To cite this article: Brunsden, V., Hill, R. & Maguire, K. (2014). Putting Fire & Rescue Service Stress Management into context: a UK informed perspective. *International Fire Service Journal of Leadership and Management, 7*, 27-39.

Global Connections

Since Volume 1, Issue 1, of the *International Fire Service Journal of Leadership and Management* (*IFSJLM*), the "Red Journal" has featured a number of articles written by our friends in the United Kingdom (UK) and Canada. Similarly, this issue of *IFSJLM* contains an article coauthored by Viv Brunsden, Rowena Hill, and Kevin Maguire, all housed at Nottingham Trent University (NTU) in Great Britain. **However, Volume 7 is a benchmark issue offering for the first time an article from a Continental European nation — Belgium.** Given that the first word in the title of the Red Journal is *International*, we urge authors studying fire leadership and management issues from around the world to submit their articles (written in English and following the current APA style) to *IFSJLM* for peer review.

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Putting Fire and Rescue Service Stress Management Into Context: A United Kingdom (UK) Informed Perspective

Abstract

Fire and rescue service personnel can experience high levels of exposure to both occupational and post-traumatic stress, with the interplay between these generating a range of complex stress responses. The nature and cultural context of fire service work can, in turn, impact the take up and effectiveness of stress interventions. The development of appropriate processes for the prevention of, and responses to, stress exposure is therefore a crucial managerial issue. A consideration of such issues is presented, alongside an evaluation of the likely success of various stress interventions.

Fire and Rescue Service Research: Time for a More Honest Contextualisation of Findings? (L1)

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The Fire and Rescue Service (FRS) provides a complex occupational environment for both personnel and management. Frontline responding means that personnel are routinely exposed to unusual and traumatic stressors not seen in many other organizations; whilst they are simultaneously also subjected to the usual stressors seen in most other organisations. This interaction of occupational stress, generated both by general and occupationally specific stressors, and traumatic exposure can create a highly complex**,** unique pattern of stress responses. This pattern in turn can generate particular stress responses and coping behaviours, and these then interact with the broader social intraorganizational context and interemployee relationships. These effects can also extend beyond the organization to create occupationally specific family-work patterns and relationships. The FRS context and its unusual patterns of work and family relations can reduce the potential for employing preventative stress strategies because of the inevitable stress exposure involved in emergency responding. Successful stress management strategies therefore tend to be responsive, postexposure interventions that can take account of the unique occupational context.

A key problem with the global research literature into the FRS is that it is only rarely treated as a population in its own right, instead being conflated with other emergency services — specifically the police force and those working in emergency medicine such as paramedics. In the case of the latter, the situation is further complicated by the presence of dual-role fire services in some countries; for example, the United States (US) and Republic of Ireland amongst others. These dual-role services respond to both fire-related and medical emergencies. The complexity across the roles provided by the FRS globally can make research conducted in one country less relevant for another. There can also be other key differences between the FRS working across countries. Further, all FRS**s** reflect the characteristics and context of the wider culture in which they are embedded. It is therefore important that where appropriate a regional or national context is acknowledged before

placing any research considerations into a wider global context. This article will therefore, whilst taking a global focus wherever possible, largely consider the practices of and aligned literature around the UK FRS. It is hoped that this clear acknowledgement of a particular national context will allow those in other countries to consider the relevance, or not, for their own local contexts.

Stress in the Fire and Rescue Service (FRS) (L1)

That FRS personnel are subject to a wide variety of stressors, both psychological and physiological, is well recognised in the literature (see Hill & Brunsden, 2003; Brown, Mulhern, & Joseph, 2002; Baker & Williams, 2001; and Regehr, Hill, & Glancy, 2000; for just some examples). Despite awareness of such research, there can be a reticence to acknowledge and discuss stress within the FRS itself (Beale, 2003). Within the research literature, the main focus has been on traumatic stress and, given the nature of the incidents that FRS personnel attend, this focus is perhaps unsurprising. However the relative neglect of other origins of stress may be problematic, because personnel are also exposed to a wide variety of nontraumatic stressors; for example, physical stressors such as chemical and biological hazards (Markowitz, 1989; Malek, Mearns, & Flin, 2003), bad-weather conditions (Beale, 2003), extreme heat (McLellan & Selkirk, 2006; Brenner, Shek, Zamecnik, & Shephard, 1998), and protracted or nighttime operations (Beale, 2003). Further, there is a need for shift working to ensure 24-hour responding (Ernst, Jiang, Krishnamoorthy, & Sier, 2004), and this requirement can act as a stressor in itself as well as creating additional problems such as tiredness and sleep disturbances (Courtney, Francis, & Paxton, 2010; Holmes, 2003; Murphy, Beaton, Cain, & Pike, 1999). Stress may also arise from a variety of standard occupational stressors as encountered in any other organization (e.g., see Brunsden,

Woodward, & Regel, 2003; Brough, 2002; Brown, Fielding, & Grover, 1999); and there is some evidence that the presence of occupational stress can outweigh traumatic stress despite the emphasis on trauma in the literature (Brunsden et al., 2003). Such nontraumatic stressors generate stress in and of themselves. They are also likely to further complicate incidence of traumatic stress where this does occur. Its presence must also be acknowledged because all emergency services personnel are necessarily subject to this stress. through their attendance at distressing emergency events (see Hill & Brunsden, 2003; Brown et al., 2002; Beaton, Murphy, Johnson, Pike, & Corneil, 1999). Their traumatic stress is unusual relative to other traumatised populations however in that the FRS traumatic exposure is expected and routine, whereas most traumatic stress exposure is unexpected and unpredictable. Such a notion of 'expected and routine' exposure has led to recent suggestions of a need for a new diagnostic category of post-traumatic stress, specifically that of duty-related traumatic stress (Paton, 2006). The occupational implications of such a categorisation could be profound, given that a survey of UK FRSs found a psychologist-to-staff ratio of only 1:2600 (Durkin, 2006).

A further source of stress for FRS personnel can arise from aggressive encounters with the general public (see Brunsden, Hill, McTernan, & Shuttlewood, 2011; Brunsden, 2007). An analysis of British Crime Survey data suggested that protective-service occupations such as the FRS are the most at risk of experiencing violence at work (Webster, Patterson, Hoare, & O'Loughlin, 2007). However, this is not an issue unique to the UK. US research has also found that it is not unknown for firefighters to experience violence when responding. Grange and Corbett (2002) in a study conducted in California found violence toward responders in 4.5% of calls, with half of these involving physical attacks. Mechem, Dickinson, Shofer, and Jaslow (2002) found a strikingly similar rate of 4% in Philadelphia. Whilst these rates are relatively low, the issue is a serious one, with medical attention being sought in 81% of the incidents and with the health consequences being serious enough to generate sickness-related

absenteeism in over 30% of cases (Mechem, Dickinson, Shofer, & Jaslow , 2002). Even when aggression is manifested as verbal abuse rather than physical violence, it can still create stress and anxiety (Brunsden, et al., 2011; Communities & Local Government, 2006).

Studies related to stress in the FRS have tended to focus on operational staff (i.e., those who actually attend the emergency events); however, these members are not the only emergency service personnel who are exposed to stress. Control-room staff can also suffer stress through standard occupational and organizational factors (see Brunsden, Robinson, Goatcher, & Hill, 2012; Brunsden et al., 2003); but they may also experience traumatic stress vicariously through staying on the phone with distressed callers during incidents and hearing their description of events. Because of their close working relations with operational personnel, control staff members may also be vulnerable to stress crossover — a form of stress contagion whereby an individual assumes the stress of another because of role obligations and commitments (Wethington, 2000). Control staff members are also vulnerable to distress arising from hoax calls and may also receive sexually harassing calls (Brunsden, et al., 2011; Brunsden & Goatcher, 2009). As yet, however, this occupational group has received little attention from academic psychologists (Brunsden, et al., 2012; Brunsden, Woodward & Regel, 2003).

Despite the obvious increased stress exposure occurring for FRS personnel, it should be noted that whether such exposure *necessarily* leads to heightened detrimental responses is highly debatable. For example, Pendleton, Stotland, Spiers, and Kirsch (1989) found that firefighters reported lower strain levels than nonemergency public-sector workers; and firefighters have repeatedly been found to experience high levels of job satisfaction (Smith, 2007; North et al., 2002; Guidotti, 2000). Despite this finding, the UK FRS's own audits have repeatedly found raised detrimental stress levels in personnel (e.g., see Brunsden et al., 2003; Regel, Woodward, Horsley, & Brunsden, 2001; Woodward, Brunsden, & Regel, 2000). There

is also evidence of stress being an issue for firefighters in other countries, for example, the US and Canada (Murphy, S.A., Bond, Beaton, Murphy, & Johnson, 2002); Malaysia (Malek, Fahrudin, & Kamil, 2009); Brazil (Vargas de Barros, Martins, Saitz, Bastos, & Ronzani, 2012); and Japan (Saijo et al., 2008).

Stress and the Organisational Culture of the FRS (L1)

Organisational culture is a crucial issue to consider in that it directly impacts on both stress and the take up of stress interventions. Despite recruitment drives, which have targeted women and ethnic minorities, the FRS's operational personnel remain dominated by white males (Hashem & Lilly, 2007). This male dominance is possibly exacerbated by notions of "the Brotherhood" and fraternity (see Crosby, 2007), which despite having many positives in terms of solidarity, may act as an implicit deterrent to female potential applicants. It has also been found that FRSs can be organisationally poor at evaluating their own equality policies and initiatives (Scaife & Lilly, 2007). This gender imbalance creates a particular form of organisational culture — one that can detrimentally impact on stress initiatives. Wester and Lyubelsky (2005) note that males are reluctant to publicly share, instead generating and maintaining barriers to help-seeking. The almost exclusively male population, combined with the perception of FRS work as *heroic*, can lead to a macho organizational culture. This culture has been referred to as the three Ts of "testosterone, tattoos and taut-biceps" (Beale, 2003, p. 29). The pseudo-military nature of the emergency services also has an influence here. In the UK recent modernisation, processes have been implemented with an intention to remove militaristic tones from the FRS; for example, a shift from rank to role, the loss of militaristic uniforms, and a change in language such as the replacement of *brigade* with *service*. However, despite these efforts, the cultural similarities between the military and the FRS still

persist (Sanderson & Brunsden, 2012). This matters because military culture has also been found to be an important barrier to help-seeking (Sanderson & Brunsden, 2012; Greenberg, Langston, & Scott, 2006); and military personnel can reject any notions of interventions perceived to be therapeutic in nature (Smith & Johnson, 2012). Certainly, a similar problem has been found to exist within the UK FRS, particularly in relation to the self-reporting of stress (Lawrence, 2003).

A further cultural issue of significance within the UK is that of industrial relations. The Fire Brigades Union (FBU) could be described as the UK's strongest single-occupation public-sector trade union; and a strong collective identity has formed within this union (Brunsden & Hill, 2009). The FBU enjoys almost total membership amongst firefighters, and the membership is active and willing to strike. Although national strikes are exceptionally rare, with only two ever having occurred in the UK, strikes at the local level take place far more often within individual FRSs. Following the 2002–2003 UK national strike, a modernisation process took place that changed many of the working conditions within the service in line with recommendations in the Bain report (Bain, Lyons, & Young, 2002). This change process acted as a significant stressor, the repercussions of which are continuing. Similarly, the strike itself could be seen as a traumatising event that has continued to generate stress reactions long after its end (see Brunsden & Hill, 2009). The politicised context of the FRSs working can also affect the stress-intervention strategies offered to personnel; for example, it has been argued that fatigue-management programmes, widely used in other high-risk industries such as aviation and the petrochemical industry, are rarely implemented in the UK FRS because the stress-inducing factors of sleep loss and tiredness are necessarily entwined in issues of work hours, pay, and secondary employment (Holmes, 2003).

The nature of UK FRS industrial relations means that audits can become highly politicised activities. Conducting stress audits necessarily requires the cooperation of both

management and workers. During our own audits (e.g., Brunsden et al., 2003; Eyre & Brunsden, 2003; Regel et al., 2001; Woodward et al, 2000; Maguire & MacPherson, 1997), variously commissioned by both FRS management and trade unions, it became clear that without both sides' cooperation, the auditing would fail. Management necessarily had to approve the work to enable access, whereas the union necessarily had to endorse the initiatives in order to get any reasonable participation rate. Both sides have different agendas regarding the outcomes of any auditing. It is inevitably in management's interests that audits show low levels of stress and high levels of job satisfaction. Conversely, if audits show high stress and low satisfaction, trade unions can use these data to their own advantage in confronting management. This adversarial difference in advantage may lead both sides to exert pressure on personnel, consciously or unconsciously, to provide answers that skew the data in particular ways. The situation is then further complicated if participating personnel do not trust that their individual responses will not somehow be fed back to management. If this fear persists, regardless of whether it is founded in any actuality, then personnel may wish to represent their psychological health more positively than is actually the case. The vested interests of these various parties potentially render findings of audits as artefactual, saying more about the processes by which they were carried out than offering any indication of genuine levels of stress. Despite this issue, audits are still worthwhile exercises because, even if their findings are taken very conservatively, the discovered rates and their negative implications are still concerning.

Establishing stress levels in FRS personnel is important not only for the health of the personnel themselves, but also because of their roles in the safety of the communities they serve. Stressed and traumatised individuals cannot perform their occupational roles to the best of their abilities and when the public depends on that occupational role. Even small percentages of affected personnel constitute a serious risk to public safety. Such an effect is

evident, given the detrimental consequences of stress on job performance (Srivastava & Krishna, 1991) and on crucial factors in emergency service working such as the performance of complex tasks (Berkun, 2000), and the ability to accurately judge risk (Quartermain, Stone, & Charbonneau, 1996). Stress-prevalence rates reported in fire service audits have varied, but figures have been found as high as 19.3% showing clinical signs of traumatic stress and 8% meeting all post-traumatic stress disorder (PTSD) diagnostic criteria (Brunsden et al., 2003; Regel et al., 2001). Other researchers have found even higher rates of 20% of serving firefighters having PTSD (e.g., see Durkin, 2006). Stepping away from trauma to occupational stress and related issues such as anxiety and psychological distress, the figures become even higher. Joseph, Brown, & Mulhern (2003) found that one-fifth of their sample of Irish firefighters showed high levels of psychological distress and suggested that this figure could be an underestimate of what might be found in the wider FRS population, given that the most distressed individuals also tend to be the most avoidant. This avoidance is likely to be further exacerbated by FRS culture and the reluctance to self-refer on grounds of stress (Lawrence, 2003). This is supported by Brunsden et al. (2003) who found that 76% of their UK fire service sample reported physical ill-health symptoms associated with stress-related illnesses but that only 3.8% attributed those symptoms to stress.

The Impact of Occupational Identity (L1)

Within the FRS literature there is evidence for a strong occupational identity (Fannin & Dabbs, 2003; Lee & Olshfski, 2002). This identity not only contains a clear commitment to the occupational role but also a commitment to the way in which that role is carried out, as well as how the role is viewed by members of the public. For example, firefighters have been found to have such strong role identity that they are never actually off duty (Lee & Olshfski,

2002). It has been suggested that FRS personnel in operational roles have a need for control, a need to be needed, and a need to rescue (see Brown et al., 2002; Regel et al., 2001). In addition, emergency personnel can have high empathy levels (Mitchell, 1983) and a denial of their own needs for assistance (Lawrence, 2003). Where this role identity is threatened or prevented from operating in some way (for example, during change processes or industrial disputes), there can be negative and detrimental consequences for the firefighter (Brunsden & Hill, 2009). Consideration should therefore be given to the ways in which such a strong role identity can affect firefighters', and other FRS personnel's, experience of stress. For example, if this identity leads personnel to experience a sense of enhanced responsibility, an increase in guilt, or a sense of failure as has been suggested elsewhere (Hill & Brunsden, 2009), these factors will have a confounding effect on stress symptoms. This strong group identity may also generate resistance towards stress interventions delivered by those seen as outsiders.

The strong role identity is complicated further by the well-reported observation that all emergency services are under-represented within their membership on diversity issues such as sex and race (Sigurdsson & Dhani, 2010), and thus the emergency-service identity could be said to reflect a white-male identity with all the concomitant characteristics of that identity. Certainly, this white-male dominance has led to accusations of a self-replicating, self-protectionist culture (Archer, 1999), which can be argued to be present within the FRS. Although dated, Bennett and Greenstein's (1975) work is still relevant to the FRS in terms of their conceptualisation of self-replication through the socialisation model (becoming similar through performing the job) and the predisposition model (being attracted to a job to find similar people to oneself). In order to increase the person-environment and person-role fit, recently appointed and trained FRS personnel try to replicate the behaviours, attitudes, and attributes of colleagues in their immediate contact. The predominance of male-dominated, collective identities and tight coworker networks existing within the FRS (Brunsden & Hill,

2009; Beaton, et al., 1999; Nixon, Schorr, Boudreaux, & Vincent, 1999), has lead to claims that women can subvert themselves — imitating male behaviours in order to become accepted into groups and to maintain their role within those groups (Archer, 1999). Such imitation is problematic where women ape unhealthy male behaviours such as the well-recorded evidence for male reluctance to seek or accept help (Galdas**, Cheater, & Marshall,** 2005). This behaviour may then detrimentally affect any interventions promoted by occupational health teams.

Members of groups try to maintain their status and role within the group and find that sharing honest accounts of stress levels and psychological health difficulties are not conducive with such an attitude because of the stigma attached to the *stress* label. Occupational-health practitioners should consider the impact of stigma on both self-referral rates and the uptake of offered interventions (Hill & Brunsden, 2009; Lawrence, 2003). Having to access or report stress in a public or known way may create avoidance of interventions. To illustrate, an anecdotal story relayed to the authors was of an occupational health unit being placed in a location whereby it could be accessed only by passing the Chief Fire Officer's door. Such visibility to management would prevent any effective health-promotion initiatives or interventions. Privacy in accessing interventions should clearly be considered regarding the reporting of health issues. Similarly if stress audits are to be fed back to or worse still *through* managers, regardless of assurances of confidentiality, then the noncompliance of individuals should be given due consideration.

Stress and Family Culture (L1)

Members of the FRS become very close. The tight coworker network that forms both an operational and emotional team not only engenders the formation of a specific individual

occupational identity but also that of a collective identity (Brunsden & Hill, 2009), and the creation of a fictive family. For example, the term *the brotherhood* is in wide use internationally to describe firefighter fictive families and the strong coworker loyalties that exist (Regehr, Dimitropoulos, Bright, George, & Henderson, 2005). These close correlations generally act as a stress buffer through the provision of strong social support (see Regehr, 2009); however, they can themselves become an additional stressor in certain circumstances — for example if a colleague is injured or killed at work (Hill & Brunsden, 2003, 2009). They can also lead to a reluctance to access interventions with a commonly cited excuse that the team does not need this help because they instead use each other as counsel. Varvel et al. (2007) suggests that coping can then become seen as the province of the team exclusively, thereby excluding other sources of support such as actual family members. However, they also note that this may be a forced situation as a result of shift work; a firefighter may not see his or her spouse or children for extended periods during shift work (depending on local rostering arrangements). It may be, therefore, that this inevitable distancing from the family becomes another reason for the reliance on coworkers, rather than the coworker relationship being the reason for excluding family members. Certainly, a reliance on the immediate occupational team members is reflected in other research (e.g., see Bacharach, Bamberger, & Doveh, 2008). However, as Parkinson (1993) points out, this peer support is usually merely defusing and acts only as social support rather than a coherent stress intervention per se.

In a seminal paper, Moos and Moos (1976) suggested that different types of social environments and living conditions can develop family processes, which allows fictive families to be considered in the same ways as "traditional" families. If this situation is accepted, then there becomes an obvious need for managers to understand family processes within their teams as well as for families of FRS personnel to share their experiences in order to support and cope with the occupational demands that impact on family life (Jackson and

Maslach, 1982). Such notions can be taken further to suggest that FRS personnel, their close occupational teams, and their families form interrelated systems (Schumm, Bell, and Resnick, 2001). The actual families and fictive families, and their various stresses thus become intertwined into a complex single system. This system is a premise that FRS management and occupational health teams need to consider carefully because it will not only likely impact on the uptake of interventions but also on the groups that require and participate in these.

The complex family relations, created from the blend of actual and fictive families, and the nature of the resultant social interactions therefore requires consideration before any attempts to manage FRS stress. These work-family issues change the nature of the stress that requires attention as well as affecting the likely populations who are in need of stress-management initiatives. There has been some focus on the everyday effects of work on family life (Barling, 1990; Repetti, Wang, & Saxbe, 2009; Bumpus, Crouter, & McHale, 1999), which suggests that work experiences can affect the relationships of all family members and that work stressors and spillover can affect both marital and parental functioning. Families can suffer through shift work, alterations in family dynamics, stress contagion, and the effects of fictive families (Regehr et al., 2005; Kirschman, 2004). The detection of traumatic reactions within the families of emergency service personnel has also begun to be explored (Pfefferbaum et al., 2006; Menedez, Molloy, & Magaldi, 2006). Families can be exposed to mood swings, grumpiness, unwarranted aggression, and emotional unpredictability from their emergency-service working relatives (see McFarlane, 1987, for examples); and such mood disturbances have been argued to be so shocking and disturbing as to generate levels of traumatic reaction in family members (Repetti et al., 2009). However, such reactions should not be considered in terms of PTSD or even acute stress disorder because these are the very extremes on the scale of traumatic reactions. Indeed, it is rare that firefighters themselves experience such a high level of reaction (despite the large focus on PTSD within the research

literature); therefore, expecting to see such high levels of reactions within families would be naive. What is clear, however, is that there can be negative and detrimental emotional, practical, and physical impacts on the relatives of FRS personnel. Given that families can absorb the consequences of FRS personnel working, it then merits consideration as to whether FRS managers should implement stress interventions that incorporate families. Where health interventions include or are aimed at families, these should be concerned with relatives' low-level vicarious traumatic reactions and with supporting the family members to support their firefighter relative. Aside from traumatic stress, relatives are also affected in other ways (e.g., by the FRS's daily working practices) (Family Safety and Health, 2006; Demerouti, Geurts, Bakker, & Euwema, 2004). Family relations can be disrupted by irregular work hours as well as the depletion of their loved one's resources in terms of energy, mood, and coping ability (Hill & Brunsden, 2006).

The support that families provide to FRS personnel should not be underestimated. Landsman et al. (1990) suggested that family and social support should always be considered in any post-traumatic interventions. Other research has supported this suggestion and highlighted the importance of social support (see Regehr, 2009). Families can feel a responsibility to protect the organisation's interests, having been found to take on the strong role identity shared by firefighters and to see themselves as also *belonging* to the employing FRS (e.g., see Hill & Brunsden, 2006; Lasky, 2004). Family members promote personnel's operational capabilities by diffusing and debriefing their relatives' stresses, by buffering negative health issues before they become problematic. Families could, therefore, be seen as providing a vital function for the FRS, even being seen to work for the FRS as unpaid occupational health workers who crucially provide naïve stress interventions and shore up personnel's resilience levels. The need for a congenial home life is obviously beneficial to firefighters because it is where they obtain their primary source of social support (Regehr,

2009), but it may have even greater benefits for the employing organisation. The social support that relatives provide is an essential part of increasing and maintaining resilience, reducing stress, and maintaining occupational effectiveness. Such support makes a cogent argument for expanding management's duty of care to include personnel's families — even beyond those cases where personnel are seriously or fatally injured.

The issue of relatives' need for support, because of their loved ones' specific organisational role, is clearly relevant for the FRS regardless of nation. Fire services and researchers in the US (see Greene, Kane, Christ, Lynch, & Corrigan, 2006; Pfefferbaum et al., 2006; Pfefferbaum, North, Bunch, Wilson, & Schorr, 2002), Canada (Regehr, Goldberg, Glancey, & Knott, 2002), and Australia (Cowlishaw, Birch, McLennan, & Hayes, 2012) and the UK (Hill & Brunsden, 2006, 2008; Hill & Woods, 2007) have all begun to explore this issue. However, these are largely exceptions with a notable lack of interest having been shown towards FRS families. The FRS itself also appears to have little appetite for concerning itself with the stresses imparted to families. Certainly, the UK FRS has not thus far included the families of personnel in their interventions or health-promotional practices, likely because of the associated financial costs. There is also a nervousness that extending the duty of care and then perhaps not delivering to satisfaction could lead to negligence claims. However, work by Hill and Brunsden (2008) concludes that this situation is not expected or foreseen by legal professionals. Given the functional, albeit naïve, occupational health roles that families fulfil, FRS management may benefit from developing stress initiatives that incorporate families as well as developing specific information and guidance to prepare and train those who provide support to relatives.

Strategies to Manage Stress Exposure

Strategies open to use by FRS managers can be differentiated into therapeutic treatments (the province of the healing professions) and reactive interventions (precursory actions in an attempt to prevent serious stress, which if it later emerged would require therapeutic treatment); of course, reactive interventions might also involve members of the healing professions. In terms of reactive interventions related to critical incidents and traumatic stress, Jeannette and Scoboria (2008) identified three levels: (1) critical incident stress debriefing (CISD), (2) one-to-one debriefing, and (3) informal discussion. CISD, sometimes called *psychological debriefing*, is the intervention most associated with the FRS. It is often considered as just one part of a critical incident stress management (CISM) approach, which is generally regarded to be more effective than CISD alone (see Regel, 2007; Mitchell, 2004). It is important to note, however, that CISD and the CISM process, in which it is nested, are neither a therapy nor a substitute for one (Blaney, 2005, 2009; Mitchell, 2004). The origins of CISD and CISM lie in crisis-intervention theories dating back to 1944 (Regel, 2007) or even earlier (see Mitchell 2004). Regel (2007) describes CISM as a:

> comprehensive, systematic and integrated multi-component crisis intervention package that enables individuals and groups to receive assessment of need, practical support and follow-up following exposure to traumatic events … it facilitates the early detection and treatment of post-trauma reactions and other psychological sequelae. (p. 411)

Regel (2007) gives three elements in CISM that precede the CISD and one element that follows CISD. The precedents are precrisis education, assessment, and defusing; and the element following is treatment (i.e., therapeutic intervention) if PTSD should still occur. However, Mitchell (2004) went further in his detailing of CISM, listing twelve components rather than Regel's five. This confusion as to the exact nature of CISM, and indeed CISD, is common within the literature. Mitchell notes that "everyone talks about *debriefing* and means

something different" (2003, p. 56). Certainly different authors and practitioners use this term to describe what can be very different practices (Brunsden et al., 2003).

Confusion is complicated further by the same practices also being referred to by different names. For example, Devilly and Cotton (2003, p. 144) refer to psychological debriefing as "emotional first aid," and Dyregov (1989) talks of psychological debriefing and CISD as if they were interchangeable terms. Regel (2007), however, shows preference for the term *psychological debriefing* over *CISD*, claiming the support of the British Psychological Society for this term. Other preventative programmes that appear to be CISD include psychological first aid (Vernberg et al., 2008), which has the slight distinction of being applied in the field and in being intended for children as well as adults; in all other ways, psychological first aid closely resembles CISD. The UK military's programme called *Trauma Risk Management (TRiM)* has similar echoes but is designed to be delivered individually as well as in a group (Greenberg et al., 2010). Mitchell (2004) states that CISD is not the most frequently used intervention; however, it is the most prominent and visible and is also strongly associated with the emergency services.

Bearing in mind the differences already mentioned between the differing forms of intervention described as CISD, there are a number of principles that generally seem to characterise the interventions. There is an agreement that the group debriefed should be homogenous so that there is a greater shared understanding of the experience(s), with an implied likelihood of preparedness to listen, empathise, inform, and therefore ~~to~~ make progress. Consequently, CISD tends to be carried out on a holistic group who have attended, or dealt with, a specific potentially traumatic event, for example, a single watch who had attended the same fire involving fatalities. Early intervention is also agreed as a general principle, but the actual timing varies. Psychological first aid described by Vernberg et al. (2008) aims to intervene as soon as possible. Dyregov (1989) states that CISD should not

occur on the same day as the traumatic event. Regel's (2007) review found that it can be held anytime between 3 and 14 days after the event. Greenberg, Langston, and Scott (2006) identify the number of sessions as a key difference between CISD and TRiM, stating that TRiM entails multiple sessions whereas CISD consists of a single session only. However, their position is discordant with the views of Mitchell who can be considered the originator of CISD; he stated in 2004 that single-session debriefings are *not* appropriate for CISD and goes on to list a host of organizations that do not endorse or approve single-session CISD, including the International Critical Incident Stress Foundation. This is an important point as Jones, Roberts, and Greenberg (2003) highlight research that suggests one-off sessions can cause more harm than good.

One characteristic that remains unresolved is who should deliver the intervention. Traditionally interventions have been delivered by occupational health personnel or external consultants. However, in recent years there has been a shift towards approaches that utilise trained peers, certainly in the UK FRS if not globally (see Brunsden & Lawrence, 2012; Durkin, 2006; and Barber, 2003). Such a shift has benefits in that trained peers can identify psychological risk factors that non-peers might not notice or appreciate (Jones, Roberts, & Greenberg, 2003). Jones et al. (2003) also note that external practitioners lack in-depth organizational understanding which results in employee hostility to outsiders and poor receipt of interventions. The situation is then exacerbated by the unusual nature of the occupational role in terms of the sights, sounds, and smells that personnel have to face and deal with — limiting the discussions they feel they can have with someone who has not shared similar experiences (Brunsden & Lawrence, 2012). This unwillingness to discuss can be because of a a disbelief that someone without such an experience could ever truly empathise or understand; but also because of an unwillingness to burden others with what they themselves have faced. In the UK the suspicion and distrust of external practitioners is further complicated not only

by a strong role identity but in the culture of suspicion created by their unusual industrial relations.

Because interventions that use trained peers are becoming increasingly popular within the UK FRS, there has also been increased usage of the TRiM process (Greenberg et al., 2010), which was specifically designed to be delivered by trained peers. However, FRSs are also developing their own versions of CISD and CISM, adapting and modifying these to fit their own local organizations. One example is what has been termed *the Tyne and Wear approach* (see Brunsden & Lawrence, 2012; Lawrence & Barber, 2004; Barber, 2003), which originated in the UK's Tyne & Wear Fire & Rescue Service but which has subsequently been adopted more widely. In this approach, trained peers (the Trauma Support Team or TST) provide both the initial diffusing and the debriefing following a traumatic event. However, as well as having access to these peer-led interventions, there is also support available from chaplains, occupational health workers, a psychologist, and a psychiatrist. This additional support can be accessed by the whole group by agreement, or individuals can self-refer, or the peer supporters can refer specific individuals for therapeutic treatment if required (effectively acting as a triage team).

The TST also offers support to one another. Team members meet to consider case studies, to explore best practice, and also to act as debriefers for one another in order to prevent the development of secondary trauma or burnout. The peer trauma team participants are recruited through voluntary applications but go through a rigorous selection process. They then undergo extensive training, which is partly in-house from the occupational health team but also externally through the involvement of a local university. This training also enables the peer supporters to achieve relevant formal qualifications. This approach has had considerable success. It has reduced sickness following traumatic exposure, de-stigmatised traumatic responses whilst also normalising rather than pathologising reactions (Brunsden &

Lawrence, 2012). It has also been found to build resilience and to facilitate help-seeking, largely through its generation of cultural change and particularly the minimising of *macho* culture (Brunsden & Lawrence, 2012).

Even such highly successful forms of CISD are not without their critics however, with concerns being raised about CISD in both its original and modified formulations. Raphael, Meldrum, and MacFarlane (1995) noted that CISD had rarely been systematically evaluated with no randomised controlled trials (RCTs) being reported. However, whether RCTs are either appropriate or ethical in the case of CISD is highly debateable. The different formulations of CISD mean that different intervention processes are being confused and would suffer unfair comparison if RCTs appeared to provide an authoritative voice on the matter. Further, the real-world conditions mean that the allocation of groups are hardly random and are certainly not controlled. This predicament is self-evident given that CISD is employed because of unpredictable and chaotic events (Deahl, 2000). Deahl (2000) also notes the ethical problems in having the nonintervention group required by RCTs because denying one group the opportunity for debriefing may be detrimental, particularly given that many individuals find it subjectively helpful at the time. This position is supported by Jeannette and Scoboria (2008) who found that, while there can be different preferences for intervention according to the seriousness of the event, some level of intervention is wanted by all. Where attempts have been made at using RCTs to evaluate CISD, these have been less than successful in terms of achieving robust RCT criteria. For example, Regel (2007) discusses two studies where there were no equivalent group memberships at pretest. Regel (2007) also notes that evaluations of CISD have been focussed on the degree to which they prevent the development of PTSD and that they have been evaluated as a stand-alone intervention. Such evaluations mistake the intentions of CISD, which is just one part of a psychological support

strategy, and does not intend to prevent PTSD but instead has more general outcomes in terms of minimising an event's effects (Blaney, 2009).

Much of the criticism of CISD stems from the Cochrane Review (Rose, Bisson, & Wessely, 2002). However, as Devilly and Cotton (2003) note, this review evaluated only single-session interventions, meaning it did not consider the majority of CISD programmes or reflect CISD as originally intended (Mitchell, 2003). It is fundamental to any rigorous evaluation to compare like with like, but this situation has rarely been the case with CISD evaluations. The varying names and definitions do not help and even where the same names are used, very different processes may be being referred to. These differences are crucial, because they are highly likely to impact on outcomes. Such differences can include the timing of the intervention; its location (specifically whether delivered at, or away from, the event); whether it was peer-led or professional-led; and who were the populations being helped. The latter point is highly relevant in terms of CISD and the emergency services, given that Jacobs, Horne-Moyer, and Jones (2004) have argued that whilst CISD can do little good or may even harm accident survivors, it can have highly beneficial effects when conducted with emergency service personnel. This contention is important because in the UK there is a legal obligation not to withhold interventions that are believed to be beneficial (Wheat, 2002); even in other countries where this legal imperative is not in place, there will still be an ethical imperative not to withhold potentially useful treatment.

Aside from trauma interventions, the FRS also needs to manage other stressors and strain. This includes not only the types of stress seen in any organization but also those peculiar to the FRS working. Within the FRS, even those stressors seen in other organizations take on additional significance because they can ultimately lead to harm in the field, risking the safety of both firefighters and the communities they serve. Thus, stressors have greater importance and urgency than among other working populations, and it therefore behoves the

FRS to look carefully at issues such as support, work load, and communication. Removing and reducing generic stressors also reduce the effect that the work-peculiar stressors will have (see Fletcher, 1991). It is, however, incredibly difficult to manage out strain in the FRS working**??**, perhaps even impossible. This is because conventional control over both the workplace and workplace equipment cannot be achieved (Ash & Smallman, 2008). Certainly in terms of person-environment fit theory (Caplan 1987), it is impossible to remove the fire or road collision from the firefighter (despite efforts in areas such as fire-prevention and road safety). The FRS therefore tends to rely on a combination of developing coping strategies, including greater control latitude (thus making personnel more *stress resilient*); actively reducing strain levels (*de-stressing* initiatives); and monitoring for, and responding to, early identification of strain.

Stress Prevention (L1)

Notions of stress resilience focus interventions on preparing the firefighter for stress encounters by way of appropriate personnel selection, instruction, and training as exemplified by FRS's efforts to create the "safe worker" (Ash & Smallman, 2008). Training reduces cognitive load (Mayer & Moreno, 2003; Paas, 1992), and so general training for regular activities can help as well as training specific to the work stressors faced by emergency service personnel. The latter form of training carries twin benefits of developing specific strategies for coping with those particular stressors and automatising responses (although greater problems can then arise if these automatised responses are disrupted by the nature of the emergency: see Hill & Brunsden, 2003). Research suggests that this strategy development gives greater choice to the worker, with planning increasing control (Prenda & Lachman, 2001; Karasek, 1979), especially when tasks are of a highly complex nature (e.g., see Dodd &

Ganster, 1996). Such training then leaves more cognitive capacity to face other less predictable challenges. For example, Kagan, N. I., Kagan, and Watson (1995) found that training in interpersonal coping and developing interpersonal awareness (both important in emergency situations) were associated with lower levels of anxiety and depression. Similarly, Michie and Williams (2003) found that problem-solving training helped reduce strain levels. Training and personal development can also help personnel to become more stress-resilient in other ways. Feelings of self-esteem are interlinked with the self-perception of competence (Johnson & Blom, 2007; Warr, 1987), and training can help to develop this sense of self-awareness and empowerment. Training can therefore be seen as an important stress-management tool; however, it should also be remembered that training for FRS personnel poses special challenges since, if it is to be realistic, training can in itself be a source of danger (Cooper & Cotton, 2000).

There is a growing literature on the "stress-buffering" effect of leisure activity. The Iwasaki, Mannell, Smale, and Butcher (2002) study of 200 Canadian emergency response personnel found that the use of leisure was associated with lower levels of stress, and the Blaney (200**5**) study of Canadian firefighters found a preference for exercise as a buffer against stress. Iwaski (2006) further found that leisure coping counteracted the impact of stress, suggesting long-term benefits. However, such findings may not necessarily transfer to other countries; for example, Blaney replicated her work with UK firefighters and found no such preference (Blaney, 2009). The macho culture of the emergency services may also impact on what types of leisure activities could be promoted. For example, although researchers such as Jin (1992) have found strain reduction after activities such as tai chi and meditation; these kinds of activities can be perceived as soft and feminine in contrast to *macho* forms of exercise such as weightlifting and boxing. Given this perception, promoting

such activities to FRS personnel could prove difficult as such suggestions may not necessarily be well received.

Stress monitoring, the minimum required by UK law, has been an important plank in FRS's intervention strategies. However, because there are no rigorously precise ways for an employer to assess levels of strain, legal standards are rarely specified. Advice from the UK's Health and Safety Executive (HSE) is that employers, as well as encouraging symptom reporting, should check sickness records (Health & Safety Executive [HSE], 1999). This managerial monitoring allows the identification of patterns across shifts and watches, as well as individual problems. There is also less formal but continual monitoring by way of the continual interaction of colleagues and family who can notice small changes. Allied with referral processes to get affected individuals to the correct professional, these informal strategies can be highly effective. Any consequent reactive help from healing professionals might also improve later stress resilience. It should, however, be kept in mind that, regardless of preexposure stress-management strategies, exposure is still inevitable and postexposure interventions are likely to always dominate stress policies within the FRS.

Conclusion (L1)

It is clear that environmental exposure, the cultural context and the resultant coworker, and interfamilial and intrafamilial relations all interact to affect the success (or otherwise) of interventions within the UK FRS. Whilst the specific issues and cultural context of the UK FRS may not be isomorphic with those of FRS in other countries, it is reasonable to assume that there will at least be some resonance across these various issues. It has been suggested that the only successful way to understand a culture is to live in it, thus allowing understanding of linguistic nuances and practices (Gomm & Hammersley, 2001). Where

external practitioners enter the FRS to explore stress as outside consultants or *external experts*, they need to ensure that they are able to appreciate that organisation's specific context and gain an understanding of that before blithely attempting to conduct audits or administer interventions. Without this deeper knowledge, there is the potential not only to alienate the workforce but also to obtain inaccurate audit data. This is an important issue for FRS management to consider as, certainly in the UK, external consultants are routinely used for auditing; and their use may well be generating artefactual results. Similarly, using external therapists to deliver interventions risks effecting more harm than good. This situation offers a serious challenge to FRS management who may be lacking in the psychological understandings necessary to facilitate sound decision-making around the development of appropriate stress support and prevention mechanisms.

In terms of trauma support, the UK's Tyne & Wear approach may be a model that offers some assistance here for FRS in other countries, not only for traumatic stress but for other forms of stress also. This approach takes account of the specific organisational culture and appropriately incorporates professionals and trained peers, whilst first utilising natural organisational coping processes. Finally, it is crucial that stress researchers reviewing, utilising, and building upon FRS research globally should maintain an active engagement with notions of cultural and geographic context in order to more appropriately frame their own understandings.

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To cite this article: Brunsden, V., Hill, R. & Maguire, K. (2014). Putting Fire & Rescue Service Stress Management into context: a UK informed perspective. *International Fire Service Journal of Leadership and Management, 7*, 27-39.

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