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THE HIDDEN VICTIMS OF DISASTER: HELPER STRESS

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SUMMARY

The effects of disaster work on helpers, both of the emergency services type (rescue, recovery, and identification personnel) and those who offer psychological support, are reviewed. In terms of emotional, cognitive and behavioural effects, a significant number experience short-term stress and a small percentage experience long-term effects, which may be of the fluctuating nature. The extent and nature of the encounter with death, and organizational factors appear as particular stressors. Coping styles (eg hardiness), age, experience and social support have been identified as moderating factors. Positive, as well as negative effects are observed.

KEY WORDS—Disaster stress, helper stress, aircrash, fire, mass suicide, avalanche.

The term 'victim' has generally only been applied to those directly involved in disaster; rarely has it been extended to include rescue, medical or support personnel. It is clear, however,¹ that many individuals can be affected by disasters indirectly, not least the helpers, who may suffer an enormous affective impact. Because the stresses faced by helpers have often been unrecognized, they have been described as 'hidden victims' of disasters.²

CLASSIFICATION

Various attempts have been made to classify the types of victim associated with disasters. Taylor and Frazer³ proposed the following classification:

Primary victims—in the front line, who have received maximum exposure to the catastrophic event;

Secondary victims—grieving relatives and friends;

Third-level victims—rescue and recovery personnel;

Fourth-level victims—community involved in the disaster, including those who converge, who offer help, who share the grief and loss, or who are in some way responsible;

Fifth-level victims—people who may be precipitated into states of disturbance even though not directly involved;

Sixth-level victims—those who, but for chance, would have been primary victims or who are indirectly or vicariously involved.

Helpers, including mental health workers offering support following a disaster, would fall into the categories of third- or fourth-level victims. This model of classification, unlike others,⁴ does not allow for the subcategorization of helpers into whether they experienced the disaster effects directly or indirectly.

Despite the comparatively large amount of research literature on the effects of disasters on primary victims, few studies have focussed specifically on the impact of disaster work on helpers. Furthermore, among these, only three to date⁵⁻⁷ have included as subjects workers offering psychological support.

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Possible reasons for this neglect may include popular stereotypes of helpers as being strong and resourceful, as opposed to victims who are viewed as helpless and resourceless.⁸ Professional helpers are simply not expected to be at risk. Other factors, such as the salience of the needs of primary victims and the professionals' frequent use of denial, obscure the reactions of helpers further.

HELPERS' PSYCHOLOGICAL RESPONSE TO DISASTERS

Most studies on the effects of disaster exposure on helpers have examined a variety of potential effects which can be categorized according to the form in which they are expressed (see below). In some ways, the commonly reported problems are similar to the physical, emotional and mental exhaustion described in 'burnout'.⁹

There is now a consensus of opinion regarding short-term psychological aftereffects, though debate continues over the existence of longer-term effects.

Emotional effects

These include anxiety, depression, anger, guilt, irritability and feelings of helplessness and hopelessness.^{1,6,10,11} Raphael *et al.*¹² describe the reactions of helpers to their encounter with death and destruction: they are faced with an awareness of their own mortality and need to grieve both for those who died and suffered but also for themselves and their own future losses.

Cognitive effects

Some studies have reported changes in memory and ability to concentrate; nightmares; intrusive thoughts and imagery related to the disaster.^{6,11} A minority of helpers may suffer from 'flashbacks' similar to those experienced by primary victims.^{13,14}

Behavioural effects

These include altered use of drugs (alcohol, cigarettes, caffeine, etc.), social withdrawal and loss of interest in usual activities.^{6,15}

Effects on relationships

Some helpers report changes in their intimate, sexual, social and work relationships. For example,

involvement in disaster work may make them irritable with those close to them or more concerned for the safety of loved ones. Feeling unable to share their experiences with family and friends may lead to feelings of isolation. The emotional impact of the work may influence attitudes regarding the relative importance of other activities.

A conflict of loyalties between the disaster work and family commitments, or between the disaster work and the ordinary job, may develop.^{1,16}

Somatic effects

Many studies have noted changed sleeping and eating habits, altered energy levels and an increase in accident rates and physical health problems.^{5,6,11,15}

Motivational changes

Following the disaster work, some helpers view life from a different perspective. Many, having directly confronted their own mortality, have suffered the loss of their 'invulnerability' and consequently regard life as more tenuous. Others find their experiences lead to a positive reevaluation of their life and report a change in values to less materialistic ones.^{5,17}

The vast majority of Berah *et al.*'s⁶ subjects considered their experience of disaster work to be emotionally and professionally valuable.

Many studies of the impact of disaster work on helpers have been methodologically weak. This may be partly due to the lack of an established theoretical base and also to practical issues, such as the need to respond rapidly to disasters allowing little time for careful research design and preparation. Taylor and Frazer,¹¹ for example, had to carry out their research activities on the effects of post-disaster stress on rescue workers following the Mt Erebus air crash without even time for a literature search.

Few studies have employed control groups, data have been collected retrospectively and descriptively, often without careful criteria of morbidity, and such practices as randomization of subjects and manipulation of independent variables are clearly impracticable in many disaster situations. There has been little common use of measures because of the lack of appropriate established scales and this factor has made it difficult to compare findings between studies. Another problem has been the mixing of helpers from different professional groups and with very different roles.

RESCUE, EMERGENCY SERVICE AND IDENTIFICATION PERSONNEL

With these difficulties in mind, Table 1 provides a brief summary of the findings of the relevant studies

of rescue/emergency service/identification personnel with an emphasis on the initial/short-term effects noted.

Despite the difficulties with methodology and comparison between studies discussed earlier, these findings suggest that exposure to disaster may have a significant impact on such personnel in the short term.

Table 1—Short-term psychological effects of disaster work on rescue, emergency service and identification personnel. HSCL, Hopkins Symptom Checklist; GHQ, General Health Questionnaire

Disaster subjects	Measures used/when	Short-term outcome
Mt Erebus aircrash—180 recovery/ID personnel ^{3,11}	HSCL, interview, observer assessment scales, questionnaire. Immediately, 3 and 20 months	30% transient problems including intrusive imagery, changes in sleep, appetite, feelings and behaviour
Fire—144 rescue/health personnel ¹⁴	Questionnaire and interview. Immediately	65% frequent recurrent thoughts, sleep disturbance, 'emotional/stress reaction'
Hyatt Regency Skywalk—54 firemen and medical personnel ¹⁵	HSCL, health questionnaire and disaster questionnaire. Four months	Raised HSCL scores, 60% depressed, 40% irritable, 35% sleep disturbed, 17% health worse, 20% use of tobacco/caffeine increased, 65% 'life changed'
Mass suicide—225 Air Force personnel ¹⁸	Self-rating compared with control group. Eight-12 months	30% dysphoria in terms of health, sleep, energy, appetite, social relations and job performance
Avalanche—82 Red Cross personnel ¹⁷	Questionnaire. Forty-five days	Majority felt helpless, fear, frustration during rescue; 75% still re-experiencing event, 50% intrusive imagery and depressed mood
Bradford fire—234 police officers ¹³	GHQ - 60. One month	24% likely serious cases. Frequent guilt, anxiety, resentment, irritability and motivational changes

HELPERS OFFERING PSYCHOLOGICAL SUPPORT

Three studies have focused on, or included, helpers offering psychological support.

Raphael *et al.*⁵ surveyed 95 helpers, including a minority offering psychological support, ie five social workers and seven Salvation Army workers, one month following the Granville rail disaster, Sydney, 1977. Their brief questionnaire included open questions relating to traumatic stress, for example, bad dreams, reawakening of earlier unhappy memories; responses were rated to give a 'strain' score.

The most common stressful experience was the feeling of helplessness. The anguish of relatives and suffering of the injured were also commonly reported, primarily by social workers. Only 10 per cent complained of disaster-related problems with subsequent impaired functioning at home and work. However, 25 per cent had symptoms of anxiety, depression and insomnia and 70 per cent expressed evidence of strain. Thirty-five per cent felt more positive about their lives.

Berah *et al.*⁶ surveyed 19 members of a volunteer mental health team convened in the aftermath of the 1983 Australian Ash Wednesday bushfires by questionnaire one month after they disbanded. Results indicated that the majority felt shocked, confused, helpless, saddened and fatigued. Approximately half became ill (usually with colds and 'flu), had accidents (motor and domestic) and/or noticed changes in their eating, smoking and drinking habits. A third had disaster-related dreams, disturbed sleep, or described reactivation of previous traumatic experiences.

Bartone *et al.*⁷ examined the effects on US Army officers of offering family support to those bereaved through the 1985 Gander aircrash in which 248 soldiers died. Measures of exposure, health (physical and psychological), personality hardiness and social support were taken at six months and 12 months postdisaster. The Psychological Wellbeing

Scale,¹⁹ items from the HSCL, and composite indices constructed by the authors were employed.

Four major areas of stress were identified:

- distress of the bereaved
- initial period of confusion associated with lack of information and poor communication
- delay over body identification producing feelings of helplessness
- difficulties resulting from ‘identification’ with the deceased and strong association with victims’ families

Family assistance officers (FAOs) were at increased risk for illness, psychiatric symptoms and negative psychological well-being for up to a year after beginning support activities. They experienced feelings of sadness and helplessness. Symptoms of headaches, tension, fatigue, depression and sleep problems were commonly reported, being twice as severe at 12 months compared with six months.

These findings suggest that offsite helpers offering support to primary victims may suffer marked disaster-related stress. Raphael¹ suggests three sources of extreme stress: (1) the close encounter with death, reminding helpers of their own vulnerability; (2) sharing anguish of victims, and the close empathic identification that often results; and (3) role-related difficulties.

DURATION OF EFFECTS

Though several of the studies suggest that effects, though common, are usually short term, most have found that a minority of individuals experience longer-term effects.

Twenty-three per cent of Taylor and Frazer’s¹¹ sample followed up at 20 months were in the ‘high-stress’ group (as measured with the HSCL), not all this group having had high stress levels initially or at three months, emphasizing the cyclical nature of distress.

Lindstrom and Lundin¹⁴ interviewing subjects 10 months after the disaster discovered that situations recalling memories of the fire continued to trigger emotional reactions in some workers who still felt depressed, angry and dissatisfied with their performance. Some individuals also reported continuing insomnia and visual disaster-related memories. Of those subjects in Raphael’s study¹ who experienced strain, the effects lasted longer than a

week for half the sample; of 13 people followed up at 12 months, four had GHQ scores suggesting psychological disturbance.

Miles *et al.*¹⁵ report anecdotal evidence suggesting that some helpers may utilize denial and repression to continue to function professionally. Consequently, initial measures taken of possible emotional distress may produce negative findings, yet these individuals may experience difficulties months later when feelings associated with the disaster begin to surface. Indeed, Bartone *et al.*’s study⁷ demonstrated delayed expression of ill-effects, the 12-month follow-up showing helpers may *therefore* suffer from persisting negative psychological consequences with some effects worsening, or only emerging, with time.

VARIABLES AFFECTING RESPONSE TO DISASTER

Responses are suggested to be governed by both individual and situational/environmental variables, namely:

INDIVIDUAL FACTORS

Demographic characteristics
Personality factors, eg coping style
Experience

SITUATIONAL/ENVIRONMENTAL VARIABLES

Aspects of the disaster
Social support (personal and professional)
Training
Organizational factors

These will now be briefly discussed in turn. Much information is speculative and rarely based on systematic research evidence. Only Bartone *et al.*⁷ have examined any factors in detail, ie social support and personality ‘hardiness’.

INDIVIDUAL FACTORS

Demographic characteristics

Given the nature of the experience, exposure to disasters frequently reminds those involved of earlier emotional memories and Clegg²⁰ stresses the importance of individuals’ loss histories. Younger workers have been found to be a greater risk

though the effect has been confounded to some extent by level of experience and coping strategies used. Jones¹⁸ found that younger respondents showed higher rates of short-term dysphoria but these men were also more likely to have been enlisted and to have been exposed directly to the remains of the dead. Taylor and Frazer¹¹ found older subjects to be more likely to be in the less-stressed group but these workers also had more experience with body recovery.

Female helpers have been shown to report a greater number of symptoms¹⁷ though it is unknown whether this is due to greater stress experienced or to greater self-disclosure, it being more socially acceptable for women to express distress.¹²

Clayer²¹ has shown marital status to correlate with disaster morbidity, with those married-previously-divorced being at greater risk. Jones¹⁸ found no difference in the emotional effects reported by recovery personnel living with a partner or spouse and by those who were not. However, single and divorced human service workers have been noted to report feeling more emotionally exhausted from their work than married individuals.²²

Personality factors

Little is known about the influence of premorbid personality factors though individual differences in coping style have been observed and/or investigated. Several authors have noted the 'counter-disaster' syndrome¹ in a minority of helpers who may experience a high level of arousal and involvement, become overactive and continue to work until a stage of exhaustion is reached.

'Hardiness' emerged in Bartone *et al.*'s study⁷ as an important modulator of helper stress. 'Hardier' helpers were thought to be likely to be more committed to, and better equipped to deal with their ambiguous role, and perhaps in the longer term to make optimistic retrospective appraisals of their experiences.

Experience

Though disasters may occur relatively frequently within a national perspective, Duckworth¹⁰ points out that at each one, most helpers are unlikely to have had any previous experience. Those who have may benefit from more effective coping and a greater sense of command.¹ Both Duckworth and

Raphael mention the possible role of 'preparedness' and motivation to help in helpers' response.

SITUATIONAL/ENVIRONMENTAL VARIABLES

Aspects of the disaster

A large variety of different events and experiences are described as disasters. Factors such as the cause of the disaster (man-made vs natural) and its scope (mortality rates, scale of destruction) may influence the degree and type of psychological symptoms experienced. Raphael¹ observed that man-made are more likely than natural disasters to be associated with anger in primary victims, and that effects may be longer lasting. Responses, therefore, may be specific to disasters and findings may not be generalizable across studies.

Support

Bartone *et al.*⁷ found that social support modulated the effects of stress of FAOs. Particularly at high stress levels, support from family, friends and supervisors seemed to protect individuals from related psychological and physical morbidity perhaps by enhancing commitment to the task and thereby diminishing role conflict or confusion. Jones¹⁸ reports that significantly higher rates of short-term dysphoria occurred in those who sought much emotional support and/or those who perceived it to be inadequate.

In other contexts, social support has been found to have a protective effect against work stress. Cherniss⁹ lists inadequate supervision, lack of staff support and supervision as factors contributing to stress in human service settings.

Training and debriefing

Though there has been no controlled evaluation to date, numerous accounts testify to the value to helpers of training¹ and psychological debriefings.²³ Both may combat the negative consequences of disaster work, training by reducing helplessness and debriefings by facilitating cognitive and emotional processing of disaster experiences.

Organizational factors

Helpers' stress may relate to role issues, including level of involvement. Cherniss⁹ defines two sources

of role-related stress: role conflict and role ambiguity. The former occurs when demands exceed time available or effort expended, when incompatible demands are faced and when there is individual/organization conflict. Role ambiguity results from lack of information necessary for adequate performance of role.

Either may lead to role strain. Case overload, particularly of predominantly difficult clients, is known to cause stress in human service settings.²⁴

Degree of contact with primary disaster victims has been shown to be associated with helpers' response. Bartone *et al.*⁷ observed a 'dose response' effect, with workers' well-being diminishing and psychological and physical morbidity increasing as a function of higher exposure to bereaved individuals. A mild protective effect against illness was observed if workers were volunteers.

More adjustment may be required if the disaster work is greatly different to the helper's everyday tasks¹ and role conflicts are more likely if helpers have to maintain normal duties alongside their disaster involvement. Several authors²⁵ report inter-agency conflict as a significant source of stress for helpers, and in Berah *et al.*'s study⁶ this was the most stressful part of some workers' experience.

Within disaster support work, there may be a lack of clear and shared role definitions (eg time limits, professional boundaries, etc.) at a time of heightened need and demand. Raphael *et al.*'s study,⁵ the only one to compare support workers with other helpers, found no significant differences between rescue, medical and support personnel on any variables including impact on life function, anxiety, depression and sleep problems. However, depressed feelings were more likely to occur in offsite workers, who also suffered high levels of helplessness and frustration. Raphael believes depression to be triggered by the increased stress created when roles are diffuse, or specific but cannot be acted upon, leading to frustration. She also comments on conflicts between disaster work commitments and family or regular work, and exhaustion through overinvolvement, as other role stresses.

Therefore, helpers with diffuse roles (such as support personnel), high client contact and/or those maintaining ordinary jobs may be at particular risk from disaster-related stress.

CONCLUSION

There is clear evidence that a significant percentage of disaster workers of a variety of types experience

short-term stress, and that a small percentage are affected over longer periods of time. Descriptions of symptom patterns reveal a 'mirror effect' with the reactions of primary victims of disaster, but comparatively little is known about the moderating variables. These variables need further research if advances are to be made in the areas of selection, training, support, management and debriefing of disaster workers in the service of reducing job-related stress.

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