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Exploring the Experiences and Mental Health Concerns of 9-1-1 Public Safety Telecommunicators

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The University of Southern Mississippi

EXPLORING THE EXPERIENCES AND MENTAL HEALTH CONCERNS OF 9-1-1 PUBLIC SAFETY TELECOMMUNICATORS

by

Ariel Elliott

A Thesis
Submitted to the Honors College of The University of Southern Mississippi in Partial Fulfillment of the Requirements of the Degree of Bachelor of Arts in the School of Criminal Justice

May 2018
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Abstract

9-1-1 public safety telecommunicators are the first line of emergency services; however, minimal research currently exists on their mental health. A lack of understanding exists as to how the continuous flow of traumatic calls are influencing these people. The purpose of this project is to help fill the existing gap in literature and contribute to the existing minimal foundation for future research on this topic.

Participants for this study were obtained with agency consent from the Harrison County Sheriff’s Office in Gulfport, MS; Gulfport Police Department in Gulfport, MS; Hattiesburg Police Department in Hattiesburg, MS; and Cobb County 911 in Marietta, GA. This study was conducted using the quantitative method of anonymous surveying on employed 9-1-1 public safety telecommunicators. Using this quantitative method, the researcher recorded and analyzed the prevalence of secondary trauma, depression, and anxiety among participants. Information from these results and observations can be used to guide future research and policy development. This study is noteworthy because 9-1-1 public safety telecommunicators in the states of Mississippi and Georgia have not been studied until now.

Keywords: 9-1-1, telecommunicators, secondary trauma, depression, anxiety, and mental health
Dedication

For Harold Courier, my Pappy:

You are gone, but you will never be forgotten. I miss you; I love you.

I’ll keep making you proud.
Acknowledgements

First and foremost, Dr. R. Alan Thompson, my superb thesis advisor, deserves thanks for his time, help, and support towards this research opportunity. This Honors thesis would not have been possible without his mentorship and guidance. From countless meetings to observations of the smallest detail, he went far beyond basic mentor responsibilities to ensure my success. His efforts in guiding and teaching me ensured I had every chance to complete this research, present my project, and satisfy the requirements of the Honors College.

Second, The Drapeau Center for Undergraduate Research deserves thanks for financially funding this research. The money from the SPUR Grant was vital to the successful completion of this thesis. Without their assistance, I could never have afforded the travel costs to visit each agency, and this project would not be the success it is.

Furthermore, I would like to thank the faculty and staff of the Honors College. Over the past four years, these people have not only guided me academically but also personally. The Honors College is not just faculty; they are a family, and I appreciate the support and encouragement I have received time and time again.

Last but not least, I would like to thank the agencies who participated in this research: Harrison County Sheriff’s Office in Gulfport, MS; Gulfport Police Department in Gulfport, MS; Hattiesburg Police Department in Hattiesburg, MS; and Cobb County 911 in Marietta, GA. Without your consent, this project would never have been possible. Thank you for supporting this research.
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List of Abbreviations

STSS – Secondary Trauma Stress Scale

BDI – Beck’s Depression Inventory

SAS – Zung Self-Rating Anxiety Scale
CHAPTER I

INTRODUCTION

Every day, countless individuals across the United States find themselves in need of emergency assistance from firefighters, emergency medical technicians, law enforcement, and other public safety providers. While much attention is given to understanding the mental health care needs of such first responders, a less recognized group of public safety professionals assist those in need long before anyone physically arrives to help them. Those professionals are the 9-1-1 public safety telecommunicators.

When someone calls 9-1-1, telecommunicators represent the first line of emergency communication to speak with victims or witnesses of crimes (Rasmussen, 2015). Telecommunicators need to be composed, cool, and collected when speaking to callers in order to receive or convey information effectively about the unfolding situation. Important, life-saving information can be gathered and delivered in mere seconds such as a person’s name, an address, the need for medical attention, or verbal step-by-step medical instructions. Telecommunicators also have to handle any type of call, which can include a toddler drowning, automobile collisions, a home invasion, a missing child, suicide, confessions of crimes, the discovery of a deceased family member, and so many more stressful, dangerous, and potentially deadly situations. In light of these practical realities, logic suggests that these stressful calls pose a risk to creating significant adverse mental health for 9-1-1 public safety telecommunicators in the form of secondary trauma, depression, and anxiety.

The purpose of this project is to explore the experiences and mental health concerns of 9-1-1 public safety telecommunicators. This topic is important in so far as a
lack of care for one’s mental state after experiencing trauma can lead to several negative side effects such as depression, post-traumatic stress disorder, anxiety, panic disorders, addiction to drugs or alcohol, substance abuse, self-harm, and even suicide (Fitch & Marshall, 2016). If a telecommunicator is suffering from a mental illness, it is also possible that he or she may not able to perform his or her job as efficiently and effectively as necessary—not at the fault of the telecommunicator, of course. Rather, the fault arises from the lack of attention given to the mental health care needs of telecommunicators. For these rather basic reasons, it becomes important to explore further the experiences and mental health concerns of 9-1-1 public safety telecommunicators.

Troxell’s (2008) work on the mental wellbeing of telecommunicators was among the first to examine this important topic, and it was a long four years before Pierce and Lilly (2012) added to this limited body of knowledge with their evaluation of 9-1-1 telecommunicators. The fact that telecommunicator mental health has only been researched since 2008 further represents the minimal mental health consideration given to this segment of public safety professionals. With this current lack of research in addition to telecommunicators’ mental wellbeing potentially saving lives, expanding this topic with additional research is not only impactful, but necessary. Therefore, the research question is, “What is the prevalence of secondary trauma, depression, and anxiety in 9-1-1 public safety telecommunicators?”
CHAPTER II
LITERATURE REVIEW

The history of research on mental health of 9-1-1 public safety telecommunicators is no older than a decade. While much research has been completed towards understanding officers at the scenes of crimes—inspired by the attacks on the Twin Towers on September 11, 2001—hardly any research has been completed for the mental wellbeing of 9-1-1 public safety telecommunicators, who are the first line of emergency services (Troxell, 2008). Nevertheless, while the literature is minimal, it is still powerful and shocking.

Students Raise Awareness

Research into this topic began in 2008 with a dissertation entitled, “Indirect Exposure to the Trauma of Others: The Experiences of 9-1-1 Telecommunicators,” by Troxell from The University of Illinois. In her research, Troxell tries to understand not just stress levels and burnout but also the causes of these problems, which she hypothesizes is secondary trauma. Through surveys and interviews, Troxell proposed that 9-1-1 telecommunicators are suffering from secondary trauma, a relatively new concept from the 1990s, and that compassion for employees is key to relieving that suffering.

In the following year of 2009, another dissertation entitled, “Compassion Fatigue, Compassion Satisfaction, Burnout, and Peritraumatic Disassociation in 9-1-1 Telecommunicators; 9-1-1 in Crisis,” by Goold was published through The University of La Verne in California. His study investigated the suggestion that Troxell had proposed by researching just how much 9-1-1 public safety telecommunicators actually felt compassion in the workplace. Over a thirty-day time frame, his results show that
compassion fatigue was not too prominent, and compassion satisfaction was somewhat often; however, many of the participants reported a lack of leadership and support from management. These results reveal that those who should be the main supporters and encouragers of 9-1-1 telecommunicators failed to provide compassion, which indicates that it may not be the traumatic nature of the calls creating high burnout and stress levels in 9-1-1 telecommunicators, but how supervisors treat employees after the calls.

**The Start to Peer-Reviewed Literature**

Interest in 9-1-1 telecommunicator mental health is broadened by Rothstein’s 2012 dissertation, “Managing Boundaries: The Role of Narratives at a 9-1-1 Call Center,” in which she discusses how “gender dynamics, emotional stress, and management of relationships of power within the workplace all influence a complex workplace hierarchy and the types of narratives told in the workplace” (p. 2). Furthermore, a peer-reviewed article by Pierce and Lilly is also published in 2012 by the *Journal of Traumatic Stress*. Their research, “Duty-related Trauma Exposure in 911 Telecommunicators: Considering the Risk for Posttraumatic Stress,” examines “the relationship between duty-related trauma exposure, peritraumatic distress, and PTSD symptoms in telecommunicators” (p. 211). The quantitative findings of their study indicate that 9-1-1 telecommunicators have high levels of peritraumatic stress and that a positive relationship exists between that stress and PTSD. These conclusions do not completely contradict the results of the before mentioned dissertations; however, these findings report higher levels of such symptoms than what was once believed, indicating a strong need for additional research on the topic.
In 2013, Lilly and Pierce published an article in *Psychological Trauma: Theory, Research, Practice, and Policy* entitled, “PTSD and Depressive Symptoms in 911 Telecommunicators: The Role of Peritraumatic Distress and World Assumptions in Predicting Risk.” This research sought to detect a correlation between 9-1-1 telecommunicator mental wellbeing and the mental health concerns of PTSD and depression by way of world assumption theory—the belief that bad things will not happen because one has control over his or her entire life, and good things deserve to happen, so they will. Their findings indicate that although PTSD and depressive symptoms were both present in 9-1-1 public safety telecommunicators, PTSD was lower than expected, meaning world assumption theory impacts depression more than PTSD.

In 2015, Allen and Lilly published an article in the *Journal of Traumatic Stress* entitled, “Psychological Inflexibility and Psychopathology in 9-1-1 Telecommunicators.” This research indicates similar results as Pierce and Lilly’s 2012 article, confirming further that it is not just management’s response to 9-1-1 telecommunicators answering calls but also the traumatic events that occur during the calls that increase the risk of secondary trauma and its side effects.

In 2016, Allen, Mercer, and Lilly released an article on 9-1-1 telecommunicator mental health in the *Journal of Aggression, Maltreatment & Trauma* titled, “Duty-Related Posttraumatic Stress Symptoms in 911 Telecommunicators: The Roles of Childhood Trauma Exposure and Emotion-Focused Coping.” This research sought to understand if a history of trauma in a telecommunicator’s childhood impaired his or her ability to cope with the traumatic calls as an adult. The findings reveal that childhood trauma exposure significantly correlates to future work-related PTSD, and emotion-based
coping can increase the odds for work-related PTSD. However, problem-solving coping is not the answer as originally hypothesized; interventions in childhood or adulthood are deemed necessary for full recovery.

**Recent Explorations of Telecommunicator Mental Health**

After 2012, varying telecommunicator research included two 2015 articles into the experiences of emergency medical telecommunicators by Adams, Shakespeare-Finch, and Armstrong in the *Journal of Loss and Trauma* and by Shakespeare-Finch, Rees, and Armstrong in *Social Indicators Research*. A year earlier in 2014, the exploration of fire telecommunicators was studied by Oldenburg, Wilken, Wegner, Poschadel, and Baur in the *Journal of Occupational Medicine and Toxicology*. The findings in these three studies are similar to the results of 9-1-1 telecommunicators: high levels of stress and secondary trauma exist from a lack of compassion from management and the multitude and severity of the traumatic calls daily.

The value of peer support and preventative training for telecommunicators has also recently been contemplated. In 2016, Perin published, “The Power of 911 Peer Support,” in *Law Enforcement Technology*, which addresses the positive impact that a formal peer support group would offer public safety telecommunicators while also highlighting the need to debunk the social stigma that 9-1-1 telecommunicators cannot be traumatized over the phone.

Fitch and Marshall also address in their 2016 *Public Management* article, “Trauma Takes Its Toll: Addressing the Mental Health Crisis in Emergency Services,” the high rates of suicide for telecommunicators, the need for a shift in societal thinking of 9-1-1 telecommunicators’ susceptibility to trauma, and the necessity for management
engagement and mental health training for these public safety providers. Moreover, coping strategies, protective factors, and resiliency of emergency dispatchers were studied by Rasmussen in her 2015 dissertation. She concluded that “higher levels of resiliency can be predicted in telecommunicators’ self-reported levels of positive reinterpretation, growth, acceptance, planning, and behavioral disengagement, and public safety telecommunicators benefit when able to behaviorally disengage and apply positive reinterpretation in order to process further incoming and outgoing calls” (p. 81).
CHAPTER III

METHODOLOGY

Target Population

The target population for this study was currently employed 9-1-1 public safety telecommunicators at four law enforcement agencies: Harrison County Sheriff’s Office in Gulfport, MS; Gulfport Police Department in Gulfport, MS; Hattiesburg Police Department in Hattiesburg, MS; and Cobb County 911 in Marietta, GA. No specifications towards who could take the survey in regards to race, religion, sexuality, income, education, etc. were made except that the age was eighteen or older and employment as a 9-1-1 telecommunicator must be with a participating law enforcement agency. These four locations were selected due to their varying population size, which will aid in future studies identifying whether secondary trauma, depression, and anxiety could have a stronger impact in telecommunicators who serve rural or urban communities. Despite Cobb County 911 being outside of Mississippi, it has been selected due to its telecommunicators serving a much larger population size that does not exist in Mississippi. Cobb County 911 services the Atlanta area—the largest city in Georgia with a population of over 470,000 people according to the U.S. Census Bureau (2016a) — while Mississippi’s largest city, Jackson, MS, has a population of a little under 170,000 according to the U.S. Census Bureau (2016b).
Key Variables and Concepts

In this research, several key variables and concepts are present:

**911 Public Safety Telecommunicator:**

“Personnel (usually civilian) who receive and respond to telephone or other electronic requests for emergency assistance” (Mc-Lennan-Yeager, 2015, p. 17).

**Secondary Trauma:**

Secondary trauma can be developed by individuals who help traumatized people; with secondary trauma, the helpers “develop their own post-traumatic stress disorder symptoms as an indirect response to the traumatized peoples’ suffering,” (Babbel, 2012). This mental health concern is usually developed from seeing the trauma of others, such as in the case of medical personnel; however, research indicates solely auditory exposure to trauma can also result in secondary trauma, such as in the case of therapists (Stamm, 1997).

**Anxiety:**

While similar to stress with symptoms of increased heart rate, trigger rapid breathing, muscle tension, sweating, etc., anxiety differs in its source: internal, emotional factors. Anxiety is built upon fear and can result in stress and more anxiety (Holmes, 2014).

**Depression:**

“Depression can occur in response to a stressful or traumatic event… and is characterized by significant feelings of sadness, hopeless, feeling “down”, and /or a loss of pleasure or interest in most things” (Lane, 2017).
**Instrumentation**

The scales used to create the survey instrument included the Secondary Trauma Stress Scale (STSS), Beck’s Depression Inventory (BDI), and Zung’s Self-Rating Anxiety Scale (SAS). The selected scales were chosen due to their availability for this research and their positively tested capability to measure mental health concerns.

The STSS is comprised of seventeen items and relies on a one to five rating scale of “never” to “very often” to determine the degree of agreement with statements over the past seven days. The overall score assesses the impact of working with traumatized clients in terms of secondary trauma. This scale pinpoints the frequency of three of the six post-traumatic stress disorder subscales, which correspond as the identifiers of secondary trauma: Intrusion, Avoidance, and Arousal (Bride, 2007, p. 65). In this scale, five intrusion statements, seven avoidance statements, and five arousal statements are examined. Secondary trauma is present in participants who confirm at least one intrusion statement, three avoidance statements, and two arousal statements as occasionally, often, or very often (Bride, 2007, p. 66). All three identifiers must be demonstrated at these rates for secondary trauma to exist. This scale does not identify post-traumatic stress disorder because the other three of the six identifiers, which are exposure/response, duration, and impairment, are not included. The STSS was “developed in response to the paucity of instruments designed to specifically measure secondary trauma symptoms” and has been deemed an accurate scale in regards to reliability as well as convergent, discriminant, and factorial validity (Ting, 2005, p. 28).

The BDI encompasses twenty-one multiple choice items with answer choices ranging on a scale from zero to three. The overall score rates a person’s likelihood for
depression by gathering data on emotional, behavioral, and physical symptoms commonly associated with depression. The rate of depression is scored by adding all the values of the selected answers. Intensity of depression abides by the guidelines of ‘none or minimal depression’ is less than 10, ‘mild to moderate depression’ is 10-18, ‘moderate to severe depression’ is 19-29, and ‘severe depression’ is 30-63’ (Beck, 1988, p. 79). In this research, two questions about sex and suicide were removed due to inquiry into excessive personal information, and one question about sleep was omitted due to a misprint in transferring the scale question to the instrument. The BDI then consisted of eighteen multiple choice items with answer choices ranging from zero to three. The intensity of depression was based upon the guidelines of “none or minimal depression” is less than 9, “mild to moderate depression” is 9-15, “moderate to severe depression” is 16-25, and “severe depression” is 26-54. These new guidelines were developed with cross multiplication and rounding to the highest value to retain sensitivity as accurately as possible. The BDI has been demonstrated as having “good discriminant validity as a measure of depression and sufficiently reflecting the severity and time frame of the depressive disorder” (Aalto, 2012, p. 169).

The SAS consists of twenty items and relies on a one to four scale of “none/a little of the time” to “most of the time” to evaluate the degree of agreement with statements over the past seven days. The overall score assesses the prevalence of anxiety in a person’s life. Fifteen of the statements are negatively phrased, and the remaining five statements are positively phrased; positively phrased experiences are reverse scored. An overall score to determine the rate of anxiety is developed by dividing the raw score, ranging from twenty to eighty, by eighty, and then multiplying that outcome by one
hundred (Dunstan, 2017). An index score of forty-five or a raw score of thirty-six indicates clinically significant anxiety, and even though higher scores represent a greater severity of anxiety, those degrees of severity have not been published in the scientific literature, so existing categories have not been used in this research (Dunstan, 2017, p. 3). The SAS demonstrates a good internal consistency, fair concurrent validity, and the capability “to distinguish between clinical and non-clinical groups and between patients diagnosed with anxiety disorders and those with other psychiatric diagnoses” (Dunstan, 2017, p. 3).

Moreover, two accuracy questions were included within the instrument to confirm participants were fully reading and understanding the questions; however, due to overly complicated wording and the confusing nature of these questions, their usage and results in this study have been excluded. Nine questions were used to collect demographic data from participants. Demographic items included standard questions about gender, age, education, ethnicity, years as a telecommunicator, etc.

Thus, the final instrument consisted of sixty-four survey questions. Seventeen items were from the STSS, eighteen items were from BDI, twenty items were from the SAS, and nine items solicited demographic information. The instrument can be viewed in Appendix A.

**Data Collection Procedures**

To administer the surveys, the researcher traveled to each location to meet the 9-1-1 public safety telecommunicators. Researchers have the stigma of entering an environment to “use” people, but the researcher wished to demonstrate sincere interest by distributing the surveys personally, establishing a level of trust and respect, and assuring
the anonymity of responses. Data collection in Marietta, GA, occurred over a four day period at one agency; data collection in Gulfport, MS, occurred over a four day period at two agencies; and data collection in Hattiesburg, MS, occurred over a two day period at one agency. Appendix F includes the written permissions from each agency to conduct research with them. An incentive of a $10.00 Wal-Mart gift card was possible for each participating shift at each law enforcement agency. The drawing occurred after all surveys for that shift were returned to the researcher. Entry was optional, included only the person’s first name, and was not linked to the survey submission. All entries in the drawing were destroyed after the drawing occurred. The survey took approximately twenty to thirty minutes to complete, but no max time limit was specified so long as the survey was submitted before the end of the shift.

**The Problem of Non-Response and Missing Data**

A total of 102 survey instruments were distributed to members of the target population, and only one survey had to be dismissed due to the problem of missing data. A total of 101 surveys was analyzed in the final results. Non-response and missing data were minimalized by the incentive of a $10.00 Wal-Mart gift card. Despite its minimal occurrence, non-response and missing data did exist sparingly but was remedied by using the mean or mode as appropriate. The causes of missing data were examined and determined to be common human error of overlooking a single question or the back of an instrument page.
CHAPTER IV

RESULTS

Results consist of demographic information reported, which provides a characteristic profile of the survey sample, and descriptive data, which details the actual number and valid percentage of frequency responses for each survey item. Data was processed through SPSS.

Demographic Profile

The table that appears below depicts a general demographic profile of all participants. Demographic information gathered from participants included age, hours worked per day, hours worked by week, fixed or rotating shift, years employed as a 9-1-1 public safety telecommunicator, level of education, marital status, ethnicity, and gender.

Table 1. Demographic Characteristics of Study Participants

<table>
<thead>
<tr>
<th>Demographic Characteristic:</th>
<th>Response: n (valid %)</th>
</tr>
</thead>
</table>
| Age                         | Mean: 34.74
                                Median: 32.00
                                Mode: 27, 30
                                Variance: 91.17
                                Standard Deviation: 9.55 |
| Hours Worked Per Day        | Mean: 12.09
                                Median: 12.00
                                Mode: 12.00
                                Variance: 0.37
                                Standard Deviation: 0.60 |
| Hours Worked Per Week       | Mean: 43.97
                                Median: 42.00
                                Mode: 40.00
                                Variance: 84.72
                                Standard Deviation: 9.20 |
| Fixed or Rotating Shift     | Fixed: 43 (42.6%)
                                Rotating: 57 (56.4%) |
| Years Employed as a 9-1-1 Telecommunicator | Mean: 8.28
                                Median: 6.00
                                Mode: 3.00
                                Variance: 52.31
                                Standard Deviation: 7.23 |
<table>
<thead>
<tr>
<th>Demographic Characteristic</th>
<th>Response: n (valid %)</th>
</tr>
</thead>
</table>
| Highest Level of Education | High School Diploma or GED: 22 (21.8%)  
Some College: 38 (37.6%)  
2-year degree: 12 (11.9%)  
4-year degree: 27 (26.7%)  
Post-baccalaureate or Graduate degree: 2 (2%) |
| Marital Status | Married: 37 (36.6%)  
Divorced: 19 (18.8%)  
Separated: 2 (2%)  
Never Married: 43 (42.6%) |
| Ethnicity | Caucasian: 72 (71.3%)  
African American: 27 (26.7%)  
Other: 2 (2%) |
| Gender | Male: 27 (26.7%)  
Female: 73 (72.3%)  
Transgender: 1 (1%) |

The demographic profile presented above indicates that participants are largely Caucasian females who have an average age of 34.74 and have been employed as a 9-1-1 telecommunicator on average for 8.28 years. About 42.6% of participants have never married, but around 36.6% of participants have married. Approximately 26.7% of participants have a 4-year degree; however, 37.6% of participants have some college education, and 21.8% of participants have a high school diploma or GED. Hours worked per day average around 12.09 while hours worked per week reach 43.97 hours on average. Approximately 42.6% of participants work fixed shifts while 56.4% of participants work rotating shifts.

**Descriptive Results**

The descriptive results outline the wording for each question from each scale and detail the pattern of frequency results and valid percentages obtained for each question.
Secondary Trauma Stress Scale (STSS)

As described in Chapter Three, seventeen items were incorporated from the STSS, which assesses a participant’s likelihood of having secondary trauma. These items are negatively phrased to fall in accordance with the original scale. The pattern of frequency results and valid percentages obtained for each item are reported in Table 2.

Table 2. Pattern of Responses to Survey Items Representing the STSS

<table>
<thead>
<tr>
<th>Wording of Survey Item:</th>
<th>Never n (valid %)</th>
<th>Rarely n (valid %)</th>
<th>Occasionally n (valid %)</th>
<th>Often n (valid %)</th>
<th>Very Often n (valid %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I wanted to avoid working some calls.</td>
<td>30 (29.7%)</td>
<td>35 (34.7%)</td>
<td>30 (29.7%)</td>
<td>5 (5%)</td>
<td>1 (1%)</td>
</tr>
<tr>
<td>I noticed gaps in my memory about some calls.</td>
<td>22 (21.8%)</td>
<td>36 (35.8%)</td>
<td>25 (24.8%)</td>
<td>12 (11.9%)</td>
<td>6 (5.9%)</td>
</tr>
<tr>
<td>I was less active than usual.</td>
<td>20 (19.8%)</td>
<td>32 (31.7%)</td>
<td>19 (18.8%)</td>
<td>17 (16.8%)</td>
<td>13 (12.9%)</td>
</tr>
<tr>
<td>My heart started pounding when I thought about my work.</td>
<td>50 (49.5%)</td>
<td>31 (30.7%)</td>
<td>14 (13.9%)</td>
<td>2 (2%)</td>
<td>4 (4%)</td>
</tr>
<tr>
<td>I was easily annoyed.</td>
<td>20 (19.8%)</td>
<td>21 (20.8%)</td>
<td>28 (27.7%)</td>
<td>18 (17.8%)</td>
<td>14 (13.9%)</td>
</tr>
<tr>
<td>I had trouble sleeping.</td>
<td>18 (17.8%)</td>
<td>30 (29.7%)</td>
<td>20 (19.8%)</td>
<td>12 (11.9%)</td>
<td>21 (20.8%)</td>
</tr>
<tr>
<td>It seemed as if I was reliving the trauma(s) experienced by callers.</td>
<td>52 (51.5%)</td>
<td>29 (28.7%)</td>
<td>13 (12.9%)</td>
<td>6 (5.9%)</td>
<td>1 (1%)</td>
</tr>
<tr>
<td>I had little interest in being around others.</td>
<td>29 (28.7%)</td>
<td>22 (21.8%)</td>
<td>24 (23.8%)</td>
<td>12 (11.9%)</td>
<td>14 (13.9%)</td>
</tr>
<tr>
<td>I thought about the nature of my work when I didn’t intend to.</td>
<td>21 (20.8%)</td>
<td>25 (24.8%)</td>
<td>36 (35.6%)</td>
<td>14 (13.9%)</td>
<td>5 (5%)</td>
</tr>
<tr>
<td>I feel emotionally numb.</td>
<td>25 (24.8%)</td>
<td>29 (28.7%)</td>
<td>18 (17.8%)</td>
<td>14 (13.9%)</td>
<td>15 (14.9%)</td>
</tr>
<tr>
<td>I expected something bad to happen.</td>
<td>39 (38.6%)</td>
<td>29 (28.7%)</td>
<td>17 (16.8%)</td>
<td>11 (10.9%)</td>
<td>5 (5%)</td>
</tr>
<tr>
<td>I felt jumpy.</td>
<td>48 (47.5%)</td>
<td>31 (30.7%)</td>
<td>13 (12.9%)</td>
<td>8 (7.9%)</td>
<td>1 (1%)</td>
</tr>
</tbody>
</table>
Table 2 continued. Pattern of Responses to Survey Items Representing the STSS

<table>
<thead>
<tr>
<th>Wording of Survey Item:</th>
<th>Never n (valid %)</th>
<th>Rarely n (valid %)</th>
<th>Occasionally n (valid %)</th>
<th>Often n (valid %)</th>
<th>Very Often n (valid %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I felt discouraged about the future.</td>
<td>45 (44.6%)</td>
<td>22 (21.8%)</td>
<td>17 (16.8%)</td>
<td>12 (11.9%)</td>
<td>5 (5%)</td>
</tr>
<tr>
<td>I had trouble concentrating.</td>
<td>18 (17.8%)</td>
<td>37 (36.6%)</td>
<td>27 (26.7%)</td>
<td>13 (12.9%)</td>
<td>6 (5.9%)</td>
</tr>
<tr>
<td>I wanted to avoid people, places, or things that reminded me of the nature of my work.</td>
<td>40 (39.6%)</td>
<td>22 (21.8%)</td>
<td>19 (18.8%)</td>
<td>12 (11.9%)</td>
<td>8 (7.9%)</td>
</tr>
<tr>
<td>Reminders of my work with callers upsets me.</td>
<td>47 (46.5%)</td>
<td>29 (28.7%)</td>
<td>17 (16.8%)</td>
<td>8 (7.9%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>I had disturbing dreams about my work with callers.</td>
<td>61 (60.4%)</td>
<td>26 (25.7%)</td>
<td>8 (7.9%)</td>
<td>5 (5%)</td>
<td>1 (1%)</td>
</tr>
</tbody>
</table>

When interpreting the results of Table 2, it is important to note that while the pattern of the information is interesting, these individual patterns do not determine the likelihood of secondary trauma for each participant; that process is detailed in Chapter Three. Individual patterns are observed by grouping never and rarely as infrequently and occasionally, often, and very often as frequently. Grouping the patterns this way abides by the original scoring of occasionally or higher being confirmed for one of the three post-traumatic stress disorder subcategories being assessed.

Patterns of these responses demonstrate that although 86.1% of participants infrequently have disturbing dreams about their work with callers, trouble sleeping is a problem for 52.5% of participants. Additionally, 59.4% of participants report being easily annoyed, and 49.6% of participants frequently have little interest in being around others. However, 80.2% of participants infrequently felt their heart pound after thinking about work, 80.2% of participants infrequently relived the traumas experienced by callers, and
75.2% of participants are infrequently upset by reminders of work with callers. Nevertheless, 46.6% of participants frequently feel emotionally numb, and 54.5% of participants frequently think about the nature of their work unintentionally.

**Beck’s Depression Inventory (BDI)**

As described in Chapter Three, eighteen items were incorporated from BDI, which assesses a participant’s likelihood of having depression. Each multiple choice question was phrased with both positive and negative responses; however, the order of these answer choices were reorganized in the survey instrument to prevent participants from easily identifying which choices were more or less an indicator of depression. The pattern of frequency results and valid percentages obtained for each item are reported in Table 3.

**Table 3. Pattern of Responses to Survey Items Representing BDI**

<table>
<thead>
<tr>
<th>Please select the most accurate response to how you feel currently.</th>
<th>Responses: n (valid %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I do not feel sad</td>
<td>88 (87.1%)</td>
</tr>
<tr>
<td>I feel sad</td>
<td>9 (8.9%)</td>
</tr>
<tr>
<td>I am sad all the time, and I can’t snap out of it</td>
<td>2 (2%)</td>
</tr>
<tr>
<td>I am so sad and unhappy that I can’t stand it</td>
<td>2 (2%)</td>
</tr>
<tr>
<td>I feel I have nothing to look forward to</td>
<td>1 (1%)</td>
</tr>
<tr>
<td>I feel the future is hopeless, and nothing can improve</td>
<td>3 (3%)</td>
</tr>
<tr>
<td>I am not particularly discouraged about the future</td>
<td>83 (82.2%)</td>
</tr>
<tr>
<td>I feel discouraged about the future</td>
<td>14 (13.9%)</td>
</tr>
<tr>
<td>I am disgusted with myself</td>
<td>3 (3%)</td>
</tr>
<tr>
<td>I am disappointed in myself</td>
<td>17 (16.8%)</td>
</tr>
<tr>
<td>I hate myself</td>
<td>1 (1%)</td>
</tr>
<tr>
<td>I am not disappointed in myself</td>
<td>80 (79.2%)</td>
</tr>
<tr>
<td>I don’t feel particularly guilty</td>
<td>88 (87.1%)</td>
</tr>
<tr>
<td>I feel guilty all of the time</td>
<td>1 (1%)</td>
</tr>
<tr>
<td>I feel quite guilty most of the time</td>
<td>7 (6.9%)</td>
</tr>
<tr>
<td>I feel guilty a good part of the time</td>
<td>5 (5%)</td>
</tr>
<tr>
<td>I have not lost interest in other people</td>
<td>42 (41.6%)</td>
</tr>
<tr>
<td>I have lost all of my interest in other people</td>
<td>4 (4%)</td>
</tr>
<tr>
<td>I have lost most of my interest in other people</td>
<td>13 (12.9%)</td>
</tr>
<tr>
<td>I am less interested in other people than I used to be</td>
<td>42 (41.6%)</td>
</tr>
</tbody>
</table>
Table 3 continued. Pattern of Responses to Survey Items Representing BDI

Please select the most accurate response to how you feel currently.

Responses: n (valid %)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Responses</th>
<th>Valid %</th>
</tr>
</thead>
<tbody>
<tr>
<td>My appetite is not as good as it used to be:</td>
<td>16</td>
<td>15.8%</td>
</tr>
<tr>
<td>My appetite is no worse than usual:</td>
<td>59</td>
<td>58.4%</td>
</tr>
<tr>
<td>I have no appetite at all anymore:</td>
<td>23</td>
<td>22.8%</td>
</tr>
<tr>
<td>My appetite is much worse now:</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td>I do not feel like a failure:</td>
<td>78</td>
<td>77.2%</td>
</tr>
<tr>
<td>As I look back on my life, all I see is a lot of failures:</td>
<td>10</td>
<td>9.9%</td>
</tr>
<tr>
<td>I feel I am a complete failure as a person:</td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td>I feel I have failed more than the average person:</td>
<td>11</td>
<td>10.9%</td>
</tr>
<tr>
<td>I can work about as well as before:</td>
<td>66</td>
<td>65.3%</td>
</tr>
<tr>
<td>I have to push myself very hard to do anything:</td>
<td>12</td>
<td>11.9%</td>
</tr>
<tr>
<td>It takes an extra effort to get started at doing something:</td>
<td>22</td>
<td>21.8%</td>
</tr>
<tr>
<td>I can’t do any work at all:</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>I cry all the time now:</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>I don’t cry any more than usual:</td>
<td>65</td>
<td>64.4%</td>
</tr>
<tr>
<td>I cry more than I used to:</td>
<td>17</td>
<td>16.8%</td>
</tr>
<tr>
<td>I used to be able to cry, but I can’t cry even though I want to:</td>
<td>18</td>
<td>17.8%</td>
</tr>
<tr>
<td>I believe that I look ugly:</td>
<td>11</td>
<td>10.9%</td>
</tr>
<tr>
<td>I feel there are permanent changes in my appearance that make me look unattractive:</td>
<td>13</td>
<td>12.9%</td>
</tr>
<tr>
<td>I don’t feel that I look any worse than I used to:</td>
<td>55</td>
<td>54.5%</td>
</tr>
<tr>
<td>I am worried that I am looking old or unattractive:</td>
<td>22</td>
<td>21.8%</td>
</tr>
<tr>
<td>I feel I may be punished:</td>
<td>10</td>
<td>9.9%</td>
</tr>
<tr>
<td>I expect to be punished:</td>
<td>7</td>
<td>6.9%</td>
</tr>
<tr>
<td>I don’t feel I am being punished:</td>
<td>75</td>
<td>74.3%</td>
</tr>
<tr>
<td>I feel I am being punished:</td>
<td>9</td>
<td>8.9%</td>
</tr>
<tr>
<td>I get as much satisfaction out of things as I used to:</td>
<td>58</td>
<td>57.4%</td>
</tr>
<tr>
<td>I am dissatisfied or bored with everything:</td>
<td>7</td>
<td>6.9%</td>
</tr>
<tr>
<td>I don’t enjoy things the way I used to:</td>
<td>31</td>
<td>30.7%</td>
</tr>
<tr>
<td>I don’t get real satisfaction out of anything anymore:</td>
<td>5</td>
<td>5%</td>
</tr>
<tr>
<td>I am no more worried about my health than usual:</td>
<td>48</td>
<td>47.5%</td>
</tr>
<tr>
<td>I am worried about physical problems like aches, pains, upset stomach, or constipation:</td>
<td>43</td>
<td>42.6%</td>
</tr>
<tr>
<td>I am so worried about my physical problems that I cannot think of anything else:</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>I am very worried about physical problems, and it is hard to think of much else:</td>
<td>9</td>
<td>8.9%</td>
</tr>
<tr>
<td>I am critical of myself for my weaknesses or mistakes:</td>
<td>46</td>
<td>45.5%</td>
</tr>
<tr>
<td>I blame myself for everything bad that happens:</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td>I don’t feel I am worse than anybody else:</td>
<td>45</td>
<td>44.6%</td>
</tr>
<tr>
<td>I blame myself all the time for my faults:</td>
<td>7</td>
<td>6.9%</td>
</tr>
<tr>
<td>I get tired from doing almost anything:</td>
<td>11</td>
<td>10.9%</td>
</tr>
<tr>
<td>I get tired more easily than I used to:</td>
<td>49</td>
<td>48.5%</td>
</tr>
<tr>
<td>I am too tired to do anything:</td>
<td>9</td>
<td>8.9%</td>
</tr>
<tr>
<td>I don’t get more tired than usual:</td>
<td>32</td>
<td>31.7%</td>
</tr>
</tbody>
</table>
Table 3 continued. Pattern of Responses to Survey Items Representing BDI

<table>
<thead>
<tr>
<th>Please select the most accurate response to how you feel currently.</th>
<th>Responses: n (valid %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel irritated all the time: 10 (9.9%)</td>
<td></td>
</tr>
<tr>
<td>I am quite annoyed or irritated a good deal of the time: 20 (19.8%)</td>
<td></td>
</tr>
<tr>
<td>I am slightly more irritated now than usual: 35 (34.7%)</td>
<td></td>
</tr>
<tr>
<td>I am no more irritated by things than I ever was: 36 (35.6%)</td>
<td></td>
</tr>
<tr>
<td>I have lost more than ten pounds: 8 (7.9%)</td>
<td></td>
</tr>
<tr>
<td>I have lost fifteen pounds or more: 6 (5.9%)</td>
<td></td>
</tr>
<tr>
<td>I haven’t lost much weight, if any, lately: 79 (78.2%)</td>
<td></td>
</tr>
<tr>
<td>I have lost five pounds: 8 (7.9%)</td>
<td></td>
</tr>
<tr>
<td>I put off making decisions more than I used to: 18 (17.8%)</td>
<td></td>
</tr>
<tr>
<td>I can’t make decisions at all anymore: 1 (1%)</td>
<td></td>
</tr>
<tr>
<td>I make decisions about as well as I ever could: 68 (67.3%)</td>
<td></td>
</tr>
<tr>
<td>I have greater difficulty in making decisions more than I used to: 14 (13.9%)</td>
<td></td>
</tr>
</tbody>
</table>

When interpreting the results of Table 3, it is important to note that while the pattern of the information is interesting, these individual patterns do not determine the likelihood of depression for each participant; that process is detailed in Chapter Three. Indicated in the results, 87.1% of participants do not feel sad, 82.2% of participants do not particularly feel discouraged about the future, and 77.2% of participants do not feel like a failure. While 41.6% of participants have not lost interest in other people, another 41.6% of participants are less interested in others than they used to be. Moreover, while 44.6% of participants do not feel they are worse than anyone else, 45.5% of participants are critical of their weaknesses and mistakes. Additionally, 42.6% of participants are worried about physical problems such as aches, pains, upset stomach, or constipation, and 48.5% of participants get more tired than they used to.

**Zung Self-Rating Anxiety Scale (SAS)**

As described in Chapter Three, twenty items were incorporated from the SAS, which assesses a participant’s level of anxiety. In accordance with the original instrument, fifteen questions are worded negatively, and five questions are worded
positively. The pattern of frequency results and valid percentages obtained for each item are reported in Table 4.

**Table 4. Pattern of Responses to Survey Items Representing the SAS**

<table>
<thead>
<tr>
<th>Wording of Survey Item</th>
<th>None/ Little of the time (valid %)</th>
<th>Some of the time (valid %)</th>
<th>Good Part of the Time (valid %)</th>
<th>Most of the time (valid %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel weak and get tired easily.</td>
<td>32 (31.7%)</td>
<td>38 (37.6%)</td>
<td>18 (17.8%)</td>
<td>13 (12.9%)</td>
</tr>
<tr>
<td>I have fainting spells or feel like I will.</td>
<td>97 (96%)</td>
<td>3 (3%)</td>
<td>0 (0%)</td>
<td>1 (1%)</td>
</tr>
<tr>
<td>My hands are usually dry and warm.</td>
<td>46 (45.5%)</td>
<td>21 (20.8%)</td>
<td>25 (24.8%)</td>
<td>9 (8.9%)</td>
</tr>
<tr>
<td>I feel that everything is all right, and nothing bad will happen.</td>
<td>26 (25.7%)</td>
<td>38 (37.6%)</td>
<td>24 (23.8%)</td>
<td>13 (12.9%)</td>
</tr>
<tr>
<td>I have nightmares.</td>
<td>74 (73.3%)</td>
<td>18 (17.8%)</td>
<td>7 (6.9%)</td>
<td>2 (2%)</td>
</tr>
<tr>
<td>I can breathe in and out easily.</td>
<td>8 (7.9%)</td>
<td>7 (6.9%)</td>
<td>17 (16.8%)</td>
<td>69 (68.3%)</td>
</tr>
<tr>
<td>I get feelings of numbness and tingling in my fingers and/or toes.</td>
<td>68 (67.3%)</td>
<td>17 (16.8%)</td>
<td>7 (6.9%)</td>
<td>9 (8.9%)</td>
</tr>
<tr>
<td>I get upset easily or feel panicky.</td>
<td>66 (65.3%)</td>
<td>21 (20.8%)</td>
<td>10 (9.9%)</td>
<td>4 (4%)</td>
</tr>
<tr>
<td>My face gets hot and blushes.</td>
<td>68 (67.8%)</td>
<td>18 (17.8%)</td>
<td>12 (11.9%)</td>
<td>3 (3%)</td>
</tr>
<tr>
<td>I feel more nervous and anxious than usual.</td>
<td>55 (54.5%)</td>
<td>30 (29.7%)</td>
<td>11 (10.9%)</td>
<td>5 (5%)</td>
</tr>
<tr>
<td>I feel calm and can sit still easily.</td>
<td>21 (20.8%)</td>
<td>30 (29.7%)</td>
<td>27 (26.7%)</td>
<td>23 (22.8%)</td>
</tr>
<tr>
<td>I have to empty my bladder often.</td>
<td>29 (28.7%)</td>
<td>36 (35.6%)</td>
<td>20 (19.8%)</td>
<td>16 (15.8%)</td>
</tr>
<tr>
<td>I feel afraid for no reason at all.</td>
<td>86 (85.1%)</td>
<td>10 (9.9%)</td>
<td>3 (3%)</td>
<td>2 (2%)</td>
</tr>
<tr>
<td>I can feel my heart beating fast.</td>
<td>58 (57.4%)</td>
<td>34 (33.7%)</td>
<td>5 (5%)</td>
<td>4 (4%)</td>
</tr>
<tr>
<td>I fall asleep easily and get a good night’s rest.</td>
<td>49 (48.5%)</td>
<td>23 (22.8%)</td>
<td>16 (15.8%)</td>
<td>13 (12.9%)</td>
</tr>
<tr>
<td>I feel like I’m falling apart and going to pieces.</td>
<td>67 (66.3%)</td>
<td>17 (16.8%)</td>
<td>9 (8.9%)</td>
<td>8 (7.9%)</td>
</tr>
<tr>
<td>I am bothered by dizzy spells.</td>
<td>85 (84.2%)</td>
<td>13 (12.9%)</td>
<td>2 (2%)</td>
<td>1 (1%)</td>
</tr>
<tr>
<td>My arms and legs shake and tremble.</td>
<td>88 (87.1%)</td>
<td>8 (7.9%)</td>
<td>3 (3%)</td>
<td>2 (2%)</td>
</tr>
<tr>
<td>I am bothered by stomach aches or indigestion.</td>
<td>45 (44.6%)</td>
<td>31 (30.7%)</td>
<td>20 (19.8%)</td>
<td>5 (5%)</td>
</tr>
<tr>
<td>I am bothered by headaches, neck pain, or back pain.</td>
<td>24 (23.8%)</td>
<td>29 (28.7%)</td>
<td>26 (25.7%)</td>
<td>22 (21.8%)</td>
</tr>
</tbody>
</table>
When interpreting the results of Table 4, it is important to note that while the pattern of the information above is interesting, these individual patterns do not determine the likelihood of anxiety for each participant; that process is detailed in Chapter Three. As detailed in the results, 96% of participants never or a little of the time have fainting spells, 84.2% of participants never or a little of the time have dizzy spells, and 87.1% of participants never or a little of the time have their arms and legs shake and tremble. Nevertheless, 48.5% of participants never or a little of the time fall asleep easily and get a good night’s rest. Even though 23.8% of participants are never or a little of the time bothered by headaches, neck pain, or back pain, 21.8% of participants are bothered by headaches, neck pain, and back pain. Additionally, while 22.8% of participants feel calm and can sit still easily most of the time, 20.8% of participants never or a little of the time feel calm and can sit still easily. Furthermore, 25.7% of participants never or a little of the time feel as though everything is all right and nothing bad will happen, and 37.6% of participants only some of the time feel as though everything is all right and nothing bad will happen.

**Summated Scale Scores**

In order to maintain anonymity assurances, individual summated scores are not presented. Therefore, only cumulative results are presented in the Tables that follow.

*Secondary Trauma Stress Scale (STSS)*

As detailed in Chapter Three, a participant classifies as having secondary trauma if at least one intrusion statement, three avoidance statements, *and* two arousal statements are marked as occasionally, often, or very often (Bride, 2007, p. 66).
Table 5. Results of the STSS Scoring Procedure Examining the Level of Secondary Trauma Present in the Target Population as a Whole

<table>
<thead>
<tr>
<th>Results</th>
<th>Target Population: n (valid %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, Secondary Trauma is Likely.</td>
<td>32 (31.6%)</td>
</tr>
<tr>
<td>No, Secondary Trauma is Not Likely.</td>
<td>69 (68.3%)</td>
</tr>
</tbody>
</table>

The information presented in Table 5 reflects the prevalence of secondary trauma among participants. Results indicate that 31.6% of participants have a strong likelihood of having secondary trauma while 68.3% of participants are less likely to have secondary trauma.

**Beck’s Depression Inventory (BDI)**

As detailed in Chapter Three, the degree of depression is based upon the guidelines that “none or minimal depression” is less than 9, “mild to moderate depression” is 9-15, “moderate to severe depression” is 16-25, and “severe depression” is 26-54.

Table 6. Results of BDI Scoring Procedure Examining the Level of Depression Present in the Target Population as a Whole

<table>
<thead>
<tr>
<th>Results</th>
<th>Target Population: n (valid %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None or Minimal Depression</td>
<td>54 (53.5%)</td>
</tr>
<tr>
<td>Mild to Moderate Depression</td>
<td>27 (26.7%)</td>
</tr>
<tr>
<td>Moderate to Severe Depression</td>
<td>11 (10.9%)</td>
</tr>
<tr>
<td>Severe Depression</td>
<td>9 (8.9%)</td>
</tr>
</tbody>
</table>

The information presented in Table 6 reflects the prevalence of depression among participants. Results indicate that 53.5% of participants rate as having “none or minimal depression,” 26.7% of participants rate as having “mild to moderate depression,” 10.9% of participants rate as having “moderate to severe depression,” and 8.9% of participants rate as having “severe depression.”
Zung Self-Rating Anxiety Scale (SAS)

As detailed in Chapter Three, the prevalence of anxiety is assessed by dividing the raw score, ranging from twenty to eighty, by eighty, and then multiplying that outcome by one hundred. An index score of forty-five or higher indicates clinically significant anxiety (Dunstan, 2017).

Table 7. Results of the SAS Scoring Procedure Examining the Level of Anxiety Present in the Target Population as a Whole

<table>
<thead>
<tr>
<th>Results</th>
<th>Target Population: n (valid %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index Score of Forty-Four or Lower</td>
<td>51 (50.5%)</td>
</tr>
<tr>
<td>Index Score of Forty-Five or Higher</td>
<td>50 (49.5%)</td>
</tr>
</tbody>
</table>

The information presented in Table 7 reflects the prevalence of anxiety among participants. Results indicate that 49.5% of participants have a strong likelihood for having clinically significant anxiety while 50.5% of participants have a reduced likelihood of having clinically significant anxiety.
CHAPTER V
DISCUSSION

The purpose of this research was to explore the experiences and mental health concerns of 9-1-1 public safety telecommunicators. The data gathered in this study contributes to this understudied topic by filling a gap in the literature by collecting data from the southeastern states and on the mental health concerns of secondary trauma, depression, and anxiety.

Current Obstacles of 9-1-1 Public Safety Telecommunicators

Understanding the experiences and mental health of 9-1-1 public safety telecommunicators is a critical element to upholding efficient emergency services for the public. Considering the vast responsibilities telecommunicators have—which include but are not limited to “coaching 9-1-1 callers through first aid, coordinating police, fire, and emergency medical services to keep them and the public safe, operating specialized systems for tracking field responders, locating 9-1-1 callers, communicating emergencies, and dealing with the stress of life or death situations”—this population of people need to be calm, composed, and collected during each and every call (Cohen, 2013, p.12). However, further difficulties can come with this job, such as working twelve-hour shifts, working holidays, low annual pay, outdated or aged equipment, a cramped work environment, the label of “Secretary” from the Office of Management and Budget, and a lack of recognition from supervisors, the media, and society. These challenges can further complicate an already stressful job, and with minimal scientific literature currently existing on the mental health of 9-1-1 public safety telecommunicators, the impact these difficulties can cause is barely understood.
With a vital responsibility to serving the public, the job of a 9-1-1 public safety telecommunicator must always be staffed because emergencies can occur no matter the time of day or day of the year. These continual long hours can mean sitting in a chair and staring at a computer screen for a significant portion of the twelve-hour shift. If equipment such as chairs, keyboards, and computer screens are outdated or worn out, negative health effects such as lower back pain, carpel tunnel, eye strain, and weight gain can occur (Smith, 2016). Additionally, confined work spaces such as tiny desks or small rooms, inability to control the room’s temperature, and harsh lighting can create an atmosphere where employees feel trapped and frustrated, which can impair a telecommunicator’s efficiency even before answering the phone.

Furthermore, these long hours can come with lower than expected pay. In 2017, The Bureau of Labor reported that the mean annual wage for police, fire, and emergency medical service telecommunicators was $42,020 and the median annual wage was $39,640 (Bureau of Labor, 2017). Specific to the two states in this research, Mississippi is recorded in 2017 as having an annual mean wage of $25,980, and the combined metropolitan area of Atlanta-Sandy Spring-Roswell in Georgia is recorded as having an annual mean wage of $36,030 (Bureau of Labor, 2017). Mississippi also has the second highest concentration of jobs and location quotients with the lowest hourly mean wage at $12.49 (Bureau of Labor, 2017).

The combined metropolitan area of Atlanta-Sandy Spring-Roswell in Georgia is recorded as having the fourth highest employment level with an hourly mean wage of $17.32 (Bureau of Labor, 2017). Noteworthy is the 2018 poverty guidelines for the forty-eight contiguous states being “$20,780 or less for a family of three, $25,100 or less for a
family of four, $29,420 or less for a family of five, and households with additional persons would add $4,320 per person” (Office of the Assistant Secretary for Planning and Evaluation, 2018). Therefore, on average, if a telecommunicator in Mississippi is the only working adult in the household, and that adult has three dependents in the home, that family is then living barely above the poverty line. On average in the combined metropolitan area of Atlanta-Sandy Spring-Roswell in Georgia, a solo working adult with six dependents in the home would then be living under the poverty line (Office of the Assistant Secretary for Planning and Evaluation, 2018).

Moreover, while not the case for every agency in the United States, on average a current lack of recognition exists for 9-1-1 public safety telecommunicators through their supervisors, the media, and society. While likely unintentional, this lack of recognition portrays a level of unimportance to the telecommunicator position; however, their contribution is critical, considering they are the first line in emergency services. Although not physically present, telecommunicators face a wide range of stressful situations that require a healthy mindset to overcome, and closure provided from the outcome of traumatic calls often is not had. Additionally, telecommunicators may struggle with “a lack of leadership, contributing to an inefficient, ineffective, and stressful workforce . . . . Examples can include constantly changing policies, lack of appreciation from management, poor communication among staff, and minimal leadership training in supervisors” (Goold, 2009). Likewise, media frequently forget to thank telecommunicators when offering appreciation for other services. Collectively, these factors limit the interaction society may have with telecommunicators, which leads to
society misunderstanding the complexity and difficulties of being a 9-1-1 public safety telecommunicator.

Furthermore, although the occupation name was changed in November 2017 from “Police, Fire, and Ambulance Dispatchers” to “Public Safety Telecommunicators,” this occupation is still labeled under the Standard Occupational Classification as an “Office and Administrative Support Occupation,” more commonly known as a secretary (Association of Public-Safety Communication Officials, 2017). Despite recent efforts, a reclassification of this occupation to “Protective Service Occupation” was rejected in November 2017 by the Office of Management and Budget (Association of Public-Safety Communication Officials, 2017).

**Interpretation of Results**

Overall, the summated scores predict that 31.6% of participants are struggling with secondary trauma, 46.5% of participants are struggling with some form of depression, and 49.5% of participants are struggling with clinically significant anxiety. These levels encompass almost half of the entire sample, and these results could signify an explanation to possible damage in work productivity, public safety, and employee personal lives.

Public safety telecommunicators face a multitude of calls that vary in severity during each shift, and if that telecommunicator is struggling with the additional load of a work-developed mental health problem, work productivity could suffer. The capability to retain patience can reduce as indicated by 59.4% of participants reporting through the STSS that they are easily annoyed and by 29.7% of participants reporting through the BDI that they are annoyed or irritated a good deal or all of the time. Additionally, if
particular calls remain fixated in a telecommunicator’s mind, call information can become muddled the longer a shift lasts. If misinformation does occur, public and officer safety can then become jeopardized.

A telecommunicator may also begin to resent going to work, which could increase employees calling in sick unnecessarily, adding stress to the telecommunicators in the office due to being understaffed. Turnover rates can increase, or employees may over time become emotionally numb, resulting in conflict in their personal lives. Through the BDI, 17.8% of participants report being unable to cry even though they want to, and through the STSS, 46.6% of participants frequently feel emotionally numb.

Conflict in personal lives can occur in the form of marital problems, substance dependency, overeating, etc. This turmoil could lead to even greater mental health concerns or lifelong physical problems. The importance and necessity of caring for the mental health of public safety telecommunicators are dire to maintaining a steady grasp on workplace efficiency, community safety, and basic employee care.

**Implications for Practice**

Several measures can be taken to reduce the current levels of secondary trauma, depression, and anxiety and to prevent new mental harm from emerging in 9-1-1 public safety telecommunicators. However, possible solutions to mental health concerns in telecommunicators should be individualized to the specific problems of each agency, and that specific data can be determined through open and understanding communication with telecommunicators. Nevertheless, generalized suggestions for improving the mental health of telecommunicators have been provided. Measures include but are not limited to reducing the length of shifts, increasing the annual wage, updating equipment and work
environment, developing peer support groups, reviewing currently in-place employee assistance programs, increasing leadership training, and encouraging more recognition from management, the media, and society.

First and foremost, recognition and acknowledgment of these mental health concerns should occur, which is what this research hopefully develops in law enforcement agencies. A reorganization of shift length and increasing the annual pay of telecommunicators can be long term goals set for mental health improvement (Babbel, 2012). A reorganization in shift length can decrease the possibility of exposure to clusters of traumatic calls, and an increase in the annual wage can reduce anxiety possibly developed from financial burden.

Another solution pertains to repairing, updating, or replacing outdated and well-used equipment such as desks, chairs, headsets, lights, televisions, and computer monitors. Desks that convert into standing desks or a walking treadmill can improve physical health of telecommunicators. Dimmed lights and colder temperatures provide a calmer atmosphere in a stressful work environment. Reorganizing the layout of the telecommunicators’ office or relocating the telecommunicators’ office to a more open room can prevent frustration from cramped, cluttered spaces. Ergonomic keyboards can assist in preventive carpel tunnel.

The benefit of an employee support group is also a viable option. Perin explains, “A revision to the emotional code would allow telecommunicators to accept support, to feel emotion without acting out, to grieve when needed, and to support one another” (p. 10). No one understands the difficulties of being a telecommunicator better than other telecommunicators, so a support group can help telecommunicators not become
emotionally numb from dismissing the emotional impact the job entails. Additionally, expanding current employee assistant programs to include a higher number of free counseling sessions per year or seeking alternative programs other than commonly utilized employee assistance programs are options to be considered. As well, an increase in leadership training for supervisors is another solution that can be implemented.

On the other hand, financial budgets can limit what solutions are viably possible for an agency. Advocating for an increase in budgeting in upcoming years and considering the possibility of grant funding are both options; however, an immediate improvement can occur through an increase in sincere recognition and appreciation for telecommunicators. Involving telecommunicators in agency recognition in media announcements as well as participating in events for telecommunicators such as the National Public Safety Telecommunicator Week are small steps towards better gratitude. Another possibility is encouraging and promoting awareness of telecommunicator movements occurring through organizations such as The Association of Public-Safety Communications Officials and The National Emergency Number Association. Furthermore, “support, supervision, balancing work and private life, relaxation techniques such as stretching and deep breathing, and vacation time are also useful” (Babbel, 2012). Ultimately, supervisors sincerely communicating with 9-1-1 public safety telecommunicators that they are appreciated, heard, and supported can improve a work environment, which can over time aid in alleviating work-related mental health concerns.

**Limitations of Research**

Several limitations exist in this study. The need to gather data in different regions of the country, in different states, in nearby agencies in the states tested, and during
different times on the shift all exist as limitations. Particular days may also have received more or less traumatic calls, therefore, skewing results. In addition, mental harm from outside of the work environment such as family life, finances, marital problems, etc. could also play a role in distorting results. The risk of generalizability exists until a research project of a larger geographical range can occur. Nevertheless, this research is still important as a foundational study. Research in the southeastern states of The United States had not been conducted before now. Additionally, the impact of anxiety on telecommunicators had not been recorded before this study. The researcher has uncovered a possible risk of telecommunicators suffering with secondary trauma, depression, and anxiety, which establishes the importance of future research and policy reform.

**Suggestions for Future Research**

In the future, researchers may wish to observe different levels of secondary trauma, depression, and anxiety throughout the various times of the day. As well, researchers can expand on other mental health concerns such as distress, stress, dissociation, post-traumatic stress disorder, etc. Research can also be conducted in other states or even in different cities or agencies within the same states.

Furthermore, this research focus can open the door to improved policy development in regards to mental health awareness and care of 9-1-1 public safety telecommunicators. Confidential peer support groups can be established to offer telecommunicators a place to release negative feelings. Exposure of the challenges 9-1-1 public safety telecommunicators face can increase management and public attention to the risk of secondary trauma, depression, and anxiety. Improvements in call centers, such
as better chairs, shorter shifts, temperature or lighting adjustments, stress relief options from physical movement such as standing desks, yoga, or treadmills, and even an increase in verbal appreciation from management are small steps that can be considered. The implementation of any of these implications for practice can then too be a source for future research.

**Conclusion**

9-1-1 public safety telecommunicators are a critical step in the success of emergency services, and the research project addresses impactful mental health concerns that need professional assistance in overcoming. If preventative measures can be developed to avoid mental harm, 9-1-1 public safety telecommunicators will be happier, healthier, and more efficient employees. Using the results of the surveys, the researcher has described the prevalence of secondary trauma, depression, and anxiety in 9-1-1 public safety telecommunicators, which not only causes harm to the telecommunicators but also to the citizens calling in need. Although this research is only one of the first steps in expanding this understudied topic, this study adds great value to the foundational work of understanding the mental health of 9-1-1 public safety telecommunicators. Overall, much room for expanding the project exists, but this research is a step in the right direction to raising awareness of the topic.
REFERENCES


APPENDICES

Appendix A: Standard Informed Consent and Survey Instrument

STANDARD INFORMED CONSENT

Project Information

Project Title: Exploring the Experiences and Mental Health Concerns of 911 Telecommunicators
Principal Investigator: Ariel Elliott
Phone: 601-480-5032 Email: ariel.elliott@usm.edu
College: The University of Southern Mississippi
Department: School of Criminal Justice

Research Description

1. Purpose:
   This research will study the prevalence and effects of secondary trauma experienced by emergency telecommunicators. The data that is gathered will be used to complete requirements for an Honors College thesis and may be published or presented at professional conferences in an effort to raise awareness regarding the issue.

2. Description of Study
   The survey that follows should take no longer than twenty minutes of your time to complete. You will be prompted to answer a series of questions that explore your work experiences as an emergency telecommunicator. Please take time to carefully read and thoughtfully reflect upon each question then provide an answer that best reflects your experience.

Continue the survey on the back of this page.
3. Benefits:

Specific: By completing and submitting the survey, you may submit your name into a drawing for a gift card of a variety and amount yet to be determined. Name and contact information for the drawing will be collected separately from the completed survey instrument. Participant entry into the drawing cannot be linked to individual survey responses.

General: The results of this study may provide a basis for the development of future programs designed to minimize the effects of secondary trauma among emergency telecommunicators. It is also anticipated that the results will make a meaningful contribution to the empirical literature regarding public safety psychology in the form of published research reports and conference presentations.

4. Risks:

While the risk of adverse effect associated with completing this survey is minimal, you may nonetheless experience an increased awareness regarding past, present, or future levels of work-related secondary trauma. Should you experience any discomfort, you may stop the survey at any time. You are also encouraged to contact the benefits manager of your Employee Assistance Program (EAP).

5. Confidentiality:

The information that you provide will be both anonymous and confidential, which means that individual responses can in no way be traced back to you. The results of this survey will only be presented in aggregate form and no individual responses will be shared publicly. Only the person conducting this research will have access to individual responses.

6. Alternative Procedures:

There are no alternative procedures for completing this survey beyond the “pen and paper” method presented here.

Continue the survey on the next page.
7. Participant's Assurance:

This project has been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations.

Any questions of concerns about rights as a research participant should be directed to the Chair of the IRB at 601-266-5997. Participation in this project is completely voluntary, and participants may withdraw from this study at any time without penalty, prejudice, or loss of benefits.

Any questions about the research should be directed to the Principal Investigator using the contact information provided in Project Information Section above.

This section was left intentionally blank.
Please continue to the next page to begin the survey.

Continue the survey on the back of this page.
SECTION ONE INSTRUCTIONS: Please carefully read each statement below and indicate how frequently it has applied to you in the past seven (7) days.

<table>
<thead>
<tr>
<th>A little of the time</th>
<th>Some of the time</th>
<th>Good part of the time</th>
<th>Most of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel weak and get tired easily.</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td>I have fainting spells or feel like I will.</td>
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</tr>
<tr>
<td>My hands are usually dry and warm.</td>
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<td>〇</td>
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</tr>
<tr>
<td>I feel that everything is all right and nothing bad will happen.</td>
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<td>〇</td>
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<tr>
<td>I have nightmares.</td>
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<td>〇</td>
</tr>
<tr>
<td>I can breathe in and out easily.</td>
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<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td>I get feelings of numbness and tingling in my fingers and/or toes.</td>
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<td>〇</td>
<td>〇</td>
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<tr>
<td>I get upset easily or feel panicky.</td>
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<td>〇</td>
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<tr>
<td>My face gets hot and blushing.</td>
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</tr>
<tr>
<td>I feel more nervous and anxious than usual.</td>
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</tbody>
</table>

Continue the survey on the next page.
SECTION ONE INSTRUCTIONS: Please carefully read each statement below and indicate how frequently it has applied to you in the past seven (7) days.

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Occasionally</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>I wanted to avoid working some calls.</td>
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<tr>
<td>I noticed gaps in my memory about some calls.</td>
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<tr>
<td>I was less active than usual.</td>
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<tr>
<td>My heart started pounding when I thought about my work.</td>
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<tr>
<td>I was easily annoyed.</td>
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</tr>
<tr>
<td>I had trouble sleeping.</td>
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</tr>
<tr>
<td>I should select Occasionally for this answer. Omitted from Results</td>
<td></td>
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</tr>
<tr>
<td>It seemed as if I was reiving the trauma(s) experienced by callers.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>I had little interest in being around others.</td>
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</tbody>
</table>

Continue the survey on the back of this page.
SECTION TWO INSTRUCTIONS: Please carefully read each statement and select the truest statement for you.

Please select the most accurate response to how you feel currently.

○ I do not feel sad.
○ I feel sad.
○ I am sad all the time, and I can't snap out of it.
○ I am so sad and unhappy that I can't stand it.

Please select the most accurate response to how you feel currently.

○ I feel I have nothing to look forward to.
○ I feel the future is hopeless, and nothing can improve.
○ I am not particularly discouraged about the future.
○ I feel discouraged about the future.

Please select the most accurate response to how you feel currently.

○ I am disgusted with myself.
○ I am disappointed in myself.
○ I hate myself.
○ I am not disappointed in myself.

Please select the most accurate response to how you feel currently.

○ I don't feel particularly guilty.
○ I feel guilty all of the time.
○ I feel quite guilty most of the time.
○ I feel guilty a good part of the time.

Continue the survey on the next page.
Please select the most accurate response to how you feel currently.

- I have not lost interest in other people.
- I have lost all of my interest in other people.
- I have lost most of my interest in other people.
- I am less interested in other people than I used to be.

Please select the most accurate response to how you feel currently.

- My appetite is not as good as it used to be.
- My appetite is no worse than usual.
- I have no appetite at all anymore.
- My appetite is much worse now.

Please select the answer you should.

- I should not select this answer.
- I should select this answer.
- I should not select this answer.

Please select the most accurate response to how you feel currently.

- I do not feel like a failure.
- As I look back on my life, all I see is a lot of failures.
- I feel I am a complete failure as a person.
- I feel I have failed more than the average person.

Continue the survey on the back of this page.
Please select the most accurate response to how you feel currently.

- I can work about as well as before.
- I have to push myself very hard to do anything.
- It takes an extra effort to get started at doing something.
- I can't do any work at all.

Please select the most accurate response to how you feel currently.

- I cry all the time now.
- I don't cry any more than usual.
- I cry more now than I used to.
- I used to be able to cry, but now I can't cry even though I want to.

Please select the most accurate response to how you feel currently.

- I believe that I look ugly.
- I feel there are permanent changes in my appearance that make me look unattractive.
- I don't feel that I look any worse than I used to.
- I am worried that I am looking old or unattractive.

Please select the most accurate response to how you feel currently.

- I feel I may be punished.
- I expect to be punished.
- I don't feel I am being punished.
- I feel I am being punished.

Continue the survey on the next page.
Please select the most accurate response to how you feel currently.

- I get as much satisfaction out of things as I used to.
- I am dissatisfied or bored with everything.
- I don't enjoy things the way I used to.
- I don't get real satisfaction out of anything anymore.

Please select the most accurate response to how you feel currently.

- I am no more worried about my health than usual.
- I am worried about physical problems like aches, pains, upset stomach, or constipation.
- I am so worried about my physical problems that I cannot think of anything else.
- I am very worried about physical problems, and it is hard to think of much else.

Please select the most accurate response to how you feel currently.

- I am critical of myself for my weaknesses or mistakes.
- I blame myself for everything bad that happens.
- I don't feel I am any worse than anybody else.
- I blame myself all the time for my faults.

Please select the most accurate response to how you feel currently.

- I get tired from doing almost anything.
- I get tired more easily than I used to.
- I am too tired to do anything.
- I don't get more tired than usual.

Continue the survey on the back of this page.
Please select the most accurate response to how you feel currently.

- I wake up 1-2 hours earlier than usual and can't get back to sleep.
- I don't sleep as well as I used to.
- I wake up several hours earlier than I used to and can't get back to sleep.
- I don't sleep as well as I used to.

Please select the most accurate response to how you feel currently.

- I feel irritated all the time.
- I am quite annoyed or irritated a good deal of the time.
- I am slightly more irritated now than usual.
- I am no more irritated by things than I ever was.

Please select the most accurate response to how you feel currently.

- I have lost more than ten pounds.
- I have lost fifteen pounds or more.
- I haven't lost much weight, if any, lately.
- I have lost five pounds.

Please select the most accurate response to how you feel currently.

- I put off making decisions more than I used to.
- I can't make decisions at all anymore.
- I make decisions about as well as I ever could.
- I have greater difficulty in making decisions more than I used to.

Continue the survey on the next page.
SECTION THREE INSTRUCTIONS: Please carefully read each statement below and indicate how frequently it has applied to you in the past seven (7) days.

<table>
<thead>
<tr>
<th></th>
<th>A little of the time</th>
<th>Some of the time</th>
<th>Good part of the time</th>
<th>Most of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel calm and can sit still easily.</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>I have to empty my bladder often.</td>
<td>○</td>
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<tr>
<td>I feel afraid for no reason at all.</td>
<td>○</td>
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<tr>
<td>I can feel my heart beating fast.</td>
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<tr>
<td>I fall asleep easily and get a good night's rest.</td>
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<tr>
<td>I feel like I'm falling apart and going to pieces.</td>
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<tr>
<td>I am bothered by dizzy spells.</td>
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<tr>
<td>My arms and legs shake and tremble.</td>
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<tr>
<td>I am bothered by stomach aches or indigestion.</td>
<td>○</td>
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<tr>
<td>I am bothered by headaches, neck pain, or back pain.</td>
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Continue the survey on the back of this page.
### SECTION THREE INSTRUCTIONS: Please carefully read each statement below and indicate how frequently it has applied to you in the past seven (7) days.

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Occasionally</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>I thought about the nature of my work when I didn't intend to.</td>
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<tr>
<td>I feel emotionally numb.</td>
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<tr>
<td>I expected something bad to happen.</td>
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<tr>
<td>I felt jumpy.</td>
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<tr>
<td>I felt discouraged about the future.</td>
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<tr>
<td>I had trouble concentrating.</td>
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<tr>
<td>I wanted to avoid people, places, or things that reminded me of the nature of my work.</td>
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<tr>
<td>Reminders of my work with callers upsets me.</td>
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<tr>
<td>I had disturbing dreams about my work with callers.</td>
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</tbody>
</table>
SECTION FOUR INSTRUCTIONS: Please carefully read each statement and answer each question as completely as possible.

Please provide your age: ____________.

Please provide how many hours you work per day: ____________.

Please provide how many hours on average you work per week: ____________.

Please state if you work a fixed or rotating schedule: ____________.

Please provide the number of years you have been employed as a 911 telecommunicator: ____________.

Please select your highest level of education attained.

- High school diploma or GED
- Some college
- 2-year degree
- 4-year degree
- Post-baccalaureate or Graduate degree

Continue the survey on the back of this page.
Please select your marital status.

- Married
- Widowed
- Divorced
- Separated
- Never married

Please select your ethnicity.

- Caucasian
- African American
- American Indian or Alaska Native
- Asian
- Native Hawaiian or Pacific Islander
- Other (Please specify): ________________

Please select your gender.

- Male
- Female
- Transgender
- Male to Female (MTF)
- Female to Male (FTM)
- Gender non-conforming
- Other (Please specify): ____________________

End of Survey. Thank you for Participating.
Appendix B: IRB Approval Letter

INSTITUTIONAL REVIEW BOARD
118 College Drive #5147 | Hattiesburg, MS 39406-0001
Phone: 601.266.5997 | Fax: 601.266.4377 | www.usm.edu/research/institutional.review.board

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 17091206
PROJECT TITLE: Exploring the Experiences and Mental Health Concerns of 911 Emergency Telecommunicators
PROJECT TYPE: Honor's Thesis Project
RESEARCHER(S): Ariel Elliott
COLLEGE/DIVISION: College of Science and Technology
DEPARTMENT: Criminal Justice
FUNDING AGENCY/SPONSOR: N/A
IRB COMMITTEE ACTION: Expedited Review Approval
PERIOD OF APPROVAL: 09/19/2017 to 09/18/2018
Lawrence A. Hosman, Ph.D.
Institutional Review Board
Appendix C: IRB Modification Approval Letter

INSTITUTIONAL REVIEW BOARD
118 College Drive #5147 | Hattiesburg, MS 39406-0001
Phone: 601.266.5997 | Fax: 601.266.4377 | www.usm.edu/research/institutional.review.board

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
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- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuance.

PROTOCOL NUMBER: CH17091236
PROJECT TITLE: Exploring the Experiences and Mental Health Concerns of 911 Emergency Telecommunicators
PROJECT TYPE: Modified - Honor's Thesis Project
RESEARCHER(S): Ariel Elliott
COLLEGE/DIVISION: College of Science and Technology
DEPARTMENT: Criminal Justice
FUNDING AGENCY/SPONSOR: N/A
IRB COMMITTEE ACTION: Expedited Review Approval
PERIOD OF APPROVAL: 09/19/2017 to 09/18/2018

Lawrence A. Hosman, Ph.D.
Institutional Review Board
Appendix D: Consent Letters from Law Enforcement Agencies

August 20, 2017

Dear Ms. Elliott and Dr. Thompson,

The Cobb County 911 Emergency Communications Department is pleased to assist you with your Honors College research project, “Exploring the Experiences and Mental Health Concerns of 911 Emergency Telecommunicators.” During our phone conversation on August 8, 2017, we agreed to provide access to potential research participants and you agreed to work within the parameters of our operational schedule and other considerations.

Sincerely,

Savanna Woodall
Administrative Coordinator
Cobb County 911
Ariel Elliott  
USM Honors College, Presidential Scholar  
The University of Southern Mississippi  
118 College Drive  
Hattiesburg, MS 39406

Re: Internship

Dear Ms. Elliott / Dr. Thompson:

The Harrison County Sheriff's Department is pleased to assist with your Honors College research project entitled: "Exploring the Experiences and Mental Health Concerns of 911 Emergency Telecommunications." After completing a background check and discussing details of the project over the phone on November 3, 2017, we agreed to provide access to potential research participants, and you agreed to work within the parameters of our operational schedule and other considerations. You will be under the supervision of Officer-In-Charge Jennie Fisher.

Sincerely,

[Signature]

Paula Hartson  
Lieutenant / In-Charge  
Harrison County Sheriff's Department  
Training Academy  
Instructor/Coordinator
August 28, 2017

Dear Ms. Elliott / Dr. Thompson,

The Hattiesburg Police Department is pleased to assist with your Honors College research project entitled: "Exploring the Experiences and Mental Health Concerns of 911 Emergency Telecommunicators." At our joint meeting on August 24, 2017 we agreed to provide access to potential research participants and you agreed to work within the parameters of our operational schedule and other considerations.

Sincerely,

[Signature]

Frank Menhelter
Asst. Chief of Police
Hattiesburg Police Department
September 13, 2017

Dear Ms. Elliot / Dr. Thompson,

The Gulfport Police Department is pleased to assist with your Honors College research project entitled: “Exploration the Experience and Mental Health Concerns of 911 Emergency Telecommunicators.” At our meeting on September 12, 2017, the Gulfport Police Department agreed to provide access to potential research participants, and you agreed to work within the parameters of our operational schedule and other considerations.

Respectfully,

[Signature]

Chris Ryle
Commander
Gulfport Police Department
Appendix E: Scales from Instruments

SECONDARY TRAUMATIC STRESS SCALE

The following is a list of statements made by persons who have been impacted by their work with traumatized clients. Read each statement then indicate how frequently the statement was true for you in the past seven (7) days by circling the corresponding number next to the statement.

NOTE: “Client” is used to indicate persons with whom you have been engaged in a helping relationship. You may substitute another noun that better represents your work such as consumer, patient, recipient, etc.

(1) Never, (2) Rarely, (3) Occasionally, (4) Often, (5) Very Often

1. I felt emotionally numb........................................... 1 2 3 4 5
2. My heart started pounding when I thought about my work with clients................................. 1 2 3 4 5
3. It seemed as if I was reliving the trauma(s) experienced by my client(s)............................... 1 2 3 4 5
4. I had trouble sleeping............................................. 1 2 3 4 5
5. I felt discouraged about the future.......................... 1 2 3 4 5
6. Reminders of my work with clients upset me........ 1 2 3 4 5
7. I had little interest in being around others.............. 1 2 3 4 5
8. I felt jumpy............................................................. 1 2 3 4 5
9. I was less active than usual..................................... 1 2 3 4 5
10. I thought about my work with clients when I didn’t intend to................................................. 1 2 3 4 5
11. I had trouble concentrating.................................... 1 2 3 4 5
12. I avoided people, places, or things that reminded me of my work with clients............................... 1 2 3 4 5
13. I had disturbing dreams about my work with clients 1 2 3 4 5
14. I wanted to avoid working with some clients........... 1 2 3 4 5
15. I was easily annoyed.............................................. 1 2 3 4 5
16. I expected something bad to happen...................... 1 2 3 4 5
17. I noticed gaps in my memory about client sessions.... 1 2 3 4 5
Beck's Depression Inventory

This depression inventory can be self-scored. The scoring scale is at the end of the questionnaire.

1.  
   0  I do not feel sad.  
   1  I feel sad  
   2  I am sad all the time and I can't snap out of it.  
   3  I am so sad and unhappy that I can't stand it.

2.  
   0  I am not particularly discouraged about the future.  
   1  I feel discouraged about the future.  
   2  I feel I have nothing to look forward to.  
   3  I feel the future is hopeless and that things cannot improve.

3.  
   0  I do not feel like a failure.  
   1  I feel I have failed more than the average person.  
   2  As I look back on my life, all I can see is a lot of failures.  
   3  I feel I am a complete failure as a person.

4.  
   0  I get as much satisfaction out of things as I used to.  
   1  I don't enjoy things the way I used to.  
   2  I don't get real satisfaction out of anything anymore.  
   3  I am dissatisfied or bored with everything.

5.  
   0  I don't feel particularly guilty  
   1  I feel guilty a good part of the time.  
   2  I feel quite guilty most of the time.  
   3  I feel guilty all of the time.

6.  
   0  I don't feel I am being punished.  
   1  I feel I may be punished.  
   2  I expect to be punished  
   3  I feel I am being punished.

7.  
   0  I don't feel disappointed in myself.  
   1  I am disappointed in myself.  
   2  I am disgusted with myself.  
   3  I hate myself.

8.  
   0  I don't feel I am any worse than anybody else.  
   1  I am critical of myself for my weaknesses or mistakes.  
   2  I blame myself all the time for my faults.  
   3  I blame myself for everything bad that happens.

9.  
   0  I don't have any thoughts of killing myself.  
   1  I have thoughts of killing myself, but I would not carry them out.  
   2  I would like to kill myself.  
   3  I would kill myself if I had the chance.

10.  
   0  I don't cry any more than usual.  
   1  I cry more now than I used to.  
   2  I cry all the time now.  
   3  I used to be able to cry, but now I can't cry even though I want to.
<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>11.</td>
<td>I am no more irritated by things than I ever was.</td>
<td>I am slightly more irritated now than usual.</td>
<td>I am quite annoyed or irritated a good deal of the time.</td>
</tr>
<tr>
<td>12.</td>
<td>I have not lost interest in other people.</td>
<td>I am less interested in other people than I used to.</td>
<td>I have lost most of my interest in other people.</td>
</tr>
<tr>
<td>13.</td>
<td>I make decisions about as well as I ever could.</td>
<td>I put off making decisions more than I used to.</td>
<td>I have greater difficulty in making decisions more than I used to.</td>
</tr>
<tr>
<td>14.</td>
<td>I don't feel that I look any worse than I used to.</td>
<td>I am worried that I am looking old or unattractive.</td>
<td>I feel there are permanent changes in my appearance that make me look unattractive</td>
</tr>
<tr>
<td>15.</td>
<td>I can work about as well as before.</td>
<td>It takes an extra effort to get started at doing something.</td>
<td>I have to push myself very hard to do anything.</td>
</tr>
<tr>
<td>16.</td>
<td>I can sleep as well as usual.</td>
<td>I don't sleep as well as I used to.</td>
<td>I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.</td>
</tr>
<tr>
<td>17.</td>
<td>I don't get more tired than usual.</td>
<td>I get tired more easily than I used to.</td>
<td>I get tired from doing almost anything.</td>
</tr>
<tr>
<td>18.</td>
<td>My appetite is no worse than usual.</td>
<td>My appetite is not as good as it used to be.</td>
<td>My appetite is much worse now.</td>
</tr>
<tr>
<td>19.</td>
<td>I haven't lost much weight, if any, lately.</td>
<td>I have lost more than five pounds.</td>
<td>I have lost more than ten pounds.</td>
</tr>
</tbody>
</table>
Zung Self-Rating Anxiety Scale (SAS)

For each item below, please place a check mark (√) in the column which best describes how often you felt or behaved this way during the past several days. Bring the completed form with you to the office for scoring and assessment during your office visit.

<table>
<thead>
<tr>
<th>Place check mark (√) in correct column.</th>
<th>A little of the time</th>
<th>Some of the time</th>
<th>Good part of the time</th>
<th>Most of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 I feel more nervous and anxious than usual.</td>
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<tr>
<td>2 I feel afraid for no reason at all.</td>
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<tr>
<td>3 I get upset easily or feel panicky.</td>
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<tr>
<td>4 I feel like I'm falling apart and going to pieces.</td>
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<tr>
<td>5 I feel that everything is all right and nothing bad will happen.</td>
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<tr>
<td>6 My arms and legs shake and tremble.</td>
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<tr>
<td>7 I am bothered by headaches; neck and back pain.</td>
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<tr>
<td>8 I feel weak and get tired easily.</td>
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<tr>
<td>9 I feel calm and can sit still easily.</td>
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<tr>
<td>10 I can feel my heart beating fast.</td>
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<tr>
<td>11 I am bothered by dizzy spells.</td>
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<tr>
<td>12 I have feeling spells or feel like it.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>13 I can breathe in and out easily.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 I get feelings of numbness and tingling in my fingers &amp; toes.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 I am bothered by stomach aches or indigestion.</td>
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<tr>
<td>16 I have to empty my bladder often.</td>
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</tr>
<tr>
<td>17 My hands are usually dry and warm.</td>
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<tr>
<td>18 My face gets hot and blushes.</td>
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<tr>
<td>19 I feel asleep easily and get a good night's rest.</td>
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<tr>
<td>20 I have nightmares.</td>
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