PARAMEDICS' EXPERIENCES OF POTENTIALLY TRAUMATIC EVENTS AND THEIR COPING STYLES AN INTERPRETATIVE PHENOMENOLOGICAL ANALYSIS

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Thesis Abstract

Introduction

Existing literature on trauma and coping with traumatic events in paramedics has often concentrated on the concept of posttraumatic stress disorder (PTSD), using quantitative pre-defined self-report measures to investigate symptoms and coping strategies, thereby preventing elaboration of these concepts. The concept of positive adaption or posttraumatic growth (PTG) has also largely been ignored. Furthermore, research has often focussed on emergency workers (EWs) within disaster situations, ignoring the impact of their day-to-day experiences, e.g. cardiac arrests and road traffic accidents. Moreover, paramedics have been investigated alongside emergency medical technicians (EMTs) in some studies, and other EWs (e.g. fire-fighters and police) in other studies, despite different occupational roles. This means that focussed research on the experience of individual paramedics in their day-to-day roles is missing.

Objectives

Therefore, this study aimed to carry out a qualitative, phenomenological exploration of the impact of multiple work-related potentially traumatic experiences on paramedics, alongside their ways of coping. Therefore, providing a deeper more individualised and nuanced account of their experiences than has been reported previously.

Design

A semi-structured qualitative interview was used to conduct a retrospective study of seven full-time qualified paramedics, working for an ambulance service NHS Trust.

Methods

Ethical and Research and Development approval was granted. Interpretative Phenomenological Analysis (IPA) was used to analyse the interview transcripts.

Results

Four inter-related super-ordinate themes were generated: ‘The salience of memories,’ ‘the process of reflection and making sense,’ ‘the impact of context on coping’ and ‘emotional management and control.’ The first theme discusses the vivid memories experienced by the participants and the types of circumstances that make these memories more vivid and potentially distressing. The remaining themes focus on coping, including factors that impact on the individual’s ability to cope and their particular ways of coping with their job demands. All the themes consider the psychological impact of the job on the participants.

Discussion

The results build upon the existing literature providing a more individualised and nuanced account of the lived experience of paramedics who are exposed to multiple work-related potentially traumatic events. A more detailed and exploratory account of the types of incidents paramedics find stressful or traumatic is provided, indicating the impact of such events on memories. In addition, an account of the ways in which these paramedics cope is provided, particularly the process of reflection and meaning making, which has been referred to in previous studies but not as extensively elaborated upon. The study will be of interest to professionals involved in training paramedics and/or providing occupational health support. Study limitations include the omission of objective assessments of PTSD and PTG and these should be included alongside qualitative data in future research, to gain a fuller understanding of responses following cumulative trauma. Using mixed research methods might help to ascertain the types of coping strategies associated with PTSD and/or PTG, something the current study has been unable to comment on, thereby indicating avenues for preventing PTSD and encouraging PTG within paramedics.

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Finally, I would like to thank the participants who gave up their time and agreed to take part. Without them, this research would not have been possible.

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Statement of Contribution

I, Emma Louise Harper (nee Booker) was fully responsible for designing the current project, applying for ethical approval, writing the review of the literature, recruiting participants, data collection and analysis and the final written report. My academic supervisor, Rachel Sabin-Farrell, supported and assisted at all stages of the research process. Nigel Hunt acted as my clinical supervisor, providing feedback on the proposed methodology and written drafts. The R&D department of the ambulance NHS Trust where the research was conducted provided assistance with applying for ethical approval and recruiting participants. A professional typist transcribed all the interview data.

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Note of Caution

The following journal article and extended paper contains quotations from paramedics talking about what could be considered the more gruesome aspects of their job. Some of these quotations talk about dead or dying patients and occasionally include graphic details regarding their injuries. Some individuals might find these quotes difficult or traumatic to read.

Journal Article

Paramedics' Experiences of Potentially Traumatic Events and Attempts at Coping Through Meaning Making*

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Abstract

We interviewed seven paramedics recruited from an ambulance service NHS Trust. We explored their experiences of multiple work-related potentially traumatic events and their ways of coping. We used Interpretative Phenomenological Analysis to analyse the interviews. We generated four super-ordinate themes: 'The salience of memories,' 'the process of reflection and making sense,' 'the impact of context on coping' and 'emotional management and control.' This article focuses on the first two themes, which provide a nuanced account of the incidents the paramedics reported as having had an impact on them and the subsequent meaning making process. The results will be of interest to professionals involved in training and providing occupational health support to paramedics. Future research should include quantitative and qualitative measures of posttraumatic stress disorder and posttraumatic growth. This could result in a more comprehensive understanding of individual reactions and coping following cumulative traumatic experiences, therefore informing psychological theory and therapy.

Keywords

Health care professionals; interpretative phenomenological analysis (IPA); lived experience; posttraumatic stress disorder (PTSD); trauma

*Article for submission to Qualitative Health Research *(QHR: see extended paper for journal choice rationale).*

Introduction

Paramedics are exposed to traumatic incidents which are repetitive, potentially cumulative, and threatening to their health, psychological well-being and personal safety, on a daily basis (Beaton & Murphy, 1995). Therefore, they are more at risk than the general population and other occupational groups, to psychological difficulties, such as posttraumatic stress disorder (PTSD: *See extended introduction for diagnostic criteria*), depression and anxiety (Bennett, et al., 2005). Prevalence rates for PTSD in ambulance workers (AWs[1]) of between 15-26% have been reported (Bennett, Williams, Page, Hood, & Woollard, 2004; Clohessy & Ehlers, 1999; Regehr, Goldberg, & Hughes, 2002; Rentoul & Ravenscroft, 1993). These rates are higher compared to current rates of PTSD in the general population in individuals exposed to traumatic events of 5%-15% (Yule, 2003).

One might expect PTSD prevalence rates to be higher than reported in AWs, when taking the context of their daily duties into consideration, particularly their repeated exposure to death. The criticisms of the prevalence research might provide some explanation for this. These include the use of comparatively small volunteer samples, sometimes with unclear sampling frames, various methods and measures to categorise psychological distress, (Bennett, et al., 2005) and the use of mixed occupational roles. Furthermore, the reliance on quantitative self-report questionnaires places constraints on the responses provided, alongside the potential for response bias (Bennett, et al., 2004: *See extended introduction for further dicussion*). Alternatively, paramedics might only consider a minority of events they attend as traumatic (Halpern, Gurevich, Schwartz, & Brazeau, 2009).

Intrusive memories (a hallmark of PTSD) of traumatic incidents are common in AWs (Bennett, et al., 2005; Thompson & Suzuki, 1991). Bennett et al. (2004) reported that 33% (n=617) of AWs had intrusive, troubling work-related memories, either currently or in the past, as ascertained by two yes/no questions. Clohessy and Ehlers (1999) reported that 49% (n=56) of AWs experienced intrusive memories, as measured by the Post-traumatic Stress Symptom Scale (Foa, Riggs, Dancu, & Rothbaum, 1993). In this study, 86% of

[1.] The term 'ambulance workers (AWs)' incorporates paramedics and emergency medical technicians (EMTs).

participants reported that intrusions occurred following patient deaths, particularly road traffic accidents (RTAs) involving children, someone the participant knew, or particularly distressing rescue operations (Clohessy & Ehlers, 1999). Of note, the construct of PTSD has been criticised. Questions abound over whether PTSD is a distinct syndrome, due to its overlap with other disorders. Furthermore, researchers have noted a "criterion bracket creep," where increasingly more disparate events are considered 'traumatic events' under criterion 'A,' with research indicating "criterion 'A' events are neither necessary nor sufficient to produce PTSD" (Rosen, Spitzer, & McHugh, 2008, p. 4).

Research into the types of incidents common for AWs and other emergency workers (EWs) have reported distinct features that are considered distressing. Incidents involving children are consistently cited as the most distressing (Alexander & Klein, 2001; Clohessy & Ehlers, 1999; Kirby, Shakespeare-Finch, & Palk, 2011; Leffler & Dembert, 1998; North, et al., 2002; Regehr & Bober, 2005). Additional features include dealing with: dead or dying patients, severely injured patients, RTAs, medical emergencies, multiple casualties, a patient known to the crew, identifying with the patient, feeling helpless at the scene, distressed relatives and violence against self or others, including line-of-duty deaths or threats to their own lives (Alexander & Klein, 2001; Clohessy & Ehlers, 1999; Kirby, et al., 2011; Regehr & Bober, 2005; Regehr, et al., 2002).

Qualitative research focussing on the nature of critical incidents (CIs) and AWs' emotional responses, has identified the expectation to help, but being unable to and incidents involving poignancy and evoking intense compassion toward the patient as distressing. These incidents involved the AW making an emotional connection to the patient because they either resembled a loved one, or had spent sufficient time with them (Halpern, et al., 2009). Quantitative studies have reported negative reactions following routine job-related traumatic experiences, the "smaller and less sensational event(s)," as opposed to CIs involving many casualties (Halpern, et al., 2009; Regehr, et al., 2002, p. 505), such as following volunteer AWs failed resuscitation attempts (Genest, Levine, Ramsden, & Swanson, 1990). However, this research has often focussed on disasters (including different roles under 'disaster workers'

(DWs)) or CIs, thereby ignoring the day-to-day incidents paramedics are exposed to. Moreover, many studies have mixed populations, with paramedics and EMTs included under 'ambulance workers,' despite different roles *(see extended introduction for a distinction of these roles)*. Therefore, in light of these gaps in the literature, we set out to provide a more nuanced account of the specific features of incidents that contribute to more vivid and salient memories.

No single coping strategy guarantees the individual will be protected from the effects of stressful and/or traumatic events and therefore a repertoire of methods, which are used selectively and flexibly are required (Alexander & Klein, 2001). Moreover, individuals are different and therefore effective coping strategies will differ between individuals. Strategies identified in the literature on paramedics and EWs include: seeking social support (Alexander & Klein, 2001; Leffler & Dembert, 1998; Regehr, et al., 2002), accessing religion (Hodgkinson & Stewart, 1992), "educational desensitization" (Palmer, 1983, p. 84), reflection and meaning making (McCammon, Durham, Allison, & Williamson, 1988; Orner, et al., 2003; Regehr & Bober, 2005; Regehr, et al., 2002), visualisation (Taylor & Frazer, 1982), 'gallows' humour (defined because of its morbid content: Palmer, 1983; Rosenberg, 1991), avoidance and suppression (Clohessy & Ehlers, 1999; Regehr, et al., 2002) and using alcohol (North, et al., 2002; Regehr, et al., 2002). Some authors have questioned whether the concept of Posttraumatic Growth (PTG: Tedeschi & Calhoun, 1996), which indicates positive or beneficial changes following trauma exposure, is a form of coping or a separate objective outcome (Linley & Joseph, 2004: *See extended introduction for an elaboration of the aforementioned strategies*).

However, many of these studies have used quantitative self-report questionnaires or checklists to investigate coping, with little opportunity for elaboration. This is problematic because it does not allow strategies to be expanded or additional ones reported. Moreover, the literature regarding how paramedics ascertain meaning from their experiences is sparse, with this often quantitatively referred to, but rarely elaborated. Furthermore, few studies have considered the potential positive effects following traumatic exposure. Therefore, our study also aimed to gain a fuller and more nuanced

understanding of the different strategies involved in the process of meaning making *(see extended results, 'emotional management and control,' for a discussion of further coping strategies).*

Method

Design

We used a retrospective qualitative design informed by our literature review and study aims. We selected Interpretative Phenomenological Analysis (IPA), which specifically aims to look into a particular phenomenon and the participants' experiences, understandings, sense making and meaning making of that phenomenon (Larkin, Watts, & Clifton, 2006). IPA focuses on how the participant perceives and experiences the world, rather than the truth or reality of that world and therefore, there is no objective truth. It is an ideographic approach, focussing on studying specific individuals as they cope with specific events within their lives (Larkin, et al., 2006). It is therefore subjective and does not aim to generalise to a wider population.

Epistemological Position

We adopted a contextual constructivist epistemological position (Madill, Jordan, & Shirley, 2000), more broadly rooted within hermeneutic phenomenology. This approach considers research findings to be "context specific" and identifies the inevitability of the researcher's own personal and cultural perspectives and preconceptions being present within all stages of the research process (Madill, et al., 2000, p. 10).

Personal Position

The first author is a 31 year-old trainee clinical psychologist, who began this research with the preconception that EWs would envisage aspects of their job as traumatic and would need particular coping mechanisms to manage. The first author's previous experience of working with paramedics with a PTSD diagnosis, the media portrayal of their role and a personal event involving direct contact with EWs in attendance at the scene of a death, shaped these beliefs *(see extended methodology and extended discussion for elaboration).*

Participants

Following ethical and Research and Development approval *(see appendices A, B and C),* we recruited seven volunteer participants (four women, including the pilot participant, and three men), from an ambulance service NHS Trust. Recruitment involved advertising on the Trust intranet, which included a poster advertisement *(Appendix D),* participant information sheet *(Appendix F)* and consent form *(Appendix G).* We also advertised the research in a monthly newsletter distributed with employees' payslips *(Appendix E).*

Participants were full-time qualified paramedics actively involved in call-outs, with at least five years post-qualification experience. We thought these paramedics would have experienced potentially more work-related traumatic events, as opposed to EMTs, newer recruits or part-time staff. We thought more experienced paramedics were more likely to have developed and refined strategies to manage their experiences. Initially we did not envisage including the pilot participant within the final analyses. This was because, despite being a full-time, fully qualified paramedic, with more than five years experience, she had not been on active duty (i.e. responding to call-outs) for six months prior to the interview. To preserve confidentiality we cannot discuss the reasons behind this. However, on analysing her transcript it became clear she raised points that should be presented. We make it explicit when we have used her data *(see extended methodology for elaboration).*

Participants were between 39-59 years-old (median of 43 years old) and had worked as paramedics for between 5-20 years (mean of 13.8 years, multiple modes of 5 and 17). They had worked for the ambulance service as patient transport workers, EMTs and paramedics, for between 13-38 years (mean of 22.2 years, no single mode). To ensure confidentiality, we assigned participants pseudonyms[2] and removed identifiable information from interview transcripts.

Procedure

Interested participants used the phone number or email address within the advertisements to contact us and were sent the information sheet *(Appendix F)* and consent form *(Appendix G),* prior to finalising an appointment time. We

[2.] Participant pseudonyms are as follows: Sarah (pilot participant), Ann, Caroline, Dave, James, Laura and Tim.

gained informed consent during the semi-structured interview, which took place at the participants' work place, outside of working hours *(see extended methodology for details).*

The authors constructed the interview schedule *(Appendix H*), which was informed by existing trauma research in EWs. It explored the participants' experiences of work-related potentially traumatic events, particularly focussing on memorable incidents and their ways of coping. Questions were predominantly open-ended to enable participants to reflect on their experiences.

Analysis

The first author conducted the audio-recorded interviews, which a professional typist transcribed verbatim. Our study used the IPA analysis guidelines provided by Smith, Flowers and Larkin (2009: *See extended methodology for an elaboration*). The first author read and re-read the initial interview transcript, noting descriptive and linguistic comments, alongside emerging questions or interpretations. Then, as a summary of this exploratory coding, the first author generated initial themes capturing the essence of the data. This led to the clustering together of similar themes and the generation of super-ordinate and sub-ordinate themes. This procedure was completed individually for all the transcripts, using the themes from the first participant to help to code the remaining interviews, involving the addition, elaboration or merging of themes where necessary. This fits with the idiographic nature of IPA (Willig, 2001). Finally, we examined patterns across transcripts, leading to the organisation and combining of themes *(see appendix J for an example transcript analysis).*

Quality Assurance

IPA involves a "double hermeneutic," where the researcher attempts to make sense of the participant, who is making sense of their particular experience(s) (Smith & Osborn, 2004, p. 53). Any analysis the researcher provides is therefore an interpretation of the participant's actual experience (Willig, 2001) and not the participant's actual lived experience; essentially a third-person view of a first-person account (Larkin, et al., 2006). This means involvement of

others can both add to and potentially complicate analysis. It is therefore important to follow data quality guidelines.

We have therefore adhered to Elliott, Fischer and Rennie's (1999) guidelines for reviewing qualitative research. These specify qualitative researchers should own their perspective, situate the sample, ground in examples, provide credibility checks, are coherent, accomplish general versus specific research tasks and resonate with readers. We have primarily dealt with these issues in the method and results sections *(see both this article and extended paper).* In addition, the first author kept a reflective research journal *(see appendix K for extracts)*. We have discussed themes as the analysis progressed, with the second author reading and noting key themes for two interview transcripts, to ascertain whether we agreed with identified themes. Finally, we gave participants the opportunity to read the current article and provide comments via email. However, we have received no comments thus far *(see extended methodology and extended discussion for details).*

Results

Table 1 summarises the interconnected themes generated from the analysis *(see appendix L for a more detailed overview)*. However, we cannot elaborate upon all of these. Strauss and Corbin (2008), in reference to Grounded Theory, suggested analysis should concentrate on providing rich detail about fewer themes, as opposed to attempting to outline all aspects of all themes derived from the data. Smith (2011), in relation to IPA, also commented it might be preferable to present a smaller number of themes, therefore enabling elaboration of each at more than merely a superficial level. Therefore we discuss the themes which add most usefully to the current literature: 'The salience of memories' and 'the process of reflection and making sense' *(see extended results for further elaboration of these themes and discussion of remaining themes).*

Table 1: Super-Ordinate and Sub-Themes

Super-ordinate themes	Sub-themes
The salience of memories	Making a difference
	Dealing with someone known
	Resonance with self
	Vividness of the senses
The process of reflection and making sense	Search for understanding and making sense
	Taking time-out
	Talking to each other
	Accepting death
	Closure
	Changes in life outlook and perspectives
The impact of context on coping	Control
	Coping as intuitive
Emotional management and control	Mental preparation
	Emotional expression and suppression
	Distraction and switching-off
	Humour
	Getting on with it

The Salience of Memories

When asked about particularly memorable incidents it appears important to reflect on why the participants chose to talk about certain events over others. What is it that makes these events memorable? Participants primarily described incidents that involved saving the lives of patients they thought would die, occasions where they made a connection between themselves and the deceased or where patients had died in horrific circumstances. Caroline talked openly about difficulties with vivid memories throughout her interview:

> The details are so clear which I hate sometimes. Because I wish, they weren't. I, I wish I didn't have to think about these things. Yeah, so I'm just dealing with a job. Obviously thousands of jobs are like that. Thousands of jobs I've dealt with and they, I couldn't tell you about them. But certain jobs, they've, the details are so clear and I wish they weren't. So I don't get rid of them. That annoys me. That I can remember every detail. But because then sometimes I think that's sad, sad like not sad, crying sad, sad like, God that's sad, that I would think I remember every detail of a particular job even though it was years ago. That's strange ain't it? But that's, that's how the mind works ain't

> it? Is it because the mind doesn't want to forget? It won't allow me to forget for some reason.

This demonstrates a possible impact of working in an environment that exposes the individual to multiple potentially traumatic events. Caroline cannot answer why or what types of memories stay, but she does hate the vividness of them, which might explain from a cognitive point of view, why the memories stay. The question, when do vivid memories or images become distressing 'enough' to be defined as flashbacks in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV: American Psychiatric Association (APA), 2000), seems important here. Caroline's memories do not appear to be flashbacks but strong sensory memories, which are essentially distressing but not traumatic.

It therefore seems certain factors present within incidents make them more vividly remembered, in a positive and negative manner, by the participants and this is captured within the following four subordinate themes.

1. Making a difference.

The incidents these paramedics talked about often involved being able to make a difference to a patient, particularly saving a life under difficult circumstances. For example, when asked about the best things about being a paramedic, James commented:

> When you make a difference . . . That's the best. It can be from, like I mentioned that trauma job where somebody got blasted in the throat. We saw him leave hospital a week later. He had his internal and external jugular severed, carotid severed, and trachea partially severed. His systolic on arrival at hospital was 50, as opposed to 120. The blood was just pouring out the back of the vehicle, yet we got him in alive, and like I say, a week later, apart from a nice big scar across the throat he walked out of hospital. And we literally saw him walk across the car park. So that was really good to see.

James specifically refers to making a difference and recounted an occasion where he appears surprised (implied by the words *"yet"* and *"literally"*) the patient survived. While James told this story, he was particularly animated. The

details James included regarding the patient's blood pressure are interesting and he seems to have remembered these just as vividly, if not more so, than the incident's gruesome nature. In such circumstances, memories might become more vivid and salient because of the intensity of the emotions experienced at the scene and upon discovering the patient had survived, alongside the gruesome and unusual nature of the incident. Ultimately, being able to make a difference, when it seems like James probably felt the patient would die, most likely led to more vivid and salient memories.

There were occasions when the paramedics interviewed were unable to help the patient and make a difference. Caroline talked in-depth about attending patients who have had a stroke (Cardio Vascular Accident, CVA):

> I absolutely hate going to people that have had strokes. I hate it. I deal with it and I deal with it to the best of my ability, but I hate it because we can't do anything for them. And emotionally it is awful because if somebody broke their leg we can do something for them, if somebody's in a cardiac arrest we can do something for them, if somebody's in a car accident we can do something for them, but for a stroke we can't do a thing and it's horrible. I would say it's possibly one of my worst jobs, apart from babies and children. I don't like going to people that have had CVAs.

Caroline evidently finds these scenarios distressing, later describing them as *"emotionally draining"* because she cannot help. She talked about her dislike of attending these patients later in the interview adding, *"It's an awful thing to happen to somebody,"* and *"bad ones have stuck out in my mind."* This suggests situations where she is unable to make a difference, where she has no control over the situation, potentially result in a greater negative emotional response to these patients, therefore leading to more vivid memories.

Some of the paramedics interviewed expressed the need to do something to help a patient, a sense of responsibility, even when there was nothing they could do, the need to make a difference even though this was futile. Dave talked about this in relation to an incident where a man was impaled on some machinery after falling off a roof:

> My initial assessment was that the guy was already dead, right. But the problem was, I couldn't just do nothing. Even though I felt what I was doing wasn't going to bring anything back for this guy, I had to try and do something. Now, I'd got people round me that were frightened to death, that couldn't deal with the situation, that were just looking away from me. If I'd have walked away and said that this guy, "I think this guy's dead. There's nothing more I can do," I think people might have "Just a minute, you should have done something." And I felt like I just couldn't ignore the situation.

Dave then described what happened after the accident and emergency (A&E) team arrived:

> A doctor was with the crew, and he came up to me and he said, he said, "what you doin? Just leave him." And I said "well, what do you mean just leave him?" He says, "there's nothing you can do. He was probably dead before you got to him." I stood back. I was very upset about it. I still think about it. I still have, not nightmares about it but I still have thoughts of did I do everything right, even though I'd been told by other people in the job, "well there's nothing you could have done," you know, they weren't there, I was the person that was dealing with him. The doctor wasn't there at the initial time I got to the patient, so he wouldn't have known anything different. And there, there's times that you sit and think to yourself, you know, "did I do everything right?"

These extracts show the psychological repercussions for Dave following an incident where he knew he would be unable to make a difference. He ruminated over this incident at the time and continues to; with a suggestion it affected his sleep, both of which are potential symptoms of PTSD and/or depression. The way in which Dave talked about the incident, shows he found the circumstances of this man's death distressing alongside the way the doctor questioned his attempts to save the man's life. He later commented *"that was a horrific situation. I have had other situations of similar . . . stress, but not as horrific I don't think as that."* It seems this incident probably left Dave feeling he had little control over the situation or the decision making, particularly

when further medical staff arrived. Perhaps this undermined Dave's sense of power and control within the situation, leading to him feeling more confused and upset then perhaps he would have been if he had dealt with the situation alone. These factors could have made this incident potentially more traumatic. Such events are possibly more ingrained into memory because of the emotions experienced at the time and afterwards, particularly a sense of a loss of control, the incident's gruesome nature, the onlookers reactions and the doctor's criticisms. However, positive feedback following an incident where Dave did make a difference also had a profound emotional impact. In the following quote, Dave talks about saving the life of a woman who was experiencing breathing difficulties:

> When I got to the hospital, I was met by an anaesthetist and was telling him the exact story. He patted me on the back and said "well done, son." That, I can always remember that to this day. It was like something in my mind said to me I coped with it, I did exactly what I thought I should do. I did right. And I suppose, if anything, that's the one thing in my career that's kept me going, It was one thing I always remember that was like that was a real success. Had it not been for me or had an ambulance not been available at that time that girl could have quite easily died.

This extract is the opposite of the previous ones, showing positive feelings and a sense of pride and satisfaction in the way Dave referred to the event. The phrase *"I did right,"* justifies his actions and implies he felt in control during and after the incident. It appears this event has kept him going throughout his career. These quotes demonstrate how comments from others and external validation, whether positive or negative, can influence the individual's emotions and self-esteem and potentially the vividness of memories attached to events.

Therefore, these quotations provide an illustration of this theme, which was evident in all of the participants' interviews. They suggest that whether the participants felt they were able to make a difference to the patient, particularly whether they had any control over the situation, impacts on the salience of, and the emotional impact of memories. When they were able to make a difference,

when they had felt in control, these paramedics described positive emotions and feelings of fulfilment, leading to potentially more positive and longer-lasting vivid memories. However, where the incident had been difficult and they were powerless to make a difference, where their sense of control was undermined, the memories were potentially more vivid and longer lasting, but in a negative manner.

2. Dealing with someone known.

A number of the participants described incidents where they had treated somebody they knew and the impact of this. When asked about particularly memorable incidents that have affected him, James recounted an occasion where he attempted to resuscitate a neighbour while off-duty:

> Having to get him [neighbour] off the, his settee, and do mouth-to-mouth and I actually declared him when the crew turned up. Declared life extinct. Now that wasn't particularly good, and then, because knowing the family and everything, dealing with them, it's, I think once you've got the green uniform on you're a bit detached. And once you've declared life extinct you tend to disappear quite sharpish, so you don't tend to deal with, the relatives that much. But in that situation, I had to.

In this situation, as James was not actually at work, he did not have the opportunity to build, *"mental barriers,"* to prepare for the incident and the potential feelings he might experience *(see extended results for a discussion of 'mental preparation').* He had to deal with the relatives, something that he could usually escape from when on-duty. However, dealing with the relatives in this situation could potentially have been longer-term because James lived nearby. His use of, *"declared life extinct,"* twice within a short extract suggests some attempt at distancing himself from his neighbour's death and his inability to help him, something that would appear important when dealing with work-related deaths. On reflection, this situation that involved dealing with someone he knew, therefore involving an emotional attachment, which occurred outside his usual working hours, might have been traumatic for James, therefore

leading to more ingrained and vivid memories. His inability to make a difference might have also added to the memory's vividness.

However, dealing with someone known while you are on-duty, when you are not made aware by Control that you might know the patient before arriving at the scene, could potentially be more traumatic, something which happened to Tim:

> You harden up to the job a lot. So much so, I went out to my own father, when he arrested, and, I'm treating him just like . . . a patient, which you would do anyway, but it's still the traumatic side, it's your own father, like, you know what I mean? So there's nothing can get no worse than that, trust me . . . So that's, you think that's going to play on your mind but no, you get, you get, I don't care who they are or what, who you ever talk to, you will get, vivid pictures in your mind of jobs you've been to, and that will always stay with you.

Tim did not elaborate about what happened when he attended his father and he seemed keen to move on. He evidently found this event traumatic, but discussed it in relation to how he has hardened to the job *(see extended results, 'emotional expression and suppression' for a discussion of hardening),* implicitly suggesting he expected it to be more traumatic. His comment, *"I'm treating him just like a patient,"* suggests some surprise he was able to do this. His use of, *"you,"* and, *"your,"* as opposed to 'my' or 'I,' implies some kind of defence mechanism whereby he distances himself from the experience. Tim's comments about vivid memories of incidents, suggests this incident involving his father is one of those memories. Tim potentially experienced this event as traumatic, leading to more vivid and salient memories, due to the emotional attachment between him and his father, his inability to make a difference and the feeling of not being fully in control of the situation, due to not having received a pre-warning from Control of the patient's identity.

It therefore seems treating someone known is potentially more distressing for these paramedics. This seems partly due to a feeling of a loss of control over the situation and partly the emotional attachments between themselves and the patient. Furthermore, such a personal connection to the patient potentially puts these paramedics under increased pressure, as the

consequences of their actions are more personal. All these factors could lead to more vivid and salient memories.

3. Resonance with self.

Most of the participants described incidents where they had made a connection between the deceased and themselves, or somebody close to them. It appears this resonance made the experience of the event more traumatic and vividly remembered. When asked about the worst things about being a paramedic, James referred to dealing with child deaths:

> Bad times, more so since I've had kids, with dealing with kids, fatal RTAs [Road Traffic Accidents]. I think the first one I remember was, dealt with an accident, eight-year-old was killed, a lorry rammed the car, didn't look where he was going . . . That wasn't nice. I've since, I mean that was the very first one I dealt with, and I've since dealt with a few and they've never been nice. And I think it's because you just think it could have been one of mine . . . And you just think it's, you just think that that child's not seen anything of life.

Therefore, James finds child deaths traumatic because it makes him think it could have been his child *(see 'changes in life outlook and perspectives' for consideration of this from a more positive stance).* He commented the child had *"not seen anything of life,"* suggesting possible difficulties in making sense of the event *(see 'the process of reflection and making sense' for further discussion).* These aspects, alongside the fact it was James' first child death, potentially make the memory of this event more salient, partly because he made an emotional connection with the deceased.

Some participants talked about connecting the deceased to another family member and the impact of this. When asked about particularly memorable incidents that have affected her, Sarah (pilot) talked about connecting the deceased with her sister, who was the same age:

> There's a couple that stayed with me and there was one with a young girl in a car one morning and we couldn't get her out the car. We were both technicians then, me and my colleague, and I was like calling out for paramedic cos we really needed one. And they didn't have any. So,

> she was 21, in fact we got her to hospital and everything OK, but probably half an hour later she did die. And that was like, my sister was 21 at the time and it was just, it was a bit, it does makes you think.

This incident is potentially more memorable and traumatic because an emotional connection was made at the time of the incident and afterwards. On reflection, everyone interviewed commented child deaths are traumatic, which the literature supports (e.g. Alexander & Klein, 2001; Clohessy & Ehlers, 1999). However, not everyone would find the incident Sarah described as traumatic, because not everyone would have made that connection with the deceased. This highlights the nuanced nature of what individual paramedics consider traumatic.

Caroline especially, discussed a number of incidents where she linked the event to some aspect of herself, as exemplified by the following quote, which refers to a man crushed to death while working overtime:

> I can remember the whole incident, Christ that's sad. I used to work a lot of overtime at that time. And the effect that particular job had on me was this gentleman had actually gone in to work on overtime and if he hadn't have gone to work on overtime he wouldn't have been killed. So the effect it had on me was I stopped working overtime because psychologically I got it into my head at that time that God, something might happen if I go to work on overtime. So I think that's why that particular job, because it not only affected me getting to sleep, it affected other areas of my life . . . I thought it was what would happen . . . But I just got it in my head, God if it's happened to him it can happen to me.

Caroline ruminated over this incident and connected this man's death to him working overtime. She then linked this back to herself working overtime, which she then linked to her own mortality and subsequently stopped working overtime to preserve her own life. She later added *"that job haunted me, every time I closed my eyes I saw this gentleman's face and I can still see it now,"* indicating flashbacks impacted her sleep. Her emotional distress and subsequent vivid memories of this incident could be because of an attachment

to this man's death, through the linkage of them both doing overtime. Additionally, the incident's gruesome nature, the expression on the man's face and/or the extended time she was at the scene could have resulted in particularly vivid memories *(see 'vividness of the senses' for further discussion).* However, it appears the banal detail of the linkage to overtime that caused Caroline the greatest emotional distress, as opposed to the incident's gruesome nature. Again, this event illustrates the idiosyncratic nature of what different individuals find traumatic, as not everyone would have made this link between themselves and the deceased. Caroline commented on why she remembers such events:

> All these jobs are from years ago but I never forget them, but ask what I did four weeks ago and I couldn't tell you, do you know what I mean, probably because they're bad jobs or I've matured more and I've got more experience. Maybe it's that. I'm not quite sure.

Therefore, Caroline thinks the incidents she described were *"bad jobs,"* later adding *"the bad jobs you never forget."* She believes experience has a role in how nowadays she does not remember as much. She later questioned *"why do I remember these things? . . . Why? I don't know. Maybe some emotional tie to these particular jobs that I go to,"* therefore suggesting some emotional attachment to these patients *(see appendix M for further examples in relation to Caroline).*

In summary, it seems, from the paramedics interviewed, that incidents are experienced as potentially more distressing both in the short and long-term, when the individual paramedic makes an emotional attachment between the deceased and some aspect of themselves, or somebody they care about.

4. *Vividness of the senses.*

Some incidents appear more vividly remembered by these paramedics because of their gruesome nature and their impact on the individual's senses. Ann talks about a *"bad"* job in the following quote, demonstrating the vividness of her visual memory surrounding the incident:

> If I deal with a job and I think "Oh, that's really bad," . . . like having three guys burnt to death in a car, it's the only job we did all night,

> waiting for the car to cool down before we could approach it to get the bodies out with the fire service. And there was arms and legs; you could have just pulled them off like a chicken, which was dripping in fat you know. In my mind, because I didn't see them before to know what they looked like . . . all I've got is the charcoal shell left. You couldn't even tell if they were male or female . . . Let's go to the day after. I was asked if, if I wanted to talk about it because it was a nasty job. We didn't have that many officers around then and I just said, "No, I'm fine. I just want to change my jacket," because you couldn't get rid of the smell, of burning flesh. So I just ordered a new flash jacket and I was fine. I went to sleep. I never lost any sleep, and I never, ever visualise what I've been seeing.

This suggests the lingering of smells from the scene the day after was what Ann found difficult. The vividness of her description of the scene (not repeated in its' entirety), including the smells, suggest this incident is ingrained into Ann's memory, possibly due to the experience of these basic sensations at the time, rather than the fact she found the incident traumatic.

James commented how memories of certain incidents do not fade, exemplified in the following quote. Again, he appears to have vividly remembered the scene:

> I've found over the years is certain jobs never seem to fade. Its second job, first shift of being a technician, bloke blew his brains out with a 12-bore shotgun. Even now I can close my eyes, and I can still see him slumped there in the caravan . . . So, when we turned up his blood and brains were still dripping off the ceiling. And there was still the smell of gunpowder, which was quite strong. Then there's been others, over the years that, just a little bit of concentration, I can still picture. So other times they just seem to come, and been, it's, the order, I might get a bit muddled up but they're still there. And after I sometimes wonder, is that trouble brewing up for future?

James questioned whether these memories could cause trouble in the future and later added *"it just mounts up."* This suggests memories could potentially

become overwhelming, which a number of the paramedics considered. This concern is supported by the literature, which indicates AWs often retire early due to burnout (Rodgers, 1998). It seems important to note how early in James' career this incident was, first shift as a technician. This could be one explanation for why the memory is so vivid. In addition, the incident's gruesome and sensory nature, particularly the strong smells, could account for the memory's vividness. When asked what kind of images she remembers, Sarah (pilot) commented:

> They are more of the trauma jobs, the more like gruesome ones. There just, there just, like, the, it's the road accidents really, just the way that people look and you just think, oh.

This indicates it can often be how the patient physically looks which causes vivid memories of the incident. Some of the participants referred to the look on people's faces as ingrained into their memories, as evidenced by James:

> It's usually, predominantly trauma, occasionally hangings, hanging is never nice. They're always, their faces always looks so angry and resentful of life. And, there's nothing you can do . . . But they've all got the same, or predominantly the same angry look as if they're accusing you. They're saying, "You're not helping me."

It appears for these paramedics facial expressions of the dead or dying are particularly salient. Partly because of the scene's gruesome nature, but also in the case of suicide, the fact the participant was unable to make a difference *(discussed earlier)*. One could hypothesise some emotional engagement with the deceased following a suicide, perhaps an attempt at trying to understand the reasons behind the extreme nature of their decision.

In summary, these quotations illustrate that some memories of work-related events are particularly salient for these paramedics partly because of the impact on their senses during the incident, particularly the look on the faces of the deceased. It seems distinctive smells and other basic sensations might strengthen the memories.

The Process of Reflection and Making Sense

This theme incorporates six subordinate themes which encapsulate the differing strategies the paramedics interviewed used to understand and make sense of work-related events *(such as those discussed above)* so they are able to move forward.

1. Search for understanding and making sense.

Making sense of an event appears to begin upon receiving a call from Control and continues while travelling to, and following an incident. Reflection is encouraged within the emergency services, as implied by the participants, and occurs following the completion of an incident and in collaboration with meaning making, leads to understanding events at a level from which they can move forward. Reflection appears to involve thinking about the individual paramedic's involvement at, and management of, the scene, and their own and their colleagues' treatment of the patient, as Dave illustrates:

> You come in after the job and sit down and think, "How did I manage that? How did I cope with that?" But because at the time you're running on adrenaline, you sort of think to yourself, you know, it's something takes over and puts you in a mode which you cope with something. You come back and . . . we sometimes think, "Did we do that right? How could we have done it better?" "What made me do that?" "Did I not ought to have, sort of looked after that patient before that one?" You know, you test your own knowledge and you also test whether or not you was in tune with what you was doing was correct, if you like, you know, that things followed a pattern as they should have done, or whether you could have improved on it, you know, you could have sort of altered it to what it should have been or whatever.

For Dave, reflection appears to be about analysing his actions and understanding how he has managed the experience, more learning from the event. This quote illustrates the importance of having space to *"sit down and think,"* following an incident, particularly as it seems there is little time to think about what is happening as it happens. This space allows further processing of the event, leading to making sense of it *(see 'taking time out' for*

further discussion). James discussed reflecting following particularly bad incidents, stating, *"it's usually afterwards it starts to seep in, you just think bugger,"* demonstrating the potential emotional impact of thinking things through. The process of reflection could therefore potentially lead to the realisation and possibly outward expression of emotions that the individual might have suppressed or controlled during the incident *(see extended results for a discussion of 'emotional expression and suppression').*

Caroline commented *"you have to be a detective as well,"* implying the need to make sense of and understand events at both a practical and emotional level, as illustrated by the following quote:

> It was a cot death but because you get it drilled into you so much "Well are you sure it was a cot death?" Like before you go into that incident, and I must have gone upstairs ten times to look at the cot, the patient, the patient, the baby's bedroom and come back downstairs. And I come back downstairs and I'd forgotten what I'd seen so I went back upstairs again because you're constantly, everybody, you have to be a detective as well. So my behaviour then, even though to anybody else it would look like strange behaviour, it was abnormal behaviour because it was my first cot death and I wanted to make sure that it was a cot death even though really I knew it was. You have to make sure that paperwork's right and you have to make sure that you have to write down what you saw in the bedroom in the baby's cot, everything.

For Caroline, acting like a detective appears to be about understanding the event to make sure the paperwork is correct. However, Ann talked about being interested in understanding what had happened to the patient. In the following extract, she talks about this in relation to an incident where a woman had been viciously raped and murdered:

> When I go into a room and there's a dead body, I'm instantly on, I'll tell the crews "don't come over the doorway, you know. It's now a crime scene." And in your head it's like, you know, there were two cups on there, there was trousers down there, and you visualise everything that's in the room . . . that's why I cope with deaths as well, because it fascinates me what's happened to the body and how did it

> end up in that position? . . . It [the incident] becomes really interesting to me then. Not because she's dead. It's what's happened and try and put the picture together . . . I think some of the books I read. I've read a few on pathology stories, they've come across different routes of blood spatter, so the patient's been attacked from the back, the side, that sort of thing. A bit of a Quincy [television detective] really . . . So I like to look deeper into why that's happened . . . that's probably why jobs don't bother me.

This demonstrates how Ann views herself and part of her job as acting like a detective, figuring out what has happened and why. It appears Ann's method of making sense of events focuses on the scene as opposed to the patient. This perhaps enables her to emotionally detach herself from the deceased and therefore minimise any subsequent difficult emotions should she concentrate on the deceased. It appears she finds this aspect of her job interesting and this seems to help her manage her emotions at the scene and afterwards. Ann's vivid description of the scene *(not included in its entirety because of its extreme graphic nature)* provides another example of an incident that is ingrained into memory, possibly because of its gruesome nature and the fact she was unable to make a difference *(discussed under 'the salience of memories')*.

Therefore, reflection and meaning making are important for these paramedics in processing, understanding, making sense of and moving on from traumatic work-related events, so they are able to cope practically and emotionally with their job. However, the manner in which these paramedics sought to derive meaning from events varied.

2. Taking time out.

Being able to take time out following an incident appears to lead to further reflection and making sense, hopefully leading to 'closure.' Dave talked about having time away from dealing with patients following difficult incidents:

> I have taken time out to sit and talk with somebody or have time on my own, drink a coffee, a kind word in the ear from somebody that knows me, a manager or just a friend. But it's generally just, I just, I need, I

> need time away from that particular aspect of the job, in that shift. If it's towards the end of the shift, sometimes I've gone home early. Basically, just got to the end of the shift, and by the time I've recovered from it I would have been at home anyway. But generally, if it's in the middle of a shift, I take time out. I sit and think.

This appears to allow the paramedics interviewed the time to process what has occurred, enabling them to understand the event, deal with their emotions and move on when they are ready, as opposed to Control being ready. However, Sarah (pilot) indicated that sometimes they have to attend another incident straightaway, commenting *"sometimes they . . . would send you straight on another job so you don't have time to wind down off that one. And that's not very nice."* She discussed this in reference to the next incident being one she did not consider worthwhile:

> I do . . . that job. . . and you guarantee it'll be some pathetic job that you, people are likely to lose their temper, so if it's something that really isn't worth 999 you're going to be really peed off after you've just been to, to that, but I'd smile through gritted teeth and deal with that job. And then I would ask Control, I'd say, "I need to go and have a cup of tea please." And then you've put the ball in their court. And if they say "No" then they're really not seen to be looking after you . . . You do need like half an hour just to wind down and get that adrenalin from that job out of your system, just think it through to say to yourself, yeah, I did everything I could and, or even talk it through. I did everything I could, yeah, that's, that you know, I'm ready now to carry on.

Therefore not having enough time to wind down and, *"get that adrenalin out of your system,"* following a challenging incident, has an impact on how Sarah copes with the following incident, stating she is more likely to become annoyed. Perhaps such an accumulation of emotions could make these incidents more difficult to process afterwards, potentially making the experience more traumatic than it would have been if Control had provided an

appropriate break. Sarah's ending comment *"I'm ready now to carry on"* demonstrates the importance of being able to take time out in moving forwards.

3. Talking to each other.

All the participants commented on talking to others following incidents, this therefore appears to be an important coping strategy. The aim of talking to others appears to be to make sense of, understand and reach 'closure.' The participants varied in whether they found talking to colleagues or family more helpful *(see extended results for quotations in relation to this).* The following quotation details Sarah (pilot) talking to colleagues following an incident:

> Sometimes you start, you will start thinking about what you've actually just dealt with and it's quite traumatic, and you feel, you feel sorry for them, you feel sorry for the relatives, or what's going to happen to them. I don't know, you just start talking about it with your, with your colleagues really, just sort of tell them about it and stuff.

Therefore, talking through incidents appears important, it enables Sarah to reflect on and attempt to make sense of them, including her own emotional reactions. Laura discussed talking to colleagues returning from a bad incident, specifically in relation to sense making:

> We get back, we'll sit and have a chat or at the hospital, we'll have a chat with people if they're around . . . It's usually, you know, people are interested what you bring in, and sometimes we, you know, you can be there when somebody else brings something bad in, so you're sort of there to, to help them out and take them around the corner and say well, you know, and make sense of it. I think a lot of the job is just making sense of, of what's, well what's happened and why it's happened, and how it's happened.

This demonstrates the importance of social support in sense making. The phrase, *"brings something bad in,"* suggests there is recognition amongst colleagues of what they consider a, *"bad,"* incident. This quote also demonstrates the importance of taking time out for talking and thus making sense.

In summary, it seems for these paramedics talking through events with others is important for reflection and making sense of what has happened, so they are able to cope with it and move forwards.

4. *Accepting death.*

An impact of dealing with life and death on a daily basis appears to be an increased awareness of the fragility of human life, more specifically death, injury and illness, and a number of the paramedics talked about this. Tim particularly referred to this, linking it to his own death:

> We all know one day we're going to go. But the more you see it you think to yourself, well, one day that's going to be me. It's probably just a natural reaction . . . I sometimes think of a scenario of my wife walking in and finding me on the floor . . . I have always said to her, just leave me there; get a doctor out to certify me. Don't bring the ambulance staff out because I know what it goes to. I'm one of these that think, when you go, you go, like, that's it.

Tim appears to think frequently about death, particularly in relation to his own death. The final sentence suggests an acceptance of death, particularly in relation to his own, something that might help him understand, make sense of and accept when patients die. This would appear important to accept, so he is able to continue within the job.

James was the only participant who talked about religion[3] commenting when things get bad he talked to a Priest. Religion appears important for James in searching to understand and make sense of work-related events, particularly deaths:

> I'm probably more religious now than what I was when I joined the service. In some ways I'm fatalistic, I, when your time's up it's up. And I've seen people walk away from things they had no right to walk away from. And I've seen people dead, when they should have walked away from it. So you tend to view it, and I think a lot of it is believing or wanting to believe, there's something after this life.

[3.] Other participants used the phrases "God" and "Christ," for example, but they did not use them in the traditional religious sense.

This demonstrates an understanding and possibly an acceptance of death that is just how it is, some people live and some die. He talks about a possible afterlife, implicitly suggesting a better place for the deceased. Perhaps this belief enables James to more readily make sense of and accept patient deaths. Dave and Laura implied an acceptance of death, without an involvement of religious undertones:

> *Dave:* You are the person that everyone is viewing the person that's expected, if you like, to pull the rabbit out of the hat; the person that people think will be the answer to the problem. And that is not always what happens. You know, nobody can alter Mother Nature. Nobody can say whether a patient is going to pull through or not.

> *Laura:* It [the job] does make you aware of any close shaves that you have that when our time's up, our time's up, we're out of here and I do believe there is a big tick list up there somewhere.

We could consider all these viewpoints alongside the culturally mediated discourse of fate, or the philosophical stance of fatalism, both of which imply these paramedics are not in control of the patient's outcome, that death in some cases is inevitable. This manner of viewing death could assist these individuals to make sense of, understand and accept death. It could mean they do not perceive death as traumatic, although this would certainly be dependent on the circumstances. Furthermore, such viewpoints could enable emotional detachment from the deceased, releasing them from their sense of responsibility for the patient's death, allowing them to move forwards and reach closure.

In summary, it seems an understanding and acceptance of death as inevitable for some patients however they understand this, appears an important viewpoint for these paramedics to have, to assist with meaning making following death.

5. *Closure.*

This appears to be about being able to file the incident away and being able to move onto the next one. It follows on from the above strategies. Laura commented how, *"it gets pocketed somewhere,"* and how, *"it's at rest, it's gone."* Caroline stated you can, *"move on,"* and, *"you start moving forward,"* after offloading to colleagues about incidents. Ann viewed the end of each day as closure: *"see[s] every day as a new day, see what's challenging today sort of thing"* and, *"talk[s] about stuff I'd done and I can come on the next day, you know, and in my mind I've already forgotten it."* Laura noted the importance of closure but wondered whether it could be trouble brewing for the future, something a number of the participants were concerned about *(see James' quote under 'vividness of the senses').*

> Whether that comes back in years to come, I don't know [laughs], where, where you might not be able to deal with that in a few years time. But yeah, you just deal with it as it comes. If you don't deal with it there and then I think it would then carry on and carry on and carry on, but yeah, and I, I know I'm pretty good at dealing with it, making sense of it, this is why, that's why, right, put it away now. And that's it, closure.

Laura refers to making sense and dealing with events as part of closure. However, she minimises her concerns that these memories will cause problems in the future by laughing about them. In the following extract, Laura indicates how information about the patient adds to the meaning making process and helps lead to closure:

> Looking for reasons why something's happened as well, hence we've found out years later . . . the gentleman I was talking of . . . he fell asleep at the wheel, because he was holding down two jobs, because he was trying to support his family because his wife wasn't in work and he'd got so many kids and he was working, you know, two jobs. And you then think, you then felt sorry for him, but at least it made sense why he went head on into somebody else. He was tired he fell asleep at the wheel.

Therefore, finding out information about the patient after the event helped Laura to make sense of what had happened and helped her reach closure.

In summary, closure appears to be about being able to understand and push aside or compartmentalise what has happened, not getting rid of the memory and the subsequent ability to move forwards.

6. Changes in life outlook and perspectives.

Only Sarah (pilot) and Laura appeared to reflect on the job overall and the impact this had on the way they lived and/or made sense of their lives, as Sarah illustrates:

> It makes ya think right I've got to live my life now, how I, how I want to live it, try and do what I want to do, cos you don't know what's round the corner. We take health for granted, we could have a car accident and lose our leg or break our back or whatever, get a horrible disease, terminal disease. So you might as well do the stuff you want to do now while you can. But then it does fade away until you go to another job that reminds you that. It's not there all the time.

Sarah's increased awareness of death, injury and illness appears to have led to a heightened appreciation of life, particularly illustrated by the first two lines. This suggests a sense of an altered life and future outlook, as she might not have held these views had she not been so readily exposed to death. However, Sarah has not been on active duty for six months and this might have had an impact on the way she views her role, as she is potentially not as immersed in the job and the potential traumatic events that accompany it. This time away might have provided her with the opportunity for reflection, leading to a heightened appreciation of life and the potential for new possibilities, both elements indicative of PTG. However, Laura was on active duty when interviewed and she reported elements that could be indicative of a heightened appreciation of life:

> It makes you look at how lucky we are from day to day to still be here for a start. It makes you think that if you are walking down the road that you're not always safe, you know, accidents do happen and they can happen to you, you know, it isn't a case of, oh, it'll never happen to

> me, because it can happen to you. And I think that's opened my eyes more so to the fact that it can happen to you.

Laura fleetingly refers to a heightened appreciation of life, an element of PTG. However, she quickly moves to negative thinking, demonstrated by her increased awareness of her vulnerability and potential for injury. Other participants referred to this increased awareness of death *(see 'accepting death'),* but only Sarah and Laura considered the positive side to this awareness. Laura continued to talk about this altered perception of the future and an enhanced appreciation of life, as demonstrated by the following quotes:

> People say that they, they would live each day as it, as to the full because they might not be here tomorrow and I think that makes you think a little bit more about that, although I don't tend to do it cos tomorrow's a long way away now [laughs]. But I do think it alters your perception of the future of what could happen that you might not be, well you're not going to be here forever, but you might not live till you're old, old, and just die naturally of natural causes.

> It makes enjoying the moment, as I say I've got a three-year-old. I think just enjoying the time with him that I've got when I have it because you never know, either of us, I know that's morbid as well, but either of us might not be around, you know, something, we see kids that are poorly, something could happen to him . . . I think that's a good and bad side of it that it makes you aware from the jobs that you've dealt with.

Therefore, an inevitable impact of the paramedic role would appear to be an increased awareness of death, injury and illness. However, Laura appeared to interpret this awareness both positively, in that she makes more attempts to enjoy the moment and negatively in that she is more aware of how people die. Laura's second quote appears to indicate another element of PTG: growth in relating to others (Tedeschi & Calhoun, 1996).

Therefore, the process of meaning making and subsequent enhanced understanding of life and relationships with others might help these paramedics to make sense of and understand work-related events by retrieving something

good out of a bad situation. The patient they attended might have died, they might not have been able to make a difference, but they can do something different in their own lives, whether that is making the most of their own lives or the time they have with loved ones. This viewpoint could lead to these paramedics living more within the here and now, although the participants appear to indicate this fluctuates and is dependent upon the incidents they have recently attended.

Summary

It seems there are factors present within certain incidents that make them more vividly remembered and potentially more traumatic, both during and afterwards, for these paramedics. It appears it might not always be clear to colleagues that an event has had an impact on an individual or why, because each individual will potentially find different aspects of different incidents traumatic. It seems 'the process of reflection and making sense' is particularly important in such cases, potentially involving a myriad of different cognitive and practical strategies, which the individual can potentially use to help understand and make sense of incidents. The strategies used and the manner in which they are applied vary between individuals.

Discussion

We explored the lived experience of paramedics, focussing on their exposure to multiple potentially traumatic work-related events and their nuanced ways of coping. We generated four super-ordinate themes *(see table 1).* We focussed on the two themes that contribute most usefully to the literature. 'The salience of memories' provides a detailed and nuanced account of the memories of incidents that have impacted on the paramedics interviewed, contributing to the literature regarding the types of incidents paramedics have reported as traumatic. 'The process of reflection and making sense' examines the intricacies of the reflection process and the different ways these paramedics make sense of and manage traumatic experiences *(see extended results and discussion for consideration of the remaining themes).*

In line with the literature, participants found incidents involving dealing with: children, dead or dying patients, patients known to them,

identifying with the patient, particularly injured patients, RTAs and feeling helpless at the scene as particularly stressful, evidenced by their vivid memories surrounding such incidents (Alexander & Klein, 2001; Clohessy & Ehlers, 1999; Kirby, et al., 2011; Regehr & Bober, 2005; Regehr, et al., 2002). Halpern et al. (2009) commented the majority of CIs (87%) AWs spoke about involved patient deaths often involving some poignancy. Such poignancy included incidents involving children, innocent victims, senseless deaths, or patients to whom the worker felt connected, either through some similarity to a loved one or they had spent some time with the patient and made an emotional connection (Halpern, et al., 2009). Furthermore, research with DWs reported identification with the victim as particularly stressful, providing quotes illustrating the linkage of a child patient to the DWs own child and linkage of the deceased to someone they knew (Fullerton, McCarroll, Ursano, & Wright, 1992).

Our study supports these findings. First, most of the incidents the paramedics spoke about were classifiable as CIs and many involved the death, or near death, of a patient, again involving poignancy or identification with the patient. Second, our study noted some events are traumatic because of some linkage between the deceased and a member of the paramedic's family (Sarah's linkage to her sister) or a linkage with some aspect of themselves, such as their behaviour (Caroline's quote regarding overtime). However, we did not focus specifically on CIs within the interviews. This meant we reported some positive memories alongside the negative memories, for example, when the participant was able to make a difference and save the patient's life. Moreover, we reported incidents that were not classifiable as CIs, for example Caroline's reference to attending patients who have had a stroke. Therefore, we highlighted the individual and nuanced nature of the types of incidents different paramedics consider traumatic, with this not always obvious to colleagues.

These aforementioned features, present in certain incidents, often involved intense emotions or emotional attachments to patients, which appeared to lead to more vivid, ingrained and potentially intrusive memories, in both a positive and negative manner, in these paramedics. Previous research with AWs (Bennett, et al., 2005; Clohessy & Ehlers, 1999; Genest, et al., 1990;

Thompson & Suzuki, 1991) and DWs (Fullerton, et al., 1992) identified the experience of troubling recurring memories and images resulting from work-related incidents. Furthermore, research on emotion and memory in non-clinical and clinical samples, has shown an association between high levels of emotion or importance and more longer-lasting and vivid memories (Brewin & Holmes, 2003; Pillemer, 1998; Rubin & Kozin, 1984). Moreover, research has demonstrated that trauma memories in patients with PTSD are repetitive, particularly vivid, contain more noticeable perceptual features, appear more emotionally laden and involve a reliving of the traumatic event in the present (Berntsen, Willert, & Rubin, 2003; Brewin, 2007; Ehlers, et al., 2002). Our research supports all but the latter of these assertions in reference to traumatic memories but not necessarily in relation to a PTSD diagnosis, because we were unable to ascertain this about our participants. Finally, Caroline's distress at the continuation of intrusive work-related memories supports the current literature on the ineffective nature of attempting to suppress unwanted thoughts, as they return increasingly stronger, causing more distress (e.g. Wenzlaff & Wegner, 2000).

We highlighted the individual and nuanced nature of reflection and meaning making, referred to by all the participants, and the different cognitive and practical strategies potentially involved in this process. Previous research with EWs has reported reflection and ascertaining meaning in coping with distressing work-related incidents (Hodgkinson & Shepherd, 1994; McCammon, et al., 1988; Orner, et al., 2003; Regehr & Bober, 2005; Regehr, et al., 2002). However, no previous studies have discussed the myriad of strategies potentially involved in the meaning making process as we have. Previous studies have identified the importance of reflection as a learning process (Regehr & Bober, 2005), taking time out (Alexander & Klein, 2001), social support (Alexander & Klein, 2001; Leffler & Dembert, 1998; North, et al., 2002; Regehr, et al., 2002) and closure (Regehr & Bober, 2005; Thompson & Suzuki, 1991), in coping with trauma in EWs. However, this research has not specifically linked these strategies to the meaning making process in paramedics. Furthermore, our study has underlined the importance of time out and demonstrated the potential ramification if this does not occur. Moreover, previous research has not recognised an acceptance of death as part of the

process of meaning making in AWs, as reported here. However, we are aware these viewpoints are linked to the socially constructed concept of fate and the philosophical stance of fatalism.

The concept of PTG is reported anecdotally in the literature on AWs (Halpern, et al., 2009) and appears important to consider in relation to the two participants who reported changes in their life outlooks. We presented data that indicated elements of growth, which appear to map onto three of the factors of the five factor model of PTG: relating to others, new possibilities and appreciation of life (Tedeschi & Calhoun, 1996). The concept of PTG in an environment where there is cumulative trauma, which is therefore not 'post' traumatic, is interesting. Sarah (pilot) reported some positive work-related outcomes, but she had not been on active duty for six months. Therefore, perhaps this extended period away from active duty lead to her more positive thinking about the job. However, Laura also reported aspects of potential growth, despite being on active duty. Therefore, further research is required as this has implications regarding how growth is fostered in an environment where individuals are exposed to cumulative trauma.

Clinical Implications

Considering these findings, it would seem appropriate for educators to stress the individualised and nuanced nature of coping during the paramedic's training process. Alongside this, the fact different individuals might find different events traumatic, with this not necessarily immediately obvious to colleagues, should be emphasised. Specific coping strategies could be taught through the use of cognitive-behavioural techniques (Folkman & Moskowitz, 2004). Moreover, authors have commented on the importance of narrative methods with individual's exposed to traumatic events, in developing coherent narratives and accepting their experiences (Hunt, 2010). These methods, which focus on meaning making, could potentially be useful, in preventing and treating PTSD in paramedics exposed to cumulative traumatic events. However, the literature regarding treatment of PTSD in EWs is "startlingly sparse" and therefore further well-designed research is required (Haugen, Evces, & Weiss, 2012, p. 370). Despite this, our study is potentially useful for individuals providing occupational health support to paramedics, both in

understanding the nature of each individual's difficulties and in deciding the appropriate manner in which to support them *(see extended discussion for a more in-depth consideration).*

Limitations and Future Research

We identified some methodological criticisms. First, we did not use formal measures of PTSD or PTG, such as the Impact of Events Scale-Revised (IES-R: Weiss & Marmar, 1997) or the Posttraumatic Growth Inventory (PTGI: Tedeschi & Calhoun, 1996). We therefore cannot comment on whether our participants were objectively distressed or displayed elements of PTG. Introduction of a formalised measure would have been a useful triangulation point, thereby improving data quality. Second, we undertook interviews within the participants' work place, potentially limiting disclosure. Third, we should raise questions regarding why participants chose to volunteer, particularly whether they did because they were experiencing psychological difficulties (or not) within the work environment *(see extended discussion for an elaboration of these limitations).*

Fourth, IPA as an approach to analysis theoretically views the individual as a cognitive, linguistic, affective and physical being, assuming participants have the ability to express their own thoughts, feelings and perceptions of the phenomenon under study (Smith & Osborn, 2008). However, we thought some participants struggled to reflect on and describe their experiences, which led to the collection of more factual surface level data. Fifth, IPA involves the study of individuals at a specific time point, in reference to a specific topic and therefore we cannot view the participants as representative of paramedics overall. Finally, we selected the inclusion criteria *(see methodology)*, which were not necessarily representative of the employees of the NHS Trust we recruited participants from. Therefore, the results cannot be generalised to other paramedics.

Future research should address these limitations, particularly the lack of formalised measures. We think both the negative and positive after-effects of trauma, with a focus on its cumulative nature should be investigated in tandem, from a quantitative and qualitative perspective, thereby gaining a more comprehensive understanding of the impact of work-related traumatic events

on paramedics *(see extended discussion for a thorough overview and reflective component).*

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Extended Paper

Overview

The extended paper provides additional information about the study and expands on the introduction, methodology, results and discussion sections from the journal article *(it should therefore be read in conjunction with the journal article)*. The first person active voice is used for the journal choice rationale *(as follows)*, my personal position, some aspects of the quality assurance section *(see extended methodology)* and aspects of the critical reflective component *(see extended discussion)*.

Journal Choice Rationale

I chose QHR as the most appropriate journal for reporting the results of the study. This journal provides an, “international, interdisciplinary forum to enhance health care and further the development and understanding of qualitative research in health-care settings,” and more specifically accepts articles pertaining to the experience of caregivers and descriptions of, and analysis of the illness experience (QHR, 2012). I interviewed paramedics, a group of professional caregivers, about their experiences of potentially traumatic work-related events, therefore contributing to the current trauma literature in EWs. I therefore thought this journal was most appropriate. Moreover, a purely qualitative journal was felt appropriate, as opposed to a trauma journal, such as the Journal of Traumatic Stress, which tends to publish primarily quantitative research. Traumatology was also felt inappropriate, as it publishes online only articles and therefore would have a lower readership impact.

Extended Introduction

Overview

The following section consolidates the research on the negative and positive after-effects of trauma in relation to paramedics and where relevant, other EWs and DWs. It considers the concepts of PTSD, PTG and related constructs, alongside specific coping strategies used by EWs. Throughout, the terms 'disaster' and 'disaster workers (DWs)' are used, the former term refers to events such as earthquakes, fires, plane crashes and so forth, and is defined as, "a sudden accident or natural event that causes great damage or loss of life" (Hawker, 2006, p. 255). The latter term refers to individuals involved in working at a disaster scene. A second term, 'critical incident (CI),' is used and refers to, "an incident that is sufficiently disturbing to overwhelm or threaten to overwhelm the individual's usual method of coping" (Alexander & Klein, 2001, p. 76). A third term, 'ambulance worker' (AW), denotes occasions where paramedics and EMTs are included within the same sample.

Posttraumatic Stress Disorder

Trauma is defined as, "a deeply disturbing experience…emotional shock following a stressful event" (Hawker, 2006, p. 975). Tedeschi and Calhoun (1995, p. 19) stated traumatic events which, "are sudden and unexpected, uncontrollable, out of the ordinary, chronic, and are blamed on others," are more likely to cause individuals difficulty in adjustment and therefore psychological distress. A diagnosis of PTSD is made when an individual has been exposed to a traumatic event where they experienced, witnessed, or were confronted with an event that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others and their response involves intense fear, helplessness, or horror (APA, 2000). In addition, the traumatic event should be re-experienced through at least one of the following: recurrent and intrusive thoughts, images or perceptions, which cause significant distress, recurrent dreams of the traumatic event, acting or feeling as if the traumatic event were reoccurring and severe

psychological distress when exposed to triggers related to the traumatic event. Furthermore, there should be evidence of persistent avoidance of stimuli that are linked to the trauma, alongside some evidence of numbing of overall responsiveness and evidence of a persistent increase in the individual's arousal state.

Secondary Traumatic Stress

There are a number of overlapping terms and concepts within the trauma literature that apply to secondary trauma or the witnessing of a traumatic event. These terms are: secondary traumatic stress disorder (STSD) also referred to as compassion fatigue; vicarious traumatisation (VT); and burnout. Currently, there is debate over which terms are most appropriate for which particular circumstances, partly due to it being difficult to distinguish these terms from one another due to some overlap (Sabin-Farrell & Turpin, 2003). Researchers sometimes use the terms inappropriately and interchangeably, thereby confusing the situation further. The terms are similar as they involve empathy and compassion from the worker toward another individual (Huggard, 2003). However, there are identifiable differences.

The concept of STSD, also referred to as 'compassion fatigue,' involves a gradual decrease in an individual worker's compassion over time (Figley, 1995) and is defined as:

> A syndrome of symptoms nearly identical to PTSD, except that exposure to knowledge about a traumatizing event experienced by a significant other is associated with the set of STSD symptoms and PTSD symptoms are directly connected to the sufferer, the person, experiencing primary traumatic stress (Figley, 1995, p. 8).

Collins and Long (2003, p. 19) added that "compassion fatigue (i.e. STSD) develops as a result of the caregiver's exposure to patients' experiences combined with their empathy for their patients." Figley

(1995) commented despite DSM-IV (APA, 1994) recognising both PTSD and STSD (i.e. compassion fatigue), most research has focussed on those individuals directly in harms' way and largely ignored those at risk of developing STSD, e.g. psychological therapists, EWs, DWs, etc. There are probably numerous reasons for this omission, but it could partially be due to stereotypes of helpers as resourceful and strong, therefore being impervious to trauma, and victims being viewed as helpless and resourceless, therefore being susceptible to difficulties following trauma (Shepherd & Hodgkinson, 1990). In relation to disaster work (DW), these helpers or secondary victims have been described as the "hidden victims" (Shepherd & Hodgkinson, 1990). However, the proposed changes to the DSM-V diagnostic criteria recognise the potential impact of secondary traumatic stress on EWs, adding, "experiencing repeated or extreme exposure to aversive details of the traumatic event(s)," to criterion 'A' (APA, 2012: *See the DSM-V development website for details)*.

The term VT is used mainly in relation to trauma therapists and is defined as:

> The cumulative transformative effect upon the trauma therapist of working with survivors of traumatic life events...It is a process through which the therapist's inner experience is negatively transformed through empathic engagement with client's trauma material (Pearlman & Saakvitne, 1995, p. 31).

Sabin-Farrell and Turpin (2003, p. 453) added VT "places more emphasis on changes in meanings, beliefs, schemas, and adaption although still acknowledging subclinical levels of trauma symptoms," and commented STSD does not consider the specific cognitive changes that are a hallmark of VT. This concept is potentially applicable to paramedics, as not only are they present during a traumatic event (and therefore susceptible to primary PTSD), but they also have to concurrently deal with the accounts and concerns of the patient, their

relatives and onlookers. Moreover, they will need to hear about the details of the event to establish what has happened and to guide their treatment of the casualties. In addition, families and friends of EWs could be at risk of VT if the worker chooses to disclose the traumatic events they have dealt with and witnessed at work (Regehr, et al., 2002).

Another term used within the trauma and occupational health literature is the concept of burnout, defined as:

> A state of physical, emotional and mental exhaustion caused by long term involvement in situations that are emotionally demanding. The emotional demands are most often caused by a combination of very high expectations and chronic situational stresses (Pines & Aronson, 1988, p. 9).

Burnout is described as a gradual process resulting from occupation-related stress, whereas STSD happens more suddenly and is specific to working with trauma survivors (Sabin-Farrell & Turpin, 2003).

Therefore, there are overlapping terms within the trauma field. The main ones have been discussed (see Figley, 1995, for further discussion). Therefore, the construct of primary PTSD is relatively well defined but some researchers might consider that on occasions, it is applied too widely. The continued debate over the appropriate use of terms within the VT field indicates this.

Psychological Distress and Emergency Workers

Paramedics have the potential to suffer far greater psychologically than other EWs, as paramedics within the UK respond to more emergency calls than the police and fire service combined (James & Wright, 1991). Recent data supports this and shows during 2010-2011, a total of 8.08 million emergency calls were received nationally by the ambulance services, with 6.61 million of these requiring an emergency response,

involving arrival at the scene (ONS, 2011a). This is in comparison to the fire service, who during 2010-2011 attended only 623,800 fires or false alarms within Britain (ONS, 2011b). Furthermore, alongside witnessing potentially more traumatic events then other EWs, paramedics are specifically exposed to human suffering and death on a daily basis and frequently find themselves in situations where their own safety is compromised (Regehr, 2005). Moreover, paramedics are constantly exposed to reminders of past traumatic call-outs while they remain on active duty and are unable to avoid such triggers (Figley, 1995).

Overall prevalence rates for PTSD in AWs *(reported in the journal article)* are comparable to reported rates in police officers of 13% (n=100: Robinson, Sigman, & Wilson, 1997) and between 13% (n=181: North, et al., 2002) to 26% in fire-fighters (n=751: Bryant & Harvey, 1996). Male AWs are reported as having higher PTSD rates than females, 23% (n=513) compared to 15% (n=91) respectively. However, this should be interpreted with caution as fewer females were included within the sample and 13 participants omitted their sex on the questionnaires (Bennett, et al., 2004).

Prevalence rates for levels of general psychiatric morbidity in AWs, as measured by the General Health Questionnaire (GHQ: Goldberg & Hillier, 1979), range from 22% (n=56: Clohessy & Ehlers, 1999), to 32% (n=110: Alexander & Klein, 2001), with one study reporting 60% (n=40) showed signs of “probable psychological distress” (using a cut-off above five: Thompson & Suzuki, 1991, p. 194). Rates of depression and anxiety, as measured by the Hospital Anxiety and Depression Scales (Zigmond & Snaith, 1983), of 10% and 22% respectively, have been reported (n=617: Bennett, et al., 2004). However, when the Beck Depression Inventory (Beck, Steer, & Brown, 1996) was used, a higher number of paramedics (21%, n=86) reported moderate or severe levels of depression (Regehr, et al., 2002). Such inconsistent use of outcome measures makes it difficult to reach firm conclusions regarding levels of depression within AWs. Despite this, reports of increased, “mental

health stress leave," have been noted in paramedics, with one study noting a 26.8% (n=86) increase specifically following work-related traumatic events (Regehr, et al., 2002, p. 508). Furthermore, Rodgers (1998) reported UK AWs exhibited increased rates of premature retirement on the grounds of mental and physical health, in comparison to other healthcare staff. Finally, studies have reported sleep difficulties (Clohessy & Ehlers, 1999) and increased use of psychiatric medication, particularly following work-related CIs (Regehr, et al., 2002).

Studies have reported lasting changes in relationships in EWs due to work-related incidents. North et al. (2002) found 19% of fire-fighters (n=181) reported negative changes following a bombing and 20% reported positive changes *(positive aspects are discussed more fully later).* However, there is no further description of these relationship changes. Further studies have reported paramedics' families are often significantly affected by difficult work-related incidents, with workers often feeling disengaged and emotionally distant, exhibiting generalised anger and irritability toward family members and becoming overprotective toward them (Clohessy & Ehlers, 1999; Regehr, et al., 2002).

In addition to the criticisms of the prevalence research discussed earlier *(see journal article)*, Bennett, et al. (2004) reported a 60% (n=617) response rate, which they thought indicated individuals with more psychological difficulties avoided completing the questionnaires (a central characteristic of PTSD), resulting in lower reported PTSD rates. Alternatively, individuals with more psychological difficulties might have been more likely to participate in research, therefore resulting in elevated prevalence rates (Clohessy & Ehlers, 1999). Furthermore, the levels of reported psychopathology might be an underestimate due to the culture of denial and expectation to suppress emotions, which continues to dominate the emergency service professions (Alexander & Klein, 2001).

Finally, none of the reviewed studies differentiated between PTSD and STSD and few studies focussed specifically on STSD (or related concepts) in EWs. Hyman (2004) discussed STSD symptoms in Israeli police forensic technicians. However, it is unclear how the authors separated symptoms of PTSD and STSD within this sample, as the workers lived in a community that had witnessed prolonged and repeated war and terrorism over an extended period. Therefore, did the study assess symptoms indicative of primary PTSD, rather than STSD? On reflection, it would appear extremely difficult to separate the concepts of PTSD and STSD within the majority of studies, as prior, concurrent and subsequent traumatic experiences would need to be controlled.

Despite the reported negative consequences of emergency work (EW), researchers have discussed paramedics and other EWs as having hardier (a term abandoned in recent years) or more resilient personalities and included these concepts in their discussions of coping following trauma (Alexander & Klein, 2001). Hardiness implies a stable trait, unaffected by circumstances as opposed to resilience which has been shown to be a dynamic construct, dependent on the individual and their environment (Lepore & Revenson, 2006). However there is disagreement over the definition of resilience, with no single definition fully explaining the concept, with some studies conceptualizing resilience as an outcome and others as a process (Lepore & Revenson, 2006).

The Impact of Specific Incidents

(This section should be read in conjunction with the journal article).

Following unsuccessful resuscitation attempts, some volunteer AWs reported vivid thoughts, images and negative feelings, including sadness, which they considered uncontrollable. Furthermore, three participants reported a level of intrusive thoughts and/or images to be sufficient to interfere with daily activities (Genest, et al., 1990). However, this study evaluated only 14 voluntary AWs' reactions, as

opposed to full-time paramedics, meaning they might have had limited training and were not exposed to such events on an everyday basis. Therefore, their reactions might have been more severe than if they had been fully qualified paramedics. Furthermore, it is not clear exactly when the participants experienced the failed resuscitation attempts or what exactly constituted a resuscitation attempt. The authors commented they “occurred within the last few years” but no specific parameters are specified (Genest, et al., 1990, p. 309).

General work conditions including shift-working, meal irregularity, low pay, attending false alarms, the unpredictable nature of the job (Clohessy & Ehlers, 1999; Thompson & Suzuki, 1991), not receiving prompt back-up and receiving inaccurate information regarding the incident location or the injuries (Alexander & Klein, 2001; Halpern, et al., 2009) are also reported to contribute to overall work stress. This is alongside ‘job politics’ or organisational stress, including difficulties with management, which are sometimes considered more stressful then CIs (Bennett, et al., 2005; Thompson & Suzuki, 1991).

A mixed methods study found that levels of PTSD were increased when circumstances, such as: the patient’s isolation (i.e. suicides, dying alone), profound loss and dealing with the grief of others,’ or the abuse of an “innocent child,” led to the paramedic developing an emotional connection to the patient or their family (Regehr, et al., 2002, p. 505). However, some of the claims made regarding the qualitative aspects of this study are not supported with illustrative quotations, making one question the validity of the claims. Furthermore, research specifically investigating risk factors for poorer psychological adjustment and potential PTSD responses in DWs found the following as important: severity of the disaster (Jones, 1985; McCarroll, Ursano, Wright, & Fullerton, 1993), exposure to dead bodies or body parts (North, et al., 2002; Ursano & McCarroll, 1990), failure to rescue and save immediate survivors (Fullerton, et al., 1992), identification with victims’ bodies(Fullerton, et al., 1992; Hodgkinson & Stewart, 1992; Ursano,

Fullerton, Vance, & Kao, 1999), an isolated working environment (Ersland, Weisaeth, & Sund, 1989), fatigue and physical stress (Fullerton, et al., 1992) and the DWs themselves could have been or were harmed (Ersland, et al., 1989).

Coping in Emergency Workers

Lazarus and Folkman (1984, p. 141) defined coping as the, "constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person." Coping is considered a, "complex, multidimensional process," sensitive to individual personality characteristics and the environment, with its changing demands and resources, together influencing how an individual appraises a stressful situation and their coping resources (Folkman & Moskowitz, 2004, p. 747). Despite continuing debate over the appropriate organization of different coping styles, they are more often divided into three categories: task-orientated coping, emotion-orientated coping and avoidant-orientated coping (LeBlanc, et al., 2011). To date, few direct relationships have been found between the severity of PTSD symptoms and coping strategies used by AWs (Clohessy & Ehlers, 1999).

Task-Orientated Coping

Task-orientated coping involves action in attempting to change or remove the source of stress and appears to serve a protective role. It has been associated with lower anxiety levels, as measured by the State-Trait Anxiety Inventory (STAI), when confronted with a high stress simulated ambulance environment. It is often considered a healthier and more effective response when dealing with stressful situations (LeBlanc, et al., 2011). Task-orientated coping strategies could include social support, religion and the educational process.

Social Support

Social support appears vital in helping AWs (Halpern, et al., 2009; Regehr, et al., 2002) and DWs (Leffler & Dembert, 1998; McCammon,

et al., 1988) cope with traumatic experiences. Such support can come from colleagues, management, family, friends, counsellors and religious figures. Alexander and Klein (2001) found 94% of AWs (n=110) preferred talking over incidents with colleagues and qualitative data has indicated the importance of family, particularly partners in providing social support (Regehr, et al., 2002). Such support has consistently been found to be a protective factor in PTSD, reducing the potential impact of stressful incidents on AWs (Regehr, 2005).

The support of management would appear important in EW. However, research with paramedics has often shown they believe they receive little or no support from employers (58%, n=86) and/or unions (80%: Regehr, et al., 2002). Another study found 73% (n=110) of AWs completing a self-report questionnaire, rated management as 'never' concerned about the welfare of staff following CIs (Alexander & Klein, 2001), therefore indicating accessing management support is problematic. Moreover, research with police officers has indicated psychological disturbance is more likely if traumatic experiences are interpreted in an organizational culture which, "discourages emotional disclosure, focuses on attributing blame to staff, or minimizes the significance of people's reactions or feelings" (Paton & Stephens, 1996).

However, the use of social support is not as common as might be expected. For example, 82% of the participants in Alexander and Klein's (2001) study sometimes chose not to discuss their distress, with 71% of these individuals finding this an unhelpful strategy. However, the reported coping strategies were gathered using the Coping Methods Checklist (Alexander & Wells, 1991), a quantitative, pre-defined measure, thereby limiting potential responses *(see critical summary and study aims for further discussion).* However, North et al. (2002) also found only 50% (n=181) of fire-fighters used social support to cope.

However, more than 97%[4] of these workers were male and all were volunteers, thereby questioning the applicability of the results to women and full-time fire-fighters. Furthermore, 92% of the participants had accessed the, "mental health defusing and debriefings," offered, both of which could be considered organisational methods of social support, therefore questioning North et al.'s (2002, p. 172) assertion that only 50% accessed social support. The reasons behind the reported lower than expected levels of seeking social support is unclear, one hypothesis is the sharing of distressing experiences with family and friends, as opposed to suppressing them, might be problematic due to VT (Regehr, et al., 2002) and the paramedic might be aware of this to some extent. A second hypothesis is the macho male culture inherent within the emergency services which might prevent workers from talking about difficulties they are experiencing (e.g. Regehr, et al., 2002).

Religion

The use of prayer by EWs has been shown in only a small number of individuals. Hodgkinson and Stewart (1992) found although spiritual or religious beliefs were important for 44% (size unreported) of social workers involved in DW following two major British train disasters, only three individuals actively used prayer to cope. McCammon et al. (1988) referred to DWs turning to religion or philosophy to help in their quantitative study of coping strategies, but this is not discussed further. Therefore, the mention of religion within the literature appears sparse, suggesting it is either rarely used, or the importance of spirituality and religion for people is under-researched and therefore underestimated.

Education

Palmer (1983, p. 84) observed and interviewed 22 AWs and identified how the training process leads to, "educational desensitization," meaning they are taught to interpret, "gruesome," scenes as nothing

[4.] This percentage of males within the fire-service is probably representative. Reports have indicated that within England less only 4.1% of fire-fighters are women (Communities and Local Government, 2011). This is therefore likely to be the case in America where the Oklahoma Bombing took place.

more than regimented protocols to proceed through. Training encourages the suppression of feelings while at work, so AWs are able to continue working. However, the author did not report the specific qualitative method of analysis used and did not provide specific quotations to illustrate the claims. However, quantitative research with DWs has supported the importance of appropriate and realistic training in the coping process (Hytten & Hasle, 1989; Leffler & Dembert, 1998). In the former study, 52% (n=58) of fire-fighters following a hotel fire, stressed the importance of training. In the latter study, where DWs (n=66) recovered bodies from the sea following an air disaster, occupational diving training was the second highest rated coping strategy behind social support, as measured by a pre-determined quantitative coping strategy checklist. Therefore, part of coping would appear to be having the appropriate training and skills to do the job.

Emotion and Avoidant-Orientated Coping

Emotion-orientated coping involves the use of cognitive and behavioural methods to manage emotional responses to stress. It has been associated with an increased anxiety response, measured by the STAI, and therefore could be considered ineffective in coping with stressful work situations. (LeBlanc, et al., 2011).This assertion is supported by earlier research with AWs, which stated such coping methods were useful in the short-term for reducing distress, but unlikely to be effective on a longer-term basis (Thompson & Suzuki, 1991). Avoidant-orientated coping is the attempt to avoid facing the problem (LeBlanc, et al., 2011). The following strategies are considered: reflection and meaning making, visualisation and imagery, humour, technical language, emotional suppression, avoidance and distraction.

Reflection and Meaning Making

The process of reflection and meaning making is mentioned within the literature on AWs and DWs, but is rarely elaborated (McCammon, et al., 1988; Orner, et al., 2003; Regehr, et al., 2002). Following a questionnaire-based survey of coping methods with 217 mixed EWs,

Orner et al. (2003, p. 7) commented that deliberate efforts to gain relief from the somatosensory impact of trauma might involve a time of, “self-talking and reflection,” which they hypothesised was functional in forming a coherent narrative. However, the authors do not provide further details. McCammon et al. (1988) indicated DWs attempted to achieve mastery over the situation by attempting to find meaning in the event or their own life decisions, commenting that failure to find meaning was the greatest detriment to successful coping. Furthermore, qualitative research has reported paramedics sometimes need to obtain further information about an event for example a suicide, to understand the event and gain closure. This is in addition to reflecting on the event to ascertain whether they had acted correctly and learnt from the event. The authors referred to how such methods lead to, “contextualising the individual,” resulting in the development of an emotional connection between the paramedic and the patient and/or their family and therefore empathy toward them (Regehr, et al., 2002, p. 510). However, the method of qualitative analysis undertaken is unclear and quotes illustrating the claims were not always provided.

Visualisation and Imagery

Some studies have described the use of visualisation or imagery techniques in DWs and EWs. Taylor and Frazer (1982) reported 30% (n=180) of body handlers following a plane crash, used imagery to cope with tasks required at the scene. Examples were provided of workers viewing dead bodies as objects, frozen or roasted meat, plane cargo, waxworks or scientific specimens. The authors stated this allowed the workers to, “create and maintain an emotional distance from their work until such time as they were able to readjust their feelings to the work they were doing” (Taylor & Frazer, 1982, p. 8). Furthermore, individuals who used imagery were significantly less likely to be in the, “high stress group,” as measured by a score greater than 11 on the Hopkins Symptom Checklist (Derogatis, Lipman, Rickels, Wenhullts, & Covi, 1974: Chi square=3.963, $p<0.05$) than those who did not (Taylor & Frazer, 1982). A qualitative study also reported paramedics used

visualisation to determine what they would do next at a particularly chaotic scene, however no illustrative quotations were provided (Regehr, et al., 2002).

Humour

Qualitative and mixed method studies have reported widespread use of 'sick' or 'gallows' humour, defined due to its grim or morbid content, in coping with death and managing tension in EWs (Halpern, et al., 2009; Moran & Colless, 1995; Palmer, 1983; Regehr, et al., 2002; Rosenberg, 1991; Thompson & Suzuki, 1991). Alexander and Klein (2001) also reported widespread humour use, with 71% (n=110) of AWs using humour to cope, 84% considering this a helpful strategy. However, studies with DWs have not always found frequent humour use (Dyregrov, Kristoffersen, & Gjestad, 1996).

However, there are factors that need consideration when interpreting these studies. Palmer (1983) failed to provide evidence of the analysis method following interviewing AWs and did not provide sufficient participant quotations to corroborate his claims. Rosenberg (1991) used content analysis to analyse data from structured interviews, which included closed and multiple choice questions and Alexander and Klein (2001) gathered data using a quantitative coping strategies checklist, both of which resulted in limited opportunities for elaboration. Rosenberg's (1991) study would also have benefited from additional illustrative participant quotations.

Rosenberg (1991) reported humour was widely encouraged and accepted, more common among more experienced paramedics and could not be shared with family and friends due to its content. Humour enhances communication, assists in cognitive reframing, releases tension, and encourages emotional bonding and social support (Moran & Massam, 1997). Humour has been described as functioning as a coping and defence mechanism, enabling the paramedic, "to gain distance from, objectivity about and mastery over a situation," and

offering, “a way to deal with the event, to redirect thoughts about it, or to forget it” (Rosenberg, 1991, p. 200). However, humour use can be viewed as maladaptive if used to suppress anxiety (Kubie, 1971) or hide true feelings from work colleagues, with the generation of humour sometimes viewed as a ‘macho’ coping strategy (Moran & Massam, 1997). Moreover, “excessive” humour use is sometimes viewed as an indication the worker is distressed (Mitchell, 1988, p. 45), although what constitutes “excessive” appears to not have been concretely defined. On the other hand, the loss as opposed to lack, of humour might also indicate distress (Moran & Massam, 1997). Therefore, not all theorists regard humour as a coping strategy (Moran & Massam, 1997). However, it is clear different individuals use humour to cope in different ways, alongside other methods of coping, and further qualitative research might provide a more nuanced account of humour use within EW.

Technical Language Use

Few studies have referred to technical language use as a method of coping in EWs. Palmer (1983, p. 84) provided examples of AWs referring to incidents where a patient was dead on arrival at the scene: “We have a Signal 27 at this address,” “Signal 27 this box,” or just, “27.” There were further examples provided for burns patients, individuals who had been dead a while and patients who were in a vegetative state. Palmer (1983) also referred to the use of medical terminology and commented how both these methods of language use might assist in distancing the AW from the patient they were attending. However, there are significant criticisms to the study methodology *(as already discussed)*. Furthermore, the study investigated American AWs, questioning its applicability to British AWs, particularly when considering language use.

Emotional Suppression

A number of quantitative and qualitative studies have reported the use of strategies such as emotional suppression, distancing, numbing

and/or dissociation in EWs and DWs (e.g. Clohessy & Ehlers, 1999; Dyregrov, et al., 1996; Halpern, et al., 2009; McCammon, et al., 1988; Moran & Colless, 1995; Regehr, et al., 2002). Regehr et al. (2002) found paramedics used emotional distancing by consciously minimising emotions and focussing cognitively on what the job required of them, with the aim of not becoming emotionally attached to the patient(s) or their family. This mixed methods study quoted a paramedic saying "you have to really suppress your emotions at the time…you got to really concentrate on blocking her out, because her emotions may affect yours at that time" (Regehr, et al., 2002, p. 509).

Some authors have indicated the possible short-term functional benefit of suppression in EWs, despite researchers considering these methods as maladaptive in the general public. These strategies are thought to enable the paramedic to control and manage strong emotional reactions permitting them to continue working successfully during an incident (Janik, 1992; LeBlanc, et al., 2011). However, in the long-term these strategies contribute to continuing physical and psychological difficulties associated with traumatic events (Folkman & Moskowitz, 2004; McCammon, et al., 1988; Wastell, 2002). For example, Clohessy and Ehlers (1999) found AWs who used dissociation or emotional numbing, when confronted with intrusive work-related memories, suffered from more severe symptoms indicative of PTSD. It is thought this is due to such methods blocking the recovery process following a traumatic event (McCammon, et al., 1988). Moreover, emotional numbing might provide protection for the paramedic at work, however they might encounter difficulties in moving from emotional numbing to emotional openness once returning home (Regehr, et al., 2002).

Avoidance and Distraction

Qualitative studies with AWs have identified the use of avoidance and distraction in coping with work-related traumatic events (e.g. Halpern, et al., 2009). In addition, alcohol use is often considered a method of relaxation or distraction, commonly used by the general public and it is

therefore unsurprising that studies have reported EWs as using alcohol to cope (North, et al., 2002; Regehr, et al., 2002). Regehr et al. (2002) reported almost 12% (n=86) of paramedics identified increased alcohol use following exposure to a particularly traumatic event as opposed to only 1.2% prior to that event, with qualitative data specifying alcohol as a short-term coping method due to the recognition that it had the potential to become a problem. Furthermore, a quantitative study of fire-fighters following a bombing, found over-use of alcohol in 19% (n=181) of workers, with this being the second most used coping method behind seeking social support (North, et al., 2002). The question as to when alcohol use is considered a method of coping, as opposed to a negative impact of the job seems particularly pertinent here, especially since research with police officers has identified increased alcohol use when compared to the general public, commenting how alcohol was often used "to 'blot out' memories of trauma" (Green, 2004, p. 104).

Considering the Positives and Posttraumatic Growth

Despite evidence that for the majority of people, traumatic events produce consequences that are negative, there is growing evidence that such experiences paradoxically result in positive psychological changes for many individuals, with evidence for negative and positive effects existing in unison (Calhoun & Tedeschi, 2006). This idea of positive adaption, also referred to as stress-related growth, perceived benefit, thriving or adversarial growth (Linley & Joseph, 2004) is more often conceptualised as PTG and defined as:

> A significant beneficial change in cognitive and emotional life beyond previous levels of adaptation, psychological functioning, or life awareness. These changes happen in the aftermath of psychological traumas that challenge previously existing assumptions about the self, others and future (Tedeschi & Calhoun, 2003, p. 12).

Tedeschi and Calhoun (1996) described a five factor model of PTG assessed using the PTGI: 1. relating to others, 2. new possibilities, 3. personal strength, 4. spiritual change and 5. appreciation of life. Using this framework Shakespeare-Finch, Smith, Gow, Embelton and Baird (2003) investigated the prevalence of PTG in experienced and recently recruited paramedics and found 98.6% (n=526) reported experiencing a positive change following traumatic work-related experiences. However, apart from this study, no research focussing specifically on PTG in paramedics exists. Therefore, the following section attempts to consider reports of positive benefits in the literature and relate this back retrospectively to the five factor model of PTG (Tedeschi & Calhoun, 1996) where appropriate.

Moran (1999) and Moran and Colless (1995) used a quantitative checklist to investigate positive and negative anticipated reactions to call-outs within new fire-fighter recruits (n=39) and experienced fire-fighters (n=747) post-incident reactions. Positive reactions such as achievement, good helping, mate-ship, excitement, control, love of life, exhilaration and a pleasant high were ticked more often than negative reactions. New recruits ticked positive statements more often than experienced fire-fighters. However, the checklist required only dichotomous yes/no responses, with only eight possible positive reactions compared to 19 possible negative reactions. Moran and Colless (1995) commented it would be unlikely for EWs to continue working in an environment where they experienced no positive or rewarding experiences. However, such rewarding experiences are not necessarily classifiable as elements of PTG, for example, their pay, the status, the adrenalin rush from the job and so forth. Therefore, the results from these studies appear to report specific work-related benefits, essentially job satisfaction.

Further research with EWs and DWs has identified such job-related benefits such as DW being a challenge and opportunity for growth (Hodgkinson & Stewart, 1992), an opportunity to learn and develop

services (Regehr & Bober, 2005; Regehr, et al., 2002), and workers being more satisfied with their jobs, alongside taking pride in their work (North, et al., 2002). Some workers commented they got through the task by considering the benefits of their work (Alexander & Wells, 1991) or by seeing their job as bringing some relief or closure to those involved in the disaster (North, et al., 2002).

Studies with EWs and DWs have reported largely anecdotal accounts of benefits following trauma, which are classifiable (retrospectively) under the five-factor model of PTG (Tedeschi & Calhoun, 1996). Positive changes in personal relationships (Factor one: Relating to others) have been reported, with the need to be closer to loved ones and appreciating them more following DW (Dyregrov, et al., 1996; Dyregrov, Thyholdt, & Mitchell, 1993; North, et al., 2002; Regehr, et al., 2002). Jones (1985) and Halpern et al. (2009) specifically reported workers spoke about having made friends as a benefit. Regarding factor two (New possibilities), one study reported 47% (n=82) of participants had recognised changes in life priorities, indicating materialistic values were deemphasized, whereas non-materialistic values were emphasized (Dyregrov, et al., 1993). Considering Factor three (Personal strength), Dyregrov et al. (1996) indicated participants had discovered new strengths. Finally, a heightened appreciation for life (Factor five) in AWs (Halpern, et al., 2009) and DWs (e.g. Dyregrov, et al., 1996; Raphael, Singh, Bradbury, & Lambert, 1984; Shepherd & Hodgkinson, 1990), has been reported, with Raphael et al. (1984) indicating 35% (n=95) of workers were more positive about their lives. Other studies have reported participants felt they had tried to improve and enjoy their lives more (Jones, 1985; Miles, Demi, & Mostyn-Aker, 1984), with 15% (n=54) in the latter study being committed to living life more fully. Some studies also discussed how workers had realised their own, or others mortality and viewed life as more fragile (Jones, 1985; Miles, et al., 1984; Shepherd & Hodgkinson, 1990). However, there appears no such anecdotal evidence regarding factor four (Spiritual change) in the

reviewed literature, which might be a reflection of the lack of attention to religious and spiritual ways of coping mentioned earlier.

Critical Summary and Study Aims

In summary, a criticism of many of the reviewed studies centres around the types of roles included within the samples, for example, many have included paramedics alongside EMTs (Alexander & Klein, 2001; Bennett, et al., 2004; Clohessy & Ehlers, 1999). However, these individuals do not share exactly the same job roles. Paramedics only tend to attend emergency situations and treat patients, whereas EMTs attend both emergency and non-emergency situations, involving caring for and treating patients, alongside patient transportation (Unnamed, 2010a, 2010b)[5]. Therefore, it is unlikely EMTs are exposed to the same levels and types of potentially traumatic experiences, meaning the levels of psychological distress reported might be lower than if these samples only included paramedics. In addition, research has generally taken place in Canada and America, where the roles of paramedics are very different to those of British paramedics. Moreover, there is an underrepresentation of women in many studies reviewed, with some studies including only one or two female participants (Leffler & Dembert, 1998; Moran & Colless, 1995). Therefore, such an underrepresentation of females in the literature questions the applicability of findings to females, despite the recognition that there are often more males working within the emergency professions.

Furthermore, research has often focussed on the negative impact of disasters or CIs, rather than more common, "smaller scale," potentially traumatic incidents, such as RTAs, suicides and cot deaths (Clohessy & Ehlers, 1999, p.252). Moreover, these studies often mix occupational roles within the samples, with the police, fire-fighters, paramedics and even the general public labelled as 'disaster workers.' Such over-

[5]References specifying 'unnamed' have had the author removed to preserve the confidentiality of the participants. These references would have otherwise identified the NHS Trust from which the participants' originated.

inclusion of participants makes interpretation of studies problematic in relation to paramedics. Disaster research also has specific limitations as disasters are unexpected. Therefore, it is difficult to prepare a methodologically sound research protocol (Alexander & Wells, 1991). Shepherd and Hodgkinson (1990) commented that: few disaster studies have adequate control groups, data is collected retrospectively and descriptively, criteria for morbidity are inadequate and randomisation of participants and manipulation of independent variables is completely impractical. Furthermore, due to the diversity of situations labelled as 'disasters,' such research might only be specific to that particular disaster, therefore limiting the generalisation of findings across studies (Shepherd & Hodgkinson, 1990). Therefore, further, well-designed research concentrating purely on paramedics and the impact of their day-to-day working environment, with a focus on their subjective experiences is required.

Moreover, there is a lack of studies specifically investigating coping in paramedics (Kirby, et al., 2011), with existing studies often having used pre-defined quantitative inventories or checklists (e.g. Alexander & Klein, 2001). These are often criticised for their dubious psychometric qualities (De Ridder, 1997). They also limit the strategies reported and provide no opportunities for elaboration. Furthermore, different coping inventories often propose different coping dimensions and this therefore indicates difficulties in agreement regarding the underlying concept of coping (De Ridder, 1997). Qualitative approaches offer a more nuanced approach, enabling the discovery of ways of coping not included on traditional checklists, although there is also the downside that potential ways in which individuals have coped will be overlooked (Folkman & Moskowitz, 2004).

Finally, the majority of the research concentrates on the negative impact of traumatic events and largely ignores the potential for positive reactions and/or PTG following trauma. Those studies that have considered the positives have rarely considered paramedics, with

reports of positive outcomes as largely anecdotal and from disaster research. Researchers have stressed to fully understand EWs stress and vulnerability in response to trauma, positive reactions need recognition alongside negative reactions (Paton, Smith, & Stephens, 1998). A continued focus on the negative responses to trauma will lead to a one-sided and biased understanding of posttraumatic phenomena (Linley & Joseph, 2004). Furthermore, we cannot assume the current PTG research will map onto populations where trauma (and perhaps growth) is cumulative and ongoing, and therefore is by definition not 'post' traumatic.

In summary, there is a dearth of qualitative studies focussing on PTSD or PTG in paramedics. Furthermore, there are criticisms surrounding the existing quantitative research. Therefore, little information exists on the individual experiences of British paramedics in their day-to-day roles, their individual responses to trauma (positive and negative) and individualised coping mechanisms. Such qualitative research will provide a more nuanced account of the impact of multiple potentially traumatic events and individualised coping strategies. It could help develop appreciation of the idiosyncratic use of coping strategies, alongside exploring whether paramedics use different strategies in different situations. Furthermore, such research might help in further understanding the types of incidents paramedics view as traumatic and why, especially since research suggests that events traditionally considered traumatic, such as disasters and CIs are not what cause the most distress. Therefore, the current study aims to address the aforementioned concerns and akin to all qualitative methodologies "contribute to a process of revision and enrichment of understanding, rather than [to] verify earlier conclusions or theory" (Elliott, et al., 1999, p. 216).

Extended Methodology

Overview

The following section expands on the methodology discussed earlier *(see journal article).* The researcher's epistemological and personal positions are elaborated and the reasons for selecting IPA over other qualitative approaches discussed. The study procedure is further described, including the processes of recruitment, gaining consent, maintaining confidentiality, developing the interview schedule and conducting the interview. Finally, the stages of analysis and quality assurance are elaborated upon.

Epistemological Position

This study adopted a contextual constructivist epistemological position (Madill, et al., 2000), more broadly rooted within hermeneutic phenomenology *(see journal article).* Larkin et al. (2006, p. 105) articulated this position from the phenomenological perspective particularly well as "the view of the human individual as an inclusive part of reality, as an entity that is essentially embedded, intertwined and which is otherwise immersed in the world that it inhabits." Ultimately, following Heidegger's view that the person is "always and indelibly a 'person-in-context'" (Larkin, et al., 2006, p. 106). Furthermore, both Heidegger and Merleau-Ponty emphasised the "situated and interpretative quality of our knowledge about the world" (Smith, et al., 2009, p. 18), with Merleau-Ponty placing a particular emphasis on "the embodied nature of our relationship to that world" and "the primacy of our own individual situated perspective on the world" (Smith, et al., 2009, p. 18). It is therefore impossible to remove ourselves, particularly our thoughts and meaning making processes from the world, to discover how things "really are" (Larkin, et al., 2006, p. 106). Furthermore, science as viewed by Husserl and Merleau-Ponty, is second order knowledge obtained from a "first-order experiential base" (Smith, et al., 2009, p. 18).

Therefore, as researchers we can never be fully aware of our preconceptions prior to, during or after, reading a transcript and engaging in an analysis of that transcript (Smith, et al., 2009). Therefore reflective practices, such as cyclical bracketing, are recommended, where attempts are made to put pre-existing prejudices, preconceptions, awareness of the "taken-for-granted world" etc. to one side, while undertaking data analysis, which needs to be undertaken in a constant back and forth manner (Smith, et al., 2009, p. 13). This process means the researcher is not misled or distracted by their assumptions and preconceptions, therefore allowing them to remain closer to the "essence" of the participant's experience of the phenomenon under study (Smith, et al., 2009, p. 14). However, Merleau-Ponty and others (Elliott, et al., 1999) pointed to the "impossibility of a total reduction" (Kvale, 1983, p. 184), and noted how it is not possible to completely put one's own perspectives to one side (Elliott, et al., 1999). Therefore, the goal of bracketing is the awareness of one's preconceptions and presuppositions, rather than the absence of them (Kvale, 1983).

IPA involves the participant describing and reflecting on their experiences of a given phenomenon, aiming to adopt an "insider's perspective" (Conrad, 1987, p. 5), through thorough examination of "human lived experience," where experience is "expressed in its own terms," as opposed to through systems based on pre-selected and pre-defined categories (Smith, et al., 2009, p. 32). The broad aims of IPA data analysis are to attempt to understand and describe what Husserl termed the "lifeworld" (Smith, et al., 2009, p. 15) of the participant is like and then provide a more interpretative analysis. Such an analysis might involve situating the participant's original description in the wider social, cultural and/or theoretical context.

IPA was selected as the majority of research conducted with paramedics has been quantitative in nature and therefore qualitative studies, which explore the unique experience of the individual, are

missing. The aims of this study were to understand how paramedics experience multiple potentially traumatic events and how they cope with these experiences. Therefore, a qualitative approach is most appropriate.

Alternative Qualitative Methodologies

Grounded Theory

Grounded Theory (GT), introduced by Glaser and Strauss in 1967, tends to move toward producing theoretical-level accounts of the phenomenon under study, using larger samples to extract individual accounts to back-up specific theoretical claims (Smith, et al., 2009). IPA, however, uses a small number of participants to provide a more detailed and nuanced account of their lived experience, often focussing on the convergence and divergence between small numbers of participants. IPA is therefore about detailed investigation and microanalysis of the experience of specific individuals, as opposed to making claims at a more macro level (Smith, et al., 2009). Willig (2001) commented that attempts at applying GT to questions exploring the nature of experience, rather than social processes, results in the method being reduced to systematic categorization with only a systematic map of concepts and categories as the end result. This does not result in a theory and is ultimately a descriptive as opposed to an explanatory endeavour. Willig (2001) therefore suggested that research questioning the nature of experience is better addressed using phenomenological methods, for example IPA.

Thematic Analysis

Thematic Analysis (TA) aims to identify, analyse and report patterns or themes within a data-set (Braun & Clarke, 2006). It is often used but is considered a poorly differentiated and unacknowledged method of analysis (Boyatziz, 1998); with Braun and Clarke (2006) stating it should be viewed as a foundational method for all types of qualitative analysis. Unlike other qualitative methodologies, such as IPA and GT, TA is not attached to any pre-existing theoretical or epistemological

framework and although it acknowledges the role of the researcher, there is less emphasis on this than with other approaches (Braun & Clarke, 2006). Therefore, TA was considered inappropriate, as the importance of the researcher's contextual constructivist epistemological and personal positions, including the researcher's existing preconceptions, were important to consider and acknowledge. Therefore, IPA was the most appropriate method *(see extended discussion for further elaboration regarding the influence of the researcher's preconceptions).*

Personal Position

I am a 31 year-old, female, trainee clinical psychologist, who has developed an interest in the impact on individuals of cumulative experiences of work-related trauma, following previous therapeutic contact with paramedics. I am aware my beliefs about these individuals' experiences are shaped by the media portrayal of work within the emergency services, both within the news and dramas such as Casualty and ER. I am also aware I have been influenced by a personal traumatic event involving the emergency services, which occurred during the early stages of data collection, whereby a close friend was found dead by another close friend. This experience certainly influenced my preconceptions from this point onwards, as I attended the scene when the paramedics and police were still there. Therefore, resulting in a vivid picture of what such incidents are like and hence a pre-judgement on my part of what it might be like for EWs attending similar scenes. I therefore entered this study with a preconception that all EWs would see aspects of their job as traumatic and would need particular coping mechanisms to manage their job demands *(see extended discussion for further consideration of this personal event and its' impact on data collection and analysis).*

Procedure

Sample

IPA studies tend to use small sample sizes due to the extent of time involved in analysing each transcript. The number of five to six has been recommended in the literature for students completing IPA projects (Smith & Osborn, 2004). Therefore, only nine participants were initially recruited, two participants dropped out of the study prior to the interviews, leaving one participant for the pilot interview and six for the main study.

Prior to the interview process, the following demographic information was recorded: age, gender, length of service, job role, average shift length and the number of night shifts per month. Regarding job roles, there was a mix of paramedics, paramedic team leaders, single responder paramedics and double manned crew (DMC) paramedics *(see journal article for full demographics)*.

Recruitment

Participants were recruited from an ambulance service NHS Trust, through advertising via the Trust intranet, which included the poster advertisement *(Appendix D)*, participant information sheet *(Appendix F)* and consent form *(Appendix G)*. A newsletter, distributed with employees' payslips during March 2010 also advertised the study *(Appendix E)*. The Principal Investigator's university email address and university mobile phone number were included on all study advertisements.

It was assumed due to the nature of the paramedic role, participants would be English speaking and have no serious sensory difficulties that would prevent them partaking in a semi-structured interview. However, if this had not been the case, the participant would have been excluded. Furthermore, any participants refusing to have their interviews audio-recorded would have been excluded, as this would have interfered with the richness of the data. The exclusion criteria were not too constraining

as the aim of the study was to look into individual subjective experiences and not to generalize to the wider paramedic population. This fits with IPA's phenomenological and ideographic nature.

All participants who expressed an interest in the main study met inclusion criteria. The participant who took part in the pilot interview provided feedback about the interview process. This participant was initially not intended to be included within the final analyses, as despite being a full-time fully qualified paramedic with more than five years experience, she had not been on full active duty (i.e. attending call-outs) for six months. The reasons for this cannot be discussed further for reasons pertaining to confidentiality. However, upon analysing her interview transcript, it became clear there were important themes emerging, which should be presented. Where quotes have been used from the pilot participant, this has been made explicit. She provided informed consent for her data to be used.

Informed Consent

The Principal Investigator obtained informed consent prior to commencing the interview, in accordance with Research Ethics Committee and Good Clinical Practice guidance (GCP: European Medicines Agency, 2002). All participants provided written informed consent by signing and dating a consent form *(Appendix G),* countersigned by the Principal Investigator. The participant received a copy of the signed and dated forms and the original was retained within the study records. During this process, the Principal Investigator explained the rationale behind the use of audio-equipment throughout the interview. Prior to beginning the interview, participants were asked if they had any further questions or concerns about the study. Finally, participants were asked if they would like to read any articles resulting from the study and five participants expressed an interest in this.

Withdrawal

The decision regarding participation in the study was voluntary. If participants felt uncomfortable at any stage, they were able to withdraw without any negative consequences to themselves. Participants were advised of this during the process of gaining consent. It was explained where any data had already been transcribed, this would still be used within the final analyses and consent for this was sought where appropriate. No participants withdrew following the interview process. However, two participants withdrew prior to being interviewed after reviewing the participant information sheet and deciding they were no longer interested in participating.

Confidentiality

Study staff endeavoured to protect the rights of the participants to privacy and informed consent and adhered to the Data Protection Act (1998). Therefore, every effort was made to ensure confidentiality, making sure no quotations used within the final report could be identified back to the individual from whom they originated. It was recognised participants might be identifiable by their age and years of service and therefore this information was not used against specific quotations within the report. Furthermore, participants were emailed their interview transcripts to provide them the opportunity to check all identifiable information had been removed. Moreover, it was checked that they were comfortable that direct quotations would be derived from these transcripts. A number of the participants requested certain quotations, which might have identified them, were not used within the final report and these requests have been honoured. However, none of these quotations were key to the study topic, if they had been then further discussion would have taken place to reach an agreement regarding what could, and what could not, be quoted within the final report. This was completed prior to data analysis. The following extract demonstrates how the removal of identifiable information was achieved without losing the participant's meaning. In this extract, James

(pseudonym) is talking about the area covered by the station he works at:

> Predominantly, err, traditional areas, south and, central and south of *[CITY]*, with half of east and west *[CITY],* and then the surrounding villages, about halfway between here and *[TOWN]* because there's a station at *[TOWN].* But when it's busy, we can go....down to *[TOWN],* we can go up to *[TOWN]* so you're talking about virtually the full length of the county.

The anonymous transcriptions were stored on the university computer system and password protected. The digital audio-recordings, once transcribed and transferred to the university system, were erased from the transportable recorder. Completed transcriptions were password protected, saved and backed up on a CD-ROM, which were subsequently kept in a locked filing cabinet at The Institute of Work Health and Organisations, at the University of Nottingham. All identifiable written documentation, for example consent forms were securely stored in locked filing cabinets within the same location but in a different place. All electronic data were completely anonymous and required a password to access.

Interview Schedule

The interview schedule *(Appendix H)* was developed while the study literature review was undertaken. The interview was mainly qualitative incorporating only five open-ended questions, alongside some demographic questions, which enabled the participant to speak at length about their experiences. This meant standardised measures such as the IES-R (Weiss & Marmar, 1997) or the PTGI (Tedeschi & Calhoun, 1996), which investigate possible symptoms of PTSD or experiences of PTG respectively, were not used. Such standardized psychometric measures involve forced-choice responses and therefore limit the range of possible responses participants can provide. This involves some pre-judgement of what the participants' experiences are,

and although more objective in their approach, could be seen to restrict the participants' responses to what the researcher considers important rather than what the participant considers important *(see extended discussion for a critique of this decision not to use standardised questionnaires).*

Following the pilot interview there were a few alterations to the interview schedule which included moving, "How have your experiences of working as a paramedic matched your original expectations?" from being the final question to being the second question after, "What initially attracted you to working as a paramedic?" This was decided, as during the pilot interview, the participant began talking about this prior to being asked, and therefore it seemed better suited to appearing earlier on in the interview schedule. This appeared to make the later interviews flow more smoothly. Breaking down questions three and four into smaller chunks also improved the interview flow and occurred during the latter interviews.

The Interview

All interviews were audio-recorded using an Olympus model VN-3500PC digital voice recorder and lasted between 47 minutes and one hour 17 minutes. All participants received a £10 incentive reward for participation at the end of their interviews. It was felt inappropriate for interviews to be completed prior to participants' shifts as they might have found it distressing, due to the nature of the material discussed. However, this appears to have not been the case. If this had occurred, the participant could have discussed their concerns with the Principal Investigator, who has clinical experience of dealing with clients in distress. Alternatively, the individual could have made an informal self-referral to the ambulance service's occupational health provider or their GP. Contact details for the occupational health provider were available through the Principal Investigator, the ambulance service NHS Trust and included on the participant information sheet, along with the Principal Investigator's contact details. A professional typist was

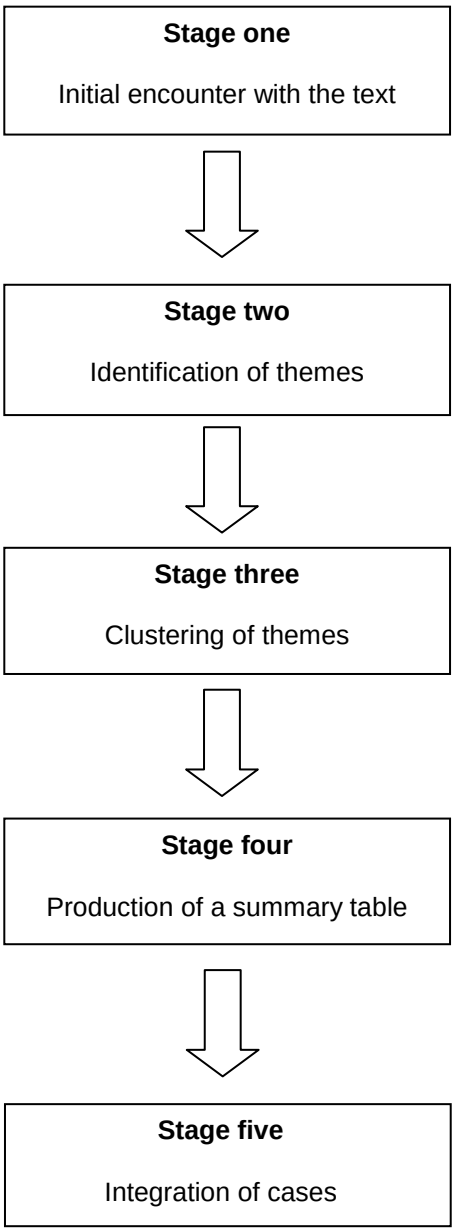
employed to transcribe the data verbatim and she was warned, each time, by the Principal Investigator about the potential distressing nature of the content of the audio-recordings and told she should not continue transcribing the file if she found it distressing. Fortunately, the typist did not report any difficulties. However, if she had, the Principal Investigator would have transcribed the remaining audio-recordings and advised the typist of support she could access.

Analysis

(This section is an elaboration of the journal article and therefore should be read in conjunction with that article).

Figure 1 depicts the stages of analysis using IPA (summarised from Willig, 2001).

Figure 1: *The stages of analysis using IPA*



The spreadsheet package Microsoft Excel was used to create a summary table of identified clusters and themes produced during thorough engagement with the text, through repeated reading and listening to the audio-recordings. This summary table *(not included within the appendices due to its sheer magnitude)* listed quotes illustrating themes and an indication of where the relevant information could be found in the text. The final stage of IPA analysis concerns the integration of information found across participants and involved using the summary table constructed from the analysis of the first participant's transcript to assist in the analysis of the remaining transcripts. This meant the list of themes identified for the first participant was used to code the remaining interviews, involving the addition, elaboration or merging of themes where necessary. This allowed for checking of new emerging themes against existing themes to ascertain whether they were new themes or different manifestations of old themes. This process resulted in progression and integration of themes developing over time and therefore ended with a list of "master themes" which captured the shared experience of the participants (Willig, 2001, p. 58).

Quality Assurance

Elliott et al. (1999) provided guidelines for reviewing the quality of qualitative research studies submitted for publication and included a total of 14 criteria, seven common to both qualitative and quantitative research, and seven specific and particularly important for qualitative approaches. Figure 2 summarises these criteria.

Figure 2: *Evolving guidelines for publication of qualitative research studies in psychology and related fields* (taken from Elliott, et al., 1999).

Publishability guidelines shared by both qualitative and quantitative approaches:
1. Explicit scientific context and purpose
2. Appropriate methods
3. Respect for participants
4. Specification of methods
5. Appropriate discussion
6. Clarity of presentation
7. Contribution to knowledge
Publishability guidelines especially pertinent to qualitative research:
1. Owning one's perspective
2. Situating the sample
3. Grounding in examples
4. Providing credibility checks
5. Coherence
6. Accomplishing general versus specific research tasks
7. Resonating with readers

Throughout the study, I have attempted to adhere to these criteria. I have discussed my epistemological and personal position and provided basic descriptive data *(also see journal article),* therefore owning my perspective and situating the sample respectively. The remaining criteria specific to qualitative studies, grounding in examples, coherence, accomplishing general versus specific research tasks and resonating with readers have been dealt with during the results and discussion sections *(see journal article and extended sections).*

Elliott et al. (1999) further suggest methods specifically for checking the credibility and validity of themes, categories or accounts. However, these methods potentially complicate matters in IPA due to the, "double hermeneutic," where the researcher attempts to make sense of the

participant, who is making sense of their particular experience(s) (Smith & Osborn, 2004, p. 54). On reflection, one might consider that the more people who become involved in checking the analysis of interview transcripts, the further away their interpretation is from the participant's original interpretation.

Firstly, Elliott et al. (1999) suggest checking the researchers' understanding of the data with the participants themselves and as already stated, participants had the opportunity to comment on the journal article. However, to date no comments have been received. Secondly, Elliott et al. (1999) propose the use of multiple analysts within qualitative studies to check the data for discrepancies, overstatements or mistakes, thereby providing some sense of inter-rater reliability. The involvement of my research supervisor in the analysis process adheres to this standard and as she checked whether she related or not to the interpretations I had made; this does not necessarily amount to another hermeneutic. Thirdly, Cutcliffe and McKenna (1999) refer to the repeated reading of participant interview transcripts by the investigator and the checking of themes against others and through cases as a check on how representative the data are. They propose through this process, distortions, inaccuracies and misinterpretations are discovered and thought through. The process of analysing transcripts using IPA specifies this as the first stage and was therefore completed. Fourthly, Elliott et al. (1999) propose the use of 'triangulation,' where a number of participants potentially confirm the truth and importance of a topic, increasing the accuracy and hence validity of research findings (Cutcliffe & McKenna, 1999). However, as Fielding and Fielding (1986, p. 33) comment, triangulation "might get a fuller picture, but not a more 'objective' one," due to the aim of triangulation within a contextualist epistemology being completeness and not convergence (Madill, et al., 2000). Therefore, triangulation was not completed for this study *(see extended discussion for further consideration of this).*

Finally, Smith (2004, p. 243) considers the “independent audit” as a good way of considering the issue of quality, particularly reliability, within qualitative research. Smith (2004) refers to Yin (1989), who describes a system for checking validity where all the data gathered is stored, in a way that somebody else could follow the “chain of evidence” (Yin, 1989, p. 102), leading to the final report. For this study this included rough notes in a research notebook, interview schedules, audio-files, annotated transcriptions, a Microsoft Excel spreadsheet and printouts of that file, coding and categorisation tables, a reflective journal *(see appendix K for extracts)*, rough reports and the final thesis. Therefore, this implies the data will be filed so somebody else could, if they so wished, check through the “paper trail” and come to similar conclusions (Smith, 2004, p. 243).

Extended Results

Overview

The super-ordinate and subordinate themes gleaned from the analysis of the participants' interview transcripts are summarised in Appendix L. The super-ordinate themes, 'the impact of context on coping' and 'emotional management and control' are discussed for the first time. 'The process of reflection and making sense' is elaborated *(and should be read in conjunction with the journal article).*

The Impact of Context on Coping

It appears there are factors outside of the participants' control that might influence their ability to cope with potentially traumatic work-related events. Therefore, effective or adequate coping appears to be partly dependent on the context within which the paramedics interviewed work, and their particular personality in relation to that context. The subordinate themes 'control' and 'coping as intuitive' illustrate this.

Control

Great responsibility comes with being a paramedic and the participants often referred to this. However, coupled with this responsibility were feelings of powerlessness, whereby the paramedics interviewed were unable to help or their help was limited, for example by the single responder role, the information received from Control or centrally imposed Government targets. Such factors potentially have an impact on the participants' ability to cope with work-related potentially traumatic events. All these factors seem to have the potential for the participants to experience a loss of control, something Caroline talked about in reference to working as a single responder:

> I like to be in control and it's not nice when things are out of your control. You can't do things about them...[6] the majority of the

[6]Three full stops together (...) indicate a pause in the participant's narrative.

> time you can...But sometimes things are out of your control, like I use the standby thing and things like that…It's part of the job, you have to do it, but you don't like it. You don't like doing it. So that's out of your control.

Caroline evidently does not like feeling out of control, although she accepts this as part of the job. Working as a single responder as opposed to working in a DMC appears to cause particular difficulties, which could potentially have an impact on how the paramedics interviewed cope with incidents. Dave talked about the difficulties managing incidents as a single responder, particularly being alone dealing with the situation:

> Being a single responder paramedic is more difficult than being a crew paramedic...you have yourself alone to deal with the situation until you get a crew to...assist you...Not always is it easy to deal with a situation on your own.

According to the participants, single responders do not have the resources to transport patients to hospital and it seems the fear of not being able to access a DMC to transport a patient to hospital in time to save their life is a key concern. Dave discussed how these types of scenarios are a *"very, very frantic situation,"* and added how *"the stress starts to mount up on the job."* Tim commented such situations *"can be quite stressful"* but added *"that's part and parcel of being a lone responder."* Laura talked about her emotions on the way to an incident and the limitations of what she is able to do as a single responder while waiting for an ambulance:

> If you go into a job and you're on the car on your own, you can be thinking "oh dear, oh dear, oh dear," if they give you, oh I don't know, five cars collision on the Motorway, you'll be there

> and going “oh, dear, oh dear, oh dear” [laughs][7], which is probably a nervousness...But you know you’ve got to deal with, you know you’ve got to...you know you can deal with. You know you can cope with it. Odd times...you can be stuck at jobs...cardiac, or I have had where somebody’s arrested in front of me and they can’t get me a truck for 20 minutes. By the time the truck’s got there you may as well just call them as dead because you can’t do anything, you’re…you’re just stuck there. You can only do a CPR because we can’t…we can’t canulate, we can’t give any drugs, we can’t do anything other than CPR. And yeah, and that’s frustrating.

Laura feels frustrated about not being able to do anything, implying she feels powerless to change things, suggesting this scenario is particularly stressful and detrimental to single responder paramedics. This could partly be due to the loss of control over the situation and the reliance on others for help and partly because such a situation can result in a death, something that could have been avoided if a DMC had been available. This therefore might leave Laura feeling more responsible for the patient’s death. Although, earlier she commented, in relation to such a scenario, *“It can put you under a situation but it doesn’t...it doesn’t bother me...it happens,”* suggesting despite potentially viewing it as stressful, she views it as part of the job. Sarah (pilot) more specifically referred to these situations as *“stressful:”*

> It is more stressful cos you can’t move, you know this patient needs to go now but you can’t do it...but yeah it’s just, you’ve just got to accept that’s part of your job on the car. And obviously you’ve got your relatives who are getting a bit het up, it’s...it’s embarrassing as well really [giggle], but, yeah...no, it’s always, I’ve always managed. I’ve heard of horrific, more horrific jobs

[7]Where text has been added to the quotations to explain what the participant is referring to, detail where the participant has laughed, sighed, etc. or where identifiable information has been removed, this is written as follows: [xxxxx].

> than I've probably been stuck at before, that I've thought, "how would I cope with that?" But you just deal when it's you...so that's probably the only downside of the car, is that you could, you could be with a poorly patient for a long time, makes the situation more stressful, then you're on your own after, you've been in stressful situations. [ ][8] it is emotional, the most difficult part of being out in the car but...there's nothing you can do about it, so you just learn to accept it.

Again, although Sarah explicitly stated these scenarios are stressful, she also inferred it is part of the job, so you *"accept it"* and therefore get on with it. She questioned how colleagues have coped with certain situations, but appears to know if something similar happens to her then she would deal with it as it is part of her job *(see 'getting on with it')*. Sarah also indicated how the single responder is alone following stressful situations, which could potentially make this role more stressful due to the reduced social support and thus opportunities for joint reflection and meaning making following a difficult incident *(see journal article).*

Tim talked about the difficulties in managing patients' relatives when working as a single responder:

> As a one manner [ ] you've got to deal with everything. And it, it's not always the patients that, as I say, it's the relatives. On the trauma side of it, as well, it's…when you're dealing with sudden death at home, and you're there…usually you're not there a long time, you know, before a crew come, but you've still got that…it's…what's happened to the patient's happened. It's how you deal with the relatives afterwards, that's the...that's the more traumatic side of it than…or the stressful side of it, than dealing

[8] This symbol [ ] denotes where text has been removed. These omissions tend to be factual content, e.g. whom the paramedic was working with at that time, details of the scene, etc.

> with the patient itself, because that's the part of the job you've been trained to do.

Tim appears to find dealing with relatives particularly difficult, especially when the patient has died. He seems to say he has been trained to deal with patients but not relatives and later commented *"nobody can teach you how to deal with people. You've either…you can either do it or you can't do it."* This comment seems to cement the difficulties he experiences in this respect, particularly in relation to being a single responder. Evidently, these paramedics view the difficulties inherent within the single responder role slightly differently, however it is clear these types of situations, which are inevitably outside of their control, add to the stressful nature of the job and therefore potentially have an impact on their ability to cope.

Tim talked about the stressful nature of attempting to meet Government targets and the impact this has:

> It's all the overall…pressure you're under. No matter what role you doing, [ ] it's the pressure you've got with that…you know, your area, not, not the patients at all. [ ] Because you're…you're run by Government to meet these targets. If you don't meet your targets as a Trust, you're not going to get your little piece of cake at the end of the day. [ ] So that's not just this, it's any…it's any run of the mill job, isn't it? That's…you've got targets to hit and that's it. So that puts more pressure…it puts more pressure on me, it puts more pressure on from above, and I have to feed it down like an umbrella, and so we're all getting pressure. So I have to put it down to my staff about doing this, doing that, and yeah, so whether it…you know, if it escalates any more…whether you lose staff through it [ ] Because people do get a bit fed up with it when they get pressure on top of them and they can't deal with it.

Tim evidently finds adhering to Government targets and feeding these down to staff as stressful. He is aware some staff are unable to cope with this job pressure, resulting in staff leaving the service. It seems Tim is fed up with these targets, yet he can do nothing about this pressure, he is the middle man and it is his job to pass the information onto staff. Sarah (pilot) commented that meeting Government targets, *"gets to everyone and you become really de-motivated and morale can be really low sometimes."* She added how *"they [managers] are just totally led by these Government targets. And, you're not treated like a person. You're treated more like a bum on a seat, a resource."* Later she added *"sometimes you just think that you wish they'd [managers] have a little bit...a bit more respect for us [ ]. That we are people. We're not just bums on seats."* One might question the potential psychological impact of having this opinion of how you and your efforts are viewed by those in charge. However, Sarah also commented, *"we can't do anything about it [the politics]. We just get on. We make the best of a…of what we've got."* This quote implies how accepting these targets is just part of the job *(see 'getting on with it').* This attitude of acceptance during those times when there is a loss of control, alongside increased job pressure, possibly helps Sarah cope with these job aspects more successfully, than perhaps she would if she became annoyed and irritated by these situations. In the following quote, James refers to being criticised, particularly in relation to response times then talks about when the general public lodge complaints:

> Unfortunately it doesn't happen that often [being praised] [ ]. We hear a lot of criticism and a lot of, I mean particularly at the moment with response times, we're asked "why didn't you get that…why did it take you X amount of time to get to say?" And you explain to Control and then when you come back to station you've got your station manager, asking you and you think, hang on a minute, why am I having to explain, I've already done this once...Or you've done a job...that's gone well and then all of a sudden you find there's a complaint come in. And you think well

> hang on a minute, I'm doing my job, I was pleasant to the person [ ]. And at times when you've read the letter, the complaint letter before doing the statement, you think, well no, hang on a minute, it's...was I actually there? Does this match up to the situation where I was? That can be quite frustrating. It's…one of the lads on the station says "You're guilty till proven guilty." And a lot of the time that's what it feels like.

The quote illustrates how frustrating James finds these scenarios. Such events could certainly have an impact on the overall mood of the participants and therefore their ability to cope with incidents.

Being aware of the details of what awaits at an incident scene is important to the paramedics interviewed for being able to cope with and manage the incident successfully at a practical and emotional level. In the following quote, James illustrates this, ending with an interesting metaphor (*"like a ship in a storm"*) about the impact of not knowing the specific details on his emotional state:

> I dealt with a job where... we were actually told by Control that it was...a cardiac arrest and father was quite aggressive over the phone. The controllers should have asked the age of the...son, we got there, I stepped out...looked for my crew mate and he wasn't there and I'm thinking…we saw his…the driver's door open and thinking well where is he, turned round to see him white as a sheet, just give the nod over to this bloke who's carrying an 18 month child who had obviously physical disabilities, who was dead...And that wasn't nice because there was a DNR [do not resuscitate] on that child, I had to travel all the way to hospital with this dead child and a grieving father...So...again something else...and like we just didn't have that mental barrier to prepare ourselves...And once you're in the situation you just, you feel like a ship in a storm. You're trying to find anchorage somewhere and you just can't get it...You're just

> being tossed about with your…with your emotions and trying to keep it together enough, for the family members you're dealing with.

This quote refers to needing to have mental barriers *(see 'mental preparation' for further discussion)* to prepare and hence protect themselves from the full emotional impact of what waits for them at the scene. There is a sense of a loss of control over the situation. All the paramedics interviewed consistently reported child deaths as traumatic and therefore arriving at an incident where they were not expecting a dead child would potentially have been very traumatic for James. Unfortunately, this kind of situation where the paramedic does not know the details or when they receive incorrect details from Control appears to be common for these paramedics and can be particularly stressful when it occurs. Tim commented that not knowing what you are going to, or Control getting the details wrong, is *"more stressful than the job itself."* Dave, when asked by the interviewer how he coped with not knowing what he is driving to, responded "*you can't cope with it, can you? Well, I say you can't cope with it. You have to cope with it."* This suggests the importance of knowing some detail prior to arrival at the incident. Dave recommended attempting to access as much information as possible from Control about the incident he was travelling to, in an attempt to manage both the practical aspects of the situation and his subsequent emotional reactions:

> Sometimes you'll get a full detail of what you've got, sometimes you don't. Sometimes if the Control's busy they don't send you a...update of what incident you're going to. Sometimes you call them and ask them to give you a verbal update over the radio. Sometimes they'll just put it on the MDT screen...often I ask for it if I'm going to something serious because I want to know what I'm going to be dealing with...But it doesn't always transpire...And sometimes it leaves you a little bit upset and annoyed that the controllers haven't given it you, and then

> sometimes you can be a little bit outspoken. It's not possibly you being outspoken with the person, it's just the stress coming out of you...You know, and sometimes you come back to station and you can be a little bit uppity with people. That again, you being uppity with...It's just that you've dealt with something really bad and they don't understand what you've dealt with, and they don't, they can't comprehend how you're feeling.

This illustrates the potential emotional impact and subsequent impact on his behaviour toward others following an incident where Control had not provided him with sufficient information. It would seem such scenarios could have an impact on Dave's ability to cope at subsequent jobs. It could be hypothesised that a build up of similar scenarios could potentially lead to work-related stress or symptoms indicative of PTSD, resulting in the paramedic going on sick leave. Therefore, for these paramedics being aware of what is waiting at the incident scene, and hence receiving the correct information from Control, is particularly important. This appears to provide some sense of control and allows them to mentally prepare for what awaits, enabling them to manage the scene and their subsequent emotional reactions effectively.

It seems for the participants, common aspects of the job such as shift-working and long hours, impact on their energy levels and physical and emotional health. There is also the prospect of exposure to individuals who are unwell and themselves subsequently becoming unwell. Such factors could have an impact on how the paramedics interviewed cope with work-related situations, as exemplified by Dave:

> Fatigue is a big thing on this job. You can run for hours and hours without anything to eat. The job just keeps piling work on you. You know that, you know, you're running low on fuel as regards energy from your body. You know you're running low on, you know, you need a drink, you know, sit and have a cigarette if you smoke Or, you know, you need to nip to the loo. There's all

> kind of things, you know. Pressure, you know, within the job...is a big factor on, you know, running your energy levels low [ ]. Difficulty to cope is all about...all about what's gone off on that particular day, whether it's to do with the patients that you've dealt with, or whether it's to do with the staff that you've dealt with, whether it's to do with...you've been on nights and you've been tired, and the volume of work you've had, or it could be just that you're not feeling well [ ]. A lot of different factors really, you know, and a lot of it is job-oriented. You know, because you could feel ill basically because you're tired. You could feel unwell because you've been connected with a patient that's had an illness and you've picked something up from them. You could feel not in the right state of mind because you've dealt with a job and it's really upset you [ ]. Them kind of things that, you know, that make you, whether I can cope or carry on that particular shift.

This quote relates factors such as shift-working, long hours, feeling unwell and so forth, to coping at work. These are all factors that are essentially outside of the individual's control, further demonstrating that the loss of control has an impact on these paramedics' ability to cope with work-related events.

In summary, as with many jobs, it appears contextual factors, such as working as a single responder, adhering to Government targets, being unaware of what awaits at an incident scene and factors such as shift-working and long hours, have an impact on the ability of the paramedics interviewed to cope with their job demands. This is possibly due to a sense of loss of control. Furthermore, when the job involves dealing with life and death on a daily basis, such factors can have a significant impact on the ability of these paramedics to cope with incidents.

Coping as Intuitive

Some of the paramedics interviewed referred to coping as part of their personality, something intuitive and fixed. For example, Laura commented, *"I do think as well as nurses are, we're a special breed."* This manner of viewing coping appears important, as having this viewpoint might help them to cope, as they view themselves as built in a manner in which they are able to cope with their job demands. This viewpoint also suggests a feeling of control over events. When asked about what attracted her to the paramedic role, Sarah (pilot) commented:

> What sort of person I am…really. Cos it is, you're either suited to it, or you've got to be the right type of person for the job...you can either deal with it or you can't, so yeah, I think, it's sort of what I was made for.

Sarah therefore seems to view how she copes with the job as something that is inbuilt it is part of who she is as a person. She discussed this further when the interviewer asked her to elaborate on what she meant about, *"mechanisms where you shut off and deal with it" (discussed under emotional expression and suppression):*

> It's like an inbuilt thing, that's what I mean when I say you're either made for the job or you're not. Cos I can't actually say I do something on purpose to switch everything off, it's just sort of…there. [ ] I just think it's what your personality is, I don't think, you probably develop it so you get a little bit better at it but it needs to be within your person to start with. Some people are naturally flappers or whittlers, or...but I think you have to have it already in ya, that part of it actually dealing with the job like that.

Sarah specifically refers to her ability to cope with the job as being part of her personality. She suggests emotional suppression develops as you become more experienced in the job, but the ability to do it has to

be there already. Ann referred to her enthusiasm for the job as being something inbuilt and talked about the importance of *"common sense,"* in reference to the necessary skills required for the job:

> I just love challenge [in reference to the job]. It's just like...first on scene. It could be a major incident on the Motorway, for instance. I don't know what it is. It must be…It's something built inside me.
>
> I would say a lot of it isn't really taught to you in training school, the skills side, the knowledge, but when it comes down to common sense that's something you have to build yourself.

Ann alludes to common sense being something that comes from the individual, possibly from experience, that it cannot be taught, which again could be considered part of the individual's personality. However, in reference to emotional hardening, due to the job, Caroline commented how it is experience, essentially learning on the job, which enables paramedics to do the job. This is in opposition to the view that the ability to cope is part of the individual's personality:

> Not everybody could do this job. And I've always said that [ ]. You can't have it, it comes with time. So people that come on new to the job and think that, oh that'll not bother me, that'll not bother me, that's a load of crap because you have to learn to deal with things and how to deal with them...It's…it's not…nobody is given the ability not to be affected by some of the things we see...It's something that has to learn to be done with experience.

Caroline therefore thinks experience and learning are important in dealing with the job, whereas some of the other participants view their personality as important. One could hypothesise both are important for coping and an individual who entertains both viewpoints would be

particularly psychologically equipped to deal with potentially stressful work-related events. However, none of the paramedics interviewed explicitly expressed both viewpoints.

Some of the participants talked about the impact of their upbringing on coping with the job, as Ann illustrates:

> Every individual I would say is...going back to their upbringing, how strong they are as a littler, how they was treated, whether they was bullied, whether there was mollycoddled or, I wasn't. I always had to fend for myself.

Ann also ended her interview with the following sentence:

> I'm probably a strange case anyway because I don't think like everybody else. Everybody's different, mind, so [ ]. You're either a strong person…Or a weak minded person.

These quotes appear to further suggest that Ann views personality and upbringing as central to managing the job overall. She also recognises the differences inherent between individuals.

In summary, it appears viewing how they cope with their job demands, as part of their personality, as something within them, possibly influenced by their upbringing, seems important for some of the participants. It seems this manner of viewing themselves might help them manage potentially traumatic work-related events, perhaps it enables them to form an inner strength, possibly, what the literature refers to as resilience and/or hardiness. This then forms part of the context from which these paramedics approach their job.

Emotional Management and Control

This theme incorporates five subordinate themes that encapsulate how the participants manage and control their emotional reactions at

different times, such as while travelling to, in attendance and following an incident; while not at work; and more generally in the manner in which they talk about the job itself. These themes could primarily be considered ways in which these paramedics cope with their job demands. However, it seems some themes also illustrate aspects of the psychological impact of the job, for example, hardening, as discussed under 'emotional expression and suppression.' Certain methods of managing emotions could also be viewed as maladaptive and therefore would not technically be considered coping strategies in the traditional sense. However, the literature asserts that strategies that might be considered maladaptive in the general public could be considered adaptive within EWs, for example, emotional suppression (e.g. Janik, 1992; LeBlanc et al., 2011).

Mental Preparation

Mental preparation refers to strategies such as reflecting back to similar incidents, positive visualisation and patterns of working, used particularly while travelling to an incident. Such strategies appear to assist the paramedics interviewed to manage their emotional reactions on arrival and while in attendance at an incident.

In the following narrative, Dave talks about mentally preparing himself for the worst and how, upon arrival, this helps him to cope with the incident:

> You try and mentally prepare yourself for the worst...That's what you try and do. You think what could it…What's the worst it could possibly be? What's the worst I can deal with? And get yourself into a frame of mind that could cope with that...Anything else…Anything other than that is a bonus. Anything different than that becomes less stressful, easier to deal with. A broken leg or a broken arm, or, a head injury where he's conscious, or a very badly cut leg, or a dislocated finger, or whatever, is-is easy to deal with. A kiddie that's unconscious that can't talk to you,

> with one blown pupil, is very, is very, very traumatic, and, you know that, you know, unless you get this kiddie some help quickly, you're not going to deal with it. So, you have to just think of the worst and hope that things aren't as bad when you get there.

This illustrates the importance of mental preparation, particularly when travelling to an incident involving a child, which all the participants agreed was traumatic. This type of mental preparation appears to help manage emotional reactions on arrival at the scene, helping Dave deal with the incident more successfully. It underlines the importance of receiving the correct information from Control therefore enabling such preparation *(see sub-theme 'control').*

Some of the paramedics referred to reflecting back to similar incidents they had previously attended, when provided with the details of the current incident by Control, as Dave demonstrates:

> When you go to a situation and you can always sometimes recall something similar that you've dealt with...and when you, when you deal with it, you're always thinking "I dealt with this one like this. Now is this a similar situation or is it different?"

Dave talked about using reflecting back in tandem with positive visualisation to help him prepare for what awaits at the scene. He talked about the uncertainties inherent in travelling to an incident and the pressure this places the paramedic under:

> The next time I get an RTA involving a child, one of those things will flash into my mind...You know, you'll have…you'll straightaway you'll start thinking about what you've done in the past and will it be the same again, and you're praying that it won't be...When you get to the job, you're praying that little Jimmy is stood at the side of the road and he's probably got a cut on his leg, or, you know, someone is brushing his head

> down. He's got a bit of dirt or a bit of gravel rash or whatever...You know, but not always does, you know. You never know what you're going to. You never know what's going to be round the corner. You never know what the next job is going to be, you know. You don't know whether you're going to get lots of support. How are you going to deal with it? It's a minefield really, isn't it?

This quote refers to an incident involving a child, something Dave evidently finds traumatic. It is not clear from the quote whether these moments of reflecting back are voluntary or automatic, or whether the memories are flashbacks, as defined by DSM-IV (APA, 2000), or just vivid memories. One could question whether they help Dave prepare for the current job alongside whether he actually finds them quite distressing. Again, there is a hint of a loss of control, as Dave does not always know what is waiting for him at the scene or how he will manage it. However, reflecting back and positive visualisation appear to help Dave regain some sense of control over the situation and his subsequent emotions. Tim also talked about the importance of reflecting back to previous incidents and the importance of reflection for learning:

> You know how to deal with certain situations [as a paramedic], but you might come across a situation and you've not dealt with it for seven years and your mind goes…you're trying to remember what you did then, was it any benefit, or did you not do the right thing, but you can do it better. So you're learning through every job.

Therefore, some participants appeared to use reflecting back to help them prepare for arrival at an incident scene and manage their subsequent emotional responses. Whereas, other paramedics used reflecting back as an opportunity for learning and improving practice, which appears similar to the refection used in making sense of events *(discussed in the journal article).*

A number of the paramedics interviewed specifically referred to learning to cope with the job through training, methods, procedures, routines, etc. and how coping is a state of mind, a method of working. The following narratives exemplify this:

> *Dave:* Coping with something is, is a state of mind, isn't it? It-it's programming…It's trying to get yourself into thinking "Right, I've got to do this." You've got to think methodically and cope with something how the job wants you to, and situations that are pretty horrific when you get to them in respect of they could be a mass RTA with lots of cars upside down, people walking about with injuries and whatever, you know. You know that you've got to try and bring that into order, and doing that is a…There's a method to doing it, and that is the method you've been taught within, within training school when you're learning how to deal with multi-trauma incidents, you know, who you would let know, what vehicles you wanted, what patient would be seen to first. It's all about that really...You know, it's a state of mind, a method that you've got in your mind.

> *James:* You do it so instinctively [ ]...you're just driving along, in the passenger seat looking at the scenery going by totally switched-off to what you're going to. But then when you're there you're so focused on, right I need to do A, B, C, you've got to do this, that, that, that. You're fully focused on the job and in a way you've blanked out that you're dealing with a patient...because you're so focused, not so much...with most patients, but only the time critical ones, you…you know you've got to get them to hospital, there's only so much you can do, so you're so focused on that, that I guess in some ways you do have that barrier there, because you're focusing on what you're doing, there's information you need to grab and in a hurry. It's usually afterwards it starts to seep in, you just think bugger.

Therefore, it seems in one sense, coping is about learning the rules and procedures, learning what to do and what is expected, essentially being trained appropriately to perform the job. From James' quote, it seems these methods assist him to concentrate on the job, enabling him to switch-off emotionally from the patient. Although, he does state the emotional reactions come afterwards, indicating such detachment is temporary.

In summary, these paramedics referred to a number of methods, which assisted in mentally preparing them for incidents, both while travelling to and in attendance at those incidents. These strategies included reflecting back, positive visualisation and routines and patterns of working, the latter learnt primarily through training. However, this seems very simplistic. Knowing what to do is certainly one aspect of coping with and managing particular incidents, but one could question whether training can fully prepare paramedics for the breadth of potentially traumatic incidents and gruesome scenes they encounter.

Emotional Suppression and Expression

Emotional suppression appears particularly important for these paramedics while in attendance at an incident, as Sarah (pilot) implied when asked what aspects of the job she thought she would be unable to do prior to becoming a paramedic:

> The blood and gore...basically [giggle], I didn't know whether I'd be too squeamish but no you've got mechanisms where you shut off and deal with it and maybe think about it afterwards and stuff like that [ ].
>
> *Interviewer: When you say that you've got mechanisms to kind of shut off and deal with it, what do you, what kind of things do you mean?*
>
> It's nothing conscious that you do, at the time, obviously you've got a lot of adrenalin going round you when you realise it's quite a serious job...and you just, don't block, you just that focussed

> on dealing with this patient and helping them and doing what you need to do that you don't think oh this is someone's mum or this is someone or this could affect their life forever, your just dealing with that problem at that time, and then afterwards it probably, when then adrenalin's calmed down, it does hit ya, and you think what an impact that's going to have on that person, their relatives and stuff and it's quite sad really.

This quote demonstrates the importance of emotional suppression when treating a patient and implies it is temporary, lasting until the *"adrenalin's calmed down."* Reflection occurs later and the emotions connected with that incident might surface, as suggested when Sarah comments *"it does hit ya."* Sarah's quote suggests a mechanical nature to dealing with patients, a suppression of emotions to enable her to complete the task in front of her. This seems to link with James' quote about coping as learning the rules and procedures of the job (*discussed under 'mental preparation*'). Therefore coping with patients at the scene would appear to involve at least two types of coping, both mental preparation prior to arrival and emotional suppression upon arrival and until completion of that incident. Both would appear to involve dealing with the patient as a task to complete, as opposed to another human being, suggesting both types of coping result in distancing between the patient and the paramedics interviewed.

The literature often refers to the emergency services culture trending toward not showing emotions while at work, as it is unacceptable (Regehr et al., 2002). Dave appears to echo this in the following quote, where he discusses how new recruits might not want to talk about an incident afterwards, for fear they might appear weak:

> Not all of them want to do it [talk to others following an incident], because like me some people are personal...And they don't want...They don't want people to notice their frailties, because that's a big thing…Noticing people's frailties. If you see

> somebody's weak, from a, from an outside point of view, if you don't like that person, you attack that weakness...If you see somebody who is weak from the job's point of view, you start to question whether or not they're going to fit the job...So therefore people don't want to show their weaknesses.

This quote suggests suppressing emotions is practiced while working under pressure with patients and more generally within the overall working environment, due to a fear of appearing weak in front of colleagues. The adaptive nature of such overall emotional suppression should be questioned. This reluctance to show emotions meant some of the participants expressed a reluctance to seek professional help if they were not coping psychologically with the job, as exemplified by Dave:

> If I felt like the job was bothering me psychologically…Then I would probably have to seek help from my GP or something like that...But it would…That would be a last resort really.

Dave is clear seeking psychological support would be difficult for him and his language use demonstrates his reluctance to do this. Alongside his earlier quote, this suggests that he suppresses his emotions at work, not just during specific incidents, and does not like to admit when he is struggling emotionally. However, not all the participants felt reluctant to admit to struggling emotionally with the job. Sarah (pilot) says she would be comfortable accessing the counselling service if she was not coping:

> It [the job] will affect some people. And I'm not saying in the future it wouldn't get to me. I'm sure there's a point where maybe you get a run of bad jobs and then there's just one thing that…final straw that...Because stress shows itself in different ways in different people as well....but there's nothing that's ever really made me think I need to do something about this, I'm not coping with this. But I know…but I'd hope I'd recognise it and I

> wouldn't…I wouldn't be afraid to access the counselling...Or I don't think there's anything shameful in it...You don't have to be all bravado and everything's alright....Because it is a job that will…I think it'll probably affect us all at some point. You just don't know when...And you don't know what job it's going to be. It might be something that you'd never dreamed would upset you as much as it has....I just don't think it's happened to me to that extent.

Sarah recognises the job will probably affect her negatively in the future. Her comments regarding accessing the counselling service, that there is nothing *"shameful"* in it, and that you do not have to be all *"bravado*,*"* suggest some recognition that some colleagues would not access such services, possibly due to the traditional expectation of emotional suppression inherent within the emergency services (e.g. Regehr et al., 2002). This viewpoint could also be a reflection of her as a woman within, what might be considered, a male dominated environment, with the assumption that women are more comfortable with emotional expression. Interestingly, when asked what it is like for her as a woman in a traditionally male dominated role, Sarah criticises other women for inappropriately showing their emotions while at work:

> The only thing that bugs me is some women, well do you know if they're like in trouble or they don't get their own way they'll go in the office and cry to get the male and just think you're just giving us a bad name now sort of thing...Because I just sort it out properly and start... instead of battering your eyelids. You do get a bit of that.

It therefore appears that Sarah sometimes approves of emotional expression, perhaps when it is related to patients or difficult incidents, but disapproves when other female colleagues express their emotions in what might be considered a manipulative manner. Laura also talked about showing emotions:

> I have had a few tears after jobs, probably half a dozen if that...but that's usually it. It's usually going home – the going home, getting in your car, being on your own, having a think about it, sit there, have a cry for five, right, I'm alright now [laughs]...And off you go...And I think that's just a... a release mechanism for...for...for us...And I know blokes do it cos blokes have said that they've gone home and they've all...you know on their way home they'll do that. They'll get home and they're fine.

Laura commented it is not just females who cry, but also her male colleagues. It is clear however, that even though she has cried following jobs, it has not been that often and it has happened when she is alone, further solidifying the view that it is wrong to show emotions while at work.

Some of the participants talked about ways in which their emotions had publically escaped, occasions when emotional suppression could be considered to have failed. In the first quote, James talks about an incident on Christmas day where a patient with mental health difficulties *"kicked off"* in the ambulance, being verbally and physically abusive toward him, his colleague and the police at the scene. The incident had a dramatic effect on his later mood and behaviour. In the second quote, James talks about *"venting steam,"* as a manner in which he copes with the job:

> When I got home I hadn't realised how much that job had affected us. It put me right in a foul mood. At the time I had...a Springer Spaniel that had behavioural problems. It growled at me, so I went to tell it off. It went to bite me and it had…basically I leathered it. It upset my wife and totally spoilt Christmas day for me and me wife...And I hadn't realised just how much that one job, that one person had affected me until after, afterwards.

Interviewer: Are there other ways that you cope both at work and outside of work [ ]?

At times, venting steam.

Interviewer: How do you do that?

But sometimes that can be not the most constructive way, probably one of the more childish ways of doing it. But sometimes I think it's…I think it's needed.

Interviewer: Do you mean kind of shouting at someone or...?

Shouting and swearing...Maybe chucking something across the garage, kicking something...It's really, really is childish. But man, I feel better afterwards.

Both quotes suggest James can potentially react in an aggressive manner when job pressures become overwhelming. The first quote shows how just one incident can be particularly stressful, perhaps with the individual not realising to what extent until later. James acknowledged he did not realise how the incident had affected him, suggesting a level of emotional suppression, which eventually could not be maintained, resulting in the incident with his dog. In the second quote, he openly discusses aggressive behaviour as a manner in which he copes, although he does recognise it is probably not the best method. Both quotes indicate the impact on others of James' emotional state and behavioural reactions. Not all participants talked about becoming aggressive, for example, Dave recounted a period where he had three incidents of child deaths in about three months and how he cried when a Sister at the hospital, following the last death, asked him how he was:

> I just burst into tears, err, and I've never known…well, I have recollected in probably 38 years I've probably cried about four or five times on situations I've dealt with, and that's been something that I don't like to talk about.

Dave implies crying is something he does not like to talk about, indicating his reluctance to show his emotions while at work. This again supports the notion of emotional suppression being encouraged within the work environment. Later in the interview, Dave questioned *"Why me? Why have I dealt with these three kids? Why have they all been something I can't deal with?"* This suggests Dave experienced difficulties in making sense of these deaths *(see 'the process of reflection and making sense')*. It could be hypothesised that Dave used emotional suppression during and following each of these deaths, which subsequently led to his public emotional outburst and difficulties in making sense of the deaths. Perhaps talking to colleagues and expressing some emotions might have enabled Dave to start to make sense of these deaths and better handle his resulting emotional responses.

Emotional hardening appears to be a long-term outcome of repeated emotional suppression. It could be considered a manner in which more experienced paramedics manage emotions stirred by certain incidents. However, it could also be considered a longer-term psychological impact arising from the job. Caroline commented that she views paramedics as *"hard people"* adding how *"sometimes you don't show your emotions."* She described how she got better at pushing her emotions to the side after her dad died, as she had to keep working, as exemplified by the following quotations:

> If I don't pass them off [patients] as nothing that is my way of dealing with them, it doesn't mean I'm not a caring person...But you have to be hard towards them to be able to deal with them...But that's just come naturally now over the years...I don't think, oh, I'm going to push that aside, I'm not going to think about that...I just don't even think about it.

> I'd be driving with patients on the ambulance and I'd want to start crying because something had come back to me about my dad.

> But because I had patients on the ambulance I couldn't cry...So I pushed it aside...and then as time went on it had come to me I'd want to cry and I couldn't because I was in…at work in public with patients. So I pushed it aside. And I think that started…even though I'd been on the ambulance service before that anyway, I think that made me dead good at it really, to be able to push aside...my emotions...So I think that started the ball rolling.

Caroline comments on the necessity of being emotionally hard to be able to deal with the job and that over time this has become an automatic response. Tim also referred to hardening, in reference to attending a cardiac arrest who turned out to be his father, when asked whether there had been any incidents which had particularly influenced or changed him *(see journal article 'dealing with someone known' for further discussion of this incident).* He commented *"when you start dealing with trauma, you start dealing with incidents...I think they tend to roll off your back a bit then, because you harden up to the job. You harden up to the job a lot."* This quote indicates that Tim feels he has hardened to the job over time. Caroline recognised the importance of being *"hard"* alongside recognising the limits of this:

> You've got to be emotionally involved but not too much because once your emotions crack you've got to be able to draw that line of…if…if you're…if you're hard and you don't care then that's not an ability to be a good paramedic. You've got to be hardened to what you see and what you have seen. But we're not robots. We're human beings at the end of the day...And some things affect different people in different ways, that wouldn't affect other people because it's nothing.

Caroline recognises that although the job requires some hardening of emotions to cope with the potentially distressing incidents they encounter, paramedics are still human. Being a paramedic is a caring profession and one needs some level of emotion to care. It could be

hypothesised however that the hardening of emotional reactions is more likely to lead to potential psychological difficulties. Furthermore, such emotional hardening could potentially become too ingrained and automatic, thereby interfering with emotional expression outside the work environment. This could result in difficulties switching from being emotionally hard at work to being emotionally responsive at home.

In summary, it appears there are different ways in which these paramedics express and suppress emotions. Furthermore, there are different views about emotional expression within the work environment. It is clear emotional suppression is necessary within this work environment to a certain extent, particularly when in attendance at an incident and working with patients. However, it also appears that a balance between emotional suppression and emotional expression is required.

Distraction and Switching-Off

Distraction and switching-off from the job appear functional for the participants and potentially provide a sense of detachment and distance from patients they have dealt with. The differences in coping between work and home appear important, with participants appearing to talk about distraction while at work and switching-off from the job at home. In the following quotations, Laura and Caroline refer to distracting themselves while at work:

> *Laura:* There is jobs where I could definitely have said I could have gone home, and possibly wants to go home...But you know you've probably only got, you know, how…however many hours left at work, just get on with it, get back into it, it takes your mind off things...by dealing with other people.

> *Caroline:* I always tend to do paperwork when I come back in base. And never sit and watch television, well I'll say very, very rarely...very rarely...Some of lads will play pool or they play darts

> or stuff like that...But no, I'm at work, have to do…if I come back to base I'll just do paperwork...I keep busy...Always busy...If you ask anybody, I never sit down. I never sit down...I'm always on the go.

These quotations imply that keeping busy and distracting themselves, helps take their mind off things and results in distracting themselves from the patients they have recently dealt with. However, this way of coping could potentially interfere with reflection and meaning making following an incident.

When asked about coping with the job, most of the participants explicitly spoke about the importance of switching-off from the job at home and the different methods they used to do this, for example seeing friends, playing computer games, walking the dog. Tim commented *"I don't take nothing home from here...So, I do tend to switch-off quite a bit."* Ann and James explicitly referred to not taking the job home with them:

> *Ann:* I walk the dog. [ ] I've got some friends I go and have coffee with...and a chat...they tell me about their family [ ] nothing ever, ever…I don't take it home. I don't think, "shit, I've got to go back and do all that again tomorrow," [sighs] I just want to go home, have my tea and relax and get to bed. It's a good way to be.

> *James:* Playing computer games...can help because it's surreal, you switch-off...And also I've got a hobby called...Warhammer...which is tabletop fantasy war game with…because my...as my wife likes to say, toys [laughs]. But...it's again fantasy, totally devoid of reality, switch-off, concentrate on the game...Or, if I'm painting a load of figures or gluing them together or whatever I'm doing. I can just switch-off to what's around us. And I think that…that helps having…having a hobby outside of the job.

These quotations imply that work remains at work and there were a few ways the paramedics interviewed achieved this. Some of the participants spoke about using alcohol as a method of distraction to cope with their job demands. James talked about using alcohol following a death, but recognised the potential difficulties this way of coping might bring:

> There's also a case of...it's becoming a habit. Cardiac arrest, dead person, I'll go home and I might have a tot of brandy, whisky, toast for the dead and...away it goes...But I'm also aware it's a fine line between having a little sloot and being blind stinking drunk and having a little bit of a problem...So subsequently, as I say I've got a little bit of whisky left at home at the moment, once that's drank it will probably be a few weeks or so before we get another replacement. So I do keep…because I know it is very easy in this job, and I've seen colleagues do it, is...get a little carried away with the drink because of the pressures of work [ ]. So it probably…drugs is one thing and I don't think anybody touches, but alcohol, most of us tend to have a fancy for.

It is unsurprising paramedics might use alcohol in this manner, considering the use of alcohol as a method of relaxation and/or avoidance of emotions commonly used within the general public. One might consider James' comment about there being a *"fine line,"* as indicating a line where on one side is the acceptable use of alcohol as a method of relaxation, possibly following a death, and therefore a method of coping. On the other side is the excessive use of alcohol, potentially leading to problems at home or within the work environment, due to excessive use. This could be considered a potential psychological impact of the job, as opposed to a method of coping. This line could be different for each individual and as such is not clearly demarcated but essentially subjective.

Some participants considered the potential consequences when paramedics were unable to switch-off from the job as James summarised:

> I've known of people who have...lived, eaten, breathed, the ambulance service. And when something goes wrong, they find it harder...to accept it, to move on from it. And then there's…over the years, I've known...two people in [CITY] area to leave with mental health problems and...one person hung himself. [ ] And it's…I want to make a retirement. Granted I'm not going till 65, it will be early retirement [laughs]. But I want to make it. And I want it with all my marbles...preferably. Whether my body will be up to it will be another matter. But I want…want to make it and I want to be there. I want my wife to be there. And it's so...easy to end up with your marriage breaking-down, turning to drink, losing the job and…and that's it.

It therefore appears that switching-off is important for these paramedics for coping with their job demands, being able to draw a boundary between where work ends and where the rest of their lives begin, essentially a compartmentalising of the job in relation to other aspects of their lives. Switching-off is probably a common strategy used within the general public to switch-off from work in general, but one could hypothesise that switching-off in this manner is more difficult when your job exposes you to multiple potentially traumatic events. Furthermore, this detachment appears to be about the job overall, not specifically focussed on particular patients or incidents.

Humour

Humour appears to function as a self-protective coping mechanism, providing a way for these paramedics to detach and distance themselves from the patient. This enables them to not get too emotionally involved in the potentially gruesome nature of the incident at the time. Tim commented, "*it's that little…it's…it's not…it's joviality,*

but it gets you through the job," thereby demonstrating the role of humour in managing work-related situations *(see appendix M for examples of humour use)*. Humour also appears to be another manner of providing social support to colleagues and seems to be part of the emergency services culture (Rosenberg, 1991). Tim suggests a possible reason for this*:*

> You'll find it within the Police, you'll find it within the ambulance service you'll find it in the fire brigade. All the same...Because if you don't have that bit of…humour in that, you will crack up, you know what I'm saying, you will crack up.
> *Interviewer: So it's kind of another way of kind of dealing with the situation.*
> It's release; yeah it's a release.

Tim appears to view humour as a release mechanism, perhaps in relation to the emotions suppressed while dealing with patients. Humour allows the expression of emotions in an acceptable manner and enables some distancing from the patient. Sarah (pilot) commented humour helps her and her colleagues deal with the job:

> Sometimes, you know, you have a laugh and a joke that other people worry, you know, it's a sort of sometimes black humour, the way we deal with it, get us through it.
> *Interviewer: [ ] What do you mean [ ]?*
> Just like laughing and like…I don't mean making jokes of people or patients or horrible jobs or anything...But probably a bit of a morbid sense of humour that is just a coping mechanism...that we all do. And we'd all…we'll all have a bit of a laugh about, whereas people from the outside would probably think, I don't think that's very funny.

Sarah comments how individuals outside the profession would probably not view this type of humour as funny, that it would not be appreciated

outside of their work environment. Some of the other participants recognised this, with James describing it as *"that sick sense of humour."* Ann's humour use appeared different to the other paramedics interviewed. She seemed to not have as much recognition that this type of humour would only be appreciated within the work environment, as exemplified by the following quotes:

> It's so funny because I don't see children...as…I know they're human beings, little human beings, but, you know, they've just been switched off. They're dead. You know, go and make another one [laughs].

> Everybody has a different, sort of, mind frame. I don't turn them into cartoon characters, and I think it comes from watching a lot of horror films, personally. I was always a bit of a joker when I was younger with my mum. You know, I'd jump out the back of the curtains dressed as Dracula, frightened her to death. That's probably why she's dead [giggle].

Ann does not explicitly refer to using humour to cope, but her use of humour within the interview appeared to demonstrate some blurring of the boundaries between humour considered acceptable within her working environment and humour accepted outside that environment. Ann might therefore use humour to cope within the job, particularly deaths, as it enables her to gain some distance between herself and her patients. Of note, in reference to the above quotations, I felt uneasy and slightly shocked at her use of words and subsequent laughing in both these scenarios.

In summary, some of the paramedics interviewed referred to the use of *"morbid"* humour as a method of coping with their job demands. This type of humour appears to allow some distancing between the paramedics interviewed and the patients they have dealt with. For some, it also appears to allow a safer way to express emotions stirred by incidents. One might also consider humour use in this manner, to be

important in ascertaining meaning from an event, therefore helping to lead to acceptance, particularly of deaths, and therefore closure *(as discussed under 'the process of reflection and making sense')*.

Just Getting on with it

The concept of *"getting on with it"* (Laura) and *"its' part of the job"* (Caroline), appears to permeate throughout the interview transcripts. This seems to be another way in which these paramedics detach themselves from their patients and the more distressing aspects of their job, as illustrated by the following quotes:

> *Tim:* I've had incident where…five youths die in a car which then went up in flames and we've had to spade them apart, to get them apart, you know what I mean. But seeing a face up against a back window, trying to get out of the car, it's not very nice to see, but it's a part of the job, and you've just got to get by with it.

> *Laura:* I have had days when I've not wanted to come to work...not felt like coming to work, just because...you know, the three days before you've not had a break...you've been pounded, you've not been thanked for it...the person you're working with is just an idiot. You've got to put up with them again. But I get on with it...I get on with it.
> *Interviewer: How do you keep going [ ] when you say you get on with it, how do you keep coming to work?*
> *Laura:* Getting on with it. [ ] I just think get back on the wagon and get back into it.

These quotations all suggest that part of coping with the job is cognitively accepting the nature of the job for what it is and just getting on with it. Essentially, that it is what they have to do, it is their job.

In summary, there appears to be a number of ways in which these paramedics manage and control their emotions in response to work-

related events. Some of these methods would appear to link positively to meaning making, for example humour. Other methods would appear to potentially hinder the process of meaning making, such as emotional suppression, distraction and switching-off. However, further research would be required to clarify these links. Despite this, it is clear that the paramedics interviewed used different methods to control their emotional responses to work-related events.

The Process of Reflection and Making Sense

(This section elaborates on the journal article and should be read in conjunction with that article).

Talking to Each Other

Some of the participants discussed having family members who were EWs or nurses and how they talked to them, particularly following difficult incidents. Laura and Sarah (pilot) spoke about talking things through with their partners, also EWs:

> *Laura:* You can sort of go home and have a chat with them about it. A few incidences, he'll come home and talk to me or I'll go home…I seem to have had more trauma in my time on the ambulance service than...a lot of people have. And I think that talking about it when you get home actually helps to…you go home talk about it for a bit and that's it. It's at rest, you know, it's gone.

> *Sarah:* I've got it even easier because my husband's a [n EW] as well. [ ] And so he…I'm not going home to someone who doesn't know where I'm coming from. He knows exactly where I'm…which is a lot, lot easier...I can imagine people who have got wives and husbands that are in office jobs, they're not…they're not going to have a clue, and it must be difficult to talk to them or you look like you're bottling it up there. Well that could cause problems. So I'm lucky in that respect.

Sarah suggests having a partner who is an EW, is particularly good as he is better able to understand her work-related experiences. Both extracts demonstrate the importance of social support. Laura also indicates in her final sentence that talking leads to closure.

However, there were differences in how helpful the participants found talking through events. Dave talked about how he experiences stress and its' impact on his ability to talk things through:

> When I'm stressed I feel anxious, I feel...non-responsive to other people. I'm not taking in so much what other people are telling me. I'm a little bit aggressive. I feel weak...I feel tired. I feel I want to be on my own. Talking to people sometimes doesn't help me. Sometimes it does, but mostly it doesn't.

Dave appears quite distressed here due to work-related incidents. It is clear this is having an impact on his relationships with others as he feels *"non-responsive"* and *"want(s) to be on my own."* This extract demonstrates Dave does not find talking to people when he feels like this to be useful. However, James spoke about his experience of stress and his realisation that talking things through was important:

> When I first joined the ambulance service I was never one...to talk much let alone about me emotions...I'd always keep bottled up inside...And I've learnt over the years that it's better...to talk to somebody.
>
> I went through a bad stage where I could feel myself becoming extremely snappish, very short-tempered, tired a lot of the time. I something and you just think, no, I'm not going to talk to anybody about it. But they're far and few between because I've now…I've recognised talking, is far better than just keeping it in.

Therefore, James recognises the impact that not talking things through has on his psychological wellbeing and although there are occasions when he still keeps things to himself, these are rare. The comments he makes about being *"snappish," "very short-tempered"* and *"not sleeping properly"* map onto some of the symptoms required for a diagnosis of PTSD and/or depression (APA, 2000), although further information would be required to make this diagnosis. These symptoms could also indicate work-related stress.

Laura talked about difficulties that might follow if someone had been unable to talk about a bad incident. She referred to an incident, involving the Police and fire brigade, where a young woman had set herself alight. She commented how she had later been able to talk things through with the fire-fighters in attendance but not the police officer who had evidently been distressed at the time.

> I remember the police officer that came and he just…he was just stood there...everything was hands on, I looked up and his face was just…it was…it was a case of he couldn't believe what he was seeing. And it was a case of, not disgust, but total what is it. Yeah, she wasn't nice; she didn't smell particularly nice [laughs]. She didn't look particularly great. But that…she didn't bother me...it was, it's like his face...the firemen who had got there first, they were in a right old panic, bless them. And afterwards...I went to a…a fete and they were there...the…the fire brigade were there and I went and had a word with them. [ ] They found it good to have the feedback from me as well. Unfortunately I never saw the police officer again. I don't know who…who he was...But it'd be…it would have been nice just to have a word with him and say, you know, "Look mate, I could see you were really…it was really upsetting."[ ] And I could see it really upset him. And I think not being able to sort of say, "How are you mate?" You know, because for all I know he could now be, you know, finish the…the police service because of one thing he's

> seen...That he couldn't make rational sense of, I don't know, or he keeps seeing over and over again, he could be one of them.

The phrase, *"he could be one of them,"* appears to distance Laura from individuals whom suffer psychological difficulties due to work-related experiences. She recognises the potential difficulties, which might ensue, but makes sure in her language use these difficulties are associated with others and not her. She implies talking is important in making sense of these difficult events.

Caroline appeared to be the only participant who was aware what she disclosed about incidents might have an effect on the person listening. She talked about the *"selfish"* nature of *"offloading,"* adding *"you have to do it"* else *"you'll crack up."* The following narratives demonstrate this. The second quotation refers to an incident where some machinery crushed a man to death:

> You do offload things to other people, which is selfish because you are being selfish by offloading it so you can move on, so you offload it to somebody else so they have to deal with it.

> I had to ring my mum and wake her up at one o'clock in the morning because I couldn't get to sleep because I kept seeing the image of the face...So I had to ring my mum and offload it to her, which made me feel better. I don't know how she dealt with it and I never asked her how she dealt with it. From a selfish point of view, all I needed to do was offload it to somebody and I didn't think about the consequences for that person. And if I'm honest I still do now if I was to do it now...And I don't even think about how they deal with what I'm telling them...But I have to offload things sometimes...To people, because if you don't you go wappy...But then that's selfish because you don't…I don't think about how [ ]. But then if I start thinking about how they're dealing with it, I wouldn't do it.

Therefore, Caroline demonstrates some recognition of the possible effect on others, through vicarious traumatisation, of talking to them about distressing work-related events. However, she tries not to think about this, as she might not talk about events, which she fears will make her *"crack up."* Some of the participants recognised the potential impact of what they were talking about on the interviewer. For example, Dave stressed, *"now this is quite traumatic, so prepare yourself,"* prior to talking about a man impaled on some machinery and Tim commented, *"as for…jobs on the road, giving gory details, I could stand here and do that [ ] nobody wants to know a lot of that."* These quotations demonstrate an awareness that what they witness on a day-to-day basis is potentially traumatic for individuals who do not work in that environment. They show awareness that what they talk about might vicariously traumatise the interviewer.

In summary, accessing social support appears important in understanding, making sense of and coping with difficult work-related events. However, participants differed in where they accessed this support, with some indicating they preferred not to talk to others.

Extended Discussion

Overview

The current study explored paramedics' experiences of multiple work-related potentially traumatic events, alongside their ways of coping. Four super-ordinate themes were generated: 'the impact of context on coping,' emotional management and control,' 'the salience of memories' and 'the process of reflection and making sense' *(see appendix L for a detailed overview)*. The two former themes are discussed in reference to the existing literature and aspects of the latter theme are elaborated *(see the journal article for a full discussion of the latter two themes).* The critical reflective component considers the author's use of a reflective journal throughout the study. The section concludes with a critique of the study methodology and a discussion of the clinical implications and avenues for future research.

General Findings

While interviewing the participants it became apparent, there were aspects of their work that they found difficult and/or distressing. A number of them indicated some psychological difficulties, both transient and more long-term, particularly difficulties with intrusive memories and/or images, disturbed sleep, flashbacks, rumination about incidents, anger and/or irritability, emotional withdrawal and low mood. This is in-line with previous research with AWs, which reported levels of general psychiatric morbidity of between 22-60%, as measured by the GHQ (Alexander & Klein, 2001; Clohessy & Ehlers, 1999; Thompson & Suzuki, 1991). Previous research has also indicated that AWs often feel emotionally distant and disengaged and exhibit generalized anger and irritability towards family members (Clohessy & Ehlers, 1999; Regehr, et al., 2002), something James and Dave referred to. Previous research has also indicated sleep problems in AWs (Clohessy & Ehlers, 1999) and DWs (Fullerton, et al., 1992). A collection of these aforementioned symptoms in an individual, particularly if intrusive memories and/or images or flashbacks are present, could indicate the presence of PTSD

and therefore this study builds upon the literature within this area. Alternatively, a number of these symptoms could indicate a possible diagnosis of depression or work-related stress. Unfortunately, we cannot definitely comment on whether the participants within the current study fulfilled any diagnostic criteria, as standardised assessments were not used. However, a number of the participants did express concerns about the psychological impact of their daily exposure to death, indicating they were aware of the potential long-term emotional impact of the job *(see James and Laura's quotations within the journal article).* Therefore, this study provides a more individualised and nuanced account of the potential psychological difficulties that paramedics might encounter following exposure to cumulative traumatic events.

The current study supports the notion that the loss of control, or a feeling of being out of control, can potentially make the experience of work-related events more traumatic. The notion of a loss of control due to contextual factors (for example, receiving incorrect details from Control, being unable to transport patients as a single responder, Government targets, etc.) appeared to have a particular impact on the individual paramedic's ability to cope with work-related incidents. The feeling of being in control, or not, also appeared to be an important aspect contributing to the salience of memories and associated feelings, particularly whether the paramedics interviewed were able to make a difference to the patient or not *(see 'the salience of memories' in the journal article)*. Occasions where participants had not been able to help the patient, where they were unable to make a difference, resulted in more vivid and salient negative feelings and memories, which is partly in-line with the literature. Halpern (2009) identified, following TA, how AWs often reported strong feelings around an inability to help, alongside the expectation they would be able to help. Furthermore, qualitative research with DWs has indicated the presence of feelings of helplessness and guilt following the inability to help during DW (Fullerton, et al., 1992). This appears similar to the feelings of

responsibility to make a difference, even when this was futile, as reported by the current study. It would seem such negative feelings are particularly linked to a loss of control over the situation.

It seems important to consider the current study within the context of the dual representation theory of PTSD (Brewin, Gregory, Lipton, & Burgess, 2010; Brewin & Holmes, 2003). This theory explains the nature of memories in terms of two distinct memory systems. Contextual or C-memory (also labelled VAMS), refers to “abstract, contextually bound representations,” in other words verbally accessible memory. S-memory (also labelled SAMS) refers to, “low-level sensation-based memory” and tends to be unprocessed sensory memories, often thought to be the cause of sensation-based intrusive memories and/or flashbacks (Brewin, et al., 2010, p. 221). Therefore, these memories are triggered involuntarily by internal or external reminders of the traumatic event (Brewin & Holmes, 2003). C-memory, however, is verbally accessible, as these trauma memories have been transferred to long-term memory and integrated with pre-existing autobiographical memories and retrievable when the individual requires them (Brewin & Holmes, 2003). Moreover, the model asserts that an event perceived as moderately stressful or particularly emotionally salient will result in longer lasting C and S-memory representations being made, with such memories often containing prominent visual elements, which increase emotional reactions (Brewin, et al., 2010). The current study would appear to support this model and its assertions, particularly the sub-theme ‘vividness of the senses.’ Moreover, the importance of meaning making in coping for these paramedics would appear to support these two distinct memory systems. It would appear that meaning making could enable the individual to develop narrative coherence, thereby processing S-memories and developing C-memories, leading to the transfer to long-term memory. This in turn could lead to the removal of negative symptoms usually associated with PTSD, alongside potentially leading to trauma related growth.

Previous research has noted intrusive images and memories can include a number of sensory qualities, including visual, auditory, olfactory, gustatory, touch and movement (Kosslyn, 1994). The current study would appear to have reported a number of these qualities, particularly visual, auditory and olfactory qualities *(see 'the salience of memories' within the journal article).* For example, memories of the faces of the deceased following particularly gruesome incidents appeared to be particularly vivid and saliently remembered. This is in line with previous qualitative research with DWs, where workers reportedly thought a lot about incidents following DW, especially the faces of the victims, with this sometimes affecting their sleep. Further quotes are provided indicating smells from the scene continue after the event (Fullerton, et al., 1992).

The Impact of Context on Coping

A number of contextual factors, which potentially influence the individual paramedic's ability to cope with potentially traumatic work-related events and are essentially out of the individual's control, have been discussed. These include working as a single responder, receiving accurate information from Control and Government targets, alongside factors such as shift-working and long hours. These findings are in line with previous research with AWs (Bennett, et al., 2005; Halpern, et al., 2009). Halpern et al. (2009, p. 177) investigated the nature and impact of CIs using TA and ethnographic content analysis. These researchers found that "chronic workplace stressors," such as high work volume, continuing difficulties with management and working shifts had an impact on how CIs were experienced, but that they were explicitly distinguished from them, specifying such factors were considered stressful and had an impact on the coping experience. Furthermore, Bennett et al. (2005, p. 224) concluded "background organisational factors may on occasion be more difficult to deal with than the more apparent and potentially acute stress of dealing with incidents 'on the road,'" indicating the potential impact on coping of such organizational

factors. Moreover, previous research with police officers has indicated organizational stressors had a total effect on workers of 6.3 times more than stressors involved in attending incidents, e.g. dealing with crime and violence (Violanti, 1993).

The current study has built on this literature by highlighting the potential psychological impact of not receiving accurate information from Control and the difficulties inherent within the single responder role, such as working alone, being unable to transport patients and managing relatives. Although factors such as not receiving prompt back-up and being given inaccurate information regarding the incident location or the injuries, have been identified as contributing to overall work stress, even described as factors in the “most disturbing incidents” (Alexander & Klein, 2001), this has not previously been linked back to a difficulties with the single responder role. Furthermore, previous studies have not considered either of these aspects in such depth, particularly the emotional impact. For example, the intense emotions James experienced when attending a cardiac arrest, where the crew had not been told the patient was a child, or the stressful nature of dealing with a patient dying in front of them when a DMC is not available to transport the patient to hospital.

The importance of personality and upbringing in relation to coping with work-related potentially traumatic events appears partly supported by the current study. Previous research has implied paramedics are more resilient or have hardier personalities (Alexander & Klein, 2001). The current study would appear to support this, in the respect that some of the paramedics interviewed appeared to have these views about themselves. The qualitative data presented builds on the current literature by demonstrating how individual paramedics view the influence of their personality and/or experience on coping. It provides a more in-depth understanding of the influence and potential interaction of these factors and their linkage to coping.

Emotional Management and Control

This study identified a number of strategies used by the participants in managing and controlling their emotions, such as mentally preparing for an incident, suppressing emotions, using strategies to distract themselves or switch-off, using humour and cognitively appraising the need to get on with it.

Most of the existing literature refers to coping in EWs while attending or following completion of an incident. There appears to be no reference to preparing for an incident as important to coping, as discussed under 'mental preparation.' This theme identified the importance of reflecting back to similar incidents, using positive visualisation and patterns of working learnt through training. Other researchers identified the importance of education in coping, for example, Palmer (1983, p. 84) commented how training leads to "educational desensitization," implying the importance of education in coping, specifically distancing. Furthermore, some researchers have identified training as reinforcing a sense of control in AWs presented with difficult situations (Alexander & Klein, 2001). The current study adds to this by identifying education as a factor in mentally preparing for an upcoming incident as opposed to coping with difficult incidents at the time or the job overall.

The current study identified the use of positive visualisation in preparing for an incident and this type of visualisation has not been reported previously. Previous studies have reported the use of visualisation, but only appear to mention its use while at a disaster scene as opposed to prior to arrival at the scene (Regehr & Bober, 2005; Taylor & Frazer, 1982). For example, Regehr and Bober (2005) commented that paramedics used visualisation of the next task rather than digesting the chaotic scene around them. Moreover, Taylor and Frazer (1982) described how body handlers used imagery to cope with tasks at the scene, providing examples of dead bodies being regarded as objects, frozen or roasted meat, plane cargo, waxworks and scientific specimens.

The use of emotional suppression within the work environment was demonstrated by the paramedics in the current study. This is in line with the current literature on AWs (Regehr, et al., 2002) and DWs (North, et al., 2002). North (2002) proposed how the resilience of fire-fighters following the Oklahoma City Bombing might have been partly because of experience on the job leading to habituation and toughening, indicating the use of emotional suppression, particularly hardening. Regehr et al. (2002) commented how such emotional distancing might be functional and protective within the work environment but how it might cause difficulties for the paramedic when attempting to shift to being more emotionally open within significant relationships. This would appear to be supported by the current study, which discussed the longer-term nature of emotional hardening.

The use of distraction and switching-off in paramedics in coping with work-related incidents, as indicated by the current study, is in line with the current literature in AWs (Alexander & Klein, 2001; Halpern, et al., 2009) and DWs (McCammon, et al., 1988). Distinct strategies reported by earlier research have included thinking of other things (McCammon, et al., 1988), looking forward to being off-duty, thinking about family, hobbies and interests outside of work and avoidance of thinking about what they were doing (Alexander & Klein, 2001). The over-use of alcohol to cope with patient deaths was also referred to by a number of participants and this has previously been discussed in AWs (Regehr, et al., 2002) and DWs (North, et al., 2002).

All the participants within the current study reported using humour to cope with their job demands and this is in line with the existing literature. A large number of quantitative and qualitative studies have reported widespread use of ‘black’ or ‘gallows’ humour by AWs (Alexander & Klein, 2001; Halpern, et al., 2009; Palmer, 1983; Regehr, et al., 2002; Rosenberg, 1991) and other EWs and DWs (Fullerton, et al., 1992; McCammon, et al., 1988; Moran & Massam, 1997). The

current study supports these findings, but apart from providing some specific examples of the type of humour used, thereby demonstrating its idiosyncratic nature *(see appendix M)*, it does not build on the current literature.

The theme of 'getting on with it' appears less explicitly mentioned within the literature. However, a number of brief quotes reported by McCammon et al. (1988, p. 361) in their study of cognitive appraisal and coping in DWs, appear to resonate with the current study's theme of getting on with it. For example, one DW is quoted as saying "I sincerely hope I don't have to do it again [recover bodies], but we all know it is a part of the job we do and love so much." The authors relate this quote to a "commitment to the profession" (McCammon, et al., 1988, p. 361).

The Process of Reflection and Making Sense

(This section is an elaboration of the journal article and should be read in conjunction with that article).

As discussed already, talking to others was important to these paramedics in understanding and making sense of work-related incidents *(see journal article).* However, not all the participants found talking as helpful *(see extended results)* and this is supported by previous research with AWs (Alexander & Klein, 2001) and DWs (North, et al., 2002). Previous research has suggested this might be due to these workers being concerned about sharing distressing experiences with family and friends due to concerns regarding vicarious traumatisation (Regehr, et al., 2002). The current study would seem to echo these concerns as indicated by Caroline's comments regarding talking to others as *"selfish"* and Dave and Tim's concerns about what they were talking about on the interviewer. Of note, at least five of the participants spoke to family members (partners or parents), either whom worked within the emergency services or were nurses. This situation would appear to encourage talking about difficult work-related incidents as these family members would potentially have witnessed

and dealt with similar situations and therefore the risk of vicarious traumatisation would appear to be less. This fact led the Principal Investigator to question how common it was for family members of paramedics to be working in the same or related professions. Furthermore, the impact this had on the data collected was questioned, as most of these paramedics were evidently more comfortable talking to related professionals about their experiences and hence potentially not distressed within their role. This would therefore make the concept of PTSD not applicable to them as if they do not view their role as traumatic, they cannot experience PTSD.

Critical Reflective Component

The following section summarizes key areas discussed within my reflective journal *(see appendix K for extracts)*, alongside providing a critique of the study methodology.

Personal Preconceptions

I entered this study with the preconception that all EWs would see aspects of their job as traumatic and would need particular coping mechanisms to manage. However, this has not always been the case, as not all the participants reported finding their job traumatic. A number of them had expected the job to be more traumatic, for example Sarah (pilot) when asked what she had expected the job to be like, commented, *"I just thought it would be more traumatic than it is, but we, we don't go to loads of trauma...It's not quite what you see on Casualty on telly."* Furthermore, prior to interviewing the paramedics, I had viewed patient contact as the most demanding and potentially traumatic aspect of their job, as opposed to dealing with relatives, working with colleagues and adhering to Government targets, but again this was not always the case.

These preconceptions stemmed from a number of influences including the media portrayal of the emergency services both in the news and fictional television dramas such as Casualty and ER. I also developed

further preconceptions following the sudden death of a close friend, which resulted in my attendance at the scene while the paramedics and Police were still there. I struggled to deal with this event and I believe some of the study interviews I conducted were probably influenced by my preconceptions and my grief. For example, I believe I did not fully concentrate during Ann's interview, the first participant I interviewed following my friend's death, as afterwards there were aspects of the interview I could not remember when reading the transcript. This highlights the importance of recording interviews and transcribing them later. This was more toward the end of the interview where Ann talked about the appearance of a body following sudden adult death, which I remember at the time triggered memories of my friend's death and therefore limited my concentration on the interview and my connection to the participant. There were also moments during this interview where Ann became sidetracked, for example talking factually about the Health Professions Council, but I did not bring her back. Furthermore, there are a greater number of factual questions within this transcript, compared to the others, e.g. "*so what's the difference between the CP and the ECP?"* In addition, there were a few comments which appear judgemental and therefore against my chosen epistemology, for example, *"it's kind of wasting valuable time,"* in response to Ann talking about the driver of a DMC taking the wrong turning while carrying a patient. These difficulties suggest I avoided getting into the details of the job as I had done with the other participants and was avoiding getting into conversations, which would involve talking graphically about death. This would have certainly influenced the data gathered from this interview, the analysis and hence the final report. Moreover, I avoided analysing Ann's data due to being fearful of being reminded of what had happened, which might have resulted in the data being analysed less rigorously than they might have been. However, I fully discussed this within supervision, including the option of not including Ann's transcript within the final data analysis. However, we decided to retain this data, as I should not avoid its content. Ann's interview was probably the most affected by my friend's death *(see appendix K for further quotes from*

my reflective journal regarding this interview). Tim also referred to sudden deaths and I wrote, *"It felt like a shock and I became a little anxious, but I was able to cope and I did not switch-off from the conversation."* Following this interview I allowed myself time to reflect, which enabled processing of the interview. Therefore, there appears to be less impact on this interview and subsequent analysis, although my experiences and preconceptions would still have influenced my overall analysis and the final report.

I also used my reflective journal throughout the study to note down my thoughts about the different stages of the research process, most of which I discussed within supervision. Particularly important reflections included my thoughts regarding the emerging themes, particularly 'vividness of the senses,' which was discussed heavily in supervision. Further discussions included whether or not to include the pilot participant's data within the final data analyses *(see extended methodology for details)* and my difficulties in getting some of the participants to reflect on their experiences at a deeper emotional level *(see appendix K for examples of these reflections).*

Therefore, I entered the interview process and asked questions based on a pre-conceived idea of what I believed a paramedic to be and what I believed their job involved. This ultimately influenced the questions I asked, the manner in which I asked them and the manner in which I carried out the final analysis. However, I believe that by keeping a reflective journal and being more aware of my personal influences, the study has been enriched, as opposed to this being a study criticism.

Critique of the Study Methodology

There are some criticisms of the study methodology. These include a lack of formal or informal measures assessing whether participants were distressed or not, the impact of interviewing participants at their work place, questions regarding why participants chose to take part,

problems with the design of the interview schedule and criticisms of IPA as an approach to qualitative analysis.

First, the study did not include any formal or informal measures of whether participants were distressed or not, nor any perspective on whether those interviewed were good or poor at coping. It is thought the interview process should have included either a formal measure of PTSD, such as the IES-R (Weiss & Marmar, 1997) or an informal measure, where the participants were questioned on how they viewed their own mental wellbeing. It would also have been useful to quantitatively assess participants' levels of PTG using the PTGI (Tedeschi & Calhoun, 1996). Regarding coping, participants could have been asked their views on whether they felt that they were good or not good at coping. Alternatively, a formal coping measure could have been administered, such as the Revised Cope (R-COPE: Kirby, et al., 2011) or the Coping Responses in Rescue Workers Inventory (CRRWI: McCammon, et al., 1988), both of which have been used to study coping responses in EWs. An additional problem encountered by not using formalised measures was a lack of triangulation within the study, influencing the quality of the data analysis. Furthermore, it would have been useful to rigorously control for previous cumulative traumatic experiences, as two of the participants interviewed had previously worked within the armed forces. Participants were not routinely asked whether they had previously worked in other professions which could be considered as putting the individual at risk of witnessing cumulative traumatic events, such as the Police, fire service or the Army *(this list is not exhaustive)*. Perhaps this question should have been included at the start of the interview. A question was included within the interview schedule which was meant to consider the impact of personal trauma *(see appendix H, interview schedule),* but I did not routinely ask this within the interviews. Therefore, it might have been appropriate to ask participants whether they considered themselves to have experienced a traumatic event outside of their working environment and what this event was if they felt comfortable to disclose this.

Second, did interviewing the participants at their work place influence what they chose to disclose? Particularly since six of the interviews suffered from between one to five interruptions from other paramedics working at the station. Most importantly this limits confidentiality, as paramedics within the station at the time of the interviews would be aware that their colleague was being interviewed and in some cases why they were being interviewed. This would appear particularly problematic for qualitative research, where the sample is small and participant quotations are used within the resulting reports. Therefore, this questions whether participants felt safe enough to disclose aspects, which might have been frowned upon if, overheard. For example, whether they suffered psychological difficulties or struggled to cope with the more demanding aspects of the job. Some of the paramedics made comments that would indicate they were concerned about this, as exemplified by the following quote:

> *Interviewer: Can you tell me a bit more about politics?*
> *Sarah (pilot):* Yeah, without trying to drop myself in it [giggles].
> *Interviewer: In general, I guess.*
> *Sarah:* This bit I don't really want to be quoted on.

This might explain why some participants were forceful in their language when denying they suffered from flashbacks or sleeping difficulties. It might also explain why some accounts, for example, Ann and Tim's, appeared heavily factual. Perhaps this reliance on factual content could indicate some level of psychological distress, communicated through an avoidance of discussing certain topics at a more emotional level. Alternatively, this reliance on fact could be due to the timing of these interviews in relation to my friend's death. However, a different type of analysis would have been required to determine the participants' distress in this manner and this would require another research study and therefore could not be completed within the boundaries of the current study.

Third, questions should be asked of the people who chose to volunteer. Despite the ambulance service NHS Trust employing 906 paramedics, including paramedic team leaders and Operational Service Managers (OSMs: B. Winfield, personal communication, March 1st, 2010), across a number of counties, only nine paramedics volunteered for the study, leading to only seven taking part. An adequate sample for an IPA analysis but what were the motivations of those who chose to volunteer and why did more paramedics not volunteer, especially when they all received the study advertisement in their pay-slips during March 2010? Some of the recruitment difficulties might have been due to my methods of advertising the project, which did not include displaying posters at any of the stations or attending staff meetings to advertise the project as had originally been intended. However, there remains the question about what motivated those who did volunteer? A number were team leaders, so it could be hypothesised they believed it was their responsibility to become involved, thereby implicitly encouraging other staff to do the same. Some voiced concerns, prior to the interview, about the long-term effects of their job on their psychological and physical health, suggesting they might have volunteered with the idea they would be able to discuss these fears with a psychologist. However, the fact the study advertisements openly stated I was a trainee clinical psychologist could have had the opposite effect, thereby discouraging potential participants due to their fears and preconceptions of who I was and what would happen during and after the interview, particularly if they were psychologically distressed. Could it be that those who volunteered were potentially less traumatised, therefore more comfortable, and more able to discuss their work-related experiences? That those who did not volunteer were potentially worried about their responses if they chose to talk openly about their experiences. Whatever the reasons, the self-selecting nature of the sample certainly had an impact on the data collected and this should to be borne in mind when interpreting the results.

Fourth, there were difficulties with the semi-structured interview *(Appendix H)*. It was attempted to address these as the study progressed, particularly following the pilot interview *(see extended methodology),* but it did not become completely clear until the data analysis stage. First, the initial two questions appeared not to have yielded any data applicable to the research questions. Second, both the third and fourth question were aimed at tapping into elements of PTSD and PTG, however this appears to have happened to a limited extent. The third question in particular yielded mainly factual data, more appropriate for a TA rather than an interpretative analysis, although some interpretative themes did emerge with some participants. On reflection, perhaps the concepts of PTSD and PTG were not as relevant to the paramedics interviewed as they were initially thought to be. In hindsight, it might have been useful if each participant could have been interviewed again, allowing time for reflection on the first interview, as while reading the transcripts it became evident there were avenues which should have been explored further. Furthermore, it was felt these difficulties might have been rectified earlier if the Principal Investigator had transcribed the data, instead of a professional typist. This would have provided an earlier opportunity to reflect on the pitfalls of the interview schedule. Additionally perhaps a second pilot interview was required.

Furthermore, there are criticisms of IPA as an approach to analysis. Theoretically, IPA views the individual as a cognitive, linguistic, affective and physical being, assuming participants have the ability to express their own thoughts, feelings and perceptions of the phenomenon under study (Smith & Osborn, 2008). However, individuals often find it difficult to express themselves in this manner. One could hypothesise, based on the dual representation theory of PTSD that this is partly due to the individual being unable to express unprocessed S-memories, which are often sensation based and difficult to integrate into the existing narrative (Brewin & Holmes, 2003). Furthermore, individuals might not wish to self-disclose certain aspects for one reason or another. This leads to

the researcher needing to interpret further the mental and emotional state of the participants from their interview narratives (Smith & Osborn, 2008). This potentially leads to the researcher over-interpreting, resulting in an interpretation, which is a long way from the original meaning of the participant. Alternatively, the participants' difficulties in expressing themselves might result in data more suitable for a TA, rather than an interpretative analysis *(see extended methodology for a discussion of why TA was not used)*. It feels as though this occurred during this study, particularly during Ann and Tim's interviews, as it was certainly hard to reflect on and interpret these transcripts. This left the Principal Investigator wondering whether this was linked to the participants' 'matter of factness' about their role. Of note, upon writing this thesis the Principal Investigator only became aware they had become used to the graphic and potentially upsetting content of what the participants spoke about during their interviews, when this was pointed out within supervision. Therefore, it is not surprising the participants spoke about their role in such a matter of fact manner.

Finally, all qualitative methodologies assume the researcher is able to make valid interpretations of the data collected and therefore a key criticism is the subjectivity of the researcher, which is a key aspect within study data collection, analysis and write-up (Madill, et al., 2000). Therefore, the process of bracketing is important, as can anyone ever be fully aware of their preconceptions and therefore can the bracketing process be completed (see Smith, et al., 2009 *and extended methodology*)? The supervision process enables some objective appraisal of these preconceptions and the Principal Investigator has discussed the preconceptions they are most aware of, including those believed to have influenced the process of data analysis. However, it is likely the Principal Investigator is unaware of all their preconceptions, which have potentially influenced the direction of this study, and therefore the bracketing process cannot be completed. As Larkin et al. (2006, p. 108) commented "we can never fully escape the

‘preconceptions’ that our world brings with it. But this should not discourage us from making the attempt.”

Clinical Implications

As already mentioned *(see journal article)* this study would be of interest to those involved in educating and providing occupational health support to paramedics. In particular, this study specifically supports the notion of teaching new recruits the potential underlying emotional components in relation to specific incidents to decrease emotional confusion following idiosyncratic incidents as suggested by Halpern et al. (2009). This would enable paramedics to successfully recognise the emotional impact of specific types of incidents, potentially leading to more successful processing of difficult incidents (Halpern, et al., 2009). Furthermore, it would appear important to attempt to teach recruits ways in which to decrease identification and emotional involvement with patients (Fullerton, et al., 1992), therefore reducing the potential for this occurring and causing negative emotions. The current study and previous research (Halpern, et al., 2009) also highlights the importance of normalising and de-stigmatizing emotional responses to work-related traumatic events, particularly through education.

Furthermore, as briefly stated within the journal article, it would seem the process of meaning making in coping with potentially traumatic work-related events should be particularly encouraged with paramedics. This study suggests that narrative methods, focussing on meaning making and narrative development, therefore helping individuals to make sense of events (and therefore integrating S-memories), could be useful in both preventing and treating PTSD in paramedics. This would appear most appropriate within the context of cognitive behavioural therapies, which have been indicated as effective for a proportion of traumatised individuals (Hunt, 2010). However, this requires detailed further study, particularly since the evidence for any effective treatment methods in EWs is sparse and focuses mostly on police officers (Haugen, et al., 2012).

Future Research

Future research needs to consider the concepts of PTSD and PTG in tandem, in both a quantitative and qualitative manner *(as discussed within the journal article).* Furthermore, the everyday experiences of paramedics need researching separately from other EWs. This is particularly important as apart from having qualitatively distinct roles, the Police, fire-fighters and AWs are likely to experience a different range and intensity of CIs (Halpern, et al., 2009). Therefore, their experiences might be similar in some ways but diverse in other ways and it is these differences, which particularly need further investigation. Moreover, it would appear appropriate to investigate fully qualified paramedics and EMTs separately, due to their differing roles *(as discussed within the extended introduction),* to ascertain any differences between their work-related experiences. Finally, a continued focus on the everyday experiences of all EWs as opposed to focussing on the experience and impact of CIs and/or disasters appears appropriate. This might help to further ascertain the types of everyday events, which have a lasting impact on paramedics and the reasons for this. Furthermore, it might help develop a better understanding of the types of coping strategies associated with PTSD and/or PTG. These could then be highlighted during training, potentially better preparing paramedics, and giving them more control over situations, therefore potentially leading to less stressful reactions following traumatic incidents.

Conclusion

This study interviewed paramedics to gain an in-depth understanding of their experiences of multiple potentially traumatic work-related events and their individual nuanced ways of coping. Four super-ordinate themes were generated: ‘The salience of memories,’ ‘the process of reflection and meaning making,’ ‘the impact of context on coping’ and ‘emotional management and control.’ These themes provide a more in-depth account of the types of experiences paramedics consider

traumatic, their individualised efforts at making sense of these events, the impact of their work context on their coping efforts and specific strategies used to manage and control their emotional reactions to work-related events. Despite some limitations to the study methodology, the results could be of interest to individuals involved in training and providing occupational health support to paramedics.

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Unnamed (2010a). Role description: Paramedic. Unnamed NHS Trust[9].

Unnamed (2010b). Role description: Technician. Unnamed NHS Trust[9].

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[9]These details have been removed to preserve participant confidentiality.

Appendices

Appendix A: Ethics Approval Letter

National Research Ethics Service
Nottingham Research Ethics Committee 1
1 Standard Court
Park Row
Nottingham
NG1 6GN

Telephone: 0115 8839390 (Direct Line)
Facsimile: 0115 9123300

04 January 2010

Professor Nadina Lincoln
Chair in Clinical Psychology
Nottingham University
Institute of Work, Health & Organisations
International House, B Floor
Jubilee Campus
Wollaton Road
Nottingham NG8 1BB

Dear Professor Lincoln

Study Title:	**A Phenomenological study of Paramedics continual exposure to work related trauma: How do these experiences affect and influence Paramedics and how do they cope?**
REC reference number:	**09/H0403/87**
Protocol number:	**1.0**

Thank you for your letter of 19 December 2009, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Ethical review of research sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

For NHS research sites only, management permission for research ("R&D approval") should be obtained from the relevant care organisation(s) in accordance with NHS research

governance arrangements. Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at http://www.rdforum.nhs.uk. *Where the only involvement of the NHS organisation is as a Participant Identification Centre, management permission for research is not required but the R&D office should be notified of the study. Guidance should be sought from the R&D office where necessary.*

Sponsors are not required to notify the Committee of approvals from host organisations.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	*Version*	*Date*
Covering Letter		06 October 2009
REC application	20849/67185/1/627	20 September 2009
Investigator CV	4	08 October 2009
Investigator CV		05 October 2009
Investigator CV	2	19 October 2009
Letter of invitation to participant – for those responding to advertisement placed on Trust's internal internet	1	19 August 2009
Advertisement	1	19 August 2009
Protocol	1.0	08 September 2009
Letter of invitation to participant – for those responding to poster advertisement	1	19 August 2009
Evidence of insurance or indemnity		28 July 2009
Letter from Sponsor		06 October 2009
Interview Schedules/Topic Guides	1	19 August 2009
Participant Information Sheet	2	19 December 2009
Participant Consent Form	2	19 December 2009
Advertisement	2	19 December 2009
Response to Request for Further Information		19 December 2009

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Now that you have completed the application process please visit the National Research Ethics Service website > After Review

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

The attached document *"After ethical review – guidance for researchers"* gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

We would also like to inform you that we consult regularly with stakeholders to improve our service. If you would like to join our Reference Group please email referencegroup@nres.npsa.nhs.uk.

09/H0403/87	**Please quote this number on all correspondence**

Yours sincerely

pp

Dr Kate Pointon
Chair

Email: trish.wheat@nottspct.nhs.uk

Enclosures: "After ethical review – guidance for researchers"

Copy to: *Mr Paul Cartledge – University of Nottingham*

Ms Emma Booker – Student (emailed)

Appendix B: Ethics Amendment Letter

National Research Ethics Service
Nottingham Research Ethics Committee 1
1 Standard Court
Park Row
Nottingham
NG1 6GN

Tel: 0115 8839390
Fax: 0115 9123300

11 March 2010

Professor Nadina Lincoln
Professor of Clinical Psychology
University of Nottingham
Work, Health and organisations
Jubilee Campus
Wollaton Road, Nottingham
NG8 1BB

Dear Professor Lincoln,

Study title:	**A Phenomenological study of Paramedics continual exposure to work related trauma: How do these experiences affect and influence Paramedics and how do they cope?**
REC reference:	**09/H0403/87**
Amendment number:	**1**
Amendment date:	**23 February 2010**

The above amendment was reviewed at the meeting of the Sub-Committee held on 09 March 2010.

Ethical opinion

The members of the Committee taking part in the review gave a favourable ethical opinion of the amendment on the basis described in the notice of amendment form and supporting documentation.

Approved documents

The documents reviewed and approved at the meeting were:

Document	Version	Date
Confidentiality agreement for transcribers	1	11 February 2010
Participant Information Sheet	3	17 February 2010
Protocol	2	17 February 2010
Notice of Substantial Amendment (non-CTIMPs)	1	23 February 2010

Membership of the Committee

The members of the Committee who took part in the review are listed on the attached sheet.

Nottingham Research Ethics Committee 1

Attendance at Sub-Committee of the REC meeting on 09 March 2010

Name	*Profession*	*Capacity*
Mr Robert Johnson	Research Co-ordinator	Expert
Dr K Pointon	Consultant Radiologist	Expert

Also in attendance:

Name	*Position (or reason for attending)*
Ms Trish Wheat	Committee Co-ordinator

R&D approval

All investigators and research collaborators in the NHS should notify the R&D office for the relevant NHS care organisation of this amendment and check whether it affects R&D approval of the research.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

09/H0403/87:	**Please quote this number on all correspondence**

Yours sincerely

pp Jo Mekie

Ms Trish Wheat
Committee Co-ordinator

Email: trish.wheat@nottspct.nhs.uk

Enclosures: *List of names and professions of members who took part in the review*

Copy to: *Mr Paul Cartledge – University of Nottingham*

Appendix C: R&D Approval Letter

The following letter has been anonymised to preserve participant confidentiality.

Professor Nadina Lincoln
I-WHO, University of Nottingham
International House, B Floor
Jubilee Campus,
Wollaton Road
Nottingham
NG8 1BB

09 February 2010

Dear Professor Lincoln

Ethics Reference: 09/H0403/87

Project Title: A Phenomenological study of Paramedics continual exposure to work related trauma: How do these experiences affect and influence Paramedics and how do they cope?

I am pleased to inform you that your project has gained organisational approval; you can now proceed with your project.

is required to ensure that all research is carried out in full compliance with national research governance arrangements.

The conditions of research governance include ensuring the following are adhered to:

- Consent procedures
- Caldicott, data and confidentiality issues
- Health and Safety issues
- Participation with research monitoring

The level of monitoring will depend on the degree of risk associated with the research project, but this is not expected to be onerous on you as the researcher. is obliged by the government to audit at least 10% of research projects. This means that the Research and Development Administrator may visit you and check the procedures you have in place. We would inform you in writing prior to any visit and arrange a suitable date and time with you or your representative.

All lead researchers will be asked to inform us of any changes in their research proposals e.g. change of personnel, any adverse incidents etc. Although this may seem bureaucratic, I am sure you agree that assuring the quality and ethics of research is in the interest if patients, researchers and the NHS.

also follows the requirements of the Freedom of Information Act and the details of each active and completed research study will again be automatically published on website unless you specify otherwise.

We would also like to remind researchers to declare any conflict of interest that they may have including commercial interests/income, other research grants, other income etc.

Please contact us if you would like any information about the research governance arrangements.

Yours sincerely

Research and Development Administrator

cc: Angela Shone, Research Governance Manager, The University of Nottingham

Appendix D: Poster Advertisement

Are you a full-time Emergency Paramedic?

Are you regularly involved in call-outs?

Have you been a Paramedic for at least 5 years?

Would you be willing to give up an hour and a half of your time to take part in a research project looking into work related traumatic experiences?

Participants will receive a £10 voucher as a thank-you.

For more information about what is involved and a participant information pack contact Emma Booker (Principal Researcher).

Emma Booker
Trainee Clinical Psychologist
07817 231850
lwxelb@nottingham.ac.uk

Appendix E: Clinical Issues Newsletter Advertisement (R&D)

Research participants needed

Study into work-related trauma begins

If you are a full-time paramedic and have been a paramedic for the last five years, you might like to take part in this research study.

What's it about?

The project *'A study of Paramedics' continual exposure to work related trauma'* is being conducted as part of the educational requirements for the Trent Doctorate in Clinical Psychology.

The purpose of the study is to gain insight into potentially traumatic experiences that paramedics might have encountered during their work.

The study is also interested in how paramedics have been influenced by their work, both positively and negatively, and how they have coped with the demands arising from their jobs.

What does it involve?

If you decide to take part you will be required to attend for an interview with the researcher lasting approximately an hour and a half. This would have to be outside your working hours but would take place within your place of work. During this interview you will be asked a number of questions about your experiences of working as a paramedic.

All participants will be reimbursed for travel expenses. In addition, as a 'thank-you' for participation in the project, all participants will receive a £10.00 high street voucher. This voucher can be redeemed at a large number of high street outlets.

For further information, see the Participant Information Sheet and poster on *[Trust website]* or contact the Principal Researcher, Trainee Clinical Psychologist Emma Booker by telephone on 07817 231850, or on email at lwxelb@nottingham.ac.uk.

Appendix F: Participant Information Sheet

Trent Doctorate in Clinical Psychology

Faculty of Health, Life & Social Sciences
University of Lincoln
Court 11
Satellite Building 8
Brayford Pool
Lincoln
LN6 7TS
T: 01522 886 029
F: 01522 837 390
Deputy Course Director: Mark Gresswell
Administrator: Judith Tompkins
jtompkins@lincoln.ac.uk
01522 886 029

Institute of Work, Health & Organisations
University of Nottingham
International House, B Floor
Jubilee Campus
Wollaton Road
Nottingham
NG8 1BB
T: 0115 846 7523
F: 0115 846 6625
Course Director: Thomas Schröder
Administrator: Sheila Templer
sheila.templer@nottingham.ac.uk
0115 846 6646

A study of Paramedics' continual exposure to work related trauma

I would like to invite you to take part in a research study. Before you decide you need to understand why the research is being done and what it would involve for you. Please take time to read the following information carefully as it will tell you the purpose of the study and what will happen to you if you take part. Talk to others about the study if you wish.

Please ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

This information sheet is yours to keep. If you decide to take part in the study, you will also been given a copy of your signed consent form.

What is the purpose of the study?
The purpose of the study is to gain insight into potentially traumatic experiences that paramedics might have encountered during their work. The study is also interested in how paramedics have been influenced by their work, both positively and negatively, and how they have coped with the demands arising from their jobs.

The study is also being conducted as part of the educational requirements for the Trent Doctorate in Clinical Psychology.

Why have I been invited?
Individuals employed as paramedics on a full-time basis by *[an ambulance service NHS Trust]* are eligible to take part in the present study. In addition, participants should regularly be involved in call-outs, and have been working as a Paramedic (not necessarily for the same trust) for at least five years. Six paramedics will be interviewed for the project.

Do I have to take part?
It is up to you to decide. I will describe the study and go through this information sheet with you. You will have the opportunity to ask questions about what is involved. I will then ask you to sign a consent form to show you have agreed to take part. You will be provided with a copy of this information sheet and your signed consent form for your records.

You are free to withdraw from the study at any point without giving a reason and with no negative consequences to yourself. If you withdraw following the interview, any data already collected cannot be erased and will still be used within the final analyses.

What will happen to me if I take part and what will I have to do?
If you decide to take part you will be required to attend for an interview with the researcher lasting approximately an hour and a half. This would have to be outside your working hours but would take place within your place of work. During this interview you will be asked a number of questions about your experiences of working as a paramedic.

It is a requirement that all interviews are audio-taped so the data analysis is as accurate as possible. You will be required to sign a consent form, including consent for audio-recording, prior to participating in the research interview. Confidentiality of interviews will be maintained by removing recorded interviews from transportable recorders within 48 hours and anonymised with the use of a pseudonym. Any identifiable information will be completely removed. Quotes from a number of participants may be used within the final report but these will be completely anonymised. You will have the opportunity to read the transcripts produced following your interview at your request and comment on anything you are not completely happy with before the final report is written.

Expenses and payments
All participants will be reimbursed for travel expenses. In addition, as a 'thank-you' for participation in the project, all participants will receive a £10.00 high street voucher. This voucher can be redeemed at a large number of high street outlets. See www.highstreetvouchers.com for more information.

What are the possible disadvantages and risks of taking part?
It is possible that talking about difficult and potentially traumatic experiences you have had whilst working as a paramedic may cause you some emotional distress either during or following the interview. If this happens it is possible to talk to the Principal Investigator, if you feel comfortable with this. In addition, it may be appropriate for you to make an informal self-referral to *[an ambulance service NHS Trust]* occupational health service provider. They have been informed about this project and their contact details are listed below.

What are the possible benefits of taking part?
The information from the study will improve our understanding around paramedics' experiences of work related trauma and coping with work demands. In the long-term this information could assist in developing individual treatment and/or preventative strategies for paramedics who are exposed to traumatic experiences and are at risk of developing conditions such as Posttraumatic Stress Disorder (PTSD).

In addition, some individuals find talking about their experiences helpful in further understanding these experiences.

What if there is a problem?
If you have a concern or complaint about any aspect of this study, you should ask to speak to the Chief Investigator (contact details below) in the first instance, who will do their best to answer your questions. If you remain unhappy and wish to complain formally, you can do this through the NHS

Complaints Procedure, details of which can be obtained through your place of work.

Will my taking part in the study be kept confidential?
Yes. I will follow ethical and legal practice and all information about you will be handled in confidence. This means that all information which is collected about you during the course of the research will be kept strictly confidential, and any information about you will have any identifiable information removed so that you cannot be recognised.

This means that your interviews will be assigned a pseudonym and will then be transcribed by the Principal Investigator or a professional transcriber employed by the research team so as to maintain confidentiality. All transcribers will be bound by, and required to sign, a confidentiality agreement. After transcription, all interviews will be completely erased and transcriptions will be stored on a CD-ROM, which will require a password to access. It is recognised that participants may be identifiable by their age and years of service and therefore this information will not be used against quotes within the final report. All data is retained for seven years in line with the University of Nottingham procedures. After this all data will be securely destroyed.

What will happen to the results of the research study?
The results of the study will be submitted as a final report as a requirement for the Doctorate in Clinical Psychology. It is also hoped that the results will be published as an article. If you wish to see the final report or any articles published you may request this at any time by contacting the Principal Investigator.

Who has reviewed the study?
All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee to protect your safety, rights, well-being and dignity. This study has been reviewed and given favourable opinion by the Nottingham Research Ethics Committee 1.

Further information and contact details

Researcher/Principal Investigator
Emma Booker
Institute of Work, Health & Organisations
University of Nottingham
International House, B Floor
Jubilee Campus
Wollaton Road
Nottingham, NG8 1BB

lwxelb@nottingham.ac.uk
07817 231850

[Occupational health service provider details removed to preserve confidentiality]

Complaints should be addressed to:
Nadina Lincoln (Chief Investigator)
Address as above

Appendix G: Consent Form

Trent Doctorate in Clinical Psychology

UNIVERSITY OF LINCOLN
Faculty of Health, Life & Social Sciences
University of Lincoln
Court 11
Satellite Building 8
Brayford Pool
Lincoln
LN6 7TS
T: 01522 886 029
F: 01522 837 390
Deputy Course Director: Mark Gresswell
Administrator: Judith Tompkins
jtompkins@lincoln.ac.uk
01522 886 029

The University of Nottingham
Institute of Work, Health & Organisations
University of Nottingham
International House, B Floor
Jubilee Campus
Wollaton Road
Nottingham
NG8 1BB
T: 0115 846 7523
F: 0115 846 6625
Course Director: Thomas Schröder
Administrator: Sheila Templer
sheila.templer@nottingham.ac.uk
0115 846 6646

CONSENT FORM

Title of Study: A study of Paramedics' continual exposure to work related trauma

REC Reference Number: 09/H0403/87

Name of Researcher: Emma Louise Booker

Participant Identification:

Please initial box

1. I confirm that I have read and understood the information sheet version number 3, dated 17.02.2010, for the above study and have had the opportunity to ask questions. ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, and without my medical care or legal rights being affected. I understand that should I withdraw following data transcription, then this information cannot be erased and may still be used in the project analysis. ☐

3. I agree to the research interviews being audio recorded and understand this is a necessary requirement of participation. I understand that verbatim quotes may be used within the final written report, but that these will be completely anonymous. ☐

4. I understand that the data collected in the study may be looked at by authorised individuals from the University of Nottingham, the research group and regulatory authorities where it is relevant to my taking part in the study. I give permission for these individuals to have access to these records and to collect, store, analyse and publish information obtained from my participation in this study. I understand that my personal details will be kept confidential. ☐

5. I agree to take part in the above study. ☐

Name of participant	Date	Signature
Name of Principal Investigator	Date	Signature

2 copies: 1 for participant, 1 for the project notes.

Appendix H: Interview Schedule

A Phenomenological study of Paramedics' continual exposure to work related trauma: How do these experiences affect and influence Paramedics and how do they cope?

Basic Demographics

ID pseudonym: Length of service:

Age: Gender:

Average shift length: Job role:

Number of night shifts per month:

Questions

i. *What initially attracted you to working as a paramedic?*
    a. *What did you expect it to be like?*

ii. *How have your experiences of working as a paramedic matched your original expectations?*
    a. *If not, why not?*

iii. *Can you tell me about the **best** and **worst** things for you about being a paramedic?*

iv. *Can you tell me about particularly memorable incidents that have personally affected and influenced you in your job as a paramedic?*
    a. *Prompts – **How** have they affected and influenced you?*
        i. *Have you experienced any **positive** outcomes from these incidents, if so, what were they?*
        ii. *Have you experienced any **negative** effects from these incidents, if so, what were they?*

v. *How do you **cope** with the demands of your job?*
    a. *Prompts - Have there been occasions when you have found it difficult to cope?*
        i. *What happened?*
        ii. *How did you continue to work as a paramedic?*
        iii. *How do you cope inside the job? How do you cope outside the job (Work - home interface)?*
        iv. *Impact of personal trauma (if relevant).*

Appendix I: Confidentiality Agreement for Transcribers

I, _____ , transcriber, agree to maintain full confidentiality in regards to any and all audiotapes / audio-files and documentation received from Emma Louise Booker related to her doctoral study on 'A Phenomenological study of Paramedics continual exposure to work related trauma: How do these experiences affect and influence Paramedics and how do they cope?'
Furthermore, I agree:

1. To hold in strictest confidence the identification of any individual that may be inadvertently revealed during the transcription of audio-taped interviews, or in any associated documents;

2. To not make copies of any audiotapes / audio-files or computerized files of the transcribed interview texts, unless specifically requested to do so by Emma Louise Booker;

3. To store all study-related audio-tapes and materials in a safe, secure location as long as they are in my possession;

4. To return all tapes / audio-files and study-related documents to Emma Louise Booker in a complete and timely manner.

5. To delete all electronic files containing study-related documents from my computer hard drive and any backup devices.

I am aware that I can be held legally liable for any breach of this confidentiality agreement, and for any harm incurred by individuals if I disclose identifiable information contained in the audio-tapes and / or files to which I will have access.
Transcriber's name (printed).....
Transcriber's signature.....
Date.....

Appendix J: Transcript Analysis

Example A – Dave

The following extract is taken from Dave's interview transcript. This was the first transcript to be analysed and therefore the theme labels are earlier versions of the final themes resulting from the complete analysis of all the participants' interview transcripts. Therefore, there are many duplicate and irrelevant themes, alongside some theme labels being quite lengthy. However, this extract details the depth of analysis undertaken. Column one details the location of the sentence within the original transcript, column two lists potential themes, column three details the original interview transcript and the final column lists descriptive, linguistic, conceptual and interrogative comments, etc. (i.e. the initial stage of analysis). On the actual transcript, the second and final columns are the other way around. Where *'Mm'* and *'yeah'* statements uttered by the interviewer did not add anything useful to the transcript content, they are omitted.

[10]P = Page, L = Line and I = Interviewer

Location	Potential themes	Original interview transcript	Initial analysis stage
P35, L21-23[10]		I[10]: Yeah. That's OK. So going onto now kind of how you…how you cope with the demands of your job?	Coping with job demands
L24		Dave: How I cope.	
L24	Questioning coping	How do I cope?	Asking / reflecting on how he copes

	ability		
L24-25	Learnt to cope	I've learned to cope because it's…you get yourself into a routine.	Learned to cope; routine
L26	Routine to cope/ pattern of working (coping)	You get yourself into a pattern of working.	Pattern of working (reiterated)
L26-29	Learnt to expect events; coping mode	You, erm, learn to expect certain things to happen every day, so you're in a mode which is able to cope with those problems.	Expect things to happen; mode where able to cope
L29-31 **P36** L1-2	Awareness of extremes of job 'easy management to crisis management'	You know that the job is going to go from being, err, easy management to crisis management within seconds because the telephone could start ringing at any one time and it could be four vehicles are needed at this RTC.	Easy management to crisis management in seconds – awareness of job extremes; telephone starts (indicates start of next job)
L2-3		And, err, I'm in the middle of doing a load of paperwork.	In the middle of something (relaxing, paperwork, TV, paper)
L3-6		And at the time when, like two minutes before, everybody is sat reading the tele, err, watching the tele and reading the paper	
L6		I was sat doing some paperwork	
L6-7		Then all of a sudden <u>everything blows up in the air</u>	Very visual description of stress / chaos

L7-9		Erm, that becomes quite difficult, and, you know, then is the time it-it tests you	It tests you
L9-18	Experience of coping (need to be alert); self-programmed to cope; beginning of an incident	Erm, and you've got to sort of then be alert to cope with the job as you've coped with it before, on the basis that you know what, what's going to…you know, you know that these things could likely happen, so dealing with an everyday situation is something that you've been used to, that you've more or less programmed yourself into doing, and that, you know, everyday things, chores of like doing things like paperwork and rotas just go out of the window all of a sudden	Be alert to cope; programmed self
L18-19		Does that answer your question, or is there…	
L20		I: Yeah. How…	
L21-22	Being on the road	I mean dealing with everything on the road is…Is difficult	On the road
L22-24	Coping – never really know how	You never know how you're going to cope with something because it could be…it could even be somebody that you know	Never know how you'll cope
L25-26	Dealing with someone known	And I have had, dealt with people that I've known before	Dealing with people you know

L26-28	Coping as a state of mind	And the outcome hasn't always been good, but coping with something is, is a state of mind, isn't it?	Coping as a state of mind
L28-30	Self-programmed to cope	It-it's programming…It's trying to get yourself into thinking "Right, I've got to do this"	Programming; got to do this
L30-31 **P37** L1-4	Methodical thinking; protocols and procedures; Horrific incidents	You've got to think methodically and cope with something how the job wants you to, and situations that are pretty horrific when you get to them in respect of they could be a mass RTC with lots of cars upside down, people walking about with injuries and whatever, you know	Think methodically and cope; cope how the job wants you to (links to protocols and procedures?); horrific situations / RTC's
L4-11	Managing incidents; methods taught within training; protocols and procedures	You know that you've got to try and bring that into order, and doing that is a…There's a method to doing it, and that is the method you've been taught within, within training school when you're learning how to deal with multi-trauma incidents, you know, who you would let know, what vehicles you wanted, what patient would be seen to first	Try and bring the situation to order; method of bringing things to order; the method taught within training; i.e. protocols and procedures?
		It's all about that really	
L11-14	Coping as a state of mind; coping as a method	You know, it's a state of mind, a method that you've got in your mind how you cope with something, and what you would do at that time	State of mind (coping); a method in your mind; how you cope and what you do

L15-16		I: Have there been occasions when you find it difficult to cope after an incident or with the job?	Occasions when it's been difficult to cope?
L17		Dave: Yeah	
L17	Difficulties in coping	Yeah, there has, yeah	
L17-18		There's been quite a few really	
L18-19	Incidents involving children	I mean that situation with the kiddies was mainly one	'kiddies'
L19-20	Traumatic incidents	Err, the situation with the guy, err, that fell through a roof was another	Incident – man fell through roof
L21	Fatigue	Erm, fatigue is a big thing on this job	Fatigue
L22-23	Long hours; no food, etc (pressures within the job)	You can run for hours and hours without anything to eat	Going for hours and hours; lack of food
L23		The job just keeps piling work on you	Work being piled on
L24-25		You know that, you know, you're running low on fuel as regards energy from your body	Running low on fuel (body energy)
L25-27		You know you're running low on, you know, you need a drink, you	Need a drink / need a cigarette

		know, sit and have a cigarette if you smoke…	
L28		Or, you know, you need to nip to the loo	Need the toilet
L29		There's all kind of things, you know	
L29-30, **P38** - L1	Pressures within the job	Pressure, you know, within the job, erm, is a big factor on, you know, running your energy levels low	Pressures from the job; energy low
L1-2		Err, what was the question again? I've just…	
L3-4		I: Have you been, ever felt…had occasions when you've found it difficult to cope?	Occasions when it's been difficult to cope?
L5-11	Difficulties in coping (context / time specific); managing staff vs. managing patients; pressures within the job (e.g. shifts, tiredness, work volume, etc.)	Dave: Well, difficulty to cope is all about, erm, all about what's gone off on that particular day, whether it's to do with the patients that you've dealt with, or whether it's to do with the staff that you've dealt with, whether it's to do with, err, you've been on nights and you've been tired, and the volume of work you've had, or it could be just that you're not feeling well	Context / time specific; dealing with staff vs. dealing with patients; night shifts; tired, volume of work; not feeling well
L12		So, you know…	

L13		I: A lot of different factors	
L14-15	Difficulties in coping (job orientated)	Dave: A lot of different factors really, you know, and a lot of it is job oriented	Different factors / job orientated factors
L15-16		You know, because you could feel ill basically because you're tired	Feel ill l / tired
L17-19		You could feel unwell because you've been connected with a patient that's had an illness and you've picked something up from them	Feel ill – picked something up from a patient
L19-21		You could feel not in the right state of mind because you've dealt with a job and it's really upset you	Not in the right state of mind; A job's really upset you
L21-26	Difficulties with staff; questioning actions	You could deal with a patient, I mean a member of staff on the station that's given you a hard time and you feel, you're questioning whether you managed him right and whether you're doing what you're doing at that particular time	Member of staff giving you a hard time; questioning self – did I manage it right?
L26-27		Am I dealing with it the right way, you know?	
L27-29	Questioning management style	Is he right or am I right, you know? What did I ask him to do what I wouldn't ask myself to do, you know?	Questioning self and management style (?)

L29 **P39**,L1-3	Questioning ability to cope (the experience of coping?)	Them kind of things that, you know, that make you, whether I can cope or carry on that particular shift or something like that	Determines whether he can cope and carry on with the shift
L4		That kind of connects to my next question	
L5-9		How did you…Thinking about those incidents that have been particularly difficult and you find it difficult to cope, or occasions, how have you continued to work as a paramedic? I mean I know you mentioned the kind of positives of the job	<u>How have you continued to work as a paramedic?</u>
L10		Dave: Yeah	
L11-12		I: But how have you, after those specific kind of incidents, how have you carried on?	
L13	Difficulties coping – never walked away	Dave: I've never walked away from the job	Never walked away (echoed)
L13-16	Responsibility as an employee	I've never walked away because I've always felt responsible as a person to carry on because that's what I'm employed to do	Responsibility; what employed to do

L16-20	Coping strategies – talking to others; coping - time alone; coping – coffee / tea; coping - reassurance from others	I have taken time out to sit and talk with somebody or have time on my own, drink a coffee, erm, a kind word in the ear from somebody that knows me, err, a manager or just a friend...	Sit and talk to someone; time on own; have a drink; word from someone
L20-22		But it's generally just I just I need, I need time away from that particular aspect of the job, err, in that shift	Need time away
L22-23	Coping with a bad incident – home early	If it's towards the end of the shift, sometimes I've gone home early	Gone home early
L23-25		Basically, just got to the end of the shift, and by the time I've recovered from it I would have been at home anyway	
L26-27	Coping – take time out	But generally if it's in the middle of a shift, I take time out	Take time out
L27	Coping - sit and think	I sit and think	Sit and think
L27-29	Difficulties coping – leave early	If I feel I can't cope…If I ever thought I couldn't cope, which I've never done up to yet…	Denial of any difficulties?
L29 **P40,** L1-2	Leave early / go home	Then I would, I would possibly need to say "Look, I'm going to have to go home, I can't, I can't work further than I have done	Plans for if ever not able to cope – ask to go home

		today”	
L3-7	Questions what could do if not coping; job causing psychological problems	Erm, I think that’s about the only answers you can give for that because at the end of the day, what else can you do when you’re not coping with something? You know, if I felt like the job was bothering me psychologically…	What else can you do if you’re not coping?
L7-9	Coping – talk to GP (last resort)	Then I would probably have to seek help from my GP or something like that	If the job causing psychological problems – see GP
L10	Culture of the job (reluctance to seek help?)	But it would…That would be a last resort really	Last resort (but why – macho male culture?)
L10-12		Erm, I think…I think when I broke my *[BODY PART]* when I got *[PARTICULAR INCIDENT]*	
L12-14	Questioning ability to walk again	It was a very traumatic time for me because I kept wondering how I was going to manage to walk again	Questioning whether would walk again
L15-16		Because I damaged my *[BODY PART]* in a certain way that they didn’t think I would be able to walk properly again	
L16-18		But I have done because I’ve got it all, my *[BODY PART]* built up again with metal in it	
L18-19	Feel normal	And it’s now to the point where I feel like it’s normal again	Feel normal again

L19-20	Difficulty coping	So…But there was a time then that I didn't *[think?]* I'd cope	
L20-22	Questioning whether able to continue in the job	Erm, I had to ask myself, you know, whether or not, you know, I was going to carry on	
L22-25	Coping – talk to GP	Err, I speak to…I spoke to my doctor about it and he just said "Look, I'll give you all the support I can, It's down to you now as a person whether or not you can do it"	Sought help from GP
L25-27	Managed to continue in the job	Err, luckily, I got all the help I could get and, err, I managed to carry on after that	
L28-29		I: So are there differences between how you cope inside work and how you cope outside?	<u>Coping inside vs. outside of work</u>
L30	Inside vs. outside work (coping); inside work – bottle things up (macho male culture?)	Dave: Yeah, you bottle it up more in work	Work - bottle it up more (macho male culture?)
L30-31	Outside work – let	You don't outside work	Outside work – let it come out

	feelings come out		
L31 **P41** - L1	Outside work – can let feelings out	You let it come out because you're in an area where you can let it come out	Home - can let it out
L2	In work – can't explode	At work it's very difficult to explode *[laughs]*	Difficult to 'explode' at work – pictures of stress
L3-4	Consequences of showing feelings (at work)	Because if you do, you know what the repercussions of it are going to be	What would the repercussions be?
L4-5		But you feel like you want to explode	Feel like want to explode
L5-7	Need to argue?	You feel like you want to tell somebody or a person, whether it's a patient or a member of staff, that they're wrong	Want to tell someone they're wrong (but can't do that as unprofessional?)
L8-13		You feel like you want to discipline them in a way that you feel that, you know…I'm not saying I'm always right, but if you feel there's something that's really getting on your mind and you feel that there's some, somebody's doing something that you know is genuinely wrong but they keep doing it…	Want to discipline them
L14-21	The need to remain professional; being a	You want…but you can't because of who you are, because you're a manager, because you're a paramedic and you're responsible,	Responsibility – nature of being a manager, leads to bottling more

	manager; responsibility to stay professional; bottle up / hide feelings; de-stressing another way (gym, football, etc.)	so you tend to hide it, bottle it up, and let it out at another different, in another way, whether it's going up to the gym and thrashing it out on a piece of kit, or whether it's going to a football match and shouting your head off at the players or whatever it is	up? Bottle it up; let it (stress) out a different way (gym, football match)
L21-23	Methods of de-stressing	You know what I'm saying, it's…There's different ways of, of getting rid of stress, you know	Ways of ridding self of stress
L23-26		You know, a mate of mine always says that when he comes round, if he feels stressful he gets on his bike and he rides for about 60 miles	Long bike ride - exercise until feel tired
L26-27		I don't think he does 60 miles, but…	
L28		I: That's a long way...	
L29		Dave: His interpretation	
L29-31	Methods of de-stressing – hard exercise	But I think his way of getting rid of stress is to just basically exercise until he feels tired	Exercise as method of relieving stress

P42, L1-2		I: Do you talk to kind of family and friends outside work?	
L3	Talking to others – wife (outside the job)	Dave: I talk to my wife a lot	Talks to wife (nurse A&E)
L3-5	Relations job similarities	My wife does the same kind of job as me, so it helps to discuss with her	
L5-6	Talking – line manager (non-personal)	I do discuss things with my line manager, which aren't personal	Talks to line manager (not personal)
L6-8	Difficult talking to others	Err, I tend to find personal things difficult to discuss with anybody, apart from my wife	
L8-10	Thinking over events	Erm, I tend to resolve a lot of things in my own brain, whether that's right or wrong I don't know	Uses own brain to resolve things
L10-13	Counselling (under Macho male?) Embarrassment RE counselling; Talking about personal	Sometimes it's better to have a bit of counselling, but I just think sometimes I get a bit embarrassed to talk about things which I feel is personal to me	Counselling; embarrassing talking about personal matters

	matters		

Example B – Caroline

The following extract is taken from Caroline's interview transcript, the final transcript to be analysed. This transcript therefore shows themes more in line with the final themes reached following completion of data analysis.

P22, L4-5		I: So erm, kind of thinking about how you know particular jobs have affected you, how it's influenced you, erm, yeah?	
L6		Caroline: Yeah	
L7		I: Does that make sense kind of?	
L8		Caroline: Yeah	
L9		I: It's quite a big…a long question sort of really	
L10-14	Dealing with patients –	Caroline: Yeah, but erm, I think your first of everything sticks in	First of everything sticks

	vivid memories (firsts) Incidents involving children Search for understanding	your head erm, which obviously everybody will always talk about that or once you get your first this, later you'll get your first that, erm, because I went to a cot death and I can see my actions now still, erm, this little boy was beautiful, erm, obviously it was a cot death but because you get it drilled into you so much "Well are you sure it was a cot death?"	Cot death – still sees actions Detective
L14-16		Like before you go into that incident, and I must have gone upstairs ten times to look at the cot, the patient…the patient…the baby's bedroom and come back downstairs	Checking the scene
P23 L1-5	Psychological impact of the job / impact on behaviour – bad jobs; Search for understanding (detective)	And I come back downstairs and I'd forgotten what I'd seen so I went back upstairs again because you're constantly, everybody…you have to be a detective as well erm, so my behaviour then erm, even though to anybody else it would look like strange behaviour, it was abnormal behaviour because it was my first cot death and I wanted to make sure that it was a cot death even though really I knew it was	Detective First cot death Wanted to make sure it was a cot death
L6-7	Job politics; Search for understanding	You have to make sure that paperwork's right and you have to make sure that…you have to write down what you saw in the bedroom in the baby's cot, everything	Detective

L8-11	Dealing with relatives Talking about death	Erm, but in that same instant there was a six year old boy, who obviously it was his brother that nobody was dealing with him, and parents were screaming, we wanted to do something and we couldn't do anything because the patient was…the baby was dead	Parents screaming Medicalised language / talking about death
L11	Talking about death	He was dead	Medicalised language / talking about death
L11-12	Dealing with relatives	Erm, and I suddenly thought what about this little child, you know, it's his brother, it's affected him as well	
L12-14	Dealing with patients; not making a difference	So then I took…and started dealing with him because my colleague was dealing with the baby even though there was nothing we could do	
L14-16	Talking about death	So that was that, and then like my first fatal in a car accident, that affected me in the respect for the wrong reasons because at that time, you'll think this is bizarre, my brother had a red van at this time	First fatal RTA Affected for wrong reasons
L16-18	Linkage of events to self (more traumatic) - impact	And we pulled up on scene at this car accident and it was a red van and immediately…immediately I thought it was my brother	Thought it was her brother

L18-20		I didn't think of anything else, I just thought it's my brother, and I couldn't approach the scene and my colleague that I was working with made me go and look at the body	Couldn't approach the scene
L20, **P24**, L1	Linkage of events to self	The body didn't really bother me it was the fact that I'd convinced myself it was my brother	Body did not bother her, thought it was her brother
L1		Because it was a red van	
L1-2		Even totally wrong red van but it was a red van and I was convinced it was my brother	Convinced was her brother
L3	Vivid memories – linkage to self	Erm, so I'll never forget that, but probably for the wrong reasons	Never forget
L3-4		Erm, I don't know it's…it's difficult really	
L4-5	Closure? (as temporary); Vivid memories	Things stick in your mind but you move on until the next one comes along and that sticks in your mind	Stick in mind; move on
L5-6		You don't forget that other one but now something else has taken over your mind and so...	
L7-8		I: Yeah, and I mean you said kind of things stick in your mind and you remember things but they're kind of there but not right	

		at the front kind of	
L9		Caroline: Yeah	
L10-11		I: Yeah, are there things that kind of bring them to the front or can you make you, you know, think about these jobs that....	
L12		Caroline: Erm, I suppose in a situation like this when I start talking about them	Talking about jobs – remembers incidents more clearly
L13-14	Talking to others – recalling memories / reminiscing	Erm, or on other occasions like you're…you're working with an individual and er, they'll…we'll start talking about bad jobs you've had	Talking about bad jobs
L14-15		Erm, obviously never mention names or anything like that	
L15-16		But…so in them situations you start talking about them again	
L16-17		Erm, but not, I don't…I wouldn't say I think about them all the time	Does not think about them constantly
L17-18	Flashbacks Closure; vivid memories	But when you…in a situation that you're reminiscing about things I suppose, then you start moving forward	Reminiscing brings details of incidents forward
L18,	Impact on feelings	But the details are so clear which I hate sometimes	Details so clear

P25, L1			
L1	Vivid memories – impact on feelings	Because I wish they weren't	
L1-2	Avoidance?	I…I wish I didn't have to think about these things	
L2	Experience of coping?	Erm, yeah, so I'm just dealing with a job	
L2-3		Obviously thousands of jobs are like that	
L3-4		Thousands of jobs I've dealt with and they…I couldn't tell you about them	
L4-5	Vivid memories of certain jobs	But certain jobs, they've erm…the details are so clear and I wish they weren't	Details clear
L5		So I don't get rid of them	
L5		That annoys me	
L6		That I can remember every detail	
L6-8		But because then sometimes I think that's sad, sad like not sad, crying sad, sad like, God that's sad, that I would think I remember every detail of a particular job even though it was years ago	Sad that remembers details of jobs
L9-10	Impact – vivid memories of jobs (persistence)	That's strange aint it? But that's…that's how the mind works aint it? Is it because the mind doesn't want to forget? It won't	Mind will not allow her to forget

		allow me to forget for some reason	
L11		I: I don't know	
L12		Caroline: But its' strange aint it?	
L14	Avoidance? (memories)	Because I wish I couldn't remember details	Wish could not remember the details
L14		I can	

Appendix K: Reflective Journal Extracts[11]

Recruitment

Extract 1: In the following extract I have just met with an OSM at one of the stations within the Trust and made arrangements to start interviewing. The extract talks about my preconceptions going into the study.

> *25th February 2010:* Felt really nervous about entering such a male-dominated 'macho' environment, but it wasn't too bad. They all seem really helpful and the plan is for me to complete the pilot interview tomorrow morning. [ ] I will also have the opportunity to do a couple of ride-alongs[12] to actually witness firsthand what their job involves. This will be good as it will help me understand the context from which they are speaking. At the moment I am entering the interview and asking questions based on a preconceived idea as to what I believe a paramedic to be. From there I will potentially interpret the data based on these preconceived ideas, as the process of bracketing can never be complete. A ride along will allow me to challenge these preconceived ideas and replace them with more realistic and factually based interpretations of their work context. Although I guess this is still subjective to a point. However, this might enable me to get closer to the 'phenomenon under study,' due to having fewer preconceptions and judgements.

[11]When content has been removed this has been denoted with [ ] and has primarily been completed to leave out unnecessary factual content, or to preserve confidentiality.

[12]Unfortunately this never transpired.

Interviewing

Extract 2: In the following extract I have just completed my interview with Dave. It discusses my concerns about the interview schedule.

> *26th February 2010:* Again, I'm not sure question three [on the interview schedule] is tapping into what I really want it to. Not sure I'm actually gathering any 'new' information in the research sense, so where does this leave my study? Is the problem about there already being enough research in this area or is my interview schedule not good enough? Or perhaps it's my interviewing skills or lack of them? I'm not clear yet where all of this is going, if in fact it's going anywhere at all?

Extracts 3 and 4: The following extracts talk about my thoughts and feelings following interviewing the first participant (Ann) after my friend's death. I have removed a substantial amount of information due to its personal content. I hope that by doing this I have not lost the essence of how this interview affected me at the time.

> *7th April 2010:* Today's interview was weird given the events of the last few weeks. I thought I would find the actual interview difficult but it was driving home on my own where it got to me and there were a few tears. Today's participant was quite graphic with her details, but that didn't really bother me. When she mentioned sudden adult death at the end and how the body ends up looking like, i.e. what goes stiff first, what colour the body changes to. That's when it brought it all back and what had happened. [ ] I just kept thinking I've not had enough time to process this and grieve. Life expects you to keep moving forwards, there's no real time to process and reflect on what's happened or even what's happening around you. I keep thinking about when will it really hit me?

> I keep thinking about the paramedic from that night, how would he have felt, how did he cope? He did a good job, but did he feel that he did? It was probably a routine incident for him. But how did he deal with people being in such distress? How did he feel when he had to tell me over the phone that one of my best friends was dead? How on earth do you continue working after such an incident? I know there are more positive jobs where they save lives, but how do they deal with death when there's no reason and when the deceased is still so young? How do they do their job day after day after day?

Extract 5: This extract is taken from my reflections following Tim's interview. It details the difficulties I had in getting him to really reflect on his experiences.

> *30th April 2010:* I found this guy quite difficult to interview, in that he was quite closed in his answers, not providing that much detail, even when probed further. He kept saying he could tell me all the gory details but that I wouldn't want to hear all about that, but I couldn't help thinking that it was really him who didn't want to talk about these kind of things, so I decided not to probe and push too much for such details. This made the interview really short and I can't help thinking that I didn't really get under the surface. I didn't really get a picture of what being a paramedic was really like for him as an individual.

Extract 6: This extract again talks about my preconceptions regarding the paramedic role and was written after interviewing Laura.

> *7th May 2010:* I do keep wondering whether my interest in this topic is guided by some morbid fascination. My beliefs about what paramedics actually do have probably been shaped by the media, especially TV series such as Casualty and ER. But it all seems very different to that. It almost seems less 'exciting.'[ ]

> She [Laura] was quite relaxed, commenting that she was surprised we were doing the research as she didn't find the job traumatic at all. She seemed to take everything in her stride, commenting it was her job, so she just got on with it.

Analysis and Writing-up

Extract 7: The following extract details some of the notes written whilst analysing Tim's interview transcript. It raises the question of the impact of interviewing participants within their work place.

> For discussion: Impact of interviewing in the participants' place of work? Especially team leaders? Stick to the more factual rather than reflective accounts? Or is he [Tim] just very avoidant about discussing his feelings and thoughts? Is this how he copes when he refers to coping very well?

Extract 8: This extract again raises the issue of interviewing within the participants work place particularly when the interview is interrupted.

> Interruptions - effect on what she [Ann] chooses to share? More specifically in regard to criticising other [ ] members of staff? Also where they are interviewed, would it have been different if I interviewed outside work?

Extract 9 and 10: The following extracts detail some of my thinking around the analysis of James' interview transcript.

> It's interesting how a number of the participants are ex-Army – should I have explored this avenue further with them? What influence would this type of experience have had on the data I collected? Should I have controlled for previous experience of trauma away from the ambulance service? But can you ever do that?

> Making a difference seems important to a few participants [ ] something about having a personal connection to the patients, whether it be knowing that patient, linking that patient to self or somebody important to them which makes incidents more distressing, more potential to turn emotions into PTSD? What does the literature say? The incidents they often refer to often have this quality, more salient. Does this link to preparing for what awaits? You can't prepare for attending a relative, attending somebody whilst being off duty, etc. It appears key to coping that paramedics get some opportunity to prepare for what they are going to deal with.

Extract 11:

The following extracts detail some general comments written in my journal following the completion of the analysis stage.

> Memorable incidents: interesting what specific incidents they choose to talk about. [ ] Impact of the job overall and specific incidents on psychological functioning / worldview? Is this a longer-term impact?
>
> Impact and coping are very much interlinked. You cannot definitely separate them.
>
> Meaning making / making sense – PTG themes? Do these belong here? It doesn't need to be split into coping and impact. They are very much intermingled.
>
> Are hardening and habituation to death the same thing? When does reflection turn into rumination? Closure – is making the most of life further than closure?

Appendix L: Summary of Super-Ordinate and Subordinate Themes		
Super-Ordinate Themes	**Subordinate Themes**	**Description**
The salience of memories What is it about the incidents, which the paramedics speak about which makes them so memorable?	Making a difference	The paramedics interviewed talked about incidents where they were able to make a difference and where they were unable to make such a difference and the impact this had on them.
	Dealing with someone known	Dealing with someone known appears especially distressing and something that is never forgotten.
	Resonance with self	Some of the paramedics referred to incidents where they made some linkage between the patient and themselves, or their family and the impact this had on them.
	Vividness of the senses	Certain factors during an incident appear to have a particular impact on the individuals' senses, potentially making these incidents more vividly remembered.
The process of reflection and making sense	Search for understanding and making sense	The use of reflection and meaning making to understand and make sense of events.

What do this group of paramedics do to understand what has happened and to make sense of it, so that they can continue within the job?	Taking time out	Being allowed time away from dealing with further patients following a difficult incident allows time to process and make sense of events.
	Talking to each other	Talking to others assists with processing, understanding and making sense of events.
	Accepting death	Being more aware of death whilst working as a paramedic is inevitable. Viewing death as something out of their hands appears to help with meaning making.
	Closure	Closure is hopefully the end result, enabling understanding of recent events and facilitating moving forward.
	Changes in life outlook and perspectives	A reflection on how the job has changed the way they think about their lives, their relationships with others and the future.
The impact of context on coping What contextual factors have an impact on their ability to cope with the job?	Control	Factors outside of the individual's control, such as working as a single responder, receiving accurate information from Control and Government targets, alongside job factors such as shift-working and long hours, appear to have an impact on the individual's ability to cope with the job.

	Coping as intuitive	The intuitive nature of coping, where it is viewed as part of the individual's personality, something inherent within them.
Emotional management and control How do this group of paramedics manage and control their emotions?	Mental preparation	Strategies such as reflecting back to similar incidents, positive visualisation and routines and patterns of working, particularly used whilst travelling to an incident, appear to help manage emotional reactions on arrival.
	Emotional expression and suppression	The expression of emotions within the ambulance service appears to be discouraged and suppression of emotions seems to function as a self-protective mechanism, enabling continuation within the job.
	Distraction and switching-off	The use of distraction whilst at work and switching-off from the job outside work enables detachment from the job and the patients encountered there.
	Humour	The use of humour functions as a self-protective mechanism, allowing emotional detachment from the patient and lightening the impact of traumatic incidents.
	Getting on with it	An acceptance of the nature of the job for what it is.

Appendix M: Further Illustrative Quotations

The Salience of Memories

The following section provides further evidence of Caroline's linkage of some aspect of herself to the patient, as discussed within the journal article. This further questions whether Caroline might be suffering from PTSD.

Resonance with Self

When asked what makes her feel she cannot cope at work, Caroline talked about having six cardiac arrests in only four days, with all of them being younger than 40. Later she added, *"I can remember details. But I…I don't want to remember those details,"* in reference to these memories.

> About seven years ago...[ ] I had six cardiac arrests in four days...and I thought I was being punished for something because all of these cardiac arrests were under 40. [ ] I mean today a lot of people die in 40s, a lot of people. People don't realise that they do, a lot of people die earlier now, but seven years ago there weren't many people then that died young, you know, six cardiac arrests in four days and I thought I was seriously being punished for something because we didn't save any of them. And that really got to me because I thought I'd done something wrong. Even though I hadn't...You start to think "God, I daren't go to work. I'm dreading going to work" because I thought that I'd been punished, and I hadn't been but that's how it makes you feel...So you never forget those things.

The emphasis on the age of these patients appears important, perhaps Caroline more readily identified with these patients as they were fairly close to her age. Furthermore, although Caroline asserted, *"a lot of people die earlier now,"* such deaths are generally less expected, as these patients were still relatively young. Her comments could indicate

a habituation to death, as she has become more experienced within the job she more readily expects such deaths, whereas at the time of these incidents she was a technician and relatively new to the job. It appears unlikely one, or even two cardiac arrests would have had the same psychological impact on Caroline, but this number in such a short space of time really affected her mental well-being. Caroline believed she was being punished for something. This viewpoint implies her deep felt sense of personal responsibility for these deaths and the belief she had done something wrong, something which she believed she deserved to be punished for. Such thinking would potentially lead to greater distress and more vivid and salient memories of the events. Furthermore, Caroline used her own experience of how she was treated by paramedics following her father's sudden death to inform herself, and others, of how relatives should be treated following a death:

> You have to adjust yourself to that environment and how they would deal with the long-lasting effect of what you say to them. And I've seen that first hand because my dad dropped dead...and I remember it like it was yesterday, and he was only young, and I can remember everything that that ambulance crew did, and because that…I'm glad in one respect that that happened to me, not that my dad dropped dead because he was only 52, but I use my example to every job that I go to if it's a cardiac arrest because I know what effect it's had on me and I wouldn't wish that on anybody, so I try my utmost to give those relatives something that's not going to be horrible lasting...Because we are the people that are telling them that their relative has died, and I…it will never be a pleasant experience, but I want them to not see what I saw with my dad.

One could therefore hypothesise that Caroline finds every cardiac arrest she attends as difficult, perhaps even traumatic, as she appears to always connect these deaths to her dad's death and her experience of being a relative in that situation. Could the experience of six cardiac

arrests in this short time period been particularly difficult for her partly because of this linkage, this emotional attachment between herself and the relatives experiencing a death in a similar manner to how she had experienced her dad's death? Is Caroline being re-traumatised every time she attends a cardiac arrest? It appears that for whatever reason, Caroline vividly remembers these types of incidents, perhaps due to some resonance with herself, perhaps due to the sense of responsibility she feels for the relatives.

In summary, these quotations seem to demonstrate further the psychological impact when the paramedics interviewed connect the deceased to some aspect of themselves, or somebody close to them.

Emotional Management and Control

Humour

The following narratives provide examples of the types of humour commonly used by the paramedics interviewed:

> *Laura:* Humour is good...going to hangings, you know, and having a joke about, you know oh, see you're hanging around a bit, you know, to your mate, why are we still hanging around mate, you know...people that have been stabbed, it'll be a case of, you know, erm, knife throwing wasn't too successful, just…just...Yeah, you think of a scenario...You can just imagine what…what comes out...Erm, we had one guy, he had er, went to a lady with…her head had been severed on a railway line and he had to pick the head up to put in the bag with the body...And er, you know he said, "Oh, what was she, blonde, brunette?" You know, you just…you just, and having a joke on how you pick a head up, I don't know..."Has she got short hair, has it got long hair?" You…I mean, you know, "why don't you kick it?" You know.

Tim: I went to one on the motorway where…there were two Asian chaps stopped on the hard shoulder, one had jumped out…he'd got a problem with the car, jumped out, and as he…as this artic's going by, his mate jumped out of the van, it cut them both straight in half...they were just sitting on the, er, side of…with the torsos and legs had gone at the back, but one's legs…lad's legs were missing. So I send the police down to the artic to see if they can find this leg, and he's come back and said, here it is. I said, no, it ain't this one, because this one's got a black suit on, that one's got a brown suit on.

Nomenclature

The following nomenclature includes abbreviations used within this report and the participant's original interview transcripts:

A&E	Accident and Emergency
AW(s)	Ambulance Worker(s)
CA	Cancer
CI(s)	Critical Incident(s)
COPD	Chronic Obstructive Pulmonary Disease
CP	Community Paramedic
CPD	Continuing Professional Development
CPR	Cardio Pulmonary Resuscitation
CQ	Clinical Quality Control
CRT	Conflict Resolution Training
CVA(s)	Cardio Vascular Accident(s) (Strokes)
DMC	Double Manned Crew
DNR	Do Not Resuscitate
DSM-IV / DSM-V	Diagnostic and Statistical Manual of Mental Disorders Version 4 / 5
DW(s)	Disaster Work (Disaster Workers)
EC	European Community
ECA	Emergency Care Attendant / Assistant
ECG	Echocardiogram
ECP	Emergency Care Practitioner
EMTs	Emergency Medical Technicians
ET Tubes	Endotracheal Tubes
EW(s)	Emergency Work (Emergency Workers)
GHQ	General Health Questionnaire
GP	General Practitioner
GT	Grounded Theory
HPC	Health Professions Council
IPA	Interpretative Phenomenological Analysis
MAU	Medical Assessment Unit

MI	Myocardial Infarction
OSM	Operational Service Manager (i.e. Station Manager)
PE	Physical Education
PTG	Posttraumatic Growth
PTGI	Posttraumatic Growth Inventory
PTS	Patient Transport Service / Side
PTSD	Posttraumatic Stress Disorder
QC	Quality Control
QHR	Qualitative Health Research
R&D	Research and Development
RTAs / RTC	Road Traffic Accidents / Crash
Sat Nav	Satellite Navigation System
STAI	State Trait Anxiety Inventory
STSD	Secondary Traumatic Stress Disorder
TA	Thematic Analysis
IV	Intravenous (in reference to antibiotics)
VT	Vicarious Traumatisation

Glossary

The following glossary details medical terms referred to within this report and the participants' interview transcripts. All definitions are derived from Oxford Dictionaries (2012) unless otherwise stated.

Adrenaline: "A hormone produced by the adrenal glands in response to stress that makes the body's natural processes work more quickly." "A hormone secreted by the adrenal glands that increases rates of blood circulation, breathing, and carbohydrate metabolism and prepares muscles for exertion" (Hawker, 2006).

Anaphylaxis: "An acute allergic reaction to an antigen (e.g. a bee sting) to which the body has become hypersensitive."

Asphyxiate: "Kill (someone) by depriving them of air; die by being deprived of air."

Atropine: "A poisonous compound found in deadly nightshade and related plants. It is used in medicine as a muscle relaxant, e.g. in dilating the pupil of the eye."

Cannulation: "Surgery, which introduces a cannula or thin tube into a vein or body cavity."

Cannula: "A thin tube inserted into a vein or body cavity to administer medication, drain off fluid or insert a surgical instrument."

Cardiac: "Relating to the heart - a cardiac arrest*;* relating to the part of the stomach nearest the oesophagus; a heart attack."

Catheter: "A flexible tube inserted through a narrow opening into a body cavity, particularly the bladder, for removing fluid."

Crushing incident: An incident involving a patient being crushed by something (Unnamed, 15th May, 2010, personal communication)[13].

Cyanosed (Cyanosis): “A bluish discoloration of the skin due to poor circulation or inadequate oxygenation of the blood.”

Defibrillator: “An apparatus used to control heart fibrillation by application of an electric current to the chest wall or heart.”

Endotracheal (tubes): “Situated or occurring within or performed by way of the trachea.”

Extremity fracture: “Extremities - the hands and feet*:* tingling and numbness in the extremities.”
“[Noun] a crack or break in a hard object or material, typically a bone or a rock.”

Intubate: “Insert a tube into (a person or a body part) especially the trachea for ventilation.”

Reap Level: Rate of jobs or amount of jobs (Unnamed, 15th May, 2010, personal communication)[13].

Systolic: “The phase of the heartbeat when the heart muscle contracts and pumps blood from the chambers into the arteries, often contrasted with diastole.”

Tachycardic (Tachycardia): “An abnormally rapid heart rate.”

Three 9’s: Calling ‘999’ (Unnamed, 15th May, 2010, personal communication).[13]

Thrombolise (Thrombolysis): “The dissolution of a blood clot especially as induced artificially by infusion of an enzyme into the blood.”

[13] Name and location removed to preserve participant confidentiality.