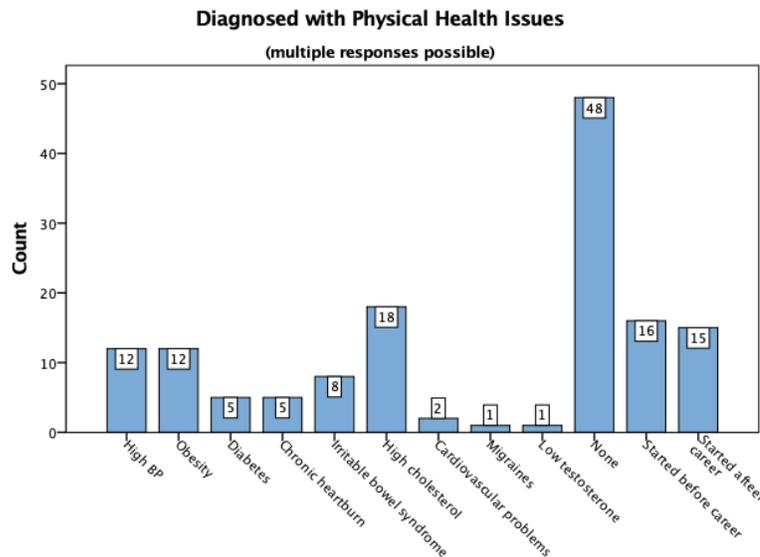


The next section of the survey asked participants personal questions regarding their overall wellbeing. The first question asked was about any diagnosed sleep disorder. This question was asked to determine if their careers impacted their sleep quality. This question was posed by listing options of sleep disorders and having participants specify if the disorder started before or after entering their career. The majority of participants noted that they did not have any diagnosed sleep disorders, 70 respondents out of 94 or roughly 74%. The leading complaint was insomnia, reported by 14 respondents, for about 15% of total 94 participants. Of all the participants that stated receiving a diagnosis, 10 stated that it started after beginning their career and 4 said it was pre-existing. The issue with the format of this question was that most

participants that selected receiving a diagnosis do not specify if they received it before or after their career starting. This impacted the data by not allowing researchers to determine if the diagnoses were made before or after participants started their careers. Beneficially, by researchers asking specifically about a diagnosis, participants were prevented from diagnosing themselves with a sleep disorder. This question, as well as many to follow, allows for multiple answers to be selected. The results suggest that for the most part, crime scene investigators' sleep quality is not impacted by the scenes they process. However, participants may suffer from various sleep disorders but have not sought out help from a physician, therefore not receiving a proper diagnosis

Graph 19- Physical Health Diagnoses

Have you been diagnosed with any physical health issues? If yes, what health issue(s)? If yes, did these arise before or after starting this career? (Specify before or after in text box)

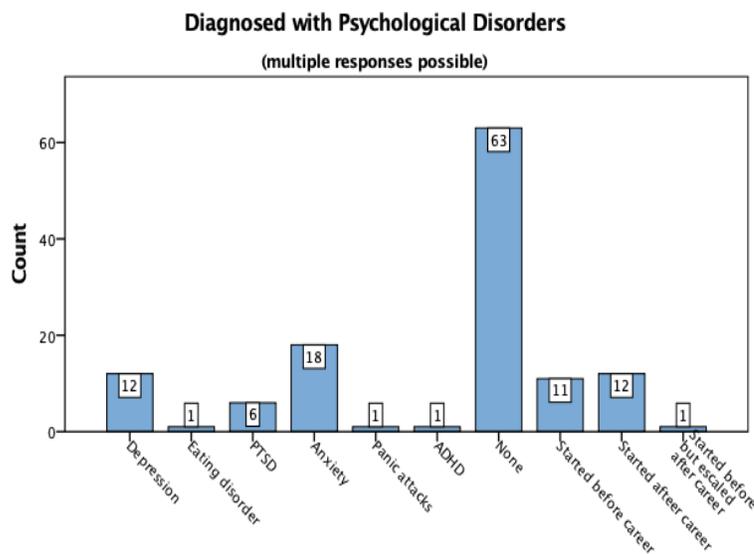


The next question asked participants about any physical health diagnoses. The purpose was to determine how the participants' careers impact their physiological wellbeing. Out of the 94 participants, 48 stated that they had no physical health diagnosis, for about 51%. The leading health disorder identified was high cholesterol, followed by high blood pressure and obesity.

High cholesterol was identified in 18 of 94 participants for about 19%. High blood pressure was identified in 12 out of 94 participants for about 13%. Obesity was also identified in 12 participants for about 13% of the total 94. Of the participants that reported having a health diagnosis, 16 stated that the diagnosis was pre-existing while 15 reported the problem began after starting their career. Asking specifically about a diagnosis prevents people from saying they have a physical health disorder without a proper diagnosis. This question allows for multiple answer selection so that if participants suffered from multiple health issues, they could mark multiple. Overall, the results suggest that crime scene investigators do not suffer health issues due to the crime scenes they investigate. However, like with sleep disorders, participants may suffer from health impairments and have not sought out help from a physician therefore not receiving a proper diagnosis.

Graph 20- Psychological Disorder Diagnoses

Have you been diagnosed with a psychological disorder? If yes, what psychological disorder? If yes, did this arise before or after this career? (Specify before or after in text box)



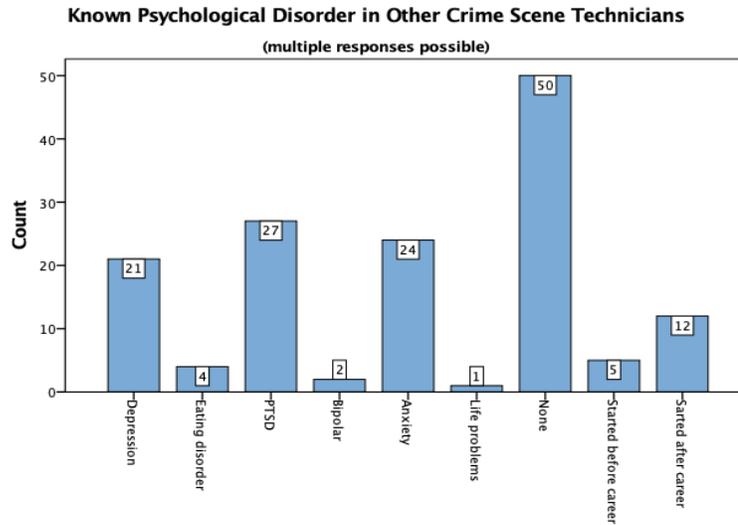
The next question pertains to the psychological disorder diagnoses. Researchers asked this question to determine how the participants' careers impact their psychological wellbeing.

Out of the 94 participants, 63 stated that they had no psychological disorder diagnosis, (approximately 67%). The leading psychological disorder identified was anxiety, followed by depression and then post-traumatic stress disorder (PTSD). Anxiety was selected by 18 participants accounting for 19% of the total 94. Depression was opted for 12 times by participants, about 13% of the total 94. Finally, PTSD was chosen 6 times, 6% of the 94 total participants. Of the participants that reported having a psychological diagnosis, 11 stated that the diagnosis was pre-existing, 12 reported that it began after starting their career in crime scene investigation, and 1 reported a pre-existing condition that escalated after they began their career.

Asking specifically about a diagnosis prevents people from saying they have a psychological disorder without a proper diagnosis. This question also allowed participants to select multiple answer choices due to the fact that many psychological disorders are often paired with other conditions. Most participants did not report having any psychological issues either pre-existing or due to their careers, however the leading illnesses of depression, PTSD, and anxiety stuck out to researchers. The reason this caught researchers' attention is because the majority of participants that opted for these selected that they began after beginning processing crime scenes.

Graph 21- Psychological Disorder Diagnoses in Colleagues

Do you know of any crime scene technicians that have been diagnosed with a psychological disorder? If yes, what psychological disorder? If yes, did this arise before or after this career? As a reminder, this is completely anonymous.

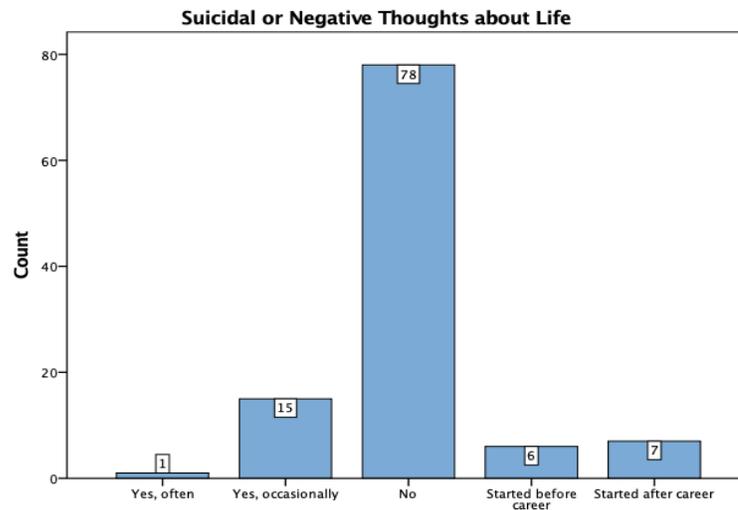


The next question asks participants if they were aware of other crime scene technicians who were diagnosed with any psychological disorders. Researchers asked this question to determine if people in this career have psychological distress, even if not the participants themselves. Of the 94 participants, 50 stated that they did not know any crime scene worker with a psychological disorder diagnosis, (approximately 53%). Of those that responded positively, the disorder most known about colleagues having was PTSD. This disorder had 27 selections for about 29% of the total 94 participants. followed by anxiety and then depression. The second most common was anxiety with 24 participants opting this choice for 26% of the total 94. The third most common psychological disorder among colleagues was depression with 21 participants selecting it (approximately 22%). Of the participants that reported knowing a colleague with a psychological diagnosis, 12 stated that the diagnosis was given after their colleague began their career and 5 reported it as a pre-existing condition. The results with this question are interesting as participants potentially could be from the same agency and therefore

be answering based on the same colleague. Therefore, results from this question should be taken knowing this possibility.

Graph 22- Suicidal Thoughts

Do you have suicidal thoughts or negative thoughts about your life? If yes, did this begin before or after starting this career? If yes, how often? (Specify before or after in text box)

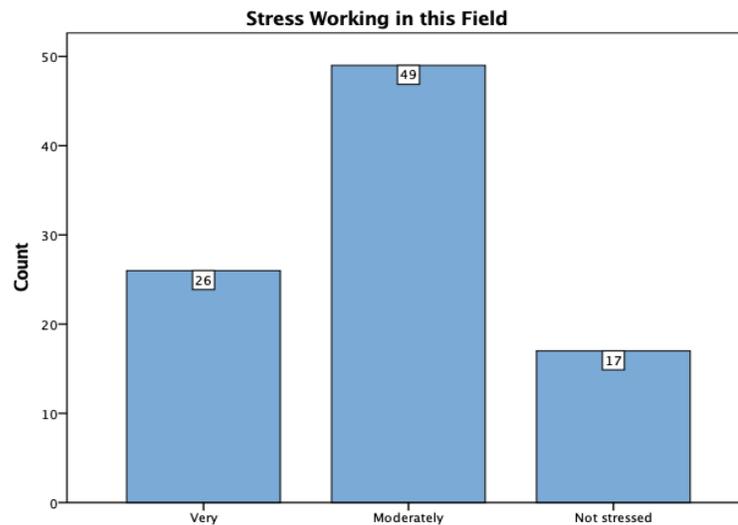


The last personal question asks participants about suicidal and negative thoughts and when they began. This question was asked in order to analyze if career and exposure to death or violence impacts the participants' outlook on life. Researchers were curious if crime scenes coupled with health disorders could lead to disturbing and suicidal thoughts among crime scene technicians. Of the 94 participants, 78 stated that they had no suicidal or negative thoughts about their life (approximately 83%). Out of the 17% that responded yes to suicidal thoughts, only 1 reported this as happening frequent and recurring. Of those that marked yes, 6 reported that they began before starting their career and seven reported after. Several participants noted that their suicidal thoughts were not related to their careers and were instead based on outside personal factors. Not everyone who marked yes indicated whether suicidal thoughts preceded their career

in crime scene investigation or not. The overall results suggest that crime scene processing does not lead investigators to suicidal or negative thoughts.

Graph 23- Stress in the Career

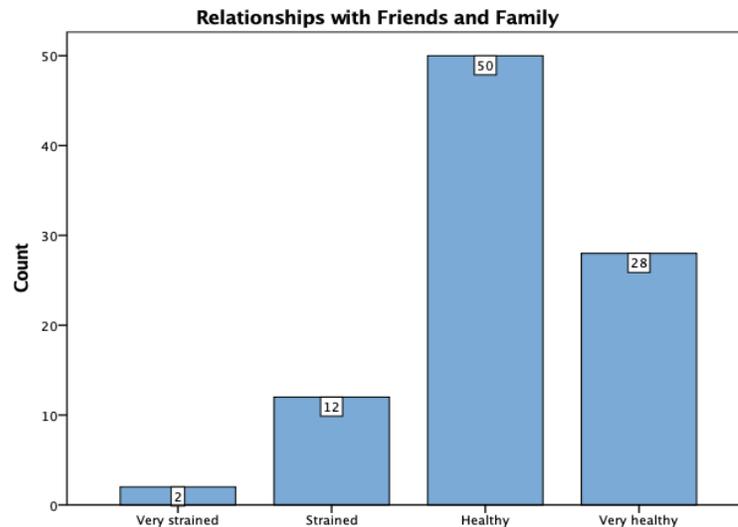
How stressed do you feel working in your career? (1 being least accurate and 3 being most accurate)



Next, researchers examined how participants characterized their careers in terms of stress. Participants were asked to rate their degree of stress as very stressed, moderately stressed, or not stressed in their career. Of the 92 participants, 49 said they felt moderately stressed, (approximately 53%). This was the most common answer selected. The next most common answer was very stressed with 26 answers (about 28%). The least selected answer was not stressed at all with 17 selections (about 18%). These results show that the majority of participants felt at least moderately stressed in their occupation. See Appendix 3 Graph 37 for how participants reported handling their stress.

Graph 24- Relationships with Others

How are your relationships with others? Family, friends, significant others? (1 being least accurate and 3 being most accurate)



The next question explored participants' relationships were with friends and family and how those relationships were impacted by the participants' occupation. Participants were asked to rate their relationships as: 1) very healthy, 2) healthy, 3) strained, or 4) very strained. "Healthy" was the most commonly selected answer with 50 selections, (about 54%). The second most common was "very healthy" with 28 selections about 30% of the total 92 participants. The least selected choice was "very strained" which received 2 selections for about 2% of answers. These results show that the majority of participants believe their relationships with others are healthy or very healthy. This is important because stress can impact a persons' relationship with others.

Discussion

Research has been conducted over the past 30 years about the impacts of being a first responder, police officer, paramedic, or soldier. Research has not sufficiently addressed the impact of being a crime scene investigator. This occupation is one that has been around for

centuries and will be around for centuries to come. By examining the effects of this line of work, we, as a society, can better prepare those who enter field of crime scene investigation. This study focused in on how crime scene investigators explained how their chosen profession affected their lives. This was undertaken to see if there is an impact on crime scene investigators as a result of their constant exposure to the aftermath of humanity's most violent acts.

This study showed the impact of stress and traumatic exposure from crime scenes on crime scene investigators. Compared to police officers, veterans, and first responders, crime scene investigators reported less problems with family. In this study investigators noted have healthy relationships with others and a very low divorce rate, compared to the results from Brady et al (2018). The other main difference between law enforcement officers and crime scene investigators when dealing with their careers is the coping mechanisms utilized. According to Denton et al (2016), a quarter of police officers are alcoholics; this completely contradicts the results of this survey as very few investigators report drinking much if at all (see Appendix 3 Graphs 34). Wolford (1993), states that most law enforcement officers cope with maladaptive mechanisms, but this also contradicts the results of this study as investigators noted using very productive coping mechanisms to deal with stress (see Appendix 3 Graph 37). Therefore, there are similarities with the impacts of stress from the careers of law enforcement officers and crime scene investigators, but how they deal with that stress is completely different.

Discussion of Research Questions

1. What internal coping mechanisms do experienced crime scene technicians report that they consider most effective?

Participants were asked which coping mechanisms they utilized when dealing with stress, as well as any related personal habits, such smoking, drinking, and any recreational

drug use. Regarding recreational drug use, not surprisingly, every participant reporting not using any recreational drugs (see Graph 35 Appendix 3). Regarding drinking habits, most participants reported drinking five drinks or less during the week and beginning this habit before their career (see Graph 34, Appendix 3). Regarding smoking cigarettes, the vast majority indicated that they do not smoke (see Graph 33 Appendix 3). Another coping mechanism utilized by several crime scene investigators was the reliance on meditation, prayer, or religion. Out of the 94 participants, 25 reported using religion to help deal with stress, about 27%, (see Graph 37 Appendix 3). This suggests that participants are not relying on external maladaptive coping mechanisms. Instead, participants reported coping with stress by spending time with friends and family, working out, or engaging in hobbies. These activities were found to be the most commonly utilized and successful coping mechanisms among crime scene technicians.

2. What types of crime scenes do technicians report impacting them the most, regarding negative thoughts and memories?

According to participants in the survey the top three most common crime scenes that stuck with them, in terms of psychological distress were crimes that involved children, homicides, and suicides. Each of these crimes involve death scenes and can be incredibly distressing. Several of the participants reported not having any negative thoughts or memories from the crime scenes, but the majority listed these top three as causing some distress. After understanding which crime scenes create the most distress, agencies can better determine how to assist or limit the technicians who investigate them. This could include limiting the number of years that investigators can work crime scene processing, requiring

that these types of crimes can only be investigated as a team, or mandating counseling or welfare checks after working these types of scenes.

3. What are the long-term effects on the technicians of prolonged exposure to crime scenes?

The long-term impacts of crime exposure on technicians varies. There is not one thing that every participant had in common. However, there is a noteworthy trend gathered from the data. The major trend noted was the level of burnout among crime scene technicians, either due to prolonged exposure or family status. Burnout due to exposure was significantly more common than burnout due to family status. This is important because it sheds light on the need for a tool to offset the constant stressful exposure in order to prevent technicians from actually leaving their career after just a short time in the field. The tool that comes to mind is counseling. The overwhelming majority of technicians reported that counseling was viewed favorably and that it would be highly beneficial in this profession. Counseling could be implemented in order to assist investigators in understanding how to cope and internally process what they are exposed to on a daily basis.

4. What are the most common psychological & physical symptoms resulting from constant exposure to violent crime scenes?

The most common physiological health issues among crime scene technicians were high cholesterol, high blood pressure, and obesity. In the past stress has been linked to increased levels of blood pressure due to the bodies response of beating the heart faster and narrowing blood vessels. However, there is no link that stress causes a long-term diagnosis of high blood pressure versus an immediate physiological response. Regarding high cholesterol, there have been links that stress can increase cholesterol levels. However, there is no

guarantee that someone with healthy cholesterol levels can receive a diagnosis of high cholesterol strictly from stress. Finally, there is a strong link between stress and obesity.

Stress and other psychological factors are one of the top leading causes, behind poor diet, genetics, and inactivity (Jerry, 2019). However, stress alone cannot cause someone to become obese if they are otherwise living a healthy lifestyle. Each of the top three physical symptoms most common in crime scene technicians are linked to stress, with the majority of participants feeling moderately to very stressed at work, but they are not directly caused by stress alone. The national average for obesity is 31% whereas only 13% of my participants noted being clinically obese (Centers for Disease Control and Prevention). This difference can be due the fact that the outside national population takes into account many other stressors or reasons into their diagnosis, whereas my sample was focused on the stress faced in their occupation. This is the same with high blood pressure, where nearly half of the US adult population reports having high blood pressure, whereas only 13% of participants in my study noted receiving a high blood pressure diagnosis (Centers for Disease Control and Prevention). As of 2016 approximately 12% of the US population had high cholesterol, this compares to the 19% of participants in my study who stated having high cholesterol (Centers for Disease Control and Prevention). Like I said, this health disorder can be linked to stress, so the results suggest that crime scene investigators experience more stress than the average US population; this is why they have increased rates of high cholesterol.

The most common psychological health disorders for the participants are anxiety, depression, and post-traumatic stress disorder. The majority were diagnosed after beginning their careers in crime scene investigations. These disorders can result from the constant exposure to the aftermath of suicides, homicides, and child crimes, all highly emotional and

distressing crimes to process. This exposure can lead to second-hand traumatic stress, which can cause depression and PTSD. Several common external factors linked to anxiety are stress in the workplace and emotional trauma (Mayo Clinic, 2018). The constant exposure of these crimes can cause that stress as well. This is not to say that the participants' and their colleagues' careers cause their diagnoses alone, but that they likely contribute greatly to the disorders. The national average for depression is 7.8%, whereas the results of my study show that 13% of participants have received a depression diagnosis (National Alliance on Mental Illness). This suggests that participants in my study have more depressive episodes than the general population, likely due to their exposure to death and violence from their occupations. Likewise, the national average for PTSD is 3.6%, whereas 6% of participants in my study received a diagnosis for PTSD (National Alliance on Mental Illness). This suggests that crime scene investigators are exposed to more traumatizing experiences that results in double the diagnosis as compared to the national average, likely investigating crime scenes. Finally, anxiety disorders are noted in 19% of the US population compared to 19% of participants in my study. This shows that the anxiety disorders diagnosed among my participants mirrors the US population, but is likely due to different reasons than the national population.

Compared to law enforcement officers, crime scene investigators reported less physical health issues. According to Gharibian et al (2015), law enforcement officers reported "poor sleep, subclinical cardiovascular disease, cancer... high blood pressure, and high cholesterol." Compared to the results of this study, very few crime scene investigators reported any physiological issues. Likewise, according to Denton et al, 2016, police officers had a very high rate of suicide. This contradicts the results of this study as very few investigators reported suicidal or negative thoughts. Therefore, research suggests that law

enforcement officers' careers have a stronger impact on their physical and psychological well-being than the careers of crime scene investigators.

Limitations

This study had several limitations. The biggest limitation to the study was the small sample size. There are thousands of crime scene processors employed across the United States. My research surveyed just ninety-four. Having a larger sample size would assist researchers in not only having more accurate data, but also by reaching a larger population to inform them that this important topic is being discussed.

Another limitation was the lack of variety in the types of agencies the participants were from. The overwhelming majority of participants were employed by a municipal or state agency (see Graph 26 Appendix 3). This gives researchers a focus on how municipal crime scene investigators are impacted by and feel about their careers. By surveying more federal and state technical investigators researchers can better understand the career impact on crime scene processors as a whole. State and federal agencies may have better funding that would allow for better treatment or ensure that every scene is investigated with a partner or team. The lack of state and federal investigators surveyed limited the understanding of researchers on the career industry as a whole.

The final limitation with this research was the question format. The way several questions were set up was that participants would write in "before" or "after" when asked when things were diagnosed, habits started, etc. Oftentimes, participants would not take the time to specify before or after their career began on these questions. This greatly limited the accuracy and understanding of trends and how crime scene investigators with pre-existing issues are impacted by their careers.

Recommendations for Future Research

After completing this research, there are some recommendations for others who desire to further investigate the same topic. First, I would recommend including demographics regarding sex. It would be very interesting to see how men are impacted by this career versus women.

Another avenue for possible future research is to breakdown and examine the differences between crime scene investigators who are new to the career versus crime scene investigators who have been in the industry for an extended period of time. These differences could be due to working with a trainer versus working alone or due to desensitization to the scenes they investigate. However, researchers would have to be sure that participants could not be identified by their answers if they were to track responses based on experience in order to discern trends. This avenue could help researchers learn about shifts in adapting to the career and violent scenes.

Future researchers could also interview those who work as counselors with law enforcement agencies. This would be a very interesting direction on the topic in order to ascertain if this tool is being utilized or taken seriously, or even offered to crime scene investigators. This perspective could help future researchers to determine which type of counseling and debriefing most technicians implement and which seem to be the most beneficial. By further understanding the appropriate and favorable tools to help technicians, we can better aid them with offsetting the impacts of crime scene exposure.

I would also look into the differences between sworn crime scene investigators and civilian crime scene investigators. Examining the differences between these two categories of crime scene processors as they each face different pressures, stressors, and traumas. I would also look into comparing crime scene investigators to homicide investigators. I would compare these two occupations because they both are exposed to similar things. Both homicide investigators

and crime scene processors are constantly exposed to death scenes, however homicide investigators typically are older and have more practice as it takes time and experience to get to that position.

The final recommendation for future research is to ask participants if they had similar traumatic exposure prior to working in the career field. It would be very interesting to see if prior traumatic exposure desensitizes crime scene technicians to crime scenes and death. The traumatic exposure should be similar to the exposure that one would come across when processing crime scenes.

Conclusion

This research examined surveys completed by crime scene technicians in order to determine if the investigators are impacted by prolonged exposure to gruesome scenes, and if so, how to best address the problem. The results show that a significant number of crime scene processors have distressing thoughts or memories about scenes they have previously worked. The majority of participants also noted feeling stressed by their careers and, in varying forms of sincerity, thought about leaving their career at some point. Only a minority of participants noted being formally diagnosed with a physiological or psychological disorder, with the most common diagnoses being stress exposure. The results show that the vast majority of agencies do not mandate any counseling, either periodically or after working certain scenes, if they even offer counseling at all. On the other hand, the overwhelming majority of crime scene technicians reported that they viewed counseling positively, would participate, and would find it helpful to them personally. The research revealed that the danger of significant health consequences compared to the general population could not be determined. But there are damaging psychological tolls taken on most technicians.

The most logical way to offset this negative toll is to offer or mandate counseling after processing distressing crime scenes. This, when partnered with the coping mechanisms used by crime scene investigators, can best help offset the negative stressors of the crime scenes. The reason that investigators should also add counseling to their coping mechanisms is because by talking to someone about their experiences, as well as exercising, spending time with loved ones, and partaking in religion, will greatly increase their well-being.

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Appendix 1

Survey Questionnaire

1. Do you voluntarily agree and consent to participate in this study? Know you can omit any question and terminate your participation at anytime.
-

Career Questions:

1. How long have you been in this career?
 - A. 0-5 years
 - B. 6-10 years
 - C. 11-15 years
 - D. 16+ years
2. What is your role in the department?
 - A. Crime Scene Investigator/Technical Investigator
 - B. Supervisor
 - C. Other _____
3. What is your work schedule?
 - A. Monday-Friday 8:00-5:00pm
 - B. Shifts (swings, nights, weekends)
 - C. Other _____
4. How often are you on call?
 - A. 24/7
 - B. Every week
 - C. Every other week
 - D. Once a month
 - E. Never
 - F. Other
5. Are/were you a sworn officer or civilian?
 - A. Sworn Officer
 - B. Civilian
6. Is your agency federal, state, or municipal?
 - A. Federal
 - B. State
 - C. Municipal
7. How many civilian CSIs vs sworn CSIs in your unit?
 - A. Sworn _____
 - B. Civilian _____
8. How many crime scenes do you investigate (on average) a month?

- A. 0-10
 - B. 11-20
 - C. 21-30
 - D. 30+
9. What violent crime scenes do you investigate alone?
- A. Homicide
 - B. Suicide
 - C. Sexual Assault
 - D. Kidnapping/Missing Person
 - E. Overdose
 - F. Natural Death
 - G. Robbery
 - H. Assault
 - I. Officer Involved Shooting
 - J. Child Crimes
 - K. Transportation Accident
 - L. Domestic Violence
 - M. Arson
 - N. Other _____
10. What violent crimes do you investigate with a partner or team?
- A. Homicide
 - B. Suicide
 - C. Sexual Assault
 - D. Kidnapping/Missing Person
 - E. Overdose
 - F. Natural Death
 - G. Robbery
 - H. Assault
 - I. Officer Involved Shooting
 - J. Child Crimes
 - K. Transportation Accident
 - L. Domestic Violence
 - M. Arson
 - N. Other _____
11. Has any crime scene stood out to you, in regard to psychological distress? If yes – what was the nature of the crime?
- A. Yes _____
 - B. No
12. Have you had thoughts of quitting or changing careers due to burnout or exposure?
- A. Yes, considered it seriously
 - B. Yes, considered it, but not seriously
 - C. Yes, occasionally

D. No

13. Does your agency offer counseling or debriefing after crime scene investigations or after crimes worked?

- A. Yes
- B. No
- C. Unknown

14. How long do you envision continuing this career?

- A. 0-5 years
- B. 6-10 years
- C. 11-16 years
- D. 16+ years

Family Questions:

15. What is your marriage and/or family status?

- A. Married, no children
- B. Married, with children
- C. Divorced, no children
- D. Divorced, with children
- E. Never married
- F. Widowed, no children
- G. Widowed, with children
- H. Other _____

16. If have a spouse or family – has this made you want to retire or quit your career? (1 being least likely and 3 being most likely)

Urge to quit	1	2	3
Urge to retire	1	2	3
Urge to stay in career	1	2	3

17. If have a spouse or family – has your career impacted time with your family? If yes, how so?

- A. Yes _____
- B. No

18. If have a spouse or family – do you discuss your work experiences with your spouse and/or family?

- A. Yes
- B. No
- C. Sometimes

19. If you have a spouse – is your spouse in the same career industry? If yes, what field?

- A. Yes _____
- B. No

Personal Questions:

20. Have you ever participated in group or solo counseling mandated by your agency?
 A. Yes
 B. No
21. Have you ever participated in group or solo counseling on your own accord? If yes, how often per month?
 A. Yes _____
 B. No
22. Does your agency require any sort of counseling or debriefing after working a crime scene? If yes, for what types of crimes?
 A. Yes _____
 B. No
 C. Unknown
23. How do you feel about counseling, group debriefing, or therapy? (1 being least accurate and 3 being most accurate)
- | | | | |
|---------------------------|---|---|---|
| Favorable, I would attend | 1 | 2 | 3 |
| Unfavorable | 1 | 2 | 3 |
| Favorable, but not for me | 1 | 2 | 3 |
24. Do you think counseling, group debriefing, or therapy would be helpful in this career? (1 being least accurate and 3 being most accurate)
- | | | | |
|--------------------|---|---|---|
| Very helpful | 1 | 2 | 3 |
| Not helpful at all | 1 | 2 | 3 |
| No opinion | 1 | 2 | 3 |
25. What do you think of crime scene technicians who seek psychological treatment? (1 being least accurate and 3 being most accurate)
- | | | | |
|-------------|---|---|---|
| Favorable | 1 | 2 | 3 |
| Unfavorable | 1 | 2 | 3 |
| No opinion | 1 | 2 | 3 |
26. Do you smoke cigarettes? If yes, how often? If yes, did you start before or after starting this career?
 A. Yes, occasionally _____
 B. Yes, often _____
 C. No
27. Do you drink? If yes, how many drinks per week (on average)? If so, did you start before or after this career?
 A. Yes, 0-5 drinks/week _____
 B. Yes, 6+ drinks/week _____
 C. No

28. Do you use in recreational drugs? If so, how often? If so, did you start before or after this career?
- A. Yes, often _____
 - B. Yes, occasionally _____
 - C. No
29. Have you been diagnosed with a sleep disorder? If yes, what sleep disorder? If yes, did it start before or after starting your career? (Specify before or after in text box)
- A. None
 - B. Sleep Apnea _____
 - C. Insomnia _____
 - D. Night Terrors _____
 - E. Sleep Walking _____
 - F. Sleep Paralysis _____
 - G. Other _____
30. Have you been diagnosed with any physical health issues? If yes, what health issue(s)? If yes, did it start before or after starting your career? (Specify before or after in text box)
- A. None
 - B. High Cholesterol _____
 - C. High Blood Pressure _____
 - D. Obesity _____
 - E. Diabetes _____
 - F. Chronic Heartburn _____
 - G. Irritable Bowel Syndrome _____
 - H. Other Cardiovascular Problems _____
 - I. Other _____
31. How are your relationships with others? Family, friends, significant others? (1 being least accurate and 3 being most accurate)
- | | | | | |
|---------------|---|---|---|---|
| Very Strained | 1 | 2 | 3 | 4 |
| Strained | 1 | 2 | 3 | 4 |
| Healthy | 1 | 2 | 3 | 4 |
| Very Healthy | 1 | 2 | 3 | 4 |
32. Have you been diagnosed with a psychological disorder? If yes, what psychological disorder? If yes, did this arise before or after this career? (Specify before or after in text box)
- A. None
 - B. Anxiety _____
 - C. Depression _____
 - D. Eating Disorder _____
 - E. Post-Traumatic Stress Disorder _____
 - F. Bipolar Disorder _____
 - G. Other _____

33. Do you know of any crime scene technicians that have been diagnosed with a psychological disorder? If yes, what psychological disorder? If yes, did this arise before or after this career? As a reminder this survey is completely anonymous.
- A. None
 - B. Anxiety _____
 - C. Depression _____
 - D. Eating Disorder _____
 - E. Post-Traumatic Stress Disorder _____
 - F. Bipolar Disorder _____
 - G. Other _____
34. How many days do you socialize with people (friends/family) outside of this career field, per month?
- A. 0-2 days/month
 - B. 3-5 days/month
 - C. 6-8 days/month
 - D. 9+ days/month
35. Do you have suicidal thoughts or negative thoughts about your life? If yes, did this begin before or after this career? If yes, how often? (Specify before or after in text box)
- A. Yes, often _____
 - B. Yes, occasionally _____
 - C. No
36. How stressed do you feel working in your career? (1 being least accurate and 3 being most accurate)
- | | | | |
|---------------------|---|---|---|
| Very Stressed | 1 | 2 | 3 |
| Moderately Stressed | 1 | 2 | 3 |
| Not Stressed | 1 | 2 | 3 |
37. How do you typically manage your stress?
- A. Exercise
 - B. Hobbies
 - C. Spend time with friends/family
 - D. Pray/meditate/religion
 - E. Substances (drugs, alcohol, cigarettes)
 - F. Other _____

Thank you for your participation in our research study. If this survey brought up any troubling thoughts, emotions, or feelings, please reach out to your employee assistance program representative.

National Suicide Prevention Hotline: 1-800-273-8255

National Depression Hotline: 630-482-9696

Crisis Text Line: text HOME to 741741

Appendix 2

Survey Code Sheet

Question 1: How long have you been in this career?

1. 0-5 years
2. 6-10 years
3. 11-15 years
4. 16+ years

Question 2: What is your role in the department?

1. Crime Scene Investigator/Technical Investigator
2. Lead Investigator
3. Supervisor
4. Death Investigator
5. Fingerprint Examiner
6. Senior Forensic Investigator
7. Crash Reconstructionist
8. Detective

Question 3: What is your work schedule? – check with Mabry bc some shfits are 10hours/4days a week

1. M-F 8-5
2. Shifts (swing, nights, weekends)
3. Tuesday-Friday 7am-5pm
4. Four 10-hour shifts per week
5. Monday-Thursday 6am - 4pm
6. Monday-Thursday 7am-5pm
7. Tuesday-Friday 7am-6pm
8. Tuesday-Friday 9am-7pm
9. Tuesday-Friday 7am-5pm
10. Everyday 6am-2pm
11. Monday-Friday 7am-3:30
12. Everyday 2pm-12am
13. Just on call

Question 4: How often are you on call?

1. 24/7
2. Every week
3. Every other week
4. Once a month
5. Never
6. Every third week
7. Twice a week
8. 7-8 days every 2 months (including weekends)
9. 25% of the time

10. 1 out of 10 days
11. Only for major scenes
12. 2 weeks on 2 weeks off
13. 1 week on 2 weeks off
14. 2 weeks on 4 weeks off
15. Every 8 weeks
16. Every 5th week
17. One week a month/every 4th week
18. Varies

5: Are/were you a sworn officer or civilian?

1. Sworn officer
2. Civilian

Question 6: Is your agency federal, state, or municipal?

1. Federal
2. State
3. Municipal

Question 7: How many sworn CSIs versus civilian CSIs?

1. Only sworn
2. Mostly sworn
3. Even sworn and civilian
4. Mostly civilian
5. Only civilian

Question 8: How many crime scenes do you investigate (on average) a month?

1. 0-10
2. 11-20
3. 21-30
4. 30+

Question 9: What violent crimes do you investigate alone?

1. Homicide
2. Suicide
3. Sexual Assault
4. Kidnapping/Missing Person
5. Overdose
6. Robbery
7. Natural Death
8. Assault
9. Officer Involved Shooting
10. Child Crimes
11. Transportation Accident
12. Domestic Violence
13. Arson

14. Burglaries
15. Elderly Exploitation
16. None, never work alone

Question 10: What violent crimes do you investigate with a partner or team?

1. Homicide
2. Suicide
3. Sexual Assault
4. Kidnapping/Missing Person
5. Overdose
6. Robbery
7. Natural Death
8. Assault
9. Officer Involved Shooting
10. Child Crimes
11. Transportation Accident
12. Domestic Violence
13. Arson
14. Burglaries
15. Mass Fatalities
16. None, always work alone

Question 11: Has any crime scene stood out to, or stuck with, you, in regards to psychological distress? If yes – what was the nature of the crime? – make note that many answered “multiple of the mentioned”

1. No
2. Child homicide/abuse/death
3. Identified with victim
4. Homicide
5. Violent sexual assault
6. Suicide
7. Officer involved death/shooting
8. Assault on elderly
9. Explosion
10. Vehicle deaths
11. Abortion crime
12. Animal Crimes

Question 12: Have you had thoughts of quitting or changing careers due to burnout or exposure?

1. Yes, considered it seriously
2. Yes, considered it, but not seriously
3. Yes, occasionally
4. No

Question 13: Does your agency offer counseling or debriefing after crime scene investigations or after crimes worked?

1. Yes
2. No
3. Unknown

Question 14: How many years do you envision being in this career overall?

1. 0-5 years
2. 6-10 years
3. 11-16 years
4. 16+ years

Question 15: What is your current marriage and/or family status? As a reminder, this survey is completely anonymous. – make note that kids can be grown out of home or still in home

1. Married, no children
2. Married, with children
3. Divorced, no children
4. Divorced, with children
5. Never Married
6. Widowed, no children
7. Widowed, with children
8. Long-term partner
9. Engaged, no children
10. Engaged with children
11. 2nd+ marriage

Question 16: If you have a spouse or family – has this made you want to retire or quit your career? (1 being least likely and 3 being most likely) -> take away “urge”, focus on strongest “urge”

1. Urge to quit
2. Urge to retire
3. Urge to stay in career

Question 17: If you have a spouse or family – has your career impacted time with your family? If yes, how so?

1. No
2. Yes, miss holidays, events, and family time due to callouts
3. Yes, family does not like the hours
4. Yes, in a weird mood, irritable, overprotective, bring home stress, act different

Question 18: If you have a spouse or family – do you discuss your work experiences with your spouse and/or family?

1. Yes
2. No
3. Sometimes

Question 19: If you have a spouse – is your spouse in the same career industry? If yes, what field?

1. No
2. Yes, police officer
3. Yes, detective
4. Yes, crime scene investigator
5. Yes, firefighter/paramedic
6. Yes, retired police officer

Question 20: Have you ever participated in group or solo counseling mandated by your agency?

1. Yes
2. No

Question 21: Have you ever participated in group or solo counseling on your own accord? If yes, how often per month?

1. No
2. Yes, only when needed/periodically
3. Yes, once a month
4. Yes, twice a month
5. Yes, three times a month
6. Yes, four times a month

Question 22: Does your agency require any sort of counseling or debriefing after working a crime scene? If so, for what types of crimes? – make note that group & one-on-one

1. No
2. Unknown
3. Yes, child crimes
4. Yes, officer involved crimes
5. Yes, major crimes (homicides, mass fatalities)

Question 23: How do you feel about counseling, group debriefing, or therapy? (1 being least accurate and 3 being most accurate) -> take away “urge”, focus on strongest “urge”

1. Favorable, I would attend
2. Unfavorable
3. Favorable, but not for me

Question 24: Do you think counseling, group debriefing, or therapy would be helpful in this career? (1 being least accurate and 3 being most accurate) -> take away “urge”, focus on strongest “urge”

1. Very helpful
2. Not helpful at all
3. No opinion

Question 25: How do you view crime scene technicians who seek psychological treatment? (1 being least accurate and 3 being most accurate) -> take away “urge”, focus on strongest “urge”

1. Favorable
2. Unfavorable
3. No opinion

Question 26: Do you smoke cigarettes? If yes, how often? If yes, did you begin before or after starting this career?

1. No
2. Yes, occasionally
3. Yes, often
4. Started before career
5. Started after career
6. Started before, but escalated after career

Question 27: Do you drink? If yes, how many drinks per week (on average)? If yes, did you begin before or after starting this career?

1. Yes, 0-5 drinks/week
2. Yes, 6+ drinks/week
3. Before starting this career
4. After starting this career
5. Before, but escalated a lot after career
6. No, I don't drink

Question 28: Do you use recreational drugs? If yes, how often? If yes, did you begin before or after starting this career?

1. Yes, often
2. Yes, occasionally
3. No

Question 29: Have you been diagnosed with a sleep disorder? If yes, what sleep disorder? Did this start before or after beginning your career? (Specify before or after in text box)

1. None
2. Insomnia
3. Night terrors
4. Sleep walking
5. Sleep paralysis
6. Sleep apnea
7. Need medication to sleep
8. Started before career
9. Started after career

Question 30: Have you been diagnosed with any physical health issues? If yes, what health issue(s)? If yes, did these arise before or after starting this career? (Specify before or after in text box)

1. High blood pressure
2. Obesity
3. Diabetes
4. Chronic heartburn
5. Irritable bowel syndrome
6. High cholesterol

7. Other cardiovascular problems
8. Thyroid disorder
9. Migraines
10. Low testosterone
11. None
12. Started before career
13. Started after career

Question 31: How are your relationships with others? Family, friends, significant others? (1 being least accurate and 3 being most accurate) -> take away “urge”, focus on strongest “urge”

1. Very strained
2. Strained
3. Healthy
4. Very healthy

Question 32: Have you been diagnosed with a psychological disorder? If yes, what psychological disorder? If yes, did this arise before or after this career? (Specify before or after in text box)

1. Depression
2. Eating disorder
3. Post-traumatic stress disorder
4. Bipolar disorder
5. Anxiety
6. Panic attacks
7. ADHD
8. None
9. Started before career
10. Started after career
11. Started before career, but worsened after

Question 33: Do you know of any crime scene technicians that have been diagnosed with a psychological disorder? If yes, what psychological disorder? If yes, did this arise before or after this career? As a reminder, this is completely anonymous.

1. Depression
2. Eating disorder
3. Post-traumatic stress disorder
4. Bipolar disorder
5. Anxiety
6. Problems with viewing their life
7. Insomnia
8. None
9. Started before career
10. Started after career

Question 34: How many days do you socialize with people (friends/family) outside of this career field, per month?

1. 0-2 days/month

2. 3-5 days/month
3. 6-8 days/month
4. 9+ days/month

Question 35: Do you have suicidal thoughts or negative thoughts about your life? If yes, did this begin before or after starting this career? If yes, how often? (Specify before or after in text box)

1. Yes, often
2. Yes, occasionally
3. No
4. Started before career
5. Started after career

Question 36: How stressed do you feel working in your career? (1 being least accurate and 3 being most accurate)

1. Very stressed
2. Moderately stressed
3. Not stressed

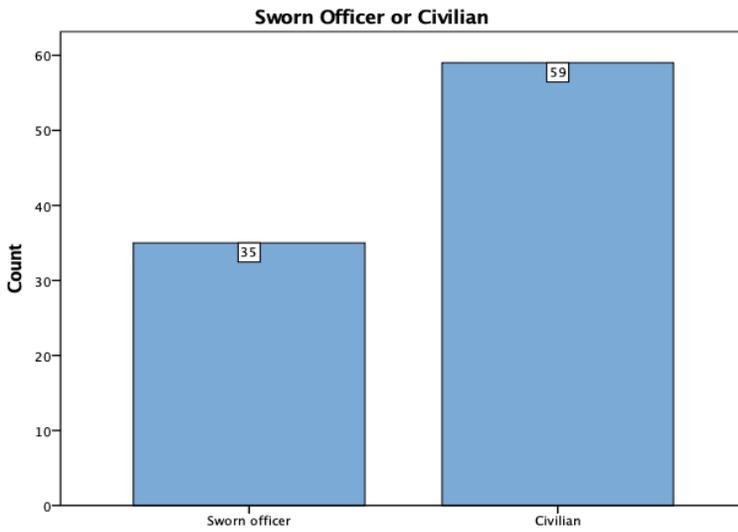
Question 37 : How do you typically manage your stress?

1. Exercise
2. Spend time with friends/family
3. Pray/meditate/religion
4. Hobbies
5. Substances (alcohol, drugs, cigarettes)
6. Sleep

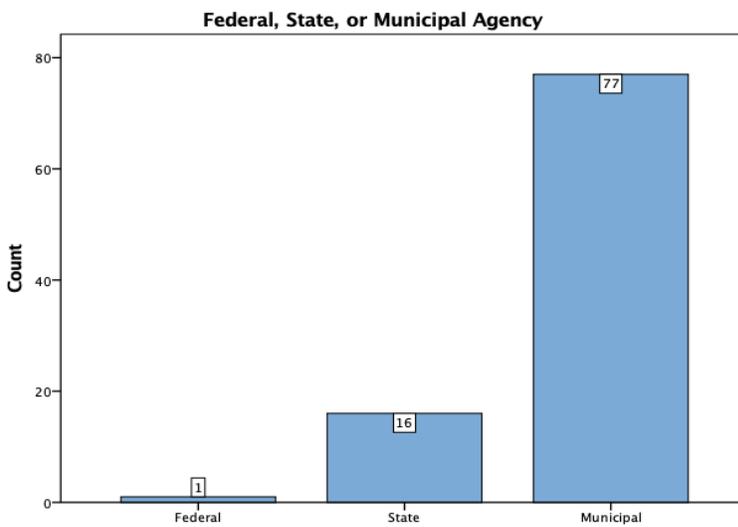
Appendix 3

Extra Graphs

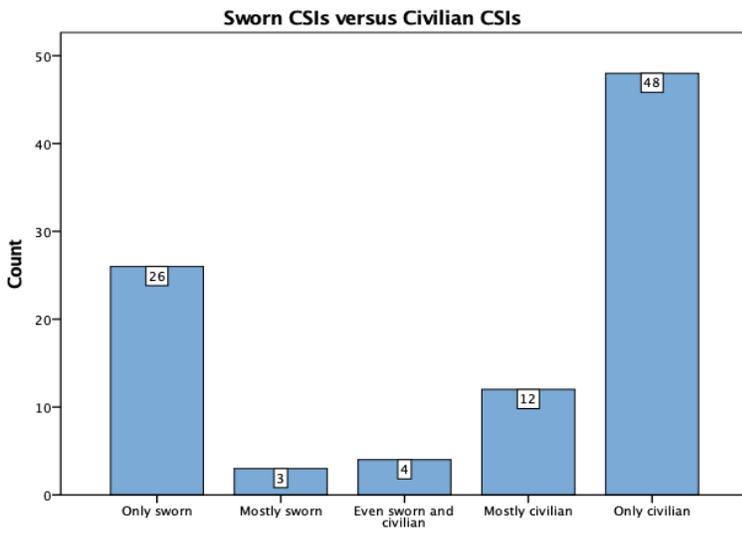
Graph 25- Question 5- Are/were you a civilian or sworn officer?



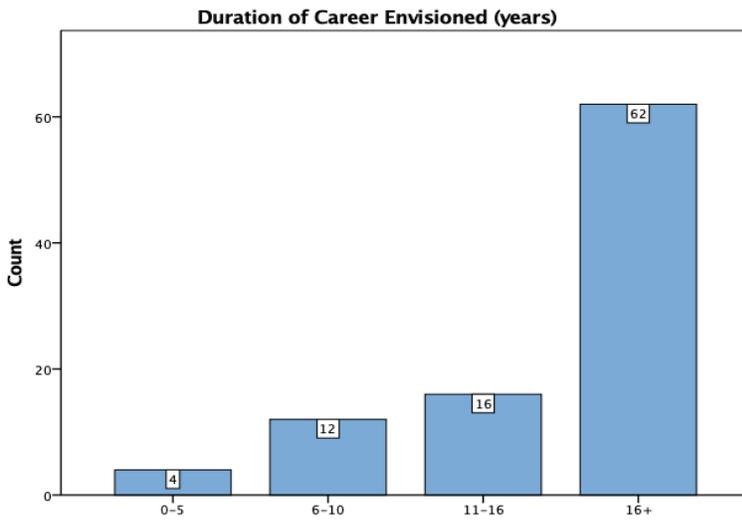
Graph 26- Question 6- Is your agency federal, state, or municipal?



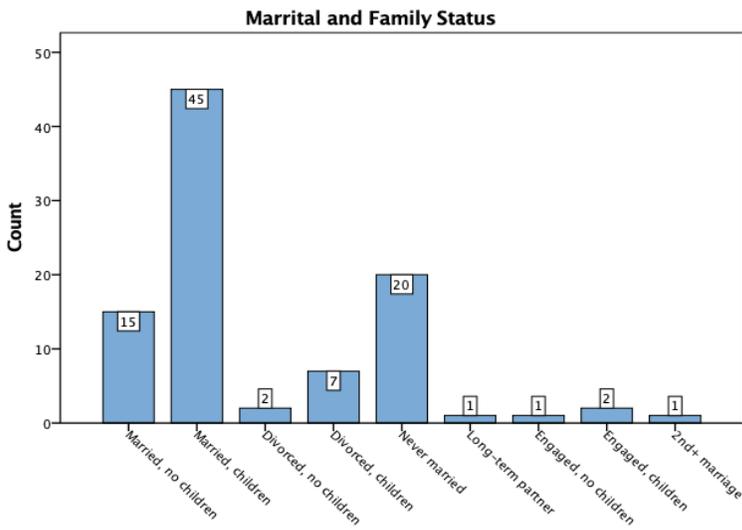
Graph 27- Question 7- How many sworn CSIs versus civilian CSIs?



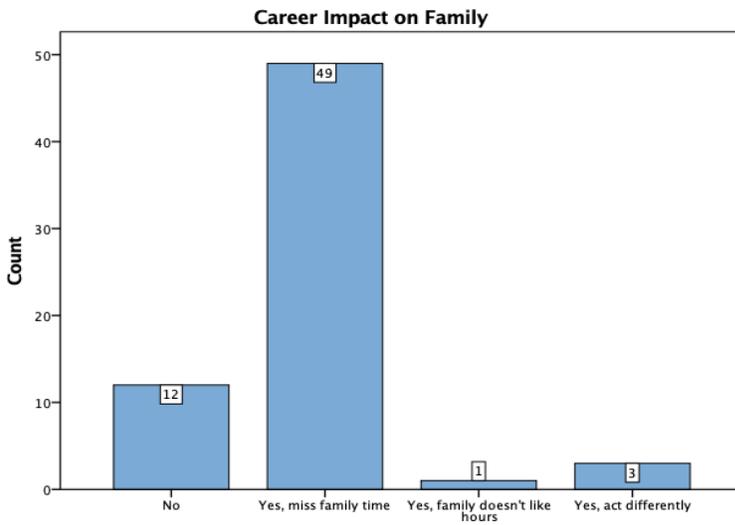
Graph 28- Question 14- How many years do you envision being in this career overall?



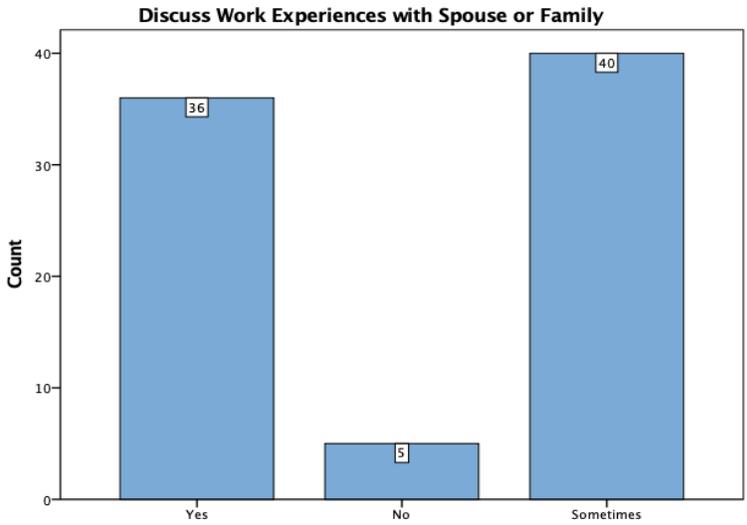
Graph 29- Question 15- What is your marriage and/or family status?



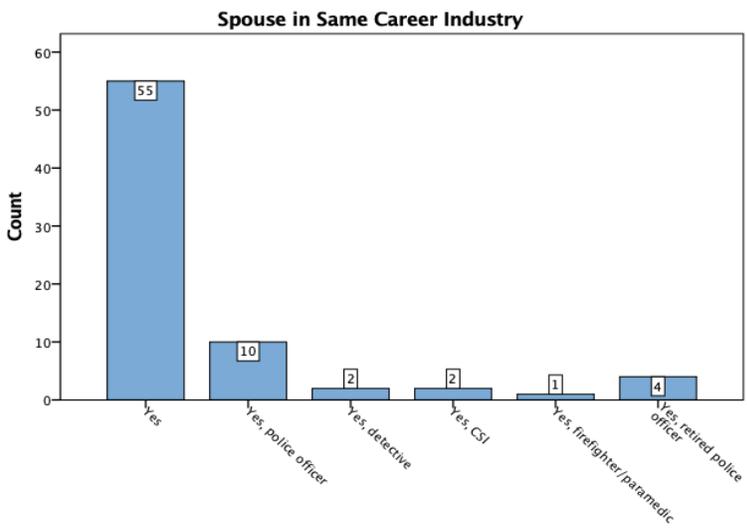
Graph 30- Question 17- If you have a spouse or family – has your career impacted time with your family? If yes, how so?



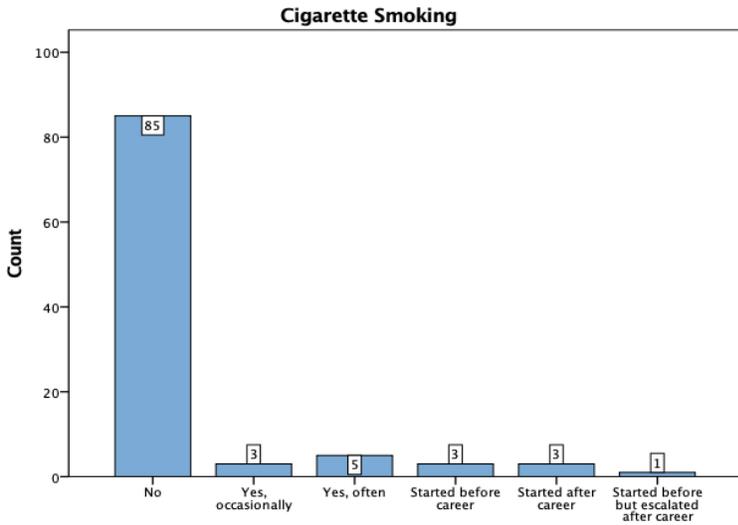
Graph 31- Question 18- If you have a spouse or family – do you discuss your work experiences with your spouse and/or family?



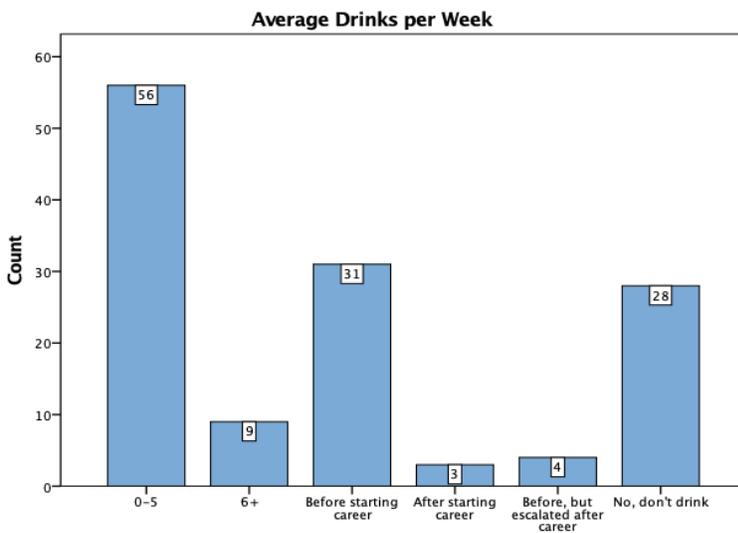
Graph 32- Question 19- If you have a spouse – is your spouse in the same career industry? If yes, what field?



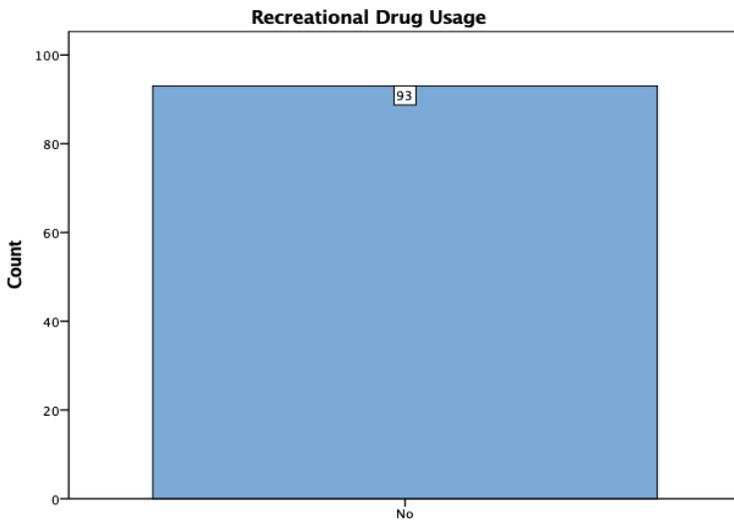
Graph 33- Question 26- Do you smoke cigarettes? If yes, how often? If yes, did you begin before or after starting this career?



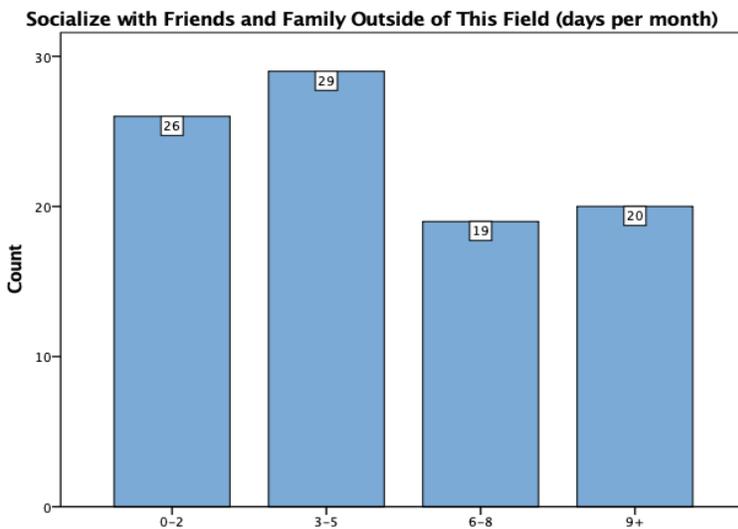
Graph 34- Question 27- Do you drink? If yes, how many drinks per week (on average)? If yes, did you begin before or after starting this career?



Graph 35- Question 28- Do you use recreational drugs? If yes, how often? If yes, did you begin before or after starting this career?



Graph 36- Question 34- How many days do you socialize with people (friends/family) outside of this career field, per month?



Graph 37- Question 37- How do you typically manage your stress?

