Spring 2-14-2022

# Is Ego Strength a Trait That Contributes to Trauma Resilience?

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**Is Ego Strength a Trait That Contributes to Trauma Resilience?**

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Presented to the Faculty of the

Graduate School of Clinical Psychology

George Fox University

in partial fulfillment

of the requirements for the degree of

Doctor of Psychology

in Clinical Psychology

Newberg, Oregon

**Approval Page**

**Is Ego Strength a Trait That Contributes to Trauma Resilience?**

by

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has been approved

at the

Graduate School of Clinical Psychology

George Fox University

as a Dissertation for the PsyD degree

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February 14, 2022

**Abstract**

Given the ubiquitous experience of trauma among first responders, there is a critical need to understand the traits that contribute to resilience in experiencing traumatic events. Strength of identity is associated with resilience in several meaningful life events including negative peer review, adjustment to significant change, and recovering from depression or anxiety (Kim & Choi, 2013). There is a scarcity of research that has examined ego strength as a trait that contributes to trauma resilience. The aim of this study was to explore the relationship between ego strength and the experience of trauma among veteran first responders (including, paramedics, firefighters, police, and emergency room doctors). This qualitative work seeks to understand first responders experience of trauma and to understand those experiences through the lens of ego strength. **Methods.** Qualitative research based upon interpretive phenomenological analysis. Twelve subjects are interviewed who are veteran first responders with at least 10 years of continuous employment. The interviews are conducted using a semi structured format with 10 prepared questions. **Results.** The research undertaken to understand ego strength and the experience of first responders developed into two distinct studies. The first study was in response to data uncovered during our interviews that revealed a high rate of post-traumatic stress disorder (PTSD) symptoms among respondents. The second study undertook the original intention of this research effort, to explore ego strength and its relationship to trauma resilience. **Discussion.** The high rate of PTSD symptoms among these respondents was explored through the lens of narrative psychology and a theory of the trauma they experienced was developed called traumatic entropy. Ego plasticity and flexibility was identified as a priori traits for first responders to survive highly stressful and traumatic environments without psychic

injury. Rigidity of ego and incoherent self narratives were identified as predictors of PTSD. Ego strength played an important role in maintaining plasticity and flexibility of the ego and meaning making systems that placed traumatic events on larger contexts that individual failures and triumphs was described by respondents as critical for resilience.

*Keywords*: trauma, first responders, qualitative, ego strength, ego flexibility, ego rigidity, narrative, PTSD, resilience, traumatic entropy, meaning making

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## Chapter 1

According to the World Health Organization, over 70% of the US population (~ 223.4 million adults) have experienced some type of traumatic event at least once in their lives and 90% of patients seeking care from public behavioral health services have experienced trauma (Kessler RC, et al., 2017). For adults exposed to traumatic events, somewhere between 20%–33% will develop symptoms consistent with a diagnosis of post-traumatic stress disorder (PTSD; Institute of Medicine, 2014) and 33% of young people exposed to community violence will experience PTSD (Dye, 2018). According to the National Center for PTSD, a program of the U.S. Department of Veterans Affairs, about 7.5% of all Americans will experience PTSD in their lifetime and for those who serve in the United States Armed Services, approximately 8.9% of men and 13.2% of women will develop PTSD symptoms (Institute of Medicine, 2014). For first responders (police, fire, paramedics) the rates of PTSD are much higher and range from 6% (for those who exhibit partial symptoms) to 46% of first responders working in disaster recovery operations (Walker et al., 2016).

The symptoms of PTSD can be debilitating and according to the American Psychiatric Association's (2013) *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; DSM-5), PTSD is characterized by a wide range of symptoms including intrusive distressing memories, hypervigilance, preoccupation, nightmares, and flashbacks. These troubling symptoms lead to difficulties with employment and among Viet Nam veterans suffering from severe PTSD, persistent unemployment rates ranging from 50%–66% (Smith et al., 2005). Over a lifetime, untreated PTSD leads to chronic underemployment for Viet Nam veterans whose hourly earnings are significantly less than their untraumatized counterparts (Savoca & Rosenheck, 2000). In

addition to negative impacts on employment, PTSD devastates personal relationships. Veterans with PTSD were 3 times more likely than veterans without PTSD to divorce 2 or more times with nearly 50% of subjects reporting dissatisfaction in their marital sexual relationship (Ahmadi et al., 2006).

**Trauma and Comorbidity**

Trauma can be an extremely difficult experience to overcome, and PTSD diagnoses are highly correlated with a comorbid diagnosis of substance abuse, anxiety disorders, and depression (Galatzer-Levy et al., 2013). Given the impacts to career and relationships mentioned above it is, perhaps, not surprising that trauma is the most highly correlated risk factor for substance use disorder (von Oelreich et al., 2020). The great difficulty with managing PTSD symptoms leads to anxiety and depression whose rates range from 8%–16.5% with women reporting depressive or anxious symptoms more often than men (Spinhoven et al., 2014). The depression rates among women who suffer PTSD symptoms from childhood sexual assault are extraordinarily high and are estimated to be near 72.7% (Spinhoven et al., 2014). Compared to women and men without PTSD, suicide rates were 6 times higher for women and 3 times higher in men with PTSD. (Fox et al., 2021).

Therapeutic interventions for person who experience trauma with these comorbid conditions are lengthy, difficult, and experience a high patient dropout rate (Roberts et al., 2015). For women who have experienced complex trauma and suffer a comorbid diagnosis of substance use disorder, treatment outcomes are modest at best where participants in a 3-month study of the effectiveness of CBT resulted in almost no change for depression, dissociation, social and sexual functioning (Cohen & Hien, 2006). In a metanalysis of treatment for complex PTSD compared to PTSD treatments (e.g., CBT, Eye Movement Desensitization and Reprocessing), complex PTSD

treatments were only minimally better than non-specific interventions (e.g., befriending; Karatzias et al., 2019).

**Resilience**

Given the devastating effects of traumatic experiences on patients (high rate of PTSD, high rate of comorbid diagnoses, and poor treatment outcomes) insulating and protecting from the harmful symptoms associated with trauma among patients who have a high likelihood of exposure to traumatic events is warranted. Trauma resilience and post traumatic growth are associated with lower rates of PTSD among firefighters (Armstrong et al., 2014), cancer survivors (Coroiu et al. 2016; Danhauer, et al., 2013) and parents (or care givers) of terminally ill children (Hallam & Morris, 2014; Cadell et al., 2014). Post traumatic growth and trauma resilience are both relatively new fields of study and may require a definition before proceeding.

Trauma resilience has been defined in several ways including the following: “the ability to bounce back from adversity, frustration, and misfortune” (Ledesma, 2014, p. 2), “the developable capacity to rebound or bounce back from adversity, conflict, and failure or even positive events, progress, and increased responsibility” (Luthans, 2002, p.702), “a stable trajectory of healthy functioning after a highly adverse event” (Bonanno et al., 2011, p. 1.5) and “the capacity of a dynamic system to adapt successfully” (Masten, 2014, p. 6). While these definitions seem disparate the common definition that will be used in this paper is resilience as a preventive or insulating factor from developing PTSD as a result of exposure to traumatic events. This contrasts with post-traumatic growth, a theory that postulated that some patients may experience positive development or transformation following a traumatic experience(s). Post-traumatic growth was initially conceptualized by Tedeschi and Calhoun (1995). They observed that some patients who experience traumatic events can often see positive growth in proportion

to the adversity leading them to conclude “The experience of posttraumatic growth may be accompanied by a reduction in distress, but our model does not predict such a relation” (Tedeschi & Calhoun, 2004, p.13)

In contrast, Norman Garmezy at the University of Minnesota observed patients who seemed to thrive despite experiencing childhood traumatic experiences (1992). In contrast with children exposed to similar traumatic experiences to children who struggled to maintain relationships, career, and sound mental health. His institute, dedicated exclusively to resilience, focused on how patients could insulate themselves from the distressing aspects of trauma. His 20-year longitudinal study suggested that resilience prevented mental illness through protective factors such as positive worldview, cognitive skills, the ability to change social circumstances, and longer-term goal setting (Garmezy, 1992). Garmezy was joined by a team of researchers at the Project Competence Longitudinal Study, who studied several cohorts and developed operational definitions, frameworks, and measures for the study of what they understood as *competence*—the ability to continue to progress socially, professionally, and emotionally after trauma—and resilience. The work at Project Competence Longitudinal Study contributed meaningful research in the understanding of resilience by identifying statistically significant traits that were present in those subjects that exhibited competence and resilience. Those traits include dynamic resilience (resilience and competence changes over time) and developmental cascades (the improvement in one area of function may improve other functions).

In more recent research into resilience, especially for patients with a history of childhood trauma (Hu et al., 2015), the concept of *trait resilience* has emerged as a possible contributor to trauma resilience. Trait resilience is understood as a personal trait that helps individuals cope with traumatic experiences and protects individuals against the impact of traumatic events

(Connor & Davidson, 2003; Ong et al., 2006). Trait resilience is described by three aspects of personality referred to as the positive cognitive triad (Mak et al. 2011) which includes, optimism for the future, positive self-talk, and positive view of the world. These three traits are associated with better mental health outcomes for patients who experience trauma (Hu et al. 2015).

**Ego Strength and Identity**

One trait that is worth considering that has thus far been excluded from research into trauma resilience is ego strength. Identity strength and ego identity are associated with greater failure tolerance and stress tolerance among teens who are subject to negative valuation from their peers and teachers (Kim & Choi, 2013). Strength of identity has also been identified as a key factor in recovery from depression and anxiety (Wautier & Blume, 2004). Similarly, enhanced identify formation has been shown to improve outcomes for foster care children who are transitioning to independent living (Webb et al., 2017). Given the demonstrated benefit of ego strength in improving and insulating patients from negative mental health outcomes, it seems reasonable to investigate ego strength as a trait that may contribute to trauma resilience.

Erikson defined identity as a “fundamental organizing principal which develops constantly throughout the lifespan” (Gross, 1987, p.164). According to Erikson's theory of psychosocial development, the fifth stage of human development is Identity Versus Role Confusion. Normally, this stage occurs during adolescence when teens explore their independence and develop a sense of self (Gross, 1987). For Erikson, identity is built upon the experiences, relationships, beliefs, values, and memories that constitute the subjective sense of self (Erikson, 1968). Adolescents build their identity amidst their particular social, cultural, and historical circumstances (Erikson, 1968). These circumstances include the received values of family and peers that accompany each of these categories. Teens attempt to arrive at a definition

of their identity by projecting diffused self-images on an other and "by seeing it thus reflected and gradually clarified" (Erikson, 1968, p. 132). The struggle to arrive at a stable identity, for adolescents, is one that includes the unification of these divergent aspects of the self (Erikson, 1968). Adolescents embark upon a process of testing possible identities until they can "install lasting idols and ideals as guardians of a final identity" (Erikson, 1968, p. 128). Identity achievement, for Erikson, is a sense of self that remains largely stable through the subsequent developmental stages of life (Gross, 1987).

James Marcia (1993) built upon Erikson's work and proposed identity statuses to illustrate the process of identity formation more descriptively. Marcia's identity model includes identity diffusion, a state in which a person has neither explored possible identities nor committed to any particular identity. Identity foreclosure is a seemingly premature halt to identity exploration with a high commitment to an identity that reflects family or cultural values. Identity moratorium is marked by a high degree of exploration but a low degree of commitment to any particular identity. Moratorium is closest to Erikson's notion of an identity crisis where persons experience a great deal of uncertainty and confusion about who they are. Identity achievement reflects a person who has deeply explored possible identities and is deeply committed to their sense of self. Marcia's theory does not assume that one will graduate linearly from one identity status to the next, rather, he suggested that one might experience one or two identity statuses or move back and forth between statuses (Marcia, 1993). Marcia proposed that identity statuses do not have to be uniform across all aspects of one's development, rather, identity emerges and changes throughout a lifetime such that one may have different identity statues across different domains (e.g., work, religion, politics, etc.). It is expected within the

Marcia model that one may maintain several identity statuses at one time (e.g., diffuse about religion, foreclosed about work, and in a moratorium about politics; Marcia, 1993).

**Identity Crisis**

According to Erikson, if the conscious sense of self is not formed during the adolescent developmental stage, one may be left questioning who one is and how one fits within their community. Role confusion is the name that Erikson gave to remaining in this state of uncertainty (Gross, 1987). For Erikson, role confusion (or identity crisis) may be brought about via a multitude of reasons including rigid environments where exploration of test identities is not possible, inability to successfully engage in intimate relationships, and vocational dislocation (Erikson, 1968). In Erikson's view, identity crisis prevented patients from moving forward in their development, and those in crisis often experienced anxiety or depression in response to this condition (Gross, 1987).

Identity crisis emerges when a person is prohibited from exploring and testing different identities within their community, family, or peers and is subsequently prevented from forming a stable sense of identity. The most troublesome environment for persons to form a stable identity are situations in which family and peer acceptance is ambivalent (Baumeister, 1997). When family and peers alternate between accepting and rejecting of test identities it creates an environment where it is nearly impossible for individuals to form a stable identity (Baumeister 1997). Without resolution to the question of identity, patients are at higher risk for a range of pathologies including depression, anxiety, and suicidal thoughts and actions (Kim, 2016; Wautier & Blume, 2004).

Batory-Ginda (2022) reported that the affirmation of values is a crucial factor in strengthening identity. Value affirmation had significant impacts on two domains of identity

formation: meaning and efficacy. Study participants who maintained a greater sense of their internalized values saw greater resilience in what gave meaning to their self and the ability to act in the world. In a similar study, Vignoles et al. (2006) found that self-esteem, continuity, distinctiveness, and meaning are most central to identity construction. Subjects reported that these attributes are the goals of strong identity formation. According to Webb et al. (2017), the development of greater "identity capital" leads to greater identity resilience. Webb described subjects volunteering in community organizations that led to increased self-esteem and a sense of achievement. These experiences helped develop a more resilient identity before these subjects transitioned to lives outside of care.

## Chapter 2

## Methods

Interpretive phenomenological analysis (IPA) is comprised of data gathered from interviews and broken down into thematic codes which are subject to interpretation. IPA is a relatively new approach to qualitative analysis which seeks, "to get as close as possible to the lived experience of participants" (Smith & Nizza, 2022, p. 4). The power of IPA resides in its ability to make interpretations grounded in what the participants say with a particular emphasis on the "personal meanings" placed upon "lived experience" (Smith & Nizza, 2022, p. 4). The choice of IPA for this study was based on several considerations. First, IPA is a better tool for investigation without preformulated conceptualizations (or testable hypotheses; Alase, 2017). Given the notorious difficulty in defining the concepts of self, ego, and identity (much less attempting to create measures to assess such allusive aspects of human experience) this research project allowed participants to describe their experience themselves. Themes that emerge from these self-disclosures were codified and analyzed *after* the interview allowing for at least a brief

period of unmoderated expression. Second, it is because of this unmoderated space between participants and researchers that IPA acknowledges that this kind of research represents a form of social interaction. In this interaction the researcher is as pivotal to the experience as the participant and unscripted dialog is understood as a benefit. IPA acknowledges that the research process is less of an objective study and more of a reflexive exercise. Reflexivity is "an inevitable consequence of engaging in research with people and that it can be harnessed as a valuable part of the research exercise itself" (Smith, 2006, p. 195). The analysis of qualitative data, while guided by rigorous research methodologies is a creative process, which develops through the coding and analysis of the data. Third, IPA is a method of qualitative analysis that is being harnessed as an exploratory examination of identity and how it might be related to trauma resilience. It seems appropriate to utilize personal experience as the starting point for such an exploration.

**Participants**

The study was comprised of a semi structured interview with 10 preselected questions with a series of demographic questionnaires that proceeded each interview. Demographic information gathering included age, gender, sexual orientation, ethnicity/race, education, religious affiliation, disability, economic status, and marital status. Additional survey data collected included the Adverse Childhood Experiences (ACEs) questionnaire, Oslo Social Support Scale (OSSO-3), Patient Health Questionnaire-4 (PHQ-4), and the T-ACE (Sokol et al.,1989). Interviews spanned more than 1 hour, and the preselected questions were used as a guide and frame for conversation. They were not necessarily asked in every interview nor were they asked in any particular order. Generally, the question "What drew you to becoming a first responder?" commenced each interview as an "ice breaker." The remaining questions were often

addressed spontaneously by the interviewee. If, however, the conversation went off track and needed to be realigned to the topic, some pertinent version of the remaining preselected question were used.

The participants are not a representative sample of first responders working in the Northwest. The study included eight first responders, most of whom work in emergency medicine (paramedics, nurses and doctors) while a single participant worked for the police. Over half of the participants ($n$ = 5) were female and three were male, all of whom identified along CIS gender norms. One respondent identified as homosexual while all others identified as heterosexual. All respondents identified as Caucasian, middle class, married, and without disability. Five respondents identified as Christian, however, only two of the five described attending church services regularly, two respondents describe themselves as spiritual but non-religious and one participant described themselves as atheist.

Four participants had ACE scores of 5 or higher while the remaining participants either scored 1 or zero. PHQ-4 results showed two respondents with either mild or moderate levels of psychological distress and the remaining six members scored either 0 or 1. The OSSS-3 questionnaire revealed a high degree of social interrelatedness for all participants with scores ranging from 9–13. Finally, the T-ACE survey found that all participants had extremely low problem drinking behaviors. However, four participants are actively involved in sobriety practices of one form or another (e.g., abstinence, Alcoholics Anonymous [AA]).

**Materials**

The questions developed for the interviews were created from relevant literature and asked participants about their experience as a first responder and their sense of identity while experiencing traumatic events. However, the developed questions were not intended to be

exhaustive and did not preclude further questions being asked or different issues being discussed as appropriate, depending on the participant. The list of questions is available in Appendix A.

**Procedure**

This study is comprised of eight semi structured research interviews on the topic of trauma resilience, conducted with men and women between 33 and 55 years old, who currently work as first responders. First responders are limited in this study to police, firefighters, and paramedics. Participants were recruited by word of mouth. The participants were not a representative sample of first responders. Interviews lasted between 1 and 2 hours and took place both in the researchers home and remotely using remote conferencing software. Four respondents consented to a request for follow-up debriefing. Each respondent was presented with and signed an informed consent document.

## Chapter 3

## Results and Discussion

Throughout the course of these interviews, eight major themes emerged. The first and largest of these themes was Unresolved Traumatic Experiences (UTEs) which were described as work related traumatic experiences that brought about ongoing distress. Related to this was the theme of Toughness which occurred across all participants and was a unique collection of experiences that described a culture among first responders that demanded resilience. Following this section there was an exploration of the Limits of Resilience in which a theory of traumatic entropy is proposed. Meaning Making**,** the final theme of study one, included narratives through which first responders created meaning and purpose within their roles as respondents to traumatic events. The second study begins with the theme of Egoic Strength and describes the importance of internal sources of identity and selfhood that contributed to success as a first

responder. Enduring Existent Traumatic Events were descriptions by first responders about their experience in successfully navigating high stress events as they were happening. Resilience Strategies themes arose as first responders described how they recovered from traumatic experiences and what enabled them to keep going from day to day or from patient to patient. Two additional themes were moved to the appendix and include Substance Abuse which included firsthand experiences of substance abuse or descriptions of a culture among first responders that included abusive substance use. Four participants are actively involved in abstinence or sobriety programs (like AA) and their experiences were included here as well. Adverse Childhood Experiences were reports by the participants about their experience of trauma in childhood and how those experiences influenced their work as first responders.

This study was originally aimed at investigating whether ego strength was a trait that contributed to trauma resilience with a tentative hypothesis that possession of a strong ego could be a trait that may predict greater resilience in response to traumatic events. However, throughout the course of the study it became evident that the relationship between traumatic events, resilience, and the symptoms of PTSD among veteran first responders was much more varied, complex, and profound than the breadth of that hypothesis. While every respondent demonstrated tremendous resilience to traumatic experiences and showed evidence of post traumatic growth that culminated in 10–20-year careers as first responders, it was simultaneously true that these same respondents frequently reported high levels of symptoms associated with PTSD. These experiences were captured in the theme UTEs.

## Study 1: Trauma, Entropy and Meaning

### *Unresolved Traumatic Experiences*

UTEs were work-related traumatic experiences that have brought about ongoing distress (including up to the time of these interviews). There were a total of 214 references to UTEs across all eight respondents. Several categories of distress emerged with the most frequent of these being nearly universal reports of hypervigilance, followed by distressing memories and/or dreams, dissociative reactions, isolation, and a lack of institutional support. This theme often emerged alongside the theme of Toughness with the symptoms described above followed by affirmations that those thoughts, beliefs, or behaviors were not, in fact, distressing or were viewed as an acceptable hazard of the job. Becca discovered that the accumulation of these difficult experiences led her to personal therapy:

> It was a lot…what got me into…therapy really was the sorts of experiences that I was having on the job and then not really having any way to process that. And so, you know, kind of accumulating all of this kind of PTSD.

### *Hypervigilance*

Hypervigilance is a worrisome symptom of PTSD that contributes to impaired functioning and distress among trauma survivors (Norman et al., 2007). Hypervigilance may prolong traumatic experiences by causing sympathetic nervous system arousal that may exacerbate symptoms of anxiety disorders (Kimble et al., 2014). Despite the gravity of these symptoms for patients, the DSM-5 criteria for PTSD does not contain a definition of hypervigilance. As a result, it was necessary to find a working definition of hypervigilance to use for this study. Hypervigilance was coded by applying the definition proposed by Richards et al. (2014). Hypervigilance according to Richards consists of two behaviors: (a) “rapid orienting and

engagement of attention with perceived threats" (p. 2) interpreted in this study as the focus of attention on potentially threatening behaviors to the exclusion of other environmental factors, (b) "delayed disengagement from perceived threats," (p.5) interpreted as a tendency to stay focused on threatening behaviors even when environmental ques have indicated that threats are unlikely.

Hypervigilance was present for most of the first responders interviewed and often connected to the unpredictability of traumatic events:

> Well, because what happens is you get this notion, that you're not really fucking safe. Right? That really your understanding or presumption that things are just going to go well. There's no evidence to support it. Yeah, there's a kind of…look, this world can snatch you up any time (Bart).

Hypervigilance appeared to be most strongly felt around keeping family members safe and was a strong theme for nearly all the interviewees. Helen experienced this with the birth of her children:

> I didn't sleep when my kids were born for weeks. I did not sleep because I was afraid they were going to die in their sleep. I was afraid of SIDS because I'd seen SIDS. I didn't want to be that mother. And so…I couldn't sleep. I would just watch them. And because I was going to be the one that saved them. Where, you know, if…anybody can save my kids, it's going to be me.

***Avoidance***

Following traumatic experiences, avoidance behaviors were commonly reported by the interviewees. Persistent avoidance is a diagnostic criterion for PTSD and includes a range of behaviors such as efforts to avoid people, places, or situations that provoke distressing memories, thoughts, or feelings about traumatic events (American Psychiatric Association, 2013).

Avoidance was coded in this study through conversations that included descriptions of efforts to avoid people or places related to the trauma, difficulty recalling the trauma, feelings of detachment, restricted affect, or a feeling that one's future has been foreshortened (Thompso & Waltz, 2006). Additionally, experiential avoidance, a state that creates emotional distance or even disassociation between the subject and the repetition of a traumatizing activity, was included. Experiential avoidance was described as creating a state where the emotional content of an on-going experience is numbed or disconnected (Kelly et al., 2019).

The anxiety caused by incoming ambulances to the emergency room resulted in feelings of detachment for Diana, an emergency room nurse:

> OK, we got another ambulance coming in … that's when I started to notice like, OK, that call box is going off and I already don't feel good about it. And that's when I would start to…just disconnect. I would like pre disconnect from whoever was coming in on the ambulance, so the person coming in, I feel like I'm tired and I've already used up all my reserves to help all of these people.

Anna described the physical locations of past traumatic calls she experienced while working as a paramedic that continued to have a strong emotional reaction for her today. Anna refers to these places or events as "ghosts" to describe how those experiences "haunt" her by reexperiencing her trauma:

> Well, that was later that was not during it [working in the ambulance]. That's since I've stopped. I wasn't…while I was doing it...no! None of that stuff (I'm explaining to you) … those ghosts happened while I was doing the job…it was much later.

***Nightmares***

Ohayon and Shapiro (2000) identified nightmares as occurring approximately 4.5 times more frequently in persons who are experiencing PTSD over those who have no PTSD symptoms. The comorbidity of PTSD and nightmares was 70% for subjects diagnosed with PTSD who voluntarily responded to a survey questionnaire about sleep disturbances. Florence's nightmares provided an example of these kinds of PTSD related nightmares that often include sleep walking, talking (Ohayon & Shapiro, 2000) and emotional content taken from the traumatic experience (Hartmann, 1996). Florence began reexperiencing work-based trauma in her dreams that led to a strong desire to avoid the workplace:

> I was having issues sleeping. And I apparently, according to my husband, I was waking up in the middle of the night like talking about like the baby died and I just was … It was just … And then I was one of those things where I dreaded going to work because I knew I was going to encounter it again. So I just was … I just couldn't do it.

Anna relives her fears of injury and immobility in her nightmares:

> car accidents where they were really mangled but still alive. To me, it's like, Oh my God! The recovery…and Oh God…it's so brutal. I mean, I have been on some horrible ones, and I think, 'Oh my God! You'd be better off dead.' Or the ones that you go on and they're going to be a quad. … I have dreams about...I have Quad dreams. Yeah, seriously, where I'm afraid I'm going to end up a quad like that freaks me out to no end.

Eric, like many of these respondents, did not have therapeutic outlets for what he was experiencing. Erik found that the things he encountered on the job would resurface at night when he tried to sleep:

> But that…led directly into. Well, now I can't sleep, I'm laying in bed. My brain won't stop. Yeah, I can't stop thinking about what I could have done differently. Stop thinking about what they could have maybe done different and how I would have reacted and how, you know, the different outcomes.

***Flashbacks***

Within current academic literature, there was not a widely accepted, detailed definition of the phenomena of flashbacks or dissociative reactions. The lack of clear criteria resulted in some ambiguity about how to code reports of intense memory episodes for this study. There was a case to be made that flashbacks were better defined by very heightened emotional episodes in which patients are so deeply enveloped by their memories of traumatic events that they lose contact with others, the environment, or shared experience for some period of time (Hellawell & Brewin, 2002). However, there is an equally compelling case for the inclusion of *all* distressing, intrusive memories that include a sense of experiencing or reliving the traumatic event in the present (Rubin et al., 2008). Both the DSM-5 and the ICD-11 PTSD criteria have established a more inclusive definition in which flashbacks are included within a continuum between extreme dissociation and intrusive memories (American Psychiatric Association, 2013; Karatzias et al., 2019). The code definition for flashbacks in this study uses the more inclusive criteria developed for the DSM-5 (American Psychiatric Association, 2013)

Anna described both the symptoms of her own dissociative reactions (flashbacks) and the willingness to accept such distress as a part of the job:

> When I drive all over town, I literally have well I guess, they're flashbacks. All the time, like I cannot go on [major interstate freeway]. I still don't want to take the exit that gets off on [street**]** exit because I had a horrible, horrible hit and run of a person that was hit

> by a car...it's always there for me. But you know, it's like, it's the way it is and when you do that kind of job and you're going to have that. So I mean, like whatever.

Dissociation reactions are among the criteria for the diagnosis of PTSD. Although, there have been no comprehensive studies to determine the frequency of flashbacks among PTSD sufferers. Van der Kolk (1998) reported a 20% frequency of flashbacks within a laboratory environment in which stimuli were used to provoke such symptomology. The same stimuli that Van der Kolk described was ubiquitous to the environments that these first responders reported working in. Helen found that she had to sometimes fight to suppress flashbacks that occurred on the job because of the presence of triggering stimuli:

> But there was something about this one, and I think it was the color of her hair and her age and she looked…there was that similarity. Yeah, and all of a sudden, I felt…that little hint of a flashback. And I thought, Ugh! And it was bad because her head was like, completely like cracked like an egg. And so I think it was the head trauma, the hair color, the age. And I almost asked Bart to take it [the patient] for me.

***Isolation***

Isolation was a recurrent theme and included withdrawal from friends and family as well as an inability to connect with others (including mental health workers) due to the extreme and disturbing nature of the traumatic experiences common to first responders. While research has yet to clearly understand the role of isolation in PTSD (Motreff et al., 2020), it has been established as a significant impediment to recovery (Young & Erickson, 1988). The respondents in this study often cited the alienating effects of their job in creating social isolation. Others, anyone outside of first responder professions, including spouses, family and loved ones, were seen as having little capacity to understand the importance of events. Alternatively, respondents

described isolation as a consequence of protecting or shielding their loved ones from the horrific aspects of their jobs. Eric describes continuing to work as a police officer even though he was becoming more alienated from his family:

> [I] started working more, drinking more, sleeping less. And that was a comfortable place to be for me…I thought I had this figured out! Making more money because I'm working more. She's not complaining…my wife. We're not around the kids as much as either of us wanted to be for me, she would have wanted me around more and the kids wanted me around more…I thought…that was a healthy position that I could maintain for the duration of my career. And that went on for years like that.

There is not a great deal of research looking at first responders and feelings of alienation but, what is available indicates that work related alienation contributes to depression and increased likelihood of PTSD diagnosis (Brondolo et al., 2018). Eric could escape feelings of anxiety and alienation at home by immersing himself in the dangers and adrenaline of the job:

> I was in my house, [a] beautiful house with [my] beautiful family and I could not get rid of my anxiety. I felt so uncomfortable in my own home. We were on call 24 hours a day and my pager went off. I was so grateful…normally you're irritated by the pull away from your family and whatever. And I remember the feeling about like, 'Thank you, God.' I get to go back. Somebody shot, someone else. I get to go.

While others felt alienated from spouses and friends because of the nature of the work that they undertake, Anna described her inability to talk about her experiences, "But the problem is…that people don't want to hear when they say they want to. People don't want to know what just happened…They can't. People don't understand if they're not in that line of work. They don't understand" (Anna). Bart experienced a similar kind of alienation from his spouse where over

time she was less and less able to understand Bart's role as a first responder, "[It's] certainly…part of the issue with my first marriage is that I didn't think that my wife at the time had really any appreciation or understanding of what I did to keep a roof over our head" (Bart).

Study participants indicated that without direct first-hand experience with the complexities and nuances of doing this kind of work day after day, a gulf of understanding widens between first responders and their social support systems. Bart described how the uniqueness of the paramedic experience results in loneliness, "being a paramedic has made me someone that doesn't quite fit in with the rest of the world. And I often do feel alone" (Bart).

***Lack of Institutional Support***

Respondents of this study also reported a widespread lack of institutional support. Institutional support was the number one predictor of increased PTSD symptoms for first responders (Armstrong et al., 2014). Armstrong, through the Organizational Police Stress Questionnaire, identified long hours, lack of resources and difficulty with supervisors (among other stressors) as increasing PTSD symptoms. These same criteria were used to develop the code definition for lack of institutional support. Gary, an emergency room doctor described the impact of a lack of institutional support for him:

> I don't think anybody who's in the grind of emergency medicine can't not experience burnout. because it's like anything else. As best as I understand other fields, you're always being asked to do more with less. So you have eight hours of the day. You did 10 reports yesterday. You know you do 20 today. you know, you did all your work with X number of office staff last week. Well, guess what? We cut them and we're expecting to do more. And with emergency medicine, it's seeing more people per hour with less resources.

***Summary***

UTEs was the largest theme with 214 references, the most common of which were hypervigilance, avoidance, dreams, flashbacks, isolation, and a lack of institutional support. The intention of this study was not to determine the prevalence of PTSD among veteran first responders and while many symptoms of PTSD are present in these reports, there was not sufficient evidence or assessment to conclude that PTSD was diagnosable in any of the study participants. However, the overwhelming number of reports of UTEs demanded the development of a theme that could at least examine the characteristics of these reports. Of all PTSD symptoms, the presence of avoidance is the most reliable indicator that a patient may meet the full criteria for a diagnosis of PTSD (Nemeroff et al., 2006). As well as indications of PTSD, many of these symptoms were predictors of social isolation and marital conflict (Kelly et al, 2019). For all first responders it is critical to acknowledge that loneliness impacts both physical and psychological health and is associated with increases in all causes of mortality, suicidal behavior and are contributing factors to the persistence of complex PTSD symptoms (Dagan & Yager, 2019).

In a later section titled, Limits of Resilience, the effects of long-term exposure to repeated trauma are explored. It will be suggested that no person, no matter how mentally or physically prepared for the role of first responder, can be expected to work in these environments indefinitely without suffering psychic injury. The culture of first responders has developed a code of “toughness” that contributes to an expectation that constant exposure to trauma will not affect those who are tough enough to become veteran first responders. Yet, these respondents described the culture of toughness as being the largest impediment to seeking and receiving psychological help.

***Toughness***

There were a total of 37 references to Toughness across all eight respondents. The culture of first responders described by these participants was one that demanded toughness in its members. While toughness was described as necessary to carry out the duties of first responders, it was also decried as a hindrance to social support, meaningful relationships, and access to mental health services. Toughness seemed to serve two functions; the first was to facilitate quick actions when necessary unhindered by emotional burdens. The second function appeared to be a desire to suppress emotional content; traumatic experiences that brought about distress were not shared with co-workers or mental health services for fear of seeming weak. Consistent with current research fears over confidentiality and the impact to their careers (Haugen et al., 2017) were among the impediments discussed by these respondents.

The culture of toughness was often described as a hinderance to utilizing support or mental health services. “Here’s the thing with nurses, EMS all that stuff where…to try to have…those conversations or have therapy or anything like that. It's a sign of weakness” (Anna). Helen found that even on the job there was little tolerance for discussions of emotional issues she stated, “…suddenly you reveal this weakness. And then all of a sudden, that's a target. And this person who knows this about you now is pushing that button every time they work with you, or you don't let your soft spots known to any of them.” The toughness culture of first responders could also become a source of physical and emotional injury, Florence:

> I could have ended up with like long-term effects. But, you know, all because I was just…I was tough and I was just going to finish my shift, right? I mean, I wasn’t going to *not* finish my shift like a normal person.

Although toughness was described as an obstacle to seeking and receiving support it was also expressed as critical for first responders to function under conditions of extreme stress. Eric explained his daily routine and drive for toughness, “Two things. I'm tougher than anyone else, and I got this. I got this. I can handle this. You know, that was a mantra when you get up in the morning.” Along these lines, there was very little tolerance expressed for emotional expression under almost any circumstance, “If you're losing your shit because you did CPR on somebody [then this job is], not for you. Or if you can't get over the fact that that, you know, somebody's grandpa died today” (Bart). Becca described a more expansive prohibition against weakness she stated, “The culture [when Becca began her career] was like, well you're in this business, so suck it up. You know, this is just what we do.”

Toughness is also associated with a desire for or a tolerance of highly adrenalized environments with the implication that if one is averse to life threatening dangers then one is not suited to be a first responder. Eric captured this attitude:

> Things in my world as your career gets bigger and what we pictured as better (which translated into more dangerous more often). Yeah, you know, it was kind of like an adrenaline junkie. Yeah. And I couldn't get enough. You know, every day would have been fine if I ended up in a fight for my life or, you know, a shootout. Yeah, I thought that was…well…if you do that, you've accomplished [something], you're great.

Anna was clear that drive for high adrenaline was requisite to being a first responder:

> It gets your adrenalin going. It does. Absolutely. Oh yeah, for sure. I mean, listen, if you don't want that kind of…if you didn't think that was going to happen, you should not do that job. You cannot help but have your adrenaline…It's a rush!

### *Summary*

Toughness was a common discussion point among all of these first responders. However, that discussion was overshadowed by an overwhelmingly negative sentiment (23 of 37 responses coded as either moderately or extremely negative). While respondents viewed some mental toughness as a necessary prerequisite to the career, nearly all cited toughness as the primary barrier to seeking and receiving mental health services. First responders tend to stigmatize those who seek mental health services much more than the general public (Haugen et al., 2017). This stigmatization leads to delayed access to treatment that may worsen treatment outcomes (Crowe et al., 2015).

### *Limits of Resilience*

First responders in this study reported an enormous number of UTEs and yet they also demonstrated resilience in the face of traumatic events and personal, emotional, or spiritual growth throughout the course of their careers. Not surprisingly, these interviews contained all the complexity, depth, and insight one should expect from discussions with veteran first responders. That complexity came to bear upon our discussions from the beginning and within the swirling cacophony of tragic and triumphant stories the question of the limits of resilience surfaced. It began to appear as though there was a point, no matter how capable, tough, or resilient these people may be, there was a limit to the human capacity to endure suffering.

As stated in the introduction, resilience as a psychological phenomenon was difficult to define and existing definitions like “a stable trajectory of healthy functioning after a highly adverse event” (Bonanno et al., 2011 p. 1.5) seemed too narrow or too optimistic a definition in light of what these first responders reported. The deeper question evoked by our conversations was, “What does it mean to say a person exhibits “resilience” when their job exposes them to

years of repeated traumatic events?" Especially when they reveal themselves to be simultaneously surviving traumatic injury and experiencing post traumatic growth. This question felt more important to our discussions so, it became imperative to hear from first responders themselves if they thought resilience was possible over the length and breadth of their careers. The answers to that question were as varied and fascinating as the interviewees themselves. In the latter two-thirds of the interview with Anna, I asked, "Do you think resilience is possible?" She replied:

> I don't think that's possible. I do not believe for a second. How can you? Your brain will remember that shit. … I don't know how anyone could do that job and not have it affect them in no way unless they are literally autistic and their brain doesn't work that way. And there's no way, how can you, Matt? How can you see…people have no idea of the shit we see. They have no idea. Like, this is shit that…no person should see, and they have no idea of the shit that we see…they can't wrap their minds around it. That shit is not okay for the brain.

Her response was unexpected since Anna also described using well established coping mechanisms that are known to contribute to resilience and post traumatic growth; she had an ability to productively compartmentalize her experience, she maintained healthy social networks, she was able to talk about and share her experiences with close friends and co-workers. Evidence for her coping abilities lies in the fact that she has worked in emergency medicine for over 20 years and despite her reported UTEs (34) Anna stated, "I would literally go back to the E.R. and I would literally go back to EMS right now. Yeah, because I am good at it."

As this theme was explored in more detail with each respondent, it became apparent that every interviewee reached a limit to their capacity to cope with traumatic events at some point in

their career. Some were deeply troubled by reaching this limit, like Bart who reported reaching a point where he was no longer able to feel compassion toward his patients. The seemingly endless exposure to suffering and neglect began to overwhelm his ability to empathetically acknowledge their pain, fear, and loneliness:

> I think by the end of my career, I was done and I needed to be done, and I recognize that…when I say I felt burned out, the term compassion fatigue is what comes to mind for me. I just, you know, this is a hard thing to hear, but I literally…got to the point where I didn't care if people lived or died. I didn't care if they were in pain or not. I just didn't care, you know? …because it just felt endless and repetitive, like, I'm just going to do this and I'm going to do it again and again and again and again.

Like Anna, Bart described immense benefit because of his career and sees his experience as one that challenged and deepened his spiritual life:

> [EMS] specifically challenged my notion around life, around mortality, about my sense of spirituality, about my sense of morality, about my sense of judgment, by being a paramedic…I think that it has been challenged and I'm glad that it was. And I…don't have all the answers, but I certainly feel a great deal more confident as a person in how I might choose to move forward in my life…being a paramedic up into the stage of burnout, taught me was listen, include yourself amongst everyone in the world.

Bart was describing growth experiences of immense importance to his spirituality and morality while at the same time experiencing psychic injury so overwhelming that he could no longer work as a first responder.

Every respondent in this study in some way had reached a limit to their capacity to endure repeated traumatic events and as a result they were promoted, transferred, or separated in

some way from their work as first responders in acute stress roles. The notion that tremendously resilient people have limits to their ability to be repeatedly exposed to trauma became apparent throughout the course of these interviews and was consistent with research into combat veterans and sexual assault survivors. Herman (2015), in her seminal work, *Trauma and Recovery* describes the extraordinary effects of repeated exposure to traumatic events and proposed a unique diagnosis for what she had observed. Herman developed the diagnosis of complex PTSD to describe the unique injury that results from repeated traumas. In part, she identified work done by military psychologists in World War II as an antecedent to the complex PTSD diagnostic definition she developed. Her insight into the impact of war on soldiers and how those same effects were present in the survivors of domestic abuse and child sexual assault changed how the entire field of psychology understood trauma. One important conclusion of her work and the work of those military psychologists was the realization that *any* soldier could succumb to the stress of combat and that psychiatric casualties were a predictable outcome of war. A critical insight of this military research into "combat stress" was that they were able to state with certainty that 200–240 days in combat would create trauma so great that soldiers would no longer be able to function in their roles, "There is no such thing as getting used to combat" (Appel & Beebe, 1946, p. 1470). Based upon this work, we should expect that first responders, like combat soldiers, have a limit to how much trauma they (or any person) can experience before succumbing to psychiatric injury.

### *Traumatic Entropy*

When these respondents talked about reaching those limits, they described a phenomenon they called "burnout." Burnout was coded in this study, initially, by the definition proposed in the Maslach Burnout Inventory. Maslach observed three primary components of burnout: Emotional

Exhaustion, Depersonalization, and Reduced Personal Accomplishment (Maslach & Jackson, 1981). While respondents did report those symptoms of burnout, there was a greater emphasis placed upon the loss of the fundamental trust between first responders and those they serve. To respond to this nuance, the burnout code definition was expanded to include statements of beliefs, thoughts, or behaviors that signaled a fundamental break in the relationship between first responders and their attendants. The "break" they experienced in themselves (or saw in their colleagues) was a sharp departure from strongly held values that functioned as meaning making frameworks. Such as an emergency room doctor, who values compassion toward his patients, eventually saw his patients as objects. Gary felt burned out when he could no longer see the humanity in his patients, a major departure from his fundamental value of compassion, "In the most extreme cases for me, at least, the patient becomes not a person, but an entity occupying space."

Becca described profound departures in her co-workers from closely held values and core beliefs like the desire to help people that became fundamentally unreconcilable with a burned-out hatred of patients:

> I've seen a lot of people work 30 plus years in the field and if you ask them why they got into it…they always say, I like to help people, you know? But they literally hate people by the time that they're done...It's such a departure from who we see ourselves to be…it's difficult to reconcile. And I think that, that is when you can't reconcile those two sides anymore, that's when you…have to kind of admit burnout.

Burnout was widely reported and discussed by every member of this study. Each respondent described experiencing some form of burnout at some point in their career, although not all interviewees experienced career ending levels of burnout. However, it was sufficiently

present in each case to warrant a commitment to give this topic a deeper exploration. To better illustrate the experience of the respondents in this study, the term *traumatic entropy* was developed to describe the effects of long-term repeated traumas that these first responders were reporting. The term entropy was introduced for this definition of trauma because it denotes dissolution or decline into disorder, a phenomenon they expressed when discussing the injury, they felt from burnout. Traumatic entropy was a kind of burnout from traumatic experiences that resulted from long-term, repeated exposure to a high volume of trauma that produced a rigidity of the ego that could no longer flexibly accommodate traumatic events. It was theorized that traumatic entropy brought about a gradual dissolution of the "narrative self" as a result of the inflexibility of the ego.

The narrative self, the view that human beings are narrative beings, has been well established in psychology going back to authors MacIntyre (1984), Bruner (1987), and Taylor (1989), and was thoroughly articulated by Dan McAdams in, *The Psychology of Life Stories* (McAdams, 2001). Current research has implicated self narrative in modulating the risks of severe mental illness (Hazan et al., 2019), the formulation of episodic memory, (Dings & Newen, 2021) and resilience in the face of life-threatening illness (Bülbül & Işiaçik, 2021)` McAdams contended that "people living in modern societies provide their lives with unity and purpose by constructing internalized and evolving narratives of the self." (McAdams 2001, p.111). He adds that these internal narratives are constructed in such a way as to reflect common archetypal models that include setting, scene, character, plot, and theme. McAdams' narrative self was a life project to develop a story of one's self that was dynamic and complex, filled with struggle, triumph, success, and failure unified into a single narrative. For McAdams, it was critically important that self narrative was understood as constructing meaning and purpose from the

events of life. Meaning and purpose can be mapped, for McAdams, onto distinct moments of particular psychological clarity that reflect "self-definitional experiences"; life events of such monumental proportions that they form the plot of one's self narrative (McAdams, 2001) p. 109.

For McAdams, a loss of coherence within the self narrative was an indicator of mental illness (Baerger & McAdams, 1999). Narrative incoherence is now well established as a consequential factor of mental illness (Roberts 2000: Baldwin, 2005). Roe and Davidson (2005) stated in their revolutionary work with schizophrenic patients that, "The processes of re-authoring one's life story are actually integral components of the recovery process itself." (p. 94) where developing a self narrative capable of accommodating the monumental effects of a schizophrenia diagnosis helped patients modulate that experience and bring about psychological stability. These first responders described events in which the incoherency of their self narrative had devastating psychological effects and brought about psychic injury.

For these first responders, it became evident that the repeated exposure to traumatic events brought about conflicts between their existent, coherent self narratives and the trauma they experienced. Hence, the violence of these traumatic experiences had the effect of destabilizing the ego thus forcing incoherence upon their self narratives. Their coherent narrative self was confronted, through traumatic experiences, by a radical remaking of their worldview. They were forced to ask, "who am I now?" in a world that contains this tragedy; the old self narrative is no longer capable of accommodating a new trauma and therefore rendered incoherent. For Eric, it was having to reformulate his self narrative after he experienced, first-hand, the unthinkable heartbreak of the rape of a 6-month-old baby:

> An infant had been babysat from a mom that was an alcoholic, [she] went out and couldn't find a babysitter, so had a guy she barely knew…babysat her…six-month-old

> baby and this man raped the baby. And I, it blew me away. I mean, there was literally damage to human tissue in in the crib. And…it didn't hit me until…I…realized what that meant for that little baby going on in life and I flew into a rage. I mean, I literally wanted to kill the man.

His initial violent reaction was a clear symptom of the dissolution of his self narrative; the death of the self expressed as rage against the trauma that wounded it. He had lost grounding in his worldview, it had slipped from beneath him, and his self narrative had dissolved into incoherency. Eric was forced into asking, "Who am in in light of this experience? Am I still a police officer or am I a vigilante?" Eric's ego, confronted by the reality of the violent rape of an infant, produced an incoherence so great that it caused the dissolution of his current narrative self ("I am no longer the policeman I thought I was. I might be a murderer in light of this tragedy."). In his previous self narrative, the one in which infants are not raped, the social contract, his relationship to God, who he is in this world, remained coherent but that ended when confronted by this new trauma. There is no place in *this* world for the Eric who existed prior to the rape of that infant; his old self narrative was made incoherent by that trauma. His desire to exact revenge and summarily execute the suspect in that moment were the last death throes of his shattered self.

In the next instant, miraculously, Eric reconstructed a self narrative that could coherently include this tragic event. The depth and complexity of which remains ineffable and could only be thoroughly known to Eric himself. Nonetheless, Eric described a new narrative that drew upon divine justice to orient himself as an agent within the moral work of God. His self narrative included a longer-term perspective in which he could accomplish more good by remaining a police officer for years, rather than spending all of his potential in killing this one man:

> I knew what I wanted to do was going to be a temporary fix. It was going to cost me a lot…grief of my own and in my career…I know I did some, probably not a lot, but I did go back to my spirituality and say, you know, there's only so much I can do to cause this guy the amount of pain I want to cause him. Maybe he goes to a place that's never ending…better than what I can do to him.

The recovery of narrative coherency under these circumstances implies the ability of the ego to stretch plastically to include a world in which raped infants exist alongside Eric (who continued to be a police officer that followed procedure and respected the rights of the accused). Eric's experience was not unique and, in this study, plasticity of the ego, the ability to accommodate traumatic experience into the narrative self, emerged as an a priori condition for resiliency. In this state of egoic resilience, first responders reported having the ability to be confronted with incidents of "existential" magnitude and to accommodate them into their self narratives.

> Imagine having your sense of morality, your sense of God, your sense of justice, your sense of righteousness, your sense of what's right and what's wrong directly and meaningfully confronted…on a regular basis. What can you say to some bright-eyed kid? Hey, man, this job it can be spiritually, emotionally and morally challenging, and unless you're prepared to do that, you're not going to last long. It's the emotional spiritual management and the effort it requires to get it back into a perspective that makes more sense. Right? Because oftentimes very difficult, spiritual or emotionally meaningful calls will bring into question your own sense of mortality. You know, bringing into question your thoughts about your own sense of spirituality, the nature of the universe. What is my

> purpose? How come I'm here? What am I doing? You know, I guess that would be more. Would that be called… existential?" (Bart).

Resiliency in this context was the ability of the ego to maintain a high degree of flexibility or plasticity when confronted with traumatic events. Resiliency was not described by these first responders as an ability to dissociate, ignore, or repress their traumatic experience, rather respondents described an ability to plastically accommodate these events into their self narrative. These first responders described a willingness to incorporate traumatic events into their emotional and spiritual fields of meaning. Their willingness meant their ego was maintaining its flexibility punctuated by a willingness to accommodate traumatic events and create new self narratives. Bart typifies this kind of resiliency:

> Once in a while, there would be something so fucking ghastly … That, you know, a crew might take themselves out of service and be like, fuck it I'm done for the day. That is seen generally as a kind of weakness in the profession. The expectation is that you're stronger than that and that you fucking move on. There are other people that need your help! Get the job done! And unfortunately, I have to admit that was my perspective…I felt like getting back on the horse…was better than clocking out and having that be the last…run I had for the day. I didn't like the notion of accepting an incapacity to emotionally and spiritually incorporate an experience.

In light of a "ghastly" traumatic experience, Bart described the necessity to incorporate that experience emotionally and spiritually, to create a new self narrative, one that could accommodate the ghastly event.

Ronnie Janoff-Bulman in *Shattered Assumptions* (2010) observed this kind of flexible meaning making in her work with trauma survivors:

> Trauma survivors do not simply get over their experience. It is permanently encoded in their assumptive world; the legacy of traumatic life events is some degree of disillusionment. From the perspective of their inner worlds, victims recover not when they return to their prior assumptive world but when they reestablish an integrated, comfortable assumptive world that incorporates their traumatic experience (p. 171).

Given the sheer volume of traumatic experiences, these first responders held *both* re-integrated assumptive worldviews *and* UTEs at the same time. To exist in both states simultaneously, they demonstrated highly flexible egos with the capacity to integrate traumatic experiences into a coherent self narrative while maintaining a library of compartmentalized traumas that remained un-integrated. Repeated traumas could be encountered and accommodated while at the same time some traumatic events refused to submit to integration. Those experiences that refused to submit to a coherent narrative were held at bay with a variety of coping strategies from compartmentalization to denial to substance use, which enabled them to continue working even though they were deeply psychically wounded. However, they all eventually reached the limit of coping mechanisms, integration, and the ability of the ego to plastically accommodate traumatic experiences. Nearly every member of this study crossed a threshold where they could no longer continue to work as first responders without suffering psychological injury. Traumatic entropy, the long-term, repeated exposure to trauma, was the point at which the self narrative can no longer flexibly accommodate traumatic events, and egoic rigidity takes over. Bart provided an insightful description of this limitation. He was not troubled by any single event but, eventually, he could no longer flexibly accommodate what he saw as the never-ending neglect and inhuman treatment of people, “It felt like I was like on an assembly line of suffering and my exposure to

constant nonstop violence, neglect, poverty, injury. I had become indifferent to it, and I didn't like…the person I was becoming" (Bart).

Eric described a similar experience, "I also believe these things add up. It's a cumulative effect on me anyway. It was not. I never have like one thing that I can point to that said this, this [is when] I broke."

Florence succumbed to repeated psychological injury when her emotional burden became so great that it was intruding upon her professional competency:

> the thing that happened in labor and delivery for me, where I realized that I couldn't do it is because…I could not separate their pain from my pain. So even though it was their pain, it was really hard for me to be the last person to hold their baby.

In this study, rigidity or the loss of ego plasticity, was indicative of psychological injury. Ego rigidity compelled the self narrative to remain fixed while traumatic events continued to unfold. The ego reached the limit of a worldview it imagined being able to inhabit. It is as if the ego said, "The world that contains this trauma is not one I will live in." In this state, the ego was unable to creatively restructure a self narrative in which it inhabits a world with *this* trauma. Without a coherent self narrative, meaning and purpose were lost. As a result, the ego remained rigidly fixed on the existing self narrative. Bart, began his career with profound values, "I hope, to be someone who was...a life saver…a tow rope…someone who appeared to be or gave the impression to other people in need that I was someone they could depend on and count on."

He eventually found that he could no longer find meaning or purpose in a world in which the volume of human suffering brought about by neglect consigned endless patients to isolated, lonely, derelict deaths. Without the ability of his ego to plastically accommodate these traumas, an incoherent self narrative had to inure itself to the suffering it was encountering, "I got to the

point where I didn't care if people lived or died. I didn't care if they were in pain or not. I just didn't care" (Bart). Bart's ego became rigidly fixed upon a calcified self narrative that could no longer find meaning or purpose in the suffering he was confronting, and inevitably psychic injury was the result.

In the early stages of traumatic entropy, the rigid ego begins to experience alienation from itself in the world. The ego continues to use the old self narrative when confronted by new trauma and tries to create meaning and purpose within that traumatic experience and, necessarily, fails. This new world exists, the one in which this trauma exists, but the ego cannot successfully apply its old self narrative, one that does not possess knowledge of this new trauma, and cannot, therefore, manage to accommodate it. The ego is rigidly fixed upon a self narrative that remains unchanged despite traumatic experience and is thereby rendered incoherent. Without a coherent narrative to accommodate these new realities, it becomes impossible to maintain a stable identity. The ego continues to see the world through an outdated narrative and given the nature of the work of first responders explosive pressure builds between what the world *is* and what the self narrative was capable of accommodating. Under such overwhelming psychic pressures deeply held values become malleable in service of maintaining the ossified self narrative. It may be that the ego refuses to relinquish the old narrative because of the terrifying prospect of the inevitable destruction of the self, fear of losing the lasting idols and ideals of personal identity, or the Herculean effort to rebuild and integrate trauma. In any case, the failure to do so results in incoherency of the self narrative; like a paramedic rigidly fixed upon a self narrative of caregiving even though that paramedic now hates his/her patients. In such a state the ego no longer possesses integrity and cannot authentically relate to others.

Withdrawal from relationships soon follows, because it becomes increasingly difficult to orient oneself within an incoherent self narrative while attempting to authentically relate meaningful experience to others, especially loved ones. Although Eric did accommodate the trauma of the rape of an infant, his career eventually took a toll on his self narrative which resulted in withdrawal from loved ones. He described the profound incoherency that he felt toward the end of his career as a policeman:

> because she [my wife] was at the point where she's seeing…this is a problem…90 hours [at work] this week. You know…your son's got a baseball game, you gotta coach. What the hell! And so to prevent being accountable for her seeing that, '[I] clearly have a problem.'…just stay at work where everybody thinks, you know you're taking one for the team. You know, 'thanks for being here for me.' I'm like, 'Oh yeah, Glad to cover you.' …because…if I leave here, I'm going to go hide in some park, you know, and sleep in my car or wherever. So I don't have to go home."

Without a coherent self narrative that can accommodate the legacy of trauma and produce a stable identity capable of answering, "Who am I to my children and my wife?" it becomes nearly impossible to benefit from those relationships.

For many in this study, withdrawal was justified or isolation tolerated by the belief that it protected their spouse or partner from the darkness that had rendered their self narratives incoherent. Becca, had a visceral experience of just this kind of isolation:

> What I learned very quickly was that I would come home and tell these stories and that I was actually creating secondary trauma for my partner at the time…I had to stop sharing with my partner … she also had a fairly narcissistic traits as well. So it got to a point where she…did not want me to even…I couldn't even come home and say I had a really

> bad call…and offer support to me. You know? … it was just like, I can't hear about that. And it's like, I don't want to tell you the details. I'm just telling them…I'm hurting, you know? And it was just like, she's like, You should talk to somebody about that.

Eric found it difficult to maintain open communication and connection with his spouse because he felt he needed to protect her from the things he was experiencing, "I stopped talking to my wife because I pictured all this stuff…some of it is really horrible." It seemed that for some the effort to protect spouses and loved ones from the trauma that they were experiencing exacerbated the feelings of isolation and loneliness.

***Summary***

Dan McAdams' proposal of the narrative self was a useful theoretical model to help explain the self experience of these first responders. It enabled an evaluation of the experiences that first responders were describing that could provide greater insight into the phenomenon of *burnout*. Through this lens, it became clear that the ego needed a great deal of flexibility and plasticity to accommodate the traumatic experiences the interviewees encountered regularly in the course of their professional duties. Their testimonies described plasticity of the ego as an a priori property of resilience since their duties virtually assured that they would be thrown into an existential crisis at some point in their career. In such an event, the ego had to be able to imaginatively rewrite a self narrative in the face of trauma to enable the first responder to continue working both in the moment and over a long career. Through the experiences of these first responders, it was evident that a flexible ego had the capacity to accommodate traumatic experiences by re-inventing the self narrative in such a manner as to enable resilience.

However, each interviewee described a condition in which repeated traumatic events brought about psychic injury. Through the concept of McAdams' self narrative, it was proposed

that these repeated traumas brought about an incoherency in their self narrative. Such incoherency of the self narrative was postulated as a theoretical predictor of psychic injury. The point at which the ego is no longer able to flexibly accommodate traumatic experience and rewrite a calcified, incoherent self narrative was identified as traumatic entropy. Traumatic entropy, in its early stages, led to withdrawal from social support and promoted isolation. It seemed that an incoherent self narrative struggled to confidently locate itself within social dynamics for the reason that the self lacked a stable identity to anchor social interactions. In the late stages of traumatic entropy meaning and purpose were lost in the face of overwhelming traumatic experiences. This loss of meaning and purpose coincided with an incoherent self narrative and a rigid ego that was incapable of accommodating traumatic experiences. The final stage of traumatic entropy was burnout; a state in which the ego is unable or unwilling to reinvent a self narrative that could create meaning or purpose or make sense of continued exposure to traumatic events. Rigidity of the ego coupled with an incoherent self narrative seemed to predict psychic injury.

### *Meaning Making*

Viktor Frankl, the progenitor of logotherapy, described meaning as a process of transcendence through which people discover themselves within a greater context of meaning, "Human beings are transcending themselves toward meanings which are something other than themselves, which are more than mere expressions of their selves, more than mere projections of these selves. Meanings are discovered but not invented" (Frankl, 1988, p. 41). In the ensuing 53 years since Frankl wrote *The Will to Meaning* (1969), the importance of the role of meaning in understanding human thoughts, behaviors, and experience has been a focus of researchers and psychologists from across the globe. Nowhere is this work more determined than in research into

trauma where meaning making has been firmly established as a core skill in recovery from traumatic experiences (Fischer et al., 2020; Park, 2013; Park & Ai, 2006).

Logotherapy proposes that one may find meaning by, "creating a work or doing a deed or by experiencing goodness, truth, and beauty, by experiencing nature and culture; or, last but not least, by encountering another unique being in the very uniqueness of this human being—in other words, by loving him" (Frankl, 1988, p. 48). In keeping with Frankl's broad approach to discovering meaning, the participants in this study described a multitude of meaning making approaches to make sense of the high stress and traumatic environments they were encountering. Many of their descriptions matched closely to Janoff-Bulman and Yopyk (2004), who distinguished between two meaning making practices developed by trauma survivors to restore their assumptive worldview: "sense making (meaning-as-comprehensibility) and benefit finding (meaning-as-significance)" (p. 221). A third practice, potentially unique to first responders, was the necessity to see oneself in the otherness of the individuals they served (meaning-as-alterity). Meaning-as-alterity seemed to exceed Frankl's fourth conceptualization of "loving" the other, for these first responders, meaning-as-alterity possessed a sense that effective care was shaped by one's transcendent orientation to the human condition and witnesses to suffering.

This orientation was a potent example of Emmanuel Levinas' philosophical proposal of the moral responsibility humans bare toward one another (1985). For Levinas, the inability to contain, absorb, or possess the other, the inexhaustible infinity of human becoming, and the transcendence of the other places a moral demand upon us, an inescapable and infinite responsibility for the other (Levinas, 1985). The ethical responsibility for the other was more than a demand placed upon first responders as a mandate of professional duty, rather, they saw in the other a reflection of all humanity and the grave responsibility they bore in serving them.

Becca shared with her co-workers, especially new hires, what it meant to have a human connection with addicts who require emergency services:

> nobody…wakes up and says, 'I want to be an addict.' Right? It's an invisible line. And if you could see it, you sure as fuck wouldn't step across it…but you can't. You just find yourself on the other side of it. And…it's not an easy haul to get yourself sober…When I understand that…the prospect of saving…heroin addicts over and over again, reviving them and…then they just go out and do it again, you know. …it's hard for people who are not addicts to understand that. So I think that…maybe my own personal history and experience lent towards seeing the actual, like, person rather than the disease.

Bart had a similar vivid description of the necessity to for a human connection with very difficult patients:

> Holy shit, you know, whatever that was right now is a nightmare for me. But it was almost always followed up with, 'Hey, dude, what's…stopping *you* from going there? How do you think you've got what it takes to not be that guy?' How do you know? You don't know. So I often had that conversation with myself after, you know, particularly difficult calls. Tragic stuff … I call it judging without judging. Like…making a joke or being like, 'Oh, that guy's fucking crazy or this person's crazy, holy shit!' you know? But also know that…most people never intended… I don't know anyone anyway who intended to walk themselves into the kinds of situations that where they find, you know, a couple of paramedics standing around them, right?

Diana possessed a strong religious conviction which typifies this approach of meaning-as-alterity among these first responders:

> I think it goes back to that, like believing in a higher power and just what I believe about humanity in general. You know, everybody that I come across is a person of value. And it's a privilege to be in this role, taking care of them.

Spirituality and religiosity had an important place in how these first responders made meaning from their experience including those who identified as non-religious and atheist. The atheist, non-religious perspective was thought, by this author, to be consistent with Paul Tillich's language of, "Man's ultimate concern" (Tillich, 1957, p. 1). Tillich, by use of this phrase, drew theology away from particular creeds or dogmas and recentered it on the universal experience of the drive for meaning and as such seemed appropriate to describe the atheist experience of meaning making. For Tillich, the primary characteristic of ultimate concern was the necessity for its expression to be formulated in symbolic terms; the ineffability of the religious experience, for Tillich, may only be expressed through boundless signification. For these first responders, religious, spiritual, or atheist, they sought to express their parabolic connection and obligation to the archetypal *Anthropos* through the meanings they made of their relationship to the suffering they witnessed. Tillich proposes that "faith" was a centered act of the personal self, an intentional giving of oneself to something exceeding one's finitude in which the giving of the self was unconditional, and was oriented to an infinite, ultimate matter. Very much like Becca returning again and again to serve addicts who have overdosed, unconditionally giving compassion and care to ease the suffering of humanity.

Meaning, for these first responders, arose out of awareness that they are a part of humanity, with a duty to serve their fellow human beings, in full knowledge that they are only a part and not ultimately responsible for the infinite crush of humanity. Their ultimate concern lay outside of themselves and their finite actions. Each respondent, in their own way, was striving to

understand their role in other people's lives and deaths. Gary saw power and humility in a human connection:

> I'm just the person treating a person. Meaning, you know, yes, I just happen to have, you know, spent a lot of time learning about the medical aspect of things in the human body, et cetera. But at the end of the day, I'm human, you're human, and there's a great humility with that.

Diana described placing her experiences with patients in a larger framework that included the influence of a Christian God:

> [With a] larger perspective and bringing my faith background into it…Now, I don't see myself as the ultimate accomplish-er and I can't be the ultimate accomplish-er…part of the thinking is that as humans, we don't have the capacity to do that. So I'm thankful for what I am given that helps me get through my day. And when I find the point in my day that I can't manage myself because someone has a horrible disease or someone got a really dire circumstance, there is…a place, you know, I know what to do with that mentally now. I's not me, it's not my own like failure or my own inability to perform. It's how the world is and the things that I can still do are connect with the person and help them make sense of what's going on.

Gary was more likely to see meaning in the human relationship between himself and his patients:

> it's really a position…it's a very humbling position to be in…no matter who the person is…whether you would find that you would spend time with them outside…that shared moment. They are human. They have a need that could be had by any other human in the world. And you're in the position right there to be of assistance. And that's powerful.

Bart gave the most expansive description of meaning-as-alterity:

> you think to yourself, 'Man'…I think I'd probably be the same. Or put yourself in that person's shoes…we all have this capacity, we all have this capacity for suffering and death and tragedy. Right. I'm no exception, and nobody is an exception in this world. So there's a kind of a trick where you put things into perspective. And you see yourself as really no different than anyone else. … [You are] just as likely … to have these kinds of experiences … nothing to say you won't, or that you will…Quite frankly, the world, if you think about it, is very neutral. To be honest…if you really look at the world, especially if you look at nature, if you get outside…the trick is to just be away from people and look at how nature…[is] just very pleasantly neutral…You could get eaten by an alligator or not. So, it's not like... anybody hates you…Do you know what I mean? … But like I said, I think it takes effort. It takes effort. You have to move through it deliberately.

***Summary***

These first responders seemed to engage in three principle meaning-making actions, meaning-as-significance, meaning-as-comprehensibility, and meaning-as-alterity. The tragedies they witnessed had impacted their lives, brought about a deepened or changed understanding of themselves, and informed their moral obligation to the other. These experiences shared an ineffability with religious experiences and were often talked about using either explicitly religious symbology or conventional symbolic language. Their language evoked the work of the theologian Paul Tillich who developed the notion of "matters of ultimate concern" (Tillich, 2001, p.1) to describe how humanity orients itself to events greater than one's self. Symbolic representations are indicative of these matters of ultimate concern and these first responders

utilized symbolic language in their descriptions. Importantly, the meaning making systems employed by these emergency workers brought about greater coping and led to personal growth. In a broader sense there is an established relationship between conventional religious experience and mental health, in a 2010 meta-analysis of 454 studies that looked at this relationship, it was determined that religious belief was associated with favorable mental health outcomes (Koenig, 2018). More importantly for these first responders, religious belief is associated with greater coping and reduction in PTSD symptoms among trauma survivors (Harris et al. 2021).

Further work that has studied the possible connection between religion and trauma involved war veterans being treated for PTSD. For some of these veterans, the traumatic experiences they suffered (killing others and failing to prevent the deaths of fellow soldiers) had a deleterious effect upon their religious convictions causing many to doubt or reject their faith. Paradoxically, weakened faith was identified as a significant predictor of more extensive use of VA mental health services over severity of PTSD symptoms; those with more severe symptoms, but who had not experienced a weakening of faith, were less likely to seek or utilize mental health services. It appeared that secure faith was an insulating factor for PTSD symptoms. The study suggested that the primary motivation for veteran's use of mental health services, especially among those who reported a weakened faith, was the search for meaning and purpose within their traumatic experience. The study went on to suggest that spirituality may be more central to the treatment of PTSD than usually thought (Fontana & Rosenheck, 2004).

Other work has established how religious and spiritual beliefs may be a key element to post traumatic growth. Shaw reported three main findings: (a) religion and spirituality are usually, although not always, beneficial in dealing with the aftermath of trauma, (b) traumatic experiences may lead to a deepening of religiousness or spirituality, and (c) positive religious

coping, religious openness, readiness to face existential questions, religious participation, and intrinsic religiousness are typically associated with posttraumatic growth (Shaw et al., 2005). These findings are consistent with what these first responders described although few used explicitly religious language, and some affirmed their non-religious or atheist beliefs. The job itself brought experiences of existential magnitude, welcomed or not, to each of their lives. Ultimately, their meaning making systems helped these first responders to make sense of their experience, to continue serving the public, and to bring about post traumatic growth.

## Study 2: Egoic Strength

### *Egoic Strength*

There were a total of 74 references to Egoic Strength across all eight respondents. Egoic strength was a clear and explicit theme that emerged from our discussions. Egoic strength was defined in this study as an individual's ability to maintain their identity and sense of self in the face of crisis, distress, and/or conflict. Moreover, egoic strength traits included confidence or courage in the face of challenges, a positive worldview, and a high capacity for emotional regulation. Reaching back to research conducted in the 1950s and 60s, ego strength was associated with improved mental health outcomes and effectiveness of psychotherapy (Barron, 1953; Hoehn-Saric et al., 1964). While these early research efforts have been confirmed and expanded over time, current research into ego strength has established an association with a greater ability to adapt to stressful health conditions like heart disease and hemodialysis (Besharat et al., 2018; Settineri et al., 2012) and improved emotional regulation (Folkman, 2008). However, no research could be found that has directly investigated ego strength among first responders.

Interestingly, most respondents described a very clear sense of themselves before ever becoming a first responder. Similarly, these interviewees thrived or increased their sense of self

as they developed their careers. For Becca becoming a first responder was a process of self-discovery and authenticity, “each of these steps that I took felt more like an uncovering of, you know, a rediscovery of that sort of lost self, that it disappeared when I was little and becoming more and more authentically me.” Helen found a tremendous source of self-esteem and a guard against an unsupportive family, “I can do this job and not one of you could do this job. And so that kind of made me feel a little superior to them in a way.” Florence experienced the need for a strong ego even before becoming a first responder, “even in nursing school, I mean, it's one of those things where it's like, if you're not at the top of your class, what are you doing here?"

First responders appeared to thrive when their sense of self, their capacity to function under pressure, was pushed to its limits. Eric, “… Yeah. I couldn't get more stuff coming at me … I mean, I prayed for it.” Gary recognized that not everyone has the ability to thrive in high stress situations:

> I know it's not for everybody. And you know, there's…very capable and competent people in this world. And they…tell me more or less, that they would vomit if they had to be in that situation. I mean, it would just cause extreme stress and nausea, and they couldn't think straight. But for me, it's…this. It's a…real paradoxical calm being in that chaos. And, I don't know if there's some mis-wiring in my head that makes me do that.

What became apparent from the start is that first responders universally possess very strong egos. They have a uniquely powerful sense of themselves as trustworthy qualified professionals who are good in a crisis and if they don't name themselves heroes, they see that trait in the people they work with. Diana described both a heroic mindset and sufficient humility to see herself as a member of a team:

> I think that kind of hero or heroic mindset that I went into all of this with, you know, that was not necessarily the healthiest place to be because it sort of assumes that there is a different level of importance between me and everybody else.

Early in her career Anna had a great sense of herself as a heroic figure:

> Well you think you're going to like, you're in a uniform and you think you're going to be like, you're going to be racing around in an ambulance and you're helping people or you're going to be a bad ass, is what you think.

It was clear that ego strength was requisite to the role, one cannot endure the stress and responsibility of a first responder without first possessing an incredibly self-assured sense of one's self, and strength of ego was reported as the underlying force to drive a first responder into action. They had to take responsibility for the lives of patients or their partners as well as other first responders and civilians who may be on a scene without equivocation or self doubt. Bart experienced the pressure of life and death decision making as an affirmation of his authentic sense of self:

> because of the leadership aspect that…I mentioned earlier. Sometimes it falls on you and your decisions and no one else's. So if you're the experienced medic and you make a call, it's your call. And those calls can have very significant consequences that, quite frankly, you have to answer to and you have to answer to experienced emergency room physicians, physician advisers. And then you also have to answer on a professional level to your employer because they're interested in knowing what their liability might be. So if you can't back up what you've done as an independent decision maker, you have problems. And so a lot of times the sense of being self-assured or being, I guess, more of a larger than life kind of guy … comes across and it comes across as…having a huge ego.

Becca could manage a great number of people on an accident scene from patients to other paramedics to police and fire:

> Sometimes when you're on a scene, there can be, you know, eight, nine, 10 people involved in it all. And sometimes everybody sees what needs to be done or are able to take in. Information from someone else who says, Hey, before you finish cutting that, you know, B-pillar on that car, can we can we give this guy some medication so that so that extricating him isn't so painful.

That level of ego strength was likely the underlying force to statement by the first responders that they were never bothered by the extreme aspects of their jobs--trauma was something they were expecting and were self assured enough to expect that they would be able to deal with it. Helen described her experience as a paramedic as less traumatic than working as a waitress, "I rarely…needed to even talk about anything. I never had dreams about it. I've had tons of waitress nightmares like over and over. Yeah, but never. Never nightmares or flashbacks or anything with EMS. Ever." Bart described his early, abusive childhood as a "training ground" that better prepared him the stress and trauma of working as a paramedic:

> But…if you managed to get through that kind of stuff intact, like, let's just say you graduated high school and like me, went to college despite having endured all kinds of weird shit as a kid, what you did, what you've done there, essentially in a way, if you've undergone some training.

***Summary***

Universally, the respondents to this study described a very clear sense of themselves before ever becoming a first responder. Egoic strength appears to be a prerequisite for becoming an emergency worker for without a strong ego the stress of crisis environments could be

overwhelming. Paradoxically, these first responders appeared to thrive when their sense of self, their capacity to function under pressure, was pushed to its limits. This same capacity to thrive under pressure has been identified in elite athletes (Henriksen et al., 2019) but no studies could be found that examined this same trait in first responders. These first responders rarely described themselves as heroes, unironically, but were often able to identify the heroism inherent in their colleagues' actions. While not much is known about the causes and capacity for heroism, among people generally and first responders in particular, it has been associated with exceptional ego strength and psychopathology (Patton et al., 2018). That kind of ego strength was described as necessary by these respondents to have the ability to take responsibility for the lives of patients, their partners, or other first responders who may be involved in a crisis without equivocation or self doubt. Ego strength also seemed to be implicated in a belief that trauma was an expected hazard of their job but, they were self assured enough to expect that they would be able to deal with it. Ego strength of this kind appears to be a double-edged sword; enabling decisive action but also preventing first responders from seeking help when they experience psychic injury (Haugen et al., 2017).

***Endurance within Existent Traumatic Events***

There were a total of 63 references across all eight respondents. First responders described a wide variety of experiences when actively engaged in a crisis situation, however, three major themes emerged. The most common of these was a description of the importance of being properly trained with relevant skills. The next theme to emerge was compartmentalization which took many forms, but all first responders seemed to have an ability to eschew emotional burdens at least temporarily while engaged in a crisis. And finally, there were widely varying

descriptions of hyper-focus; a state in which time loses its chronological meaning and the sense of self is suspended.

***Skills and Training***

First responders described how they were able to successfully function in high stress environments and bring about positive outcomes because they depended upon their skills and training. The first and nearly universal theme was the recognition that they depended upon their training and specialized skills to operate effectively during a crisis.

> [I'm] focused on just doing the tasks and relying on a lot of the training that we had like, you know, the training that we have to work in the ER. Is created with the purpose of being able to do it under taxing and stressful situations. So I really rely on just…do what they told us in training, make sure I have all of my stuff, I'm getting all the skills done. So all of the physical hands on patient…pushing medicines and using the defibrillator. Or getting…the chest compressions going. So making sure that all the physical hands on stuff that needs to happen is happening" (Diana).

Bart described the necessity for skills to take the place of compassion in a crisis, "Your requirements to be efficient and deliberate and detached take over. Because…in a way, there's no room for that compassion anymore." For Eric it was clear that training and skills enable one to move and perform under pressure, "I mean, you're a human being and you have to constantly convince yourself, I'm prepared for this. I'm trained for this. I can handle this. Because otherwise you're going…to lock up and not go right."

***Compartmentalization***

Every first responder referred to an ability to compartmentalize when in stressful environments and confronted by troubling or distressing events. Compartmentalization was

described in several unique ways, but each respondent maintained an idea of setting highly charged emotional experiences aside temporarily while the crisis was addressed. The need to compartmentalize was a reflection of the commitment to providing focused care while under stress. Florence described her commitment to her patients:

> My sense of responsibility to my patients to…show up and to…be there. Because that's what I've agreed to do…. I've put myself second and put my patients first. My emotional well-being was second to the fact that I needed to be there to care for them because that was my shift.

Florence, like the other first responders, described an ability to temporarily withhold the personal need for emotional expression, or to willfully remain present while emotionally detached from highly stressful circumstances. Consistent with research into therapeutic dissociation it is possible to achieve a comfortable detachment from disturbing emotional experiences and such therapeutic dissociations are described as helpful (Bowins, 2012).

To enable that high level of focus under stress, compartmentalization was described in some capacity by every respondent. Becca visualized placing intense emotional experience in a cubby," For me, it's…literally like a visualization of putting a box in the cubby…I'll get back to this in a little bit." Helen described a similar capacity:

> There's something about what we did that I always knew what to do with it and where to put it in my own mind. It had its own compartment and…It wasn't like an uncomfortable compartment where you can hear things rattling around in there trying to get out. It was like a very comfortable one like, Oh OK, this call goes on this shelf in this box.

Eric did not describe what compartmentalization looked like for him but stressed its importance, “You compartmentalize. And that was a that was a huge piece of performing. Every day in and every day out.”

Within current research articles, there are divergent definitions of compartmentalization, one thread of research looks at compartmentalization as a denial of negative self belief (Thomas et al., 2013) and an alternative view that describes compartmentalization as a useful therapeutic dissociation (Bowins, 2012). Still others have examined how compartmentalization leads to vulnerability and an unstable self-esteem (Zeigler-Hill & Showers, 2007). None of these threads capture what these first responders described as their experience of compartmentalization; a setting aside of highly charged emotional experience temporarily while crises were addressed. This form of compartmentalization had the characteristics of a useful, temporary denial that appeared to be beneficial as long as there was time to go back to those feelings and express or integrate them. The necessity to intentionally process difficult emotions and experiences will be explored more fully in the section titled Time for Processing Traumatic Events.

***Hyperfocus***

First responders also described experiencing *hyperfocus* during crises. What they described had many similarities to flow states and they would often use the term *flow* to explain their experience of an altered state of consciousness felt during high stress situations. Anna described observing her partner in a flow state, “he was in a certain place where he just knew what he was doing and he was doing it. He was in the flow that's what I always say he was in the flow.” Flow states were first identified and described by Mihaly Csikszentmihalyi, (1979) and included eight characteristics: complete concentration, clarity, transformation of time, intrinsic rewards, effortlessness, balance between challenge and skills, actions and awareness are merged,

losing self-conscious rumination, and control over the task (Csikszentmihalyi, 2008). Csikszentmihalyi emphasized the importance of challenge to the experience of flow and was often brought about when the body or mind was pushed to its limits. He observed that flow states are not necessarily pleasant at the time they occur; some amount of discomfort or at least feeling as though one's skills and abilities were tested on the extreme limit was a necessary component of flow. Flow states have been observed in a wide variety of activities (athletic games, writing, surgery, rock climbing) but most importantly flow was significantly more positive in high-challenge, high-skill situations, like the environments frequently encountered by first responders, than less challenging circumstances.

Like the flow state described by Csikszentmihalyi, first responders reported a disconnection from the subjective experience of time. Gary described the compression of time in a busy ER:

> But it is true that when the when a shift is busy, all of a sudden you realize, Oh, it's a 10 hour shift and I'm in hour seven, and I hadn't even thought about eating or hadn't even thought about taking a pee break or wow, I can't believe we're almost done.

These first responders reported feeling a kind of expanded consciousness while actively involved in an emergency situation where they were able to have greater and more detailed awareness of more objects than in regular states of consciousness. Becca described feeling acutely aware of the elements of an accident scene while at the same time feeling a mild kind of dissociation, "In fact, it's kind of a weird thing that happens on a really critical scene like that. It's almost like everything out here, like I'm aware of it, but I feel a little bit insulated from it." This experience was also described as "laser" or "hyper" focus. In the emergency room Gary experienced laser focus:

> I wouldn't say necessarily time stands still, but really, the rest of the world just doesn't matter. It shouldn't…It's not part of your awareness because in a high super high acuity scenario, that really is your only focus at that moment. And so you are just so hyper focused on that. But yeah, I don't know how to else to describe it, you're just laser focused. You're just you're locked in, I guess.

The loss of subjective experience or the "merging of action and awareness" was described by several first responders. Helen was, perhaps, the most extreme example of this kind of total merging of action and awareness:

> I personally don't even feel my body…I don't have any concept of even having a body. Like, it's an almost an out-of-body experience. Where I step out of anything. I don't acknowledge anything personal towards me. I don't have thoughts that go outside of this hyper focus on this thing that's happening.

Helen's experience of flow was like many of the other interviewees; incredibly intense. It seemed to be an order of magnitude greater than what Csikszentmihalyi had described. Eric's life and death intensity provides a window into his experience:

> Close the door on that [high stress/traumatic event] and then your back in the car going 100 miles an hour across the city for the next thing that's equally bad. And all I was going through in my head was not the details of that one. I'm starting to get myself ready for, OK, how am I not going to die from this next one? What…things do I need to do tactically to keep, you know, keep my eyes up, keep my head in the game? Listen…to all the people [and] whatever information's coming across multiple computers through my radio, live. Am I my hearing footsteps in the upstairs? [that] shouldn't be there. You know all those things.

### *Summary*

Possessing the ability to work professionally while an emergency event was unfolding was the unique skill of first responders that, perhaps, sets them off from ordinary civilians. When they describe what gives them the capacity to function competently while under extreme stress, they describe mastery over their professional skills and effective training, an ability to temporarily compartmentalization highly emotional responses to crises, and entering an altered state of consciousness they called flow or hyperfocus. Research in light of recent terror attacks in Paris and Norway highlight the importance of effective professional training and the mastery of skills as a key indicator of PTSD diagnosis; those with greater mastery of skill are less likely to be diagnosed with PTSD following a terror attack (Skogstad et al., 2016; De Stefano et al., 2018). Therapeutic dissociation, a milder version of dissociation, associated with compartmentalization was a constructive defensive function that allowed first responders to temporarily deny heightened emotional responses to focus on emergency care (Bowins, 2012). These first responders described a flow state that shared a great many similarities with Csikszentmihalyi's observations of flow (2008). However, they appeared to report a heightened level of intensity associated with these states, in particular some first responders reported highly disassociated states. These first responders also reported a seemingly unique component of flow states described by them as hyperfocus which extended beyond intense concentration and included a state of expanded consciousness in which the details of an accident or crime scene were held in more detail and with greater complexity than ordinary conscious states.

### *Resilience Strategies*

There were a total of 88 references across all eight respondents. Resilience strategies codes were defined as activities, beliefs, or behaviors that enabled these first responders to

continue to perform in their roles as emergency responders for over 10–15 years. Code definitions were gathered from a 2019 systematic review of resilience factors in nursing. Six elements were identified in that article that supported resilience: Coping Skills, Self-Efficacy, Social Support, Job Satisfaction, Job Retention, and General Wellbeing (Yu et al., 2019). Throughout the interviews with these first responders, it became clear that the code definitions needed to be expanded to include: deliberately structuring time for processing traumatic experiences and co-worker trust and intimacy.

### *Time for Processing of Traumatic Events*

Most interviewees described a need for time, generally peaceful and uninterrupted, to relieve the emotional burden of their traumatic experiences. Their descriptions of emotional processing largely followed the sequential order of integration proposed by Pascual-Leone and Greenberg (2007) that included "early expressions of distress" (p. 877) that finally gave way to "primary adaptive emotions" (p. 885). This process of sequential emotional processing aided in bringing about "adaptive functioning" (p. 526) in patients being treated for complex PTSD (Khayyat-Abuaita et al., 2019). Allowing time to process distressing emotions until they resolve into an adaptive emotional state was a critical practice that most of these first responders described. Becca provided an excellent example of processing through distressing emotions by allotting time for crying in the shower:

> After I've had a bad call like that. I might just allow myself a little time every day, like my friend taught me…cry in the shower. Yeah. You know, you're in there every morning. I just as you get ready in the shower and think about those things that are making you sad. And just allow yourself to just have a little cry in the shower and let those feelings be present. And then you get out of the shower, you know? OK. …you know, we dry

> ourselves and our tears and…then we kind of go on with our day. And there's real value for me and being able to just have control of the valve on that. And…let it come so that you don't get that big buildup that that feels scary and out of control.

Diana, on the other hand, used distraction and relaxation to bring about a stabilized emotional state:

> [I] just have this great need for rest and relaxation and binge watch Netflix or, you know Watch endless YouTube videos or, you know, grab some popcorn and just like, eat popcorn and watch movies for hours. So, you know, I've sort of done all sorts of different things in the crisis emotions time.

***Social Support***

Social support in this study was described by the ability to relate traumatic experiences to friends and family (or vocational resources) for emotional processing and encouragement. Diana found respite while immersed in her family and community when not working, “I feel like secure in my job and secure at home with like family and friends. And so I don't feel like there's this pressure to perform or accomplish which is good.” Anna had a similar experience:

> But what I did do, obviously, was I spoke to [my spouse] and I spoke to my neighbors and my friends and stuff, and some of our friends were in EMS until we got out, right. But other than that, I didn't have the I didn't have the urge to go out and debrief.

Becca found that only a small circle of highly trusted friends and family created reliable structures for resilience, “I've got my tight five, right? Yeah, I have five or six people that I interact with on a regular I check in with. And that's what keeps me grounded and present.” While Eric limited most of his social support to his wife he stated, “I would go home, and we

would debrief kind of. Yeah, both of us her to me and me to her, and that was, I think, very helpful." Others like Florence found social support among co-workers:

> a social worker who works in that unit…even though she might not have understood all of the nursing type medical stuff…she knew what it was like to be in that environment…I think that was just one of those things where she could…steer the conversation in a way that would be helpful.

While this method of resilience was described as critically important by these respondents, it often proved elusive because of the alienating and disturbing aspects the job or resistance to vocational mental health services out of fear that they may appear weak to their co-workers. Respondents also described difficulty connecting with people who did not possess first-hand knowledge of these kinds of traumatic experiences. Anna reported a direct impediment to vocational support because of the stigma associated with seeking mental health services, "Getting help, I think is still seen as weakness and people don't want to admit they're doing it. They…don't want to be labeled as depressed or having PTSD." Helen described significant distrust of the confidentiality of support services offered by her employer, "I don't care how many times they'd say, Oh, we have a critical stress debriefing. Do you want to come? It's totally safe. It's confidential. We never believed it. I never went to one of them ever [not] once." Eric thought that what should have been a psychological support service was transformed into a tactical debriefing:

> when I first started, I thought, you know, at the debriefs…we had these big closed doors…you know, anything goes, talk about whatever you want. I was like, 'Well, this was where the all the healing happens.' …this is where I get to tell them what that meant to me and how I didn't sleep last night, or how long…. Well, that didn't happen. There

> was nothing even close to that. It was a tactical debrief. And all the baggage and the gross shit you had to carry, you just stayed with it.

***Co-Worker Intimacy and Trust***

These first responders also reported finding resilience by sharing trust and intimacy with their co-workers, the relationship with partners and co-workers was described as "necessary" for resilience. There was a great deal of emphasis placed upon the ability for a co-worker to be able to relate to the specific kinds of traumatic experiences that these first responders encountered. Florence found this connection with a trusted manager she stated:

> And I think that I felt more comfortable talking to my coworkers about it because I felt like they could relate to how I was feeling. You know what I mean? And I had a really great manager there at the time, and there was many times when she would. Take the time to talk to me, and it was, you know, she was very understanding.

Bart described the deeper level of intimacy that sometimes happens when there is shared experience he stated:

> because it's a coworker, it's very odd because it's a co-worker…you do share things that are I think deeply intimate. Sometimes when you're at work with another co-worker, one because you're stuck together for so long but, two because…there's an innate sense that on some level, even if you don't like the person, they will at least understand what you're saying and can often offer you some help, or if not help, then just sort of agree with you.

Diana describes a team of people that support each other and finding that these teams foster resilience she stated:

> You know, the reality is that every member of a health care team plays a unique role that is essential. And I could not do my job without the other people around me. And so, you

> know, everyone's got their unique [inaudible], their unique expertise that they bring. Yeah, so it's it's not a heroic role.

For Gary there was a requirement for trust in his co-workers to create a work atmosphere that was resilient:

> It's a different level of trust. But…I think the trust kind of starts with the simple stuff, you know, like the simple stuff, Hey, you have a patient that I don't know, let's say a laceration or a sprained ankle. I mean, it's not life threatening, but you have to have some positive interactions with that. Whoever is on the nursing side of things so that those positive interactions create a foundation. So when the stressful situations occur, you already…had a relationship that's developing.

***Summary***

These first responders reported purposefully devoting time for processing distressful emotions as a means to alleviate the emotional burdens that sometimes accompanied their work. Conversely, there is clear evidence that a lack of such processing is associated with increased distress; a study evaluating the emotional processing of cancer patients indicated that negative rumination and a lack of cognitive integration of distressing events (e.g., cancer diagnosis), greatly increased PTSD diagnosis (Ogińska-Bulik & Michalska, 2020). There was a strong indication that the practices of these first responders, using emotion to change emotion brought about, by their own description, greater wellbeing. Similar forms of sequential emotional processing observed in current research predicted more beneficial outcomes to psychotherapy (Pascual-Leone, 2018). These first responders relied heavily upon their coworkers for support and research has firmly established that social support is one of the most robust predictors of PTSD. The lack of social support for those who have experienced trauma, is strongly associated

with an increase in PTSD symptoms (Zalta et al., 2021). Most research supports the experiences of these respondents; that workplace trauma positively predicted emotional psychopathology when a worker experienced low levels of coworker social support while the converse was also true high levels of coworker social support mitigated many of the effects of workplace trauma. However, social support from loved ones and family did not moderate the negative impact of workplace traumas (Brais et al., 2022).

## Chapter 4

## Discussion

This study was originally aimed at investigating whether ego strength was a trait that contributed to trauma resilience with a tentative hypothesis that possession of a strong ego could be a trait that may predict greater resilience in response to traumatic events. While these first responders did indeed endorse possessing ego strength in themselves or identifying that trait in other first responders, it was difficult to conclude that ego strength was clearly a trait that contributed to resilience. These first responders demonstrated incredible resilience and post traumatic growth while at the same time many exhibited PTSD symptoms. Given that PTSD was present for at least some of these first responders at some point in the careers, it was a testament to their resilience due to the fact that they remained in emergency response roles despite any psychic injury they may have experienced. Ego strength must have contributed to this outcome as well as just sheer toughness (a trait all of these respondents endorsed). However, toughness was not seen as a benefit to surviving traumatic experiences. The sentiment around toughness was almost universally negative and was seen as a hindrance to getting psychological help. However, ego plasticity and flexibility were identified as an a priori trait for first responders to survive highly stressful and traumatic environments without psychic injury. A flexible ego, it was

proposed, had the capacity to creatively rewrite the self narrative to accommodate traumatic experiences. This flexibility and creativity were identified by these first responders as necessities for avoiding psychic injury.

In high stress or crisis situations, these first responders reported relying upon their skills and training to help them successfully navigate potentially traumatic environments. They also endorsed a phenomenon they described as *compartmentalization* which differed from most psychological research which defined compartmentalization as a negative attribute. Instead, these first responders described a kind of clinical dissociation to aid them in navigating emergency environments. Compartmentalizing emotionally distressing content, "placing it in a cubby," while they carried out their duties under extreme stress was critical to success. Similarly, social support, co-worker trust, and intimacy, and time to process traumatic events were the primary strategies these first responders reported to help them cope with the traumatic stress of their jobs and all three are already well attested to in the literature.

The most surprising result of this study was the realization that there are limits to resilience. First responders can reach a point where the burdens of constant traumatic experiences and stress looks very much like combat fatigue as reported and diagnosed in soldiers. These first responders identified a phenomenon called *burnout*. A condition where they seemed to lose their deeply held values and began to depersonalize, objectify, or withdraw from the people they serve. Without relief from the stress that they must endure, burnout can become something more predicative of career ending levels of trauma. A definition of *traumatic entropy* was proposed to describe this state. Traumatic entropy was described by the effects of repeated trauma that resulted in rigidity of the ego and incoherence of the self narrative. Incoherence of the self narrative led to discontinuity between what the first responder was experiencing and their

capacity to accommodate new traumatic experiences. In this state of discontinuity they lost a sense of their own identity and became incapable of relating to others because their identity did not have a coherent story that could relate their traumatic experiences to themselves. Withdrawl and isolation were common outcomes of this loss of a coherent self narrative.

Given the harm that could occur as a result of traumatic entropy it was equally matched by the meaning making systems these first responders employed to aid them in creatively rewriting their self narratives and accommodating the suffering they were witnessing and the trauma they were experiencing. There were three meaning making systems employed by these interviewees; meaning-as-significance, meaning-as-comprehensibility, and, uniquely to first responders, meaning-as-alterity or the meaning one derives from serving "the other." All of these first responders described the importance of seeing themselves as not separate from those that they serve. This humility and their place within a large meaning framework gave most the ability to thrive as first responders for 15–20 years.

**Limitations and Further Research**

The biggest limitation to this study is that it did not include any racial minorities. It is of critical importance to understand the experiences of minority first responders. There is a great deal of further research that could be undertaken as a result of this study like quantitative analysis of the experience of traumatic entropy. Is it possible to predict, like we do for soldiers, how much time in the field will lead to a breaking point? Could we provide guidance about rotations or sabbaticals from front line emergency services to reduce psychic injury and extend careers?

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## Appendix A

## Structured Interview Questions

**Discussion questions:**

1. Have you always had a clear sense of who you are/what you wanted to do for your profession?
2. Has that changed in your life? If so, what brought about changes in your sense of self?
3. Have there been experiences where you felt like you lost a sense of yourself? If you have how did you recover your sense of yourself?
4. Do you experience a true identity/self that you come back to?
5. Do you experience yourself as having multiple selves?
6. What do you think has made you capable of doing this job for so long?
7. When you have experienced a traumatic event did it ever effect your sense of self?
8. How do you recover your sense of self after a traumatic event?
9. What would you tell a new paramedic/police officer/soldier to help them have a lengthy career?
10. What helped you the most in overcoming the traumatic events your experienced?

## Appendix B

### Substance Abuse

There were a total of 27 references among six of the 8 respondents. Substance abuse was another common theme throughout the discussions with first responders. Themes emerged that included personal experiences with alcohol as a means to minimize the emotional difficulties of the job:

> So drugs and alcohol turn it off. And because it is exhausting managing, navigating, questioning. And all the things that we've talked about is fucking exhausting. And I'll tell you what. There were more than one occasion where 2, 3 pints of good solid IPA really felt like a relief. Oh yeah, it felt fantastic (Bart).

First responders like Eric found that it was one of the only socially acceptable ways of dealing with the effects of trauma:

> And then I think that transition pretty quickly for me into alcohol. And that to me, it was a magic bullet. It was legal. In the big scheme of things, it was temporary, short duration, you know, I could drink what I wanted tonight, find a way to fall asleep, mask my shame and guilt about not telling my wife the truth about what happened.

While others either entered the field already participating in abstinence programs like AA or maintained religious or personal beliefs that precluded the use of alcohol but found the culture of first responders deeply committed to substance use. Helen described:

> there's not a lot of professionalism where that [substance use] is concerned because like everybody will take off to [a resort town], whatever it is, conference and end up in the hot tub together doing drugs and, you know, having an orgy. And then they end up going back and its business as usual, right?

Many of these respondents characterized the culture of first responders as one that encouraged substance abuse. Anna provided the most vivid description of this cultural norm:

> The substance use is so high in that kind of job like. You know, alcoholism, drug addiction. My friend [name], yesterday…I work with him…he's an RN. [He] worked in the ICU for a long time. …[He] worked in Neuro ICU. And he said when he was in Neuro ICU, they were all fucking alcoholics, raging alcoholics.

Florence described a similar experience with substances:

> they don't have any healthy outlets, so they just go home and drink. I think alcoholism is in health care is a huge thing that doesn't really get talked about because, you know, a lot of times you'll talk to people and be like,' Oh, what are you going to do?' Like, 'Oh, after a day like today, I just want to go have a drink,' you know? So I think that and I mean, to be honest, a disconnect that way probably feels really great right after having such a hard day.

**Summary**

Consistent with what these respondents describe alcohol misuse is widespread among health care workers (Jones, 2017). Rates of alcohol misuse are nearly 24% among emergency workers and first responders (Smith et al., 2019) whose alcohol misuse rate is simlar to the 10–15% of nurses who turn to alcohol at some point during their career to manage work-related stress (Servodidio, 2011). Firefighters abuse alcohol at a much higher rate in the range of 34%–58% (Jones, 2017) and police misuse alcohol at a rate of 33% (Violanti et al., 2011). However, (Ward et al., 2006) found similar levels of alcohol misuse across all emergency services. Given that the comorbidity of alcohol misuse in those with PTSD ranged from 9.8%–61.3 % (Debell, 2014), these first responders are placing themselves at a high risk of alcohol related illness.

## Appendix C

## Adverse Childhood Experiences

There were a total of 17 references across five respondents. Roughly half of the interviewees reported physical or mental abuse as children. Typically, adverse childhood experiences are included among historical risk factors for diagnosis of PTSD (Frewen et al., 2019). However, adverse childhood experiences are also predictive of public service with an indication that the greater the childhood adversity the stronger the relationship to public service (Evans & Evans, 2019). The study participants' rate of adverse childhood experiences (ACES) was consistent with research conducted investigating the rates of ACES among nursing students. Over 40% of nursing students surveyed had an ACES of 4 or more versus the national average of 12.5%–13.3% for the general population (Clark & Aboueissa, 2021).

These first responders attributed their ability to function in high stress situations to survival mechanisms derived from the abuse they had suffered as children. Helen described her experience:

> I knew how to manage chaos because I've been doing it my whole life. Yeah, it was like home baked dysfunction, just like mama used to make! You could smell it and go, 'Give me more.' But I didn't know those things back then. All I knew was, whatever this thing is, I know how to do this [work in emergency medicine].

Even more directly Becca described how her early experiences and fear for her life resulted in her being able to function calmly in life threatening situations:

> And if you don't feel secure about that attachment, then you know, of course…you feel afraid for your life at a very deep level and you're not consciously thinking, I'm going to die…but that's that sort of connection that you're…craving to make you feel safe.

These first responders were describing experiences consistent with current research in resilience that suggests childhood challenges developed into coping strategies that have served them for a lifetime (Ungar & Perry, 2012).

Becca found high stress environments to be comforting because they are a familiar state of nervous system hyper arousal:

> I think that [my mother's abuse] kept me in that sort of highly adrenalized state…my therapist calls it, you know, your adrenals are just jacked all the time….I think that when you operate like that for a long time, that when something that is life threatening or, you know, a big deal crisis type thing….like your systems can be used to operating…even though it'll jack up higher, it's like it's almost like, 'there it is.' Right, right, right. It's like a dopamine hit, you know, like, 'oh yeah.'

The nervous systems response to early and repeated trauma is addressed within the polyvagal theory which suggests that "social behavior is an emergent property of the phylogenetic development of the autonomic nervous system." (Porges, 2003, p. 512). These first responders' behavior and comfort with sympathetic nervous system arousal was suspected to be a legacy of their childhood trauma.

For Bart the survival strategies, for combatting abuse, learned in childhood are irrevocable in a crisis:

> [during an early] developmental stage as a young person instead of…having your memories laid down with silk ribbons and you referring to them fondly. You're learning something under the influence of adrenaline and stress. It's like chipping it into stone. It is…now not only a memory, it's a fucking petroglyph that you refer to forever.

The notion that traumatic memories were fixed and indelible was the subject of debate among psychologists some like Van der Kolk suggesting that “trauma stops the chronological clock and fixes the moment permanently in memory” (Van der Kolk & Van der Hart, 1991, p. 448). While others suggest that traumatic memory is highly malleable, at least among combat veterans. (Southwick et al., 1997)

**Summary**

Nearly half of the respondents to this study reported mental or physical abuse as children. Their childhood traumas were developed into strengths especially as it is related to the kinds of environments that first responders often find themselves. The high levels of stress and nervous system arousal associated with emergency work were believed to be more manageable and less frightening than if they had not experienced any childhood adversity. There was emerging research that suggested that some who experience trauma or suffering may experience a “strengthening of the self, a more positive orientation toward people, empathy, and belief in one’s personal responsibility for others’ welfare” (Staub & Vollhardt, 2008, p.273). These first responders described having experienced childhood traumas that prepared them to better serve those in need and to have empathy for those who are suffering.