Ready! Fire! Aim! The Status of Psychological Debriefing and Therapeutic Interventions: In the Work Place and After Disasters

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Psychological debriefing (PD) is a brief, short-term intervention aimed at mitigating long-term distress and preventing the emergence of posttraumatic stress. In recent years, it has become a ubiquitous intervention, one which has evolved as almost prescriptive following harrowing events and grew through a practical need to offer assistance to those who are exposed to severe trauma. Despite disturbing data from the recent refereed literature of psychology, it is still referred to as the "standard of care" for disaster and crisis response and its use in many quarters continues. This article critically reviews the evidence for and against its use and outlines the weaknesses in the research. The emphasis of this review is on the appropriateness of debriefing in organizations. This article also proposes a set of hypothesized constructs that may, in part, be responsible for the paradoxical effects found in some outcome studies on debriefing. Guidelines are also proposed to help organizations and professionals react appropriately using evidence-based interventions.

Keywords: debriefing, CISD, early intervention, trauma, resilience

Psychological debriefing (PD) has become a widespread and expected intervention following exposure to trauma. Employers, aid organizations, and other authorities frequently default to orchestrating "debriefing" services, both to help mitigate the psychological consequences of these disruptions and to meet duty of care requirements under workplace health and safety laws. This article reviews currently available empirical data to assess the wisdom of providing such services using existing models of intervention and to offer hypotheses regarding the findings reported. We then recommend guidelines for organizational and clinical interven-tions that we suggest are more likely to meet standards of empirically supported practice. We finally discuss in some depth the implications of the "debriefing debates" for both academic and applied psychology.

Traumatic events are considered endemic in psychiatric populations (McFarlane, Bookless, & Air, 2001) and have been reported to increase the likelihood of psychological dysfunction (Brickman, Garrity, & Shaw, 2002; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). Those who develop posttraumatic stress disorder (PTSD) show high rates of comorbidity (Creamer, Burgess, & McFarlane, 2001) and have demonstrated higher utilization of health care services (Kessler et al., 1999). The lifetime prevalence rate for significant traumatic life events (e.g., rape, assault, natural disaster, witnessing murder, etc.) has been estimated at 60.7% for men and 51.2% for women with lifetime prevalence of PTSD (using *Diagnostic and Statistical Manuel of Mental Disorders–III–Revised* [*DSM–III–R*] criteria) estimated at 7.8%—clearly far below the rate of exposure

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(Kessler et al., 1995). Indeed, epidemiologic data following the terrorist attacks in New York City found probable PTSD in approximately 7.5% of those exposed (and 9.7% met criteria for current depression—i.e., within last 30 days), though that rate was more than doubled for those in greatest proximity (Galea et al, 2002). However, that the 7.5% incidence had resolved to 0.6% six months after the first wave of data collection (Galea et al, 2003) strongly suggests that exposure alone is insufficient to stimulate PTSD in a substantial majority of cases and that many early manifestations spontaneously resolve without orchestrated intervention.

The likelihood of PTSD appears moderated by such trauma-specific variables as personal involvement with the traumatic event; by event characteristics such as whether the event was of natural, technological, or volitional origin; and by both degree and proximity of one's exposure to the event and its sequelae. The likelihood of pathological outcomes has also been shown to be affected by person-specific factors such as socioeconomic status, coping styles, and both level and quality of perceived social support (Norris, Kaniasty, & Thompson, 1997). Current evidence is somewhat inconsistent regarding which coping styles (e.g., practical vs. emotional) may prove most advantageous at particular intervals following traumatization, although Norris (2001) has noted that minimizing (or distancing) the event appears to be adaptive while avoidant coping strategies and the assignment of blame have consistently been related to poorer outcomes.

Kessler et al. (1995) also noted that the rate of PTSD was higher among women (10.4%) than among men (5.0%) and was higher among the previously married. Australian data from a 12-month prevalence study (Creamer et al., 2001) have replicated the finding regarding marital status yet found a much smaller difference regarding gender. The Australian data also appeared to reflect a lower 12 month prevalence rate of PTSD overall (1.33%) than did reasonably contemporaneous U.S. data (3.9%; Kessler et al., 1999). Considering that the Australian data indicated a slightly higher incidence of traumatic exposure, this could be hypothesized to reflect more resilience toward manifestation of PTSD as a product of culture, life experience, or life expectations—or, perhaps more likely,

an artifact related to differences in methodological and diagnostic stringency that have consistently plagued studies in this arena.

PTSD is not, however, the only nor even the most likely pathological outcome associated with traumatic exposure. History of traumatic exposure has been indicated as a risk factor for depression (Zlotnick, Warshaw, Shea, & Keller, 1997) with one study (Lopez, Piffaut, & Seguin, 1992) reporting that 71% of raped women suffered from major depression while only about half that number (37.5%) developed chronic PTSD of 1–3 years duration. It has been estimated that at least 30–40% of those who experience a significant stressful event go on to develop some significantly distressing reactions by one year follow-up (Raphael, 1986), though standard rubrics with established indices of reliability and validity for assessing severity of the stressor and degree of resultant distress have also remained somewhat elusive.

Efforts to mitigate the consequences of traumatic exposure have commanded both colloquial and professional concern. PD services were argued to provide a simple and effective prophylactic for application immediately following virtually any traumatic event (e.g., Mitchell, 1983) and their use rapidly became a widespread practice. Employers, governments, and public policymakers rallied to calls for reasoned and humane support of those potentially affected. Most have depended solely upon those marketing these services for what information they may hold regarding advisability and utility and have been given neither clear nor unbiased direction as to the wisdom of providing such interventions (Kenardy, 2000). It is only quite recently that these consumers have been exposed to the controversies and questions simmering in the literature of academic research (cf. Kadet, 2002).

Early and consistent proclamations were made of intervention efficacy in preventing PTSD, and arguments were made that the practice was essentially devoid of iatrogenic risk and represented the only responsible avenue for a competent and compassionate response (cf. Mitchell, 1992). In marked contrast, reports emerging more recently from the refereed scientific literature of the psychological disciplines have increasingly suggested that preventative effects are limited at best (Bisson, McFarlane, & Rose, 2000; Raphael, 1999) and that the

practice should be approached with caution (Bledsoe, 2003) or be treated as contraindicated and curtailed (Mayou, Ehlers, & Hobbs, 2000; NATO, 2002; Parry, 2001; Rose, Wessely, & Bisson, 2001). Accordingly, those charged with marshalling assistance in the aftermath of potentially traumatizing events have found themselves in a cross-fire of data and assertions that can prove difficult for even a reasonably informed laity to decipher.

We attempt here to bring these current dilemmas into sharpened focus through evaluation of two recent reviews of the PD literature, which realized diametrically opposing conclusions. We attempt to explain these divergent results by providing a broadened and systematic review of both the literature related to the effectiveness of debriefing and of the social history of the debriefing movement. We then propose some hypotheses to explain the derived results and recommend preliminary guidelines for appropriate action by organizations and psychologists following traumatic events as the enterprise begins a long overdue shift from caveat emptor to evidence based practice.

Definitions

The area of trauma research has become fraught with domain-specific jargon that can be easily confused and is often misused by those outside the research arena. PD and "Critical Incident Stress Debriefing" (CISD), for example, are often used interchangeably. The former is best described as a generic term for a class of immediate interventions following trauma (usually within three days) that seeks to relieve stress with the goal of mediating or avoiding long term pathology. PD relies predominantly on ventilation/catharsis, normalization of distress, and psycho-education regarding presumed symptoms. CISD, on the other hand, is a proprietary PD variant originally articulated by Mitchell during the 1980s (Mitchell, 1983) through trade magazines, trade conferences, and proprietary seminars. It centers predominantly around group based interventions, though individual (or one-on-one) debriefings have always been advocated as an acceptable and expected variant and relies heavily on reconstruction of the traumatic event, ventilation, and normalization. It also includes a structured "teaching" component.

CISD advocates have more recently enveloped the debriefing component within an amalgam of other self-help activities. These additional components share a similar colloquial familiarity but, like debriefing, lack established empirical grounding. The revamped product, in which CISD remains the central and defining "signature intervention," has collectively been dubbed "Critical Incident Stress Management" (CISM; Everly & Mitchell, 1997). It has now become a frequent argument that the efficacy of debriefing applied within this context is somehow materially distinct from its efficacy as a singular intervention.

Devilly and Cotton (2003) have argued that CISD and CISM have yet to be sufficiently differentiated to represent distinct interventions (to wit, not mutually dependent upon one another), nor have they been contrasted to determine any differential efficacy. Other components of CISM stand similarly untested regarding efficacy in these applications, whether jointly or severally, and interaction effects have, therefore, not been evaluated. No reliable evidence has been encountered to demonstrate that such conjunction improves in any demonstrable way the efficacy of any component or mitigates the paradoxical impacts associated with the debriefing component (which we describe below). CISD proponents nonetheless claim that this scheme of interventions "mitigates the acute psychological distress associated with psychological crisis that may arise from violent acts, and . . . [will]. . . prevent or mitigate the intensity of adverse posttraumatic sequelae" (Everly, Flannery, & Mitchell, 2000, p. 23–24).

It also is important to differentiate prophylactic debriefing from early intervention for assessed pathological responses. PD usually involves wholesale provision of professional services, often through private debriefing companies, contracted employee assistance programs, or volunteer "CISD teams" and "peer providers," *immediately* following a traumatic event—often as a matter of organizational mandate. Early intervention, on the other hand, is the provision of what may be called "restorative treatment" to individuals who *request* psychological help following trauma and manifest *clinically significant* presentations (Devilly, 2002). Recent evidence appears to support use of early Cognitive Behavior Therapy (CBT) interventions for those diagnosed with Acute Stress

Disorder (ASD; Bryant, Harvey, Dang, Sackville, & Basten, 1998; Bryant, Sackville, Dang, Molds, & Guthrie, 1999; Foa, Hearst-Ikeda, & Perry, 1995), although the specificity of current diagnostic criteria and over reliance on dissociative symptoms within the classification has been questioned in subsequent research (Harvey & Bryant, 1998). Likewise, CBT for those who progress to develop PTSD is demonstrably efficacious, particularly techniques which promote the graded and progressive processing of information from the trauma and exposure to corrective information (e.g., Devilly & Spence, 1999; Foa et al., 1999; Foa, Rothbaum, Riggs, & Murdoch, 1991).

Analysis of Debriefing Review Studies

CISD Reviews

Everly, Flannery, and Mitchell (2000) offered a review of the literature related to PD with specific emphasis on CISD. The CISD model encompasses seven explicit phases. Since Everly and colleagues stressed the importance of strict fidelity to the CISD model as a determinant of its efficacy, it is relevant to briefly outline these stages: 1) the introductory phase (rules, process, and goals outlined); 2) the "fact" phase (recitation of what participants saw, did, and heard); 3) the "thoughts" phase (recounting of participants' first thoughts as awareness of the event and its magnitude developed); 4) the "reaction" phase (emotional reactions to the experience, sometimes labeled the "feelings" phase); 5) the "symptoms" phase (global assessment of physical or psychological symptoms based on participant disclosures); 6) the "teaching" phase (educating the participants about common, likely, or possible stress responses); 7) the "reentry" phase (referral information provided). CISD sessions generally last one to three hours, are usually delivered to groups of individuals (though "one-on-one" sessions have always been presented as an acceptable method of delivery), and are typically conducted within 24 to 72 hours after the event. The "process goal" of the intervention is declared to be "psychological closure subsequent to the crisis" (Everly et al., 2000, p. 26).

These authors argued that the inherent unpredictability of traumatic events renders controlled research difficult and that the need for immediate assistance has generally precluded traditional randomized controlled trials (RCTs). They also argued that assigning individuals to control groups could be seen as "withholding assistance" (Everly et al., 2000, p. 29), an argument that would seem to beg the very question efficacy studies are designed to address. They also contended that studies should require assessments relating to adherence of the tested intervention to CISD protocols in order to clarify any procedural anomalies that could, independent of the debriefing, be responsible for the derived results. With these caveats in place, Everly et al. (2000) contended that only robust empirical studies had been included, with emphasis placed on peer-reviewed articles and conference presentations. The authors then split their review first into studies with "comparison" groups and those with "no comparison groups," then into those yielding "positive" or "negative" outcomes.

Their published results have been summarized in Table 1. Of particular interest are those studies that purportedly used the CISD model, utilized a comparison group, had positive outcomes, and had been used as the basis for an earlier meta-analysis by Everly and Boyle (1997). Everly and Boyle's (1997) review expressly stated that only group debriefings explicitly employing the CISD model had been included in their analyses.

The authors reported an averaged Cohen's d effect size (Cohen, 1992) for each *treated group* that met these criteria and then averaged these effect sizes to obtain an averaged effect size for CISD interventions, which they reported to be $d = 0.86$. Since these investigations provided the entire basis for the Everly et al. (2000) and Everly and Boyle (1997) claims that CISD is an effective and advisable preventative intervention, a critical and detailed examination is warranted.

Table 2 summarizes the studies cited by Everly and Boyle (1997), and subsequently by Everly et al. (2000), as evidence for the efficacy of CISD; we have added comments relating to pertinent issues for each of the studies. Of the five studies cited, data from only three were available for evaluation, despite Everly et al.'s explicit stipulation that emphasis had been placed upon empirically robust studies reported through peer-reviewed journals and conferences. The studies by Wee, Mills, and Koehler

Table 1
Summary of Results From Everly et al. (2000)

Study type	Positive	Negative
Compared	Ersland et al. (1989)	McFarlane (1988)
	Yule (1992)	Deahl et al. (1994)
	Bohl (1991)	Kenardy et al. (1996)
	Wee et al. (1993)	Matthews (1998)
	Jenkins (1996)	Bisson et al. (1997)
	Nurmi (1997)	Hobbs et al. (1996)
	Chemtob (1997)	Lee et al. (1996)
Uncompared	Sloan (1988)	Creamer et al. (1989)
	Lanning & Fannin (1988)	Weisaeth (1989)
	Hytten & Hasle (1989)	Searle & Bisson (1992)
	Shapiro & Kunkler (1990)	Dyregrov et al. (1996)
	Feldman & Bell (1991)	Griffiths & Watts (1992)
	Smith & de Chesnay (1994)	
	Turner et al. (1993)	
	Robinson & Mitchell (1995)	
	Stallard & Law (1993)	

Note. Compared = has a comparison group; Uncompared = no comparison group within research design.

(1993) and Nurmi (1997) were conference presentations at consecutive conferences sponsored by Mitchell and Everly's CISD organization. The original presentations were not available from Dr. Everly (personal communication, October 3, 2001), although later articles by both of these authors were forwarded by Dr. Everly from the inaugural issue of the *International Journal of Emergency Mental Health*[1]. These articles are reviewed in place of those directly cited in the published Everly et al. analyses.

The citation for the Bohl (1991) article referenced a government document, which was also unavailable. It was eventually obtained with the assistance of the United States Federal Bureau of Investigation. That report did not present any actual data (means or standard deviations) and, hence, did not allow effect sizes to be computed. This research hailed from a doctoral dissertation, which could not be obtained from either the author or the sponsoring school. This left only two of the original articles to review, followed by two articles published later in outlets other than those actually cited in the Everly et al. review.

Jenkins (1996) assessed 36 emergency workers following a mass shooting. Repeated measures were taken at one week postevent and at one month follow-up, with the Symptom Checklist-90-Revised (SCL-90-R) being the predominant measure of psychological distress

($n = 29$). Of the 29 data sets available, 15 subjects had attended at least one group based CISD session. Jenkins concluded that those who received CISD were more likely to have reduced their anxiety and depressive symptoms.

Major methodological weaknesses limit the utility of this study. Pre-event SCL-90-R measures were obtained by asking participants to "remember how you were feeling a week before the shooting" (Jenkins, 1996, p. 481), with this measure obtained after participants had completed the SCL-90-R with respect to the week following the shooting. Such retrospective approaches introduce a clear and considerable potential for reconstructive memory bias, particularly among those most distressed (cf. Keuler & Safer, 2001) and may also reflect nonspecific

[1] The International Journal of Emergency Mental Health is a publication of Chevron Publishing Company of Ellicott City, MD, that was initiated in 1999 to "promote the growth of CISM." Chevron Publishing is a proprietary enterprise begun by principals of the International Critical Incident Stress Foundation (ICISF), the organization created by Mitchell and Everly. Chevron Publishing produces paperback manuals and books on CISD related topics, generally from ICISF principals and contract trainers and markets other CISD related titles and merchandise. Our purpose for drawing attention to this point is to provide a context within which to appraise the independence of the peer-review process that is usually associated with scientific journals and associated texts.

Table 2
Meta-analytic Summary of Everly and Boyle (1997) With Extra Comments Regarding Studies

Study	Population	Effect size	Comments
Bohl (1991)	Police personnel	.86	Non-random assignment, no pre-intervention measurement, effect size unjustified from study details (should be 0.77).
Wee et al. (1993)	Emergency medical techs.	.47	Unpublished & unavailable for evaluation.
Jenkins (1996)	Emergency workers	.93	Pre-intervention measures obtained by "memory', participants self-selected into conditions, no treatment integrity outline or adherence checks, heightened likelihood of type I errors, effect size unjustified from study details.
Nurmi (1997)	Emergency workers	.89	Unpublished & unavailable for evaluation.
Chemtob (1997)	Hurricane victims	1.37	Intervention was 6 months post-trauma, five hours of intervention, no control groups, no treatment adherence, not explicitly CISD model, effect size unjustified from study details (should be 0.68).

Note. Effect size = Cohen's *d* (convention: 0.2 = small, 0.5 = medium, 0.8 = large).

halo effects arising from visible displays of concern, presence, and promised assistance at times of high perceived need. Further, more than 45 correlation coefficients appear to have been calculated using 29 subjects, of which only two correlations——anxiety and depression (both $p < .05$)— proved significant. Since an alpha level of .05 allows that one in every 20 calculations may appear significant when no true relationship exists, two significant results within 45 analyses is precisely the value expected to occur at random. If the alpha level had been protected in these serial calculations, even these two would not have achieved significance.

Participants also self-selected participation in debriefing, raising a number of concerns with respect to internal validity. Neither the debriefing procedure applied nor the characteristics and training of the debriefers were outlined, raising additional questions regarding the nature of the intervention delivered. Given the stipulation that "only studies purporting to specifically assess the CISD model of group crisis intervention (Mitchell, 1983) were utilized, consistent with the narrative review and recommendations of Everly and Mitchell (1997)" (Everly & Boyle, 1997; p. 2), this lack of detail raises additional questions regarding objective and systematic application of exclusion criteria. A greater concern, however, arises from our inability to derive Everly and Boyle's estimated effect size of $d = 0.93$ from Jenkins' published data.

Chemtob, Thomas, Law, and Cremniter (1997) investigated the effect of a brief psychological intervention given to 43 Participants six months following a hurricane. They reported significant improvements over time for those who were treated. The approaches employed in this study, however, are difficult to reconcile with standard tenets of CISD as an immediate crisis intervention strategy. The intervention was provided much later than normal debriefing (six months rather than the recommended 24–72 hours), five hours of interaction was involved, and the seven stage CISD model of Mitchell and Everly (1997) was not followed— conditions that, again, should have excluded the study according to the stated criteria for the review. These major concerns not withstanding, application of Everly and Boyle's method of estimating effect size yields a Cohen's *d* of *between* 0.57 and 0.68 (depending on parameter estimates), approximately half the size ($d = 1.35$) reported by Everly and Boyle in their review (1997).

Wee, Mills, and Koehler (1999) reported a naturalistic study in which a convenience sample of emergency medical and fire personnel was sent a nonstandardized questionnaire concerning involvement with and reaction to a riot in Los Angeles following the acquittal of four police officers tried for the video-taped assault of Rodney King. Questionnaires were sent to medical agencies asking employees to complete and return the forms anonymously. Question-

naires sought information regarding physical and psychological stress, CISD participation, exposure to traumatic scenarios, and work performance during the riot.

Much critical detail regarding methods, instrumentation, and sampling cannot be deciphered from the published article. No information is provided regarding reliability or validity of the instruments. Demographics of respondents, as contrasted to the population of emergency service workers involved, in response to this event were not provided. The timing of subsequent mailings is unclear and does not appear to have been uniform; some participants were apparently solicited at three months following the riot with other respondents added up to a year later. Sixty-five participants returned questionnaires, of which 42 had attended CISD sessions up to two weeks following the riot. CISD therapist specifics were not described, except that they held from two to five years experience. Participants were said to have been self-selected, though CISD attendance was also said to have been designated as mandatory by various services.

Differences between the two groups showed a moderate effect size on their measure of stress, based on one-tailed significance testing. Given the absence of any a priori evidence predictive of a directional result in favor of CISD efficacy—and especially given the range of reported findings of neutral to paradoxical impact—two-tailed testing would have been more appropriate; had this been done, the results would not have achieved significance ($\propto$ = .05). This anomaly, coupled with the range of methodological flaws or omissions noted (e.g., self-selection bias, respondent bias, memory bias, therapist nonspecifics, no fidelity information, etc.) render the results essentially uninterpretable for the purpose of metaanalysis.

Nurmi (1999) used CISD to debrief firemen, rescue workers, and Disaster Victim Identification (DVI) teams following the sinking of the Estonia ferry. The author was one of the debriefers and administered a host of psychometrically sound questionnaires (e.g., Impact of Event Scale—Revised, Weiss & Marmat, 1997; Penn Inventory, Hammarberg, 1992; SCL-90-R, Derogatis, 1992). Timing of the administration for the questionnaires was not reported. The control group was comprised of nurses, all female, potentially representing a decidedly different sample. It is not clear from the article how, when, and from where this comparison group was recruited. Analyses were conducted between debriefed and nondebriefed groups (DVI, firemen, and rescuers vs. nurses) and significant differences between these two groups were reported, favoring those who had received debriefing. The lack of comparability between treatment and control conditions, along with other design flaws, again precludes any conclusions regarding the efficacy of debriefing.

Detailed review raises serious questions as to whether any of the studies from the Everly and Boyle (1997) meta-analysis met their own inclusion criteria for either of their reviews (Everly & Boyle, 1997, 2000). Analysis of the studies utilized also raises serious concerns regarding validity and applicability of these reports. As a consequence, the conclusions asserted by these authors must be considered unsubstantiated. This assessment is not ours alone, but has been independently reported by Bledsoe (2003); Fullerton, Ursano, Vance, and Wang (2000); Litz, Gray, Bryant, and Adler (2002); and van Emmerik, Kamphuis, Hulsbosch, and Emmelkamp (2002).

Cochrane Review of PD

Rose, Wessely, and Bisson (2004) conducted a meta-analytic review of the PD literature under the aegis of the Cochrane Collaboration, an extensive initiative to support evidence based practice. Their inclusion criteria limited studies to RCTs and operationalized debriefing as a single session intervention administered less than one month posttrauma that included "normalization" and "ventilation" components. Exclusion criteria included crisis intervention for psychiatric patients, treatment of PTSD, debriefing of research participants, support/ bereavement counseling, $N = 1$ studies, and interventions aimed at children. Of the 11 studies that satisfied these criteria, none were included in the Everly and Boyle (1997) review. It should be noted that Rose et al. (2004) did not restrict their review to CISD, but included all PD methods. A weakness of this evaluation is that, as a result of their stricter inclusion criteria, none of the included studies utilized group debriefing. Group debriefing is a method of intervention most commonly applied in disaster and organizational settings and, therefore, their con-

clusions are not necessarily generalizable to many debriefing situations. Cochrane and the scientific world await the first randomized controlled trial of group debriefing, a point we address later.

Studies included in the review predominantly found that debriefed participants were either no better off following debriefing or were deleteriously affected (see Table 3). Two studies (Bisson, Jenkins, Alexander, & Bannister, 1997; Hobbs, Mayou, Harrison, & Worlock, 1996) reported that those who were debriefed were more likely to develop PTSD than nondebriefed participants. Rose et al. (2001) concluded that compulsory debriefings should cease and that resources would be better utilized by focusing on those who go on to develop diagnosable psychiatric disorders.

One major obstacle in conducting research with traumatized populations is the difficulty of acquiring participants willing to enter the research and/or employers willing to allow the research, and this limitation is apparent throughout the studies included. These problems are compounded further when strict randomization is sought. Most participants were obtained either through the accident and emergency department within a hospital or through another hospital department. The only exception was Rose, Brewin, Andrews, and Kirk (1999), who contacted victims of violent crime via letter and requested their participation. These self-selected subjects may well have been more distressed and, hence, less likely (as demonstrated by Mayou et al., 2000, and described below) to benefit from *any* intervention. Accordingly, they may not represent the full range of variance in response types likely to be found in non self-selected populations following many types of traumatic events.

Such samples may not, in particular, prove representative of an organization's workforce following a major event and may not take into account the potentially quite larger pool of individual reactions likely to be encountered in such circumstances. Epedemiologic data discussed above (e.g., Galea et al., 2002) suggest that such groups may well be dominated by individuals who might show no long-lasting impact following the event if not debriefed, but whose recovery could stand inhibited by the potential paradoxical impacts of debriefing seen in multiple studies of individual applications.

The absence from this review of studies examining the most typical applications (i.e., workplace or common exposure groups) in the most typical settings (e.g., workplace trauma; disaster and mass casualty events) has left the question of differential impacts somewhat open, though the burden of demonstrating any such differential effect now clearly rests with debriefing proponents.

Studies Omitted From Both Reviews

Two major problems plague the conduct of literature reviews and particularly the calculation of meta-analytic representations of information in this arena. First, it is difficult to equilibrate the quality of the studies included. Quality control ("Q") statistics have been attempted by designating a study as high, medium, or low quality, based on various "gold standard" criteria (e.g., Foa & Meadows, 1998). The utility of such designations is generally compromised since the methodological rigor of a study tends to vary inversely with usual clinical practice. This often results in a technically excellent review, such as that by Rose et al. (2001), which does not include any applications of the dominant mode of delivery (to wit, group debriefing). This is not necessarily a fault of the review, but stems from the lack of appropriate studies to include. The alternative is to specify very lax criteria or criteria which seem to bend rather than break. This approach, however, results in a review that is both unreliable and nonspecific (as evidenced in the Everly et al. reviews). However, three recent RCTs have reported null effects following group debriefing, although two of these studies (Devilly & Annab, in press; Devilly, Varker, Hansen & Gist, in press) are analogue in nature, with the second study focusing on misinformation effects and not emotional outcome. In the first study, the researchers inspected the effect of providing group debriefing (CISD model) or "tea and coffee" following viewing of a very stressful video. Results indicated that while the participants rated the video as very distressing, there were no incremental positive effects from debriefing. The second study utilized a similar design, but had a confederate introduce subtle misinformation during the debriefing. It was found that this misinformation was incorporated into eyewitness testimony at one month follow-up and that,

Table 3
Meta-analytic Summary of Rose et al., (2004) With Extra Comments Regarding Studies

Study	Population	Comparisons	Findings - post & follow-up	Comments
Bunn & Clarke (1979)	Relatives of ill hospital patients	1). PD 2). Assessment only	Assessment taken within minutes of debriefing. Statistics uninterpretable.	Doubtful whether criterion A fulfilled.
Bordrow & Porritt (1979)	Road accident	1). Extended emotional & practical support 2). Minimal emotional support.	Statistics uninterpretable.	Unstandardised, 2–12 hours contact.
Hobbs et al. (1996)	Road accident	1). PD 2). Assessment only	IES: No significant difference between debriefed and non-debriefed at post-treatment and follow-up. Trend for less associated Sx for treated.	Fewer PTSD diagnoses in controls.
Lee et al. (1996)	Post miscarriage	1). PD 2). Assessment only	IES: No significant difference between debriefed and non-debriefed at post and follow-up.	
Hobbs & Adshead (1997)	Casualty attendees	1). PD 2). Assessment only	46% treated & 56% control had "any psychiatric disorder" by follow-up.	
Bisson et al. (1997)	Acute burns	1). PD 2). Assessment only	IES: No significant difference between debriefed and non-debriefed. But significant adverse effect on IES at 13 month follow-up for debriefed.	Fewer PTSD diagnoses in controls.
Lavender & Walkinshaw (1998)	Postnatal mothers (all primigravidas)	1). PD/counselling (midwife) 2). Assessment	PD group significantly better on Anxiety & Depression.	Listening, empathy, support, and an opportunity to ask questions about what had happened.
Conlon et al. (1999)	Road accident	1). PD & education 2). Assessed only	No difference between debriefed and non-debriefed at three month follow-up. Decrease in symptoms for both conditions over time.	No significant difference in PTSD diagnosis between conditions.
Rose et al. (1999)	Violent crime	1). PD & education 2). Education 3). Assessed only	All groups improved over time with no significant difference between them.	Participants interviewed in own homes and all self-selected to take part in research. At follow-up some participants receiving psychological treatment.
Small et al., (2000)	Postnatal mothers (operative intervention)	1). PD (midwife) 2). Given pamphlet	PD group significantly worse on emotional functioning (SF36) and non sig on most other measures. PD Ss predominantly more likely to suffer PND.	Measured mainly Depression. No PTSD measures.
Dolan et al., (in press)	Hospital trauma clinic (general trauma)	1). PD (Mitchell/Dyregrov) 2). Assessment	N/A	Unpublished.

Note. PD = Psychological Debriefing; IES = Impact of Event Scale; PTSD = Posttraumatic stress disorder; SF36 = Medical Outcome Study 36-item Short-Form Health Survey; PND = Postnatal Depression; Sx = Symptoms; Ss = Subjects.

overall, participants were more confident in their incorrect responses. As yet unpublished data from this study also found no positive effects on emotional state following the debriefing or at one month follow-up. In the third study (Litz et al., 2004) a RCT was conducted of group debriefing with another specific population—returned peacekeepers. Likewise, they found no discernable emotional effects from the debriefing in comparison to stress inoculation and no treatment. So, while a full organizational RCT of group debriefing has yet to be conducted, first signs tend to suggest that group debriefing may be a waste of resources. One study (Devilly & Annab, in press) even suggests that those who receive debriefing are more likely to report wanting to have spoken about their experiences directly after the event, while those who did not receive debriefing remembered *not* wanting to have spoken about the event they witnessed. Such a cognitive dissonance explanation of satisfaction rates may, however, have negative effects on one's perception of safety and danger, as explained later under the section of *priming and prepping*. Furthermore, in occupations where eye witness testimony is of importance (e.g., emergency services), use of group debriefing is of concern when delivered before evidence has been obtained as there is evidence that debriefing can taint recall when misinformation is introduced by one of the group members (Devilly et al., in press).

The second major problem in conducting meta-analyses comes as the converse of the first: Many studies are omitted from reviews and valuable information is lost. No study appears in both the meta-analyses discussed, though a quick look through the literature reveals many other studies (experimental, theoretical, or observational) into the utility of PD that did not meet criteria for either review or were simply overlooked in the searches (e.g., Andre, Lelord, Legeron, Reignier, & Delattre ,1997; Armstrong et al., 1998; Bierens de Haan, 1998; Brailey, Vasterling, & Sutker, 1998; Brom, Kleber, & Hofman, 1993; Carlier, Lamberts, van Uchlen, & Gersons, 1998; Creamer, Burgess, Buckingham, & Pattison, 1989; Cremniter et al., 1997; Deahl, Gillham, Thomas, Dearle, & Strinivasan, 1994; Doctor, Cutris, & Isaacs, 1994; Ford et al., 1993; Gist, Lubin, & Redburn, 1999; Hovens & Van de Weerd, 1998; Kenardy

et al., 1996; Matthews, 1998; Shalev, Peri, Rogel-Fuchs, Ursano, & Marlowe, 1998; Turner, Thompson, & Rosser, 1995; Viney, Clarke, Bunn, & Benjamin, 1985). Moreover, in any rapidly evolving research area, new information appears regularly, creating the need for ongoing assessments as the research lines expand (as is the practice with the Cochrane Reviews).

Mayou, Ehlers, and Hobbs (2000), for example, have reported a three year follow-up of the Hobbs et al. (1996) study regarding individually debriefed motor vehicle accident victims. Those who initially scored in the higher range on posttraumatic symptomatology were more likely to have maintained their pathological presentation at both four month and three year follow-up intervals if they received the debriefing intervention, while those who received no such intervention tended to exhibit resolution. The authors concluded that, while mandatory debriefing should cease, practical and immediate support to those who are distressed should not be denied. They suggested instead that intervention and support be tailored to individual needs and that follow-up treatment should use CBT interventions with demonstrated empirical efficacy (e.g., see Bryant et al., 1998). It should again be noted, though, that group debriefings were not employed in their research.

Further, the thrust of the sentiment delivered by the Rose et al. (2001) meta-analysis was emphasized again in a recent meta-analysis by van Emmerik et al. (2002). These authors likewise conducted a literature search to find studies that had used debriefing techniques within one month following a trauma, and where symptoms were assessed pre- and postdebriefing using psychometrically acceptable assessment instruments. Seven studies met their criteria, five of which used CISD as one intervention, six used no-intervention control conditions, and three used other PD-like interventions (i.e., "30 minute counseling," "education," and "historical group debriefing"). The results suggested that while people have a disposition to improve over time when they receive no intervention (on both measures of PTSD and other trauma related domains), neither CISD nor non-CISD based interventions made a significant difference in the outcomes reported. The authors noted, however, that although confidence intervals overlapped, the effect size was moderate for nonintervention and moderate to strong for

non-CISD interventions. The interval for CISD, unlike the other conditions, included zero and negative values, indicating no effect or a possible paradoxical impact on resolution. Put more directly, the provision of CISD would appear to inhibit or even reverse the normal inclination toward resilience and resolution while the provision of non-CISD interventions had no negative effect and may, at least to some degree, work to enhance normal patterns of recovery. For this reason, yet other authors have suggested that debriefing should cease as a practice (McNally, Bryant, & Ehlers, 2003). However, this does not mean that early intervention for a recognizable disorder (e.g., ASD) should be denied and neither does it mean that people are denied practical help and emotional support when they are self-requested, a point we shall return to later.

Possible Negative Impacts of Debriefing Modules

In order to look at what may be useful to organizational settings, it is necessary to first look at what may be harmful or counterproductive. Why should it be that in some studies those who were debriefed were more likely to develop PTSD? What parts of the debriefing process might be inhibiting to natural resolution? Which subsets of individuals may be most susceptible to paradoxical impacts? It is most important to question if we can remove these aspects and screen participants, yet still have an intervention with high satisfaction ratings and practical utility? Will it ultimately help to mitigate long term distress?

Most debriefing interventions have been modeled on the seven-phase CISD process described by Mitchell (1983; Mitchell & Everly, 2000). The first phase, consisting of process introductions, would appear relatively benign from a structural perspective, though complications may arise from representations respecting nature and expected efficacy of the intervention, failure to inform of foreseeable risks, and the like. Indeed, any failure to provide clear and complete information regarding current findings respecting limitations of efficacy and indicators of paradoxical inhibition of recovery—much less any representation to the contrary—would immediately raise major issues surrounding fully informed consent. Each of the central intervention phases to follow, however, presents one or more potential sources of difficulty and the interactions between them collectively enhance their possible impact.

Serial Revivification and Heightened Arousal

The "facts" phase and event reconstruction. Most debriefing protocols encourage specific reporting of what one saw and heard during the event, moving from there to articulation of what one was thinking and feeling—often specifically inquiring as to the worst moments and most intense emotions encountered. While the goal of this exercise is often described in terms of creating a calibrated perspective of the event, such reconstruction may serve to a) modify the eye witness memory of the event, as outlined above (Devilly et al., in press) and b) intensify already disturbing reactions by reconnecting the individual with the sources of discomfort well before sufficient distancing has been achieved. In such cases, this revivification is unlikely to serve its intended cathartic end and may be more likely to arrest than to accelerate the processes inherent in normal resolution.

Group applications of debriefing, rather than creating a shared picture of circumstances and events, may further compound these issues by exposing individuals struggling to keep their own arousal in check to additional, potentially even more vivid and arousing, constructions of the event and its images. Especially when the process is invoked within the frequently recommended 24–72 hour postimpact envelope, the potential for these paradoxical impacts may be heightened as one progresses from this element through the "thoughts" and "reactions" phases to follow. Given that Charlton and Thompson (1996) found only positive reappraisal and distancing to be coping strategies predictive of successful adaptation, this early insistence on reconstruction may well run counter to the very processes most likely to promote eventual resolution, problems that may be systematically compounded in the following two phases of the classic CISD rubric.

The "thoughts" phase and cognitive reappraisal. The "thoughts" phase of the traditional CISD model asks participants to articulate their first thoughts as the impact and magnitude of the traumatic event first came to their

awareness. While perhaps intended to establish a sort of cognitive baseline from which subsequent reappraisals could emerge, it may paradoxically serve to further solidify the negative elements of revivification associated with the narrative reconstruction of the "facts" phase.

This may again be compounded in group applications, where some people may not have been fully aware of the level of danger to which they were exposed. This postevent process could lead to a reappraisal of their memory of the event in a way that could increase subjective estimation of threat (e.g., "I thought the gun that the small guy carried was probably a fake – I didn't even realize that the second guy also had a gun, let alone that it was real"). Such reevaluation of a situation has been posited as central in the derivation of a fear response (Davey, 1993) and others have shown that such an increased subjective appraisal of danger correlates with pathologic outcomes (Solomon, Mikulincer, & Benbenishty, 1989; Stallard, Velleman, & Baldwin, 2000). This may be exacerbated in vulnerable individuals as these cognitions are again paired with arousal sensations as the process moves into the "feelings" or "reactions" phase.

The "reactions" phase and cathartic ventilation. In this phase of the CISD intervention, participants are asked to articulate their emotional responses to the event, often through queries such as "What was the worst part of the experience for you?" The serial progression from narrative reconstruction of events (the "facts" phase), through cognitive retrieval of proximal perceptions (the "thoughts" phase), to reconnection with the immediate emotional impact of the experience in the "reactions" phase presents an effective completion of the revivification, returning those who fully submit themselves to the process to subjective states that could well prove intolerably close to those states of terror, helplessness, and confusion from which distancing is most vital.

The process of revivification represented in these phases, delivered to people who might normally have gone on to process the information successfully if left unassisted, runs the risk of sensitizing such persons to the stimuli involved at a time when desensitization is vital to resolution. The processes of desensitization necessary to address pathological elements inherent in diagnosable PTSD require systematically graded exposure to defined stimuli and progressive habituation to those stimuli to extinguish the fear response and provide corrective information to challenge aberrantly held beliefs (Foa & Kozac, 1986). This clearly cannot be accomplished in a "one-off," ostensibly prophylactic group or individual encounter. Indeed, such short-term and short-lived exposure to memories of threat in people who may not currently have a pathological condition, but who present with pronounced subjective distress could quite conceivably run the risk of generalizing the memories and priming certain stimuli which are, or could become, triggers for consolidating the fear response (McNally et al., 1987). Regardless of any intent to "normalize" this condition of subjective arousal, those already struggling to regulate hyperarousal and intrusion may find these elements of the debriefing rubric to reinforce and exacerbate, rather than to mitigate and diminish, their subjective discomfort.

Priming and Prepping of Symptoms (Modeling Dysfunctionality)

The "symptoms" phase and attribution. While the rhetorical justification for this phase is to "normalize" whatever reactions may be felt, there is a subtle but possibly very profound difference to be drawn between discussing common manifestations of postimpact distress and priming people to consider these discomfitures as if pathological symptoms. Moreover, repeatedly labeling the event "traumatic" superimposes a set of attributions and expectations that might not otherwise occur. Such attributions may dispose vulnerable individuals to interpret the inescapable disequilibrium of disruptive life events as pathological anxiety, becoming, in effect, a self-fulfilling prophecy of despair.

Indeed, the very labeling of subjective experiences which are, in most cases, signs of inescapable disequilibrium as if they are "symptoms" of pathology may contribute to a "medicalization" of the experience—to wit, "I didn't think of myself as sick until you sent for a remedy" (Gist, 2002). Here again, the combined impact of one phase (in this case, the "symptoms" phase) with that of its succeeding phase (the "teaching" phase) holds even further potential to compound complications for vulnerable participants. There is even preliminary evidence

that providing trauma patients with pamphlets (education) regarding trauma responses does not help follow-up presentation and appears to have a paradoxical effect on depression and PTSD "caseness" (Turpin, Downs, & Mason, 2005).

The "teaching" phase and psychoeducation. Debriefing protocols generally include a "psychoeducation" element intended to provide modeling and information respecting adaptive approaches to addressing the trauma and its sequelae. However, these generally center on colloquialized discussions of PTSD. Debriefers typically attempt to accomplish this by distributing lists of problems (e.g., increased irritability, avoiding reminders of the trauma, disturbed sleep, intrusive memories of the event, etc.) which participants are told they may expect to experience and then provide suggestions, often simplistic at best, regarding coping strategies and approaches. A narrow focus on the core constructs of PTSD may lead one somewhat astray in dealing with disaster as a social experience (see Staab, Fullerton, & Ursano, 1999, for an alternative construction). Social comparison under threat, however, may prove a more salient construction for understanding both successful adaptation and paradoxical impacts.

Perceived threat lends a unique urgency to the search for affiliation and social comparison (Kulik, Mahler, & Moore, 1996), and these contacts follow particular patterns that underscore the need for specifically appropriate models (see also Taylor, 1983). The models preferred are those seen to be similarly situated, and especially those offering clear indications of having evolved and sustained successful adaptation to similar demands (Taylor & Lobel, 1989). These "upward contacts" are contrasted against other models, whether known or imagined, which are perceived to have fallen short of acceptable adaptation (dubbed "downward evaluations"). The more abrupt, unexpected, novel, or ambiguous the experience, though, the less likely that suitable models will be readily available to serve as effective upward contacts.

CISD approaches frequently prescribe utilization of "peer" debriefers, precisely to fulfill such a modeling role. These are often persons whose prior experience with traumatic exposures has encouraged their participation in this capacity. Those whose prior exposure to trauma has left them with unresolved issues for which vicarious rumination may be sought might well relish opportunities to enter settings where such reprocessing can be offered as if a therapeutic contribution to others. This can result in an unwitting dispatch of responders who serve as inadvertent downward evaluation targets when these factors demand instead a very specific type of upward contact to provide effective modeling and support—a type unlikely to be found in conjunction with persistent cathexis toward reprocessing those very events that should have been adequately distanced and reframed in the adaptive process.

Taylor (1991) presented a hypothesis regarding this seeming paradox of resolution, consistent in many ways with her earlier arguments regarding the role of "positive illusions" in mental health (Taylor & Brown, 1988). The essential premise would suggest that profoundly negative events require major mobilization of personal resources to respond effectively and to weather their impacts. But successful resolution demands subsequent minimization of the recalled impact of the event and of those very responses initially commanded. Those best adapted, and hence best suited, to provide *upward contact* modeling are, of course, most likely to be found among those seasoned through occupational experiences that have demanded prior resolution and accommodation. This is certainly consistent with the recurrent finding that experience is among the most robust protective factors mitigating postexposure symptomatology (McCarroll, Fullerton, Ursano, & Hermsen, 1996; McCarroll, Ursano, & Fullerton, 1993; McCarroll, Ursano, Fullerton, & Lundy, 1993; McCarroll, Ursano, Ventis, & Fullerton, 1993). If, however, the essence of successful accommodation entails minimization and its functional analogues (to wit, distancing and positive reappraisal), the most effective models would be expected to specifically *avoid* (rather than to proactively seek) visible interventionist roles. This would certainly stand consistent with Redburn's (1992) findings regarding a strong inverse relationship between experience and participation in debriefing exercises and may suggest another plausible hypothesis regarding the paradoxical findings respecting the objective efficacy of the intervention in occupational group settings (Gist, Lubin, & Redburn, 1998).

Given that Gump and Kulik (1997) found

that settings comprised of persons who share traumatic exposure contain demonstrable elements of social contagion, blanket application of an indiscriminate group process may stand particularly prone to stimulation of negative outcomes, especially when invoked before constructive coping strategies have had time to fully evolve in the affected individual or population. This may be paradoxically enhanced where models portray courses or styles of adaptation inconsistent with the coping predilections of recipients. Particularly within the field of teacher-student interactions, it has been noted that higher-status supervisor expectations influence lower-status subordinate performance in the direction of the expectation (see Kierein & Gold, 2000, for a review). Furthermore, self-fulfilling prophecies and self-verification appeared to occur simultaneously in a context where supervisors and subordinates apparently had highly valid information on which to base these initial expectations (Madon et al., 2001). Add to this the hypothesis that an overestimation of threat and fear expectation plays a causal role in the origins and maintenance of anxiety (Wiedemann, Pauli, & Dengler, 2001) and that, in people with panic disorder, the expectation of panic is associated with actual panic occurrence (Kenardy & Taylor, 1999), and the potential for selective misadventure again increases.

The "reentry" phase and appropriate referral. Appropriate referral may be operationally defined as the timely direction of clients in discernable need of intervention toward providers trained and competent in techniques with empirically demonstrated efficacy in resolving their presenting problems. For most issues associated with exposure to disasters and similar distressing events, this would entail referral of those demonstrating ongoing indications of core PTSD symptoms—most specifically arousal and intrusion symptoms persisting at 4–6 weeks postimpact (Brewin et al., 2002)—for short-series CBT variants employing exposure (see Litz et al., 2002, for overview of effective early interventions). Such referrals should also entail avoidance of ordinary supportive counseling techniques (cf. Bryant et al.,1998; Bryant et al., 1999), especially for manifestations of ASD. Various curricula taught to debriefers through the primary training organ of CISD (International Critical Incident Stress Foundation, 2003b) do not reflect these modalities, but

do reflect training opportunities in such marginal approaches as Thought Field Therapy (TFT) and similar "power therapy" techniques (see Lohr, Hooke, Gist & Tolin, 2003; Devilly, 2005, for an overview of TFT and other controversial trauma treatments). While no formal study of referrals emanating from CISD sessions can be found, nothing in the curricula examined would indicate that appropriate referral for evidence based intervention is taught, much less systematically monitored or evaluated.

Individual Factors Related to Differential Impact

Certain symptom presentations in the immediate postimpact period may dispose individuals toward differential impacts from debriefing interventions. Mayou et al. (2000) reported that those with high intrusion and avoidance symptoms as measured by the Impact of Events Scale (IES) at intake fared particularly poorly with debriefing, remaining symptomatic at three year follow-up, while those of similar presentation who did not receive the intervention displayed a proclivity toward resolution. A similar finding was reported in a dismantling study of CISD in which the seven-phase process with either the "feelings" (emotional ventilation) or the "teaching" (psychoeducation) phases omitted was compared to a nonintervention control group. Neither approach to debriefing proved efficacious at 24 weeks follow-up, though those with low hyperarousal showed a mild intermediate benefit from the educational debriefing (emotional ventilation component omitted), while those with two or more hyperarousal symptoms showed better resolution without either form of intervention (Sijbrandij, 2002).

Debriefers trained in CISD protocols are taught that those showing higher symptom levels are those most in need of participation. What comparative data have been reported, however, suggest strongly that these are instead the persons most likely to experience paradoxical outcomes. Indeed, while the intervention continues to appear inert overall, comparative and dismantling studies available suggest that what palliative impact it may hold is limited to those with the least subjective distress—to wit, what limited benefit it may offer accrues to those who

need it least, while those in most distress may be most inclined toward paradoxical impacts.

Broader Considerations Regarding Intervention

Perhaps the most salient cause for concern in all the interventionist zeal is captured in Gilbert and Silvera's (1996) concept of overhelping. They demonstrated that immediate and highly visible attempts to "help" a target individual with processes that the target would, in fact, have successfully executed without aid served to defeat perceptions of self-efficacy central both to personal and interpersonal assessments of mastery on the part of the target. These assessments of self-efficacy, however, may be crucial to successful adjustment (Major, Cozzarelli, Sciacchitano, Cooper, & Testa, 1990). Accordingly, given the consistent finding that most individuals confronted with disaster resolve its impacts with or without intervention (Cook & Bickman, 1990; Helzer, Robins, & McEvoy, 1987; McFarlane, 1988; Redburn, Gensheimer, & Gist, 1993; Rubonis & Bickman, 1991; Salzer & Bickman, 1999), the very essence of our current trend toward rapid, highly promoted, highly visible intervention may be, at its most basic level, counterproductive for those we most intend to aid.

Seeking Empirical Guidance

So what do we really know about debriefing and what should a responsible organization/practitioner do? The first step is to look at those areas where most parties seem to agree, seeking to find the threads of some general consensus from which to frame an informed and metered response with the best prospects for meaningful assistance.

Areas of Agreement

A. The first area of agreement appears, predictably, to be that agreement is lacking. While early proclamations regarding the effectiveness of the approach frequently asserted its purported "scientific" grounding (cf. Mitchell, 1983, κ1992; Mitchell & Everly, 1997), independent researchers have continued to note the weaknesses in the data proffered (see Gist et al., 1997; Gist, Woodall, & Magenheimer, 1999, for discussion). Indeed, at a North Atlantic Treaty Organization (NATO) – Russian workshop on terrorism, the general agreement was that "there is still no consensus on the role, if any, of very acute interventions. Classic CISD debriefing can no longer be recommended. The balance between getting people to talk to people, and getting people to talk to professionals, has not been established" (NATO, 2002). While it must be noted that proponents of this intervention, particularly those with direct interest in its proliferation, continue to dispute this position (cf. Mitchell, 2003), it is fair to say that the limitations of current data are widely acknowledged.

B. Debriefed parties generally seem to appreciate the gesture. Client satisfaction with the procedure has been widely reported as strong (e.g., Armstrong et al., 1998; Robinson & Mitchell, 1993). But more critical assessments of satisfaction data sometimes reveal an endorsement that is less than overwhelming. Bunch and Wilson (2002), in a fire service trade magazine, reported that "critical incident stress debriefing was considered to be helpful at some level by no less than 70% of Oklahoma City firefighter survey respondents" (p. 48). When those data were presented in tabular format, though, approximately three times as many were found to have rated the intervention "not helpful" as had rated it "very helpful" and more than two thirds had rated it below the midpoint of the four point Likert-type scale they had been presented (options of "very helpful," "helpful," "somewhat helpful," or "not helpful").

While expectancy for change in people diagnosed with psychiatric disorders and attending treatment is sometimes related to actual change (Devilly & Borkovec, 2000), high levels of satisfaction with debriefing have not necessarily been reflected in positive outcomes (e.g., Carlier, Voerman, & Gersons, 2000). Gist, Woodall, and Magenheimer (1999) compared this relationship to customer service surveys found in a neighborhood doughnut shop:

> One can determine very precisely that people (especially people who choose to come to such shops) tend to like doughnuts—that tells us, however, absolutely nothing about their nutritional worth. Many people like and even crave doughnuts for precisely those properties that render them nutritionally undesirable. We certainly wouldn't accept an argument that preferences of the palate translate into dietary superiority (p. 279)

Certain operationalizations of low satisfaction, such as having received no form of psychological intervention, could conceivably correlate to higher end state functioning, particularly given the finding that debriefing in some individuals has been less potent than the natural proclivities toward resilience and may, in fact, inhibit its progress (Gist & Devilly, 2002; van Emmerik et al., 2002). While it is generally agreed that traumatized individuals both expect and appreciate some form of visible aid, not all forms of help turn out to be equally helpful (Gist, Lubin, & Redburn, 1999). Indeed, there is some evidence that this "satisfaction" with debriefing may be nothing more than the manifestation of cognitive dissonance (Devilly & Annab, in press).

> C. It is generally agreed that most organizations earnestly desire to provide some kind of assistance to their employees or clients. It is also generally agreed that the reasons for this desire to intervene are broadly based and include the domains of social concern ("I don't want my employees to be hurt or sick, and I want to help"), legal concerns ("If I don't do something, I could be sued for negligence") and organizational considerations ("A healthy and satisfied workforce is a productive workforce"). It is, therefore, generally agreed that some kind of disaster response plan is useful to an organization, particularly considering workplace health and safety concerns and possible litigation (cf. Devilly &

Cotton, 2003). That plan, however, must reflect sound empirical information if it is to be maximally instructive and avoid deleterious, if unintended, side effects.

> D. Most researchers and clinicians would also agree that those who are distressed following a traumatic event should be denied neither practical nor emotional support, although the best method of delivering such support remains unclear. Everly et al. (2000) contended that CISD stood as the only proven immediate intervention modality but, as made clear in the above discussion, CISD is a method of very questionable utility, particularly with those most distressed (Mayou et al., 2000). Rose et al. (2001) recommended, given the absence of quality data regarding group debriefings and the possibly iatrogenic effects of individual debriefings, that resources should instead be focused on identifying and treating those who develop diagnosable disorders following trauma. These recommendations, however, fall short of the needs and requirements of organizations by failing to specify reasonable approaches to assistance or outline methods for their delivery. A more prudent approach for those arenas in which CISD found its strongest footing (response organizations and other corporate entities) may be to frame the assistance needed within broader organizational contexts, as opposed to these somewhat tangential quasi-clinical models of intervention that have failed to demonstrate utility or efficacy. Such an approach, coupled with peer-risk assessment training, is currently being trialed in the Royal Navy in the U.K. (Jones, Roberts, & Greenberg, 2003).

The Organizational Context

Evidence has been emerging in the work psychology and organizational behavior literature that the organizational context may exert a much stronger influence on outcomes related to employee well being than has hitherto been recognized. Hart, Wearing, and Heady (1994) found that organizational experiences (e.g., management practices, decision-making, career opportunities, clarity of roles, coworker rela-

tions, performance feedback, etc.) were more stressful for a nonclinical population of serving police officers than operational pressures unique to police work (including exposure to danger, threats, and attending the aftermath of incidents with fatalities). More recently, Hart and Cotton (2003) replicated this finding with another sample of police officers. They also found that a low level of positive affect (which they termed "morale") was a much stronger determinant of police withdrawal behaviors (e.g., stress-related absenteeism and intention to submit a stress-related workers compensation claim) than levels of overt psychological distress. With this in mind, it is very possible that operational pressures and stressful events may appear to be the triggers of traumatic reactions, when in fact they act purely as a vehicle with which to express more pervasive organizational dissatisfaction.

Work-related clinical and stress research has hitherto focused almost exclusively on negative workplace events and their impact on indices of negative emotional responses in the workplace (Hart & Cotton, 2003). Beaton and Murphy (1993), however, found that the impact of occupational "critical incidents" failed to contribute significantly to job satisfaction predictors in a large population of firefighter/paramedics and barely achieved significance among firefighter/EMTs, with more mundane (but also more pervasive) occupational strain factors such as compensation, supervision, and sleep deprivation emerging as the principal influences. Hart and Cotton (2003) similarly found that leadership behaviors (particularly relating to people management skills) and organizational climate (e.g., organizational structures and work team processes) were the strongest determinants of levels of positive affect, accounting for approximately 70% of the variance in levels of morale. These daily factors in organizational climate and leadership may provide a more significant set of foundations for organizational resilience (Gist & Woodall, 1999).

This line of research suggests that, at the organizational or work group level, employers should accord priority to workplace strategies that maintain employee morale and improve the quality of people management practices as opposed to implementation of routinized, quasi-clinical interventions implemented in staccato fashions following disruptive workplace events.

Organizational interventions must also be responsive to a distinctly different client—the organization and its management rather than the individual employees (whether taken jointly or severally)—holding objectives somewhat different and often distinct from the interests of the individual employee (e.g., work team integrity, maintenance of productivity, limitation of loss and liability). While these interests often overlap and frequently intersect, the routes for achieving them are commonly quite disparate.

There is gathering evidence that positive affective responses from employees contribute to increased discretionary performance (Borman & Motowildo, 1993), as well as reduced absenteeism (George, 1989, 1996). Workers' compensation costs have also been reported to be reduced where these positive affect impacts are achieved (Hart & Cotton, 2003). Field tests of applications' contrasting approaches based in organizational development against traditional CISD models have shown them strongly favored in career fire service organizations (Woodall, 1994; see also Gist & Woodall, 1995, 1999). These approaches seek to strengthen the organization's preparedness to deal with the demands of challenging workplace events, a strategy also receiving increasing attention in other corporate and organizational settings (Blythe, 2002).

Organizations seeking to provide meaningful assistance find themselves caught on the horns of a dilemma that their ordinary approaches to problem solving may be ill equipped to address. Recent cases, based on the prevailing practice of immediate debriefing, have prompted organizations to be concerned of litigation for *not* providing immediate intervention (e.g., Howell v. State Rail Authority of New South Wales, Australia[2]). Now, in light of increasing empirical evidence of inefficacy and paradoxical impacts, these same organizations are being warned that they could conceivably be sued for *providing* a noxious intervention that has been demonstrated to increase the risk of developing a pathological outcome for some employees (Bledsoe, 2002; Devilly & Cotton, 2003).

Indeed, in a landmark class action case in which a number of former military combatants

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[2] S6/1997 & 93400071 Geoffrey Clarence Howell v State Rail Authority of NSW.

sued the British Ministry of Defense for alleged failure to adequately foresee, prevent, diagnose, and treat psychological sequelae of traumatic exposure, the Court entered specific findings regarding the inefficacy of PD and the possibility of paradoxical outcomes indicated in empirical studies (PTSD Claimants v. Ministry of Defense). The Court also noted that, while the claimants had amended their cause of action to delete their original claims that failure to provide PD was negligent (due, the Court opined, to awareness that such a claim could not prevail given the clear evidence questioning the practice), the implications of the evidence regarding PD must be considered as probative across the range of similar interventions and approaches. It becomes critical at this juncture that well intended employers receive some more definitive guidance regarding appropriate measures they might take.

Considerations for Organizational Action

There are several avenues of theory and research that can lend both insight and direction to the emerging practice of organizational and community assistance in disaster, and which may help to frame and potentially resolve some of the dilemmas raised above. Their effective consideration, however, demands that we first retreat to the bedrock of our explanatory frames and consider disaster as a developmental challenge, rather than as a pathogenetic threat (cf. McCrae, 1984). A number of suggestions can be proffered that may serve to accomplish an organization's crisis management and employee support objectives while still reflecting empirically supported best practices.

Proactivity. Higher self-mastery and a sense of control within organizational settings tend to predict less negative affect when people are faced with stressful tasks (Hoffman, 2001). Increasing a sense of mastery is, of course, context specific. In emergency services organizations, for example, the implementation of consistent incident management systems has been suggested as more influential in mitigating incident stress than programs of psychological intervention (Gist, Lubin, & Redburn, 1999). Police officers involved in protracted body recovery and identification work showed no deleterious impacts where their activity was systematically and sensitively managed to yield a

sense of optimal performance under duress (Alexander & Wells, 1991); indeed, several domains showed actual improvement compared to preincident baseline values. In an uncontrolled study, even practiced general approaches to stress management were found to be effective in mitigating impact of a catastrophic occupational event involving an air ambulance mishap, while postincident CISD exercises showed no significant impact (Macnab, Russell, Lowe, & Gagnon, 1999).

Just as premorbid functioning has been a good predictor of longer term posttraumatic impact for individuals (McFarlane, 1988), the strength of an organization and its employees at the time of a crisis may well be the most salient predictor of its resilience in the aftermath (Gist & Woodall, 1995). The most basic elements of such a foundation may be detected less in measures directed toward crisis anticipation and abatement than in measures directed toward daily functioning and effectiveness. Employee Assistance Programs that are well integrated and well utilized to deal with the ongoing strains of both workplace and daily living provide a solid foundation from which postcrisis resilience can emerge and encourage a solid relationship between the organization, its employees and its providers of psychosocial assistance prior to the occurrence of a major disruptive event. These must be coupled, however, to other elements of business planning and human resource management if their intersection is to prove timely and effective at junctures characterized by stress and disruption.

Organizational and incident specificity. One frequently identified problem with debriefing interventions has been the attempt to apply a rigidly uniform approach to responses across an increasingly wide range of organizations, industries, settings, and events (Gist, 2002). Recent ICISF trade show marketing displays have advocated the training and approach for law enforcement agencies, fire and EMS providers, airlines, EAPs, clergy, schools, and social service providers, with courses offered on their website including applications targeted toward corporations, hospitals, children, and families. Yet the generalizability of the approach, even across its originally intended public safety targets, has been found lacking in direct examinations (Gist & Woodall, 1999; Woodall, 1994). Variability between organizational missions,

cultures, expectations, structures, and communication patterns, as well as the interaction of these with incident, employee, and work group characteristics all demand careful tailoring of approaches to fit the circumstances actually encountered.

Organizational preplanning. While the exact nature, location, or timing of workplace crises cannot be reliably predicted, most organizations can reasonably anticipate that such events will at times occur. The development, documentation, and rehearsal of effective crisis management plans helps ensure that the organization will be reasonably prepared to respond in a measured, timely, and effective way to assert control of circumstances and implement necessary measures to ensure the safety and support of its affected staff.

Successful responses will generally deal with practical and instrumental needs of affected employees, provide structure and continuity, validate concerns and provide a sense of presence and care, and take measures to ensure that any in need of specialized attention are recognized and receive timely referral to appropriate avenues of effective intervention. Such plans concentrate on crisis communication, information flow, business continuation, and similar matters of concern to both the organization and its employees (see Blythe, 2002, for one set of suggested templates). Further, and in light of a company's nondelegable duty of care and its potential vulnerability to claims based on negligent failure to plan, its policy should be regularly revised in consultation with a recognized expert in crisis planning and response and should reflect changing evidence from the empirical literature.

Immediate instrumental support. Recommendations regarding immediate efforts at assistance have become much more understated, practical, and nonintrusive. These interventions focus instead on instrumental support through existing (i.e., nonclinical, nonpsychological) programs and relationships and emphasize natural avenues of social support and resilience in the immediate aftermath period (cf. Bledsoe, 2003; Gist, 2002; NATO, 2002; Ritchie, 2001). These again require close integration into the overall schemata of corporate and organizational responses and will many times be better mediated by familiar, visible corporate representatives dealing with tangible needs who

communicate a genuine concern for concomitant emotional impacts.

While validation of experiences and demonstration of concern has been shown to increase morale (e.g., Hart & Cotton, 2003), it is also important to be careful of "terminology slippage" and the creation of a trauma myth where, for example, the issue of concern to the employees in a workplace was organizational in nature, such as the dismissal of a unit manager or similar events of less than crisis magnitudes (Devilly & Cotton, 2003). In the past, encouraged by the expansive claims of debriefing proponents regarding the benefits of such intervention, sessions have been orchestrated to address everything from executive misconduct to loss of library books (Kadet, 2002). Such applications are unlikely to impact the actual sources of any disaffection, but, rather, open the organization to claims of injury by providing an intervention widely claimed to address traumatic sequella of injurious exposures. The employer has then, by providing or endorsing such intervention, effectively stipulated that a workplace event has occurred from which psychiatric morbidity can reasonably be foreseen as one possible outcome. Unfortunately, the intervention proffered has shown no efficacy in preventing such impacts and some potential to retard their normal resolution. Rather than representing a protective measure respecting organizational liability, it becomes instead a recipe for claims and litigation.

Service integration. Most crisis intervention plans have focused on establishing help delivery systems for exporting more or less traditionally conceived intervention objectives through relocated and repackaged intervention mechanisms. However, it is likely to prove far more productive to focus instead on the help seeking patterns of affected persons and groups, endeavoring to enhance the capacity of established relationships and to extend and expand their impact to address psychological and social welfare needs borne of the crisis experience (Yates, Axom, Bickman, & Howe, 1989; Yates, Axom, & Tiedeman, 1999).

Most people, for example, first crave solid, reliable information following a traumatic event—questions such as "What exactly happened? Who has been affected? How badly? What is being done? What will happen tomorrow?" all require accurate, reliable answers

from recognizable resources who can win and maintain trust. From the perspective of the client organization (as well as from that of the employee), this is much more effective if branded to the structure and culture of the organization itself. Such information should be made available as soon as possible and through an ordered and official process. At a community level, this is frequently achieved through a toll-free "hotline" service, providing details, practical information, and support as information comes to light; at an organizational level, this would require regular and official meetings with the staff, designated organizational spokespersons and contacts, and other pertinent vehicles of communication. This can, of course, include referral options for practical or emotional support.

Practical instrumental aid. Practical considerations may include facilitating family support and the provision of facilities which ensure that people have access to needed services to promote physical safety, health care, sanitation, and, of course, food and comfort. In addition to the necessity of such sustenance, the gestures implicit in these acts can be seen as increasing both received and perceived social support and as maintaining social embeddedness, factors associated with improved long-term outcome (Kaniasty & Norris, 1993; Kaniasty, Norris, & Murrell, 1990; Norris, 2001). They also serve to provide a foundation for an enhanced sense of connectedness and commitment between organization and employee as the crisis progresses toward resolution.

Establishing contacts and relationships. The first defined response objective, rather than prophylactic intervention, might be *more productively* conceived as establishing contacts and initiating relationships that can later serve to enhance perceptions of familiarity and access to services as ongoing recovery issues emerge. When practical, instrumental activities, such as those outlined above, are facilitated or assisted by representatives of those organizational components or adjuncts that are likely to be accessed at future junctures, the threshold for initiating later contact is likely to be lowered somewhat through such prior familiarity. In other words, in order to receive support, people will seek out those they are already familiar with and will do so with fewer reservations. Since most recovery issues emerge well beyond

the 24–72 hour window commonly associated with debriefing exercises, such contacts and relationships are likely to prove more significant in facilitating longer term outcomes than brief, intensive early contacts with providers of services directed toward needs not yet fully realized as necessary or salient.

Resiliency focus. Sound organizational consultation and assistance generally works more effectively when it enlists established organizational structures and agents to promote resilience in both individuals and the organizational culture. Resilience is the natural human process of positive adaptation in the face of adversity, trauma, tragedy, or stress. Individuals cope with trauma in varying ways and with varying degrees of success, but perhaps the most consistent finding in disaster research is that the vast majority of individuals recover from a traumatic experience without experiencing significant psychopathology (cf. Cook & Bickman, 1990; Rubonis & Bickman, 1991; Salzer & Bickman, 1999).

It has been suggested that the lack of efficacy of PD might be explained at least in part by its interference with the natural processing of a traumatic event, and by inadvertently leading victims to circumvent the support of family, friends, or other sources of social support—a primary factor in resilience—in favor of a misguided notion that professional help is more apt to aid their resolution (van Emmerik et al., 2002). Rather than importing an intervention structure to be imposed upon the organization and circumstance, competent organizational adjuncts may function as agents and extenders of the established organizational structure, both formal and informal, to empower its effective address of employee and organizational needs.

Early assessment and referral. While identification of those in need of referral is an often stated objective of debriefing, such early attempts at predicting morbidity have proven neither sensitive nor specific. However, there is emerging evidence relating to treatment for those who go on to develop pathological reactions, such as ASD. For example, about 80% of those who have ASD progress on to develop PTSD at 6 months (75% at two years) if they are left untreated, although it should also be noted that 70% of "subclinical" ASD (i.e., those that did not meet all the dissociative criteria) had

PTSD at two year follow-up (Bryant & Harvey, 2000).

The currently most replicated treatment result is that CBT treatments (particularly those involving exposure to corrective information) evidence the best gains, with around 8% (at post treatment) and 17% (at 6 month follow-up) meeting criteria for PTSD (Bryant et al., 1998, 1999; Foa et al., 1995). Therefore, once someone has been identified who a few days to four weeks later is still experiencing inordinate distress due to the event, care should be taken to provide a tiered structure that involves these individuals in more structured, individual and individualized treatment.

However, yet further research into more specific assessment approaches applied at about four to six weeks postimpact (when reactions tend to stabilize) is now showing promising results (Brewin et al., 2002). These approaches allow those at increased risk to be identified without extensive or intrusive testing, but still with reasonably high levels of specificity and sensitivity, through simple inquiries scored by rote tally of affirmative responses. Such approaches can be delivered many ways with the objective of directing those at demonstrably heightened risk toward competent and effective assistance.

Reasonably strong evidence is accumulating regarding treatments of choice for the minority who will ultimately require focused professional intervention, as are reliable indicators regarding timelines for such intervention. Best evidence supports short course CBT (between five and nine sessions, depending upon diagnostic presentation) using graded exposure, commencing two to six weeks after exposure (see Litz et al., 2002, for an overview). This requires advanced training and credentialing, but is widely available among legitimate psychological providers.

Stepped care.   Most responsible system planners are now exploring strategies based on stepped care—approaches in which graded levels of assistance are made available based on ongoing assessments of individual and collective needs (cf. Bisson, 2001). These generally hinge on effectively addressing issues such as *accessibility*, *affordability*, and *applicability* of assistance with respect to the divergent needs of particular individuals and groups. Uniformity of treatment protocol ultimately proves contrary to

treatment efficacy and is avoided in favor of improved assessment and carefully targeted assistance. This requires ongoing monitoring of issues and impediments and ongoing organizational attention to the resolution process over time.

Ongoing accessible support.   Resolution is an ongoing process that takes place over months and even years, rather than hours, days, or weeks. Once again, intensive early intervention that dissipates and disappears just as recovery is beginning cannot effectively address the ripening of concerns that occurs across the course of resolution (Gist & Lubin, 1999). One promising innovation has been the beta testing of a resiliency focused website providing a wide range of information, empirically supported self-help strategies, referral contacts, and such for use by corporate employees following workplace crises (Crisis Management International, 2003). The site is branded when accessed to the organization contracting for consultation and assistance, and, if available and indicated, to its contracted EAP. Availability is designed to continue for one year, with specified periodic follow-up contacts for those providing specific consent. Mechanisms are provided for employees to track their own resolution over time, with local referral information available whenever indicated or desired.

Moving Forward

The broader challenge emerging from these debates and investigations centers most around the peculiarly daunting task of refocusing and redirecting the energy of a charismatic social movement toward this somewhat more circumspect view of how best to assist. While the serious literature of psychology and related disciplines has yielded strong warnings regarding traditional debriefing practices and a range of indications regarding more viable and effective alternatives, information flowing to the purveyors and consumers of debriefing has been almost solely in the domain and control of intervention proponents. The result has been conflicting bodies of information, one presenting objective, refereed, independent assessments of measured efficacy and the other dominated by a social movement attempting to argue those accumulating data away. The fact that such an intense discrepancy not only continues, but has

indeed intensified over time is a discomfiting indicator of a schism between research and practice that grows progressively more troubling.

If, as is often asserted, academic psychologists become detached from the realities of application and practice, it also seems evident that many practitioners have become progressively more estranged from the empirical underpinnings of their discipline. This would be serious enough in itself, were it not for an emerging caste of nouveau trauma responders who, ever more pointedly, eschew empirical analysis with the assumption that "clinical intuition" is not only sufficient evidence, but is indeed somehow superior (Gist, Woodall, & Magenheimer, 1999). As a consequence, many risk mistaking appreciation of responsiveness for efficacy of response, misapprehending the nonspecific impact of a concerned presence as if some specific impact of a routinized process, and confusing the illusory correlation between early activity and subsequent natural recovery with a quantitative indication of effect. These foibles become all the more difficult to discern when repetition of "accepted practice" supercedes the cautious and objective reporting of controlled research in the information venues most directly accessed by providers and consumers.

Reconciliation becomes all the more difficult where the majority of adherents fall outside even the progressively eroding boundaries of regulated psychological practice. Mental health professionals are defined by CISD prescripts as essentially anyone with a master's degree in even a remotely related field (Mitchell, 1983 et seq.), and the process is, in many settings, dominated by "peer" providers with no more preparation than attendance at a few days of proprietary workshops at which no mechanisms or standards for evaluating competence or performance are advocated, much less applied.

Neither researchers nor practitioners can escape accountability by displacing blame to the other. We share, at the end of the day, a collective responsibility to ensure that what assistance we offer indeed translates to meaningful, measurable help for those who avail themselves of our ministrations; at the very least, we share a moral obligation that first, we shall do no harm. Our intentions are surely quite honorable and our efforts strong and sincere, but it is the outcomes that ultimately matter and it is those outcomes that must therefore be subjected to our strongest empirical scrutiny.

Objective empirical analysis remains our best, if not our only, hope to hear the murmuring of Nature amid the din and clamor of our own interests, motives, expectations, and needs. The entire scientist-practitioner archetype is constructed on a fundamental belief that our knowledge is always imperfect and our techniques perpetually evolve. It is that essential premise which drives the evolution of empirically based practice, one in which research informs practice and application refines theory.

Caveat emptor — "Let the buyer beware"— may be a defensible tenet when selling used cars or real estate, but the purveyor of professional services, whose authority in the eyes of a trusting laity is couched in the presumption of scientific rigor and responsibility, must hold himself or herself to a much higher standard. Should that fail, the profession in aggregate must step forward to ensure that its integrity is maintained. Distressingly, however, this has yet to happen with respect to the debriefing debates.

References

Alexander, D. A., & Wells, A. (1991). Reactions of police officers to body-handling after a major disaster: A before-and-after comparison. *British Journal of Psychiatry, 159,* 547–555.

Andre, C., Lelord, F., Legeron, P., Reignier, A., & Delattre, A. (1997). Effectiveness of early intervention on 132 bus drivers' victims of aggressions: A controlled study. *Encephale, 23,* 65–71.

Armstrong, K., Zatzick, D., Metzler, T., Weiss, D. S., Marmar, C. R., Garma, S., et al. (1998). Debriefing of American Red Cross personnel: Pilot study on participants' evaluations and case examples from the 1994 Los Angeles earthquake relief operation. *Social Work in Health Care, 27,* 33–50.

Beaton, R., & Murphy, S. (1993). Sources of occupational stress among firefighter/EMTs and firefighter/paramedics and correlations with job-related outcomes. *Prehospital and Disaster Medicine, 8,* 140–150.

Bierens de Haan, B. (1998). Emotional group debriefing of humanitarian aid workers: The experience of ICRC. *Schweizer Archiv fuer Neurologie und Psychiatrie, 149,* 218–228.

Bisson, J., Jenkins, P., Alexander, J., & Bannister, C. (1997). Randomised controlled trial of psychological debriefing for victims of acute burn trauma. *British Journal of Psychiatry, 171,* 78–81.

Bisson, J. I., McFarlane, A. C., & Rose, S. (2000). Psychological debriefing. In E. B. Foa, T. M. Keane, & M. J. Freidman (Eds.), *Effective treatments for PTSD (pp. 39–59).* New York: Guilford Press.

Bledsoe, B. E. (2002). CISM: Possible liability for EMS services? *Best Practices in Emergency Medical Services, 5,* 66–67.

Bledsoe, B. E. (2003). Critical Incident Stress Management (CISM): Benefit or risk for emergency services? *Prehospital Emergency Care, 7,* 272–279.

Blythe, B. T. (2002). *Blindsided: A manager's guide to catastrophic incidents in the workplace.* New York: Portfolio.

Bohl, N. (1991). The effectiveness of brief psychological interventions in police officers after critical incidents. In J. Reese, J. Horne, & C. Dunning (Eds.), *Critical incidents in policing* (pp. 31–88). Washington, DC: U.S. Government Printing Office.

Bordrow, S., & Porritt, D. (1979). An experimental evaluation of crisis intervention. *Social Science and Medicine, 13,* 251–256.

Borman, W. C., & Motowidlo, S. J. (1993). Expanding the criterion domain to include elements of contextual performance. In N. Schmitt, W. C. Borman, & Associates (Eds.), *Personnel selection in organisations* (pp. 25–38). San Francisco: Jossey-Bass.

Brailey, K., Vasterling, J. J., & Sutker, P. B. (1998). Psychological aftermath of participation in the Persian Gulf War. In A. Lundberg (Ed.), *The environment and mental health: A guide for clinicians.* Mahwah, NJ: Erlbaum.

Brewin, C. R., Rose, S., Andrews, B., Green, J., Tata, P., McEvedy, C., et al. (2002). A brief screening instrument for post-traumatic stress disorder. *British Journal of Psychiatry, 181,* 158–162.

Brickman, A. L., Garrity, C. P., & Shaw, J. A. (2002). Risk factors for psychosocial dysfunction among enrollees in the state children's health insurance program. *Psychiatric Services, 53,* 614–619.

Brom, D., Kleber, R. J., & Hofman, M. C. (1993). Victims of traffic accidents: Incidence and prevention of post-traumatic stress disorder. *Journal of Clinical Psychology, 49,* 131–140.

Bryant, R. A., & Harvey, A. G. (2000). *Acute Stress Disorder.* Washington DC: American Psychological Association.

Bryant, R. A., Harvey, A. G., Dang, S. T., Sackville, T., & Basten, C. (1998). Treatment of acute stress disorder: A comparison of cognitive-behavioral therapy and supportive counseling. *Journal of Consulting and Clinical Psychology, 66,* 862–866.

Bryant, R. A., Sackville, T., Dang, S. T., Moulds, M., & Guthrie, R. (1999). Treating acute stress disor-

der: An evaluation of cognitive behavior therapy and supportive counseling techniques. *American Journal of Psychiatry, 156,* 1780–1786.

Bunch, K. P., & Wilson, T. G. (2002). Counselors on call. *Fire Chief, 46.*

Carlier, I. V. E., Lamberts, R. G., van Uchlen, A. J., & Gersons, B. P. R. (1998). Disaster related post-traumatic stress in police officers: A field study of the impact of debriefing. *Stress Medicine, 14,* 143–148.

Carlier, I. V. E., Voerman, A. E., & Gersons, B. P. R. (2000). The influence of occupational debriefing on post-traumatic stress symptomatology in traumatized police officers. *British Journal of Medical Psychology, 73,* 87–98.

Charlton, P. F. C., & Thompson, J. A. (1996). Ways of coping with psychological distress after trauma. *British Journal of Clinical Psychology, 35,* 517–530.

Chemtob, C. M., Thomas, S., Law, W., & Cremniter, D. (1997). Postdisaster psychosocial intervention: A field study of the impact of debriefing on psychological distress. *American Journal of Psychiatry, 154,* 415–417.

Cohen, J. (1992). A power primer. *Psychological Bulletin, 112,* 155–159.

Conlon, L., Fahy, T., & Conroy, R. (1999). PTSD in ambulant RTA victims: Prevalence, predictors and a randomised controlled trial of psychological debriefing in prophylaxis. *Journal of Psychosomatic Research, 46,* 37–44.

Cook, J. D., & Bickman, L. (1990). Social support and psychological symptomatology following a natural disaster. *Journal of Traumatic Stress, 3,* 541–556.

Creamer, M., Burgess, P., Buckingham, W., & Pattison, P. (1989). *The psychosocial aftermath of the Queen Street shootings.* Melbourne: University of Melbourne, Department of Psychology.

Creamer, M., Burgess, P., & McFarlane, A. C. (2001). Post Traumatic Stress Disorder: Findings from the Australian National Survey of Mental Health and Well-being. *Psychological Medicine, 31,* 1237–1247.

Cremniter, D., Crocq, L., Louville, P., Batista, G., Grande, C., Lambert, Y., et al. (1997). Posttraumatic reactions of hostages after an aircraft hijacking. *Journal of Nervous and Mental Disease, 185,* 344–346.

Crisis Management International. (2003). *"Bouncing Back" website prototype.* Retrieved on November 11, 2006 from http://www.bouncing-back.com

Davey, G. C. L. (1993). Trauma revaluation, conditioning, and anxiety disorders. *Behaviour Change, 10,* 131–140.

Deahl, M. P., Gillham, A. B., Thomas, J., Dearle, M. M., & Strinivasan, M. (1994). Psychological sequelae following the Gulf war: Factors associ-

ated with subsequent morbidity and the effectiveness of psychological debriefing. *British Journal of Psychiatry, 165,* 60–65.

Derogatis, L. R. (1992). *SCL-90: Administration, scoring and procedures manual-II.* Baltimore: Clinical Psychometric Research.

Devilly, G. J. (2002). Clinical intervention, supportive counseling and therapeutic methods: A clarification and direction for restorative treatment. *International Review of Victimology, 9,* 1–14.

Devilly, G. J. (2005). The power therapies and possible threats to the science of psychology & psychiatry. *Australian & New Zealand Journal of Psychiatry, 39,* 437–445.

Devilly, G. J. & Annab, R. (in press). A randomised controlled trial of group debriefing. *Journal of Behavior Therapy & Experimental Psychiatry.*

Devilly, G. J., & Borkovec, T. D. (2000). Psychometric properties of The Credibility/Expectancy Questionnaire. *Journal of Behavior Therapy and Experimental Psychiatry, 31,* 73–86.

Devilly, G. J., & Cotton, P. (2003). Psychological debriefing and the workplace: Defining a concept, controversies and guidelines for intervention. *Australian Psychologist, 38,* 144–150.

Devilly, G. J., & Spence, S. H. (1999). The relative efficacy and treatment distress of EMDR and a cognitive behavior Trauma Treatment Protocol in the amelioration of Posttraumatic Stress Disorder. *Journal of Anxiety Disorders, 13,* 131–157.

Devilly, G. J., Varker, T., Hansen, K., & Gist, R. (in press). An analogue study of the effects of psychological debriefing on eyewitness memory. *Behaviour Research & Therapy.*

Doctor, R. S., Cutris, D., & Isaacs, G. (1994). Psychiatric morbidity in policemen and the effect of brief psychotherapeutic intervention: A pilot study. *Stress Medicine, 10,* 151–157.

Everly, G. S., & Boyle, S. (1997). *A meta-analysis of the Critical Incident Stress Debriefing (CISD).* Paper presented at the Fourth World Congress on Stress, Trauma and Coping in the Emergency Services Professions, Baltimore, MD.

Everly, G. S., Flannery, R. B., & Mitchell, J. T. (2000). Critical incident stress management (CISM): A review of the literature. *Aggression and Violent Behavior, 5,* 23–40.

Everly, G. S., & Mitchell, J. T. (1997). *Critical Incident Stress Management (CISM): A new era and standard of care in crisis intervention.* Ellicott City, MD: Chevron.

Foa, E. B., Dancu, C. V., Hembree, E., Jaycox, L. H., Meadows, E. A., & Street, G. P. (1999). The efficacy of Exposure Therapy, Stress Inoculation Training and their combination in ameliorating PTSD for female victims of assault. *Journal of Consulting and Clinical Psychology, 67,* 194–200.

Foa, E. B., Hearst-Ikeda, D., & Perry, K. J. (1995). Evaluation of a brief cognitive-behavioral program for the prevention of chronic PTSD in recent assault victims. *Journal of Consulting and Clinical Psychology, 63,* 948–955.

Foa, E. B., & Kozac, M. J. (1986). Emotional processing of fear: Exposure to corrective information. *Psychological Bulletin, 99,* 20–35.

Foa, E. B., & Meadows, E. A. (1998). Psychosocial treatments for Posttraumatic Stress Disorder: A critical review. *Annual Review of Psychology, 48,* 449–480.

Foa, E. B., Rothbaum, B. O., Riggs, D. S., & Murdoch, T. B. (1991). Treatment of Posttraumatic Stress Disorder in rape victims: A comparison between cognitive-behavioral procedures and counseling. *Journal of Consulting and Clinical Psychology, 59*(5), 715–723.

Ford, J. D., Shaw, D., Sennhauser, S., Greaves, D., Thacker, B., Chandler, P., et al. (1993). Psychosocial debriefing after operation desert storm: Marital and family assessment and intervention. *Journal of Social Issues, 49,* 73–102.

Fullerton, C. S., Ursano, R. J., Vance, K., & Wang, L. (2000). Debriefing following trauma. *Psychiatric Quarterly, 71,* 259–276.

Galea, S., Ahern, J., Resnick, H., Kilpatrick, D., Bucuvalas, M., Gold, J., et al. (2002). Psychological sequelae of the September 11 terrorist attacks in New York City. *New England Journal of Medicine, 346,* 982–987.

George, J. M. (1989). Mood and absence. *Journal of Applied Psychology, 74,* 317–324.

George, J. M. (1996). Trait and state affect. In K. R. Murphy (Ed.), *Individual differences and behaviour in organisations,* (pp. 145–171). San Francisco: Jossey-Bass.

Gilbert, D. T., & Silvera, D. H. (1996). Overhelping. *Journal of Personality and Social Psychology, 70,* 678–690.

Gist, R. (2002). What have they done to my song? Social science, social movements, and the debriefing debates. *Cognitive and Behavioral Practice, 9,* 273–279.

Gist, R., & Devilly, G. J. (2002). Post-trauma debriefing: The road too frequently travelled. *The Lancet, 360,* 741–742.

Gist, R., Lohr, J. M., Kenardy, J., Bergmann, L., Meldrum, L., Redburn, B. G., et al. (1997). Researchers speak on CISM. *Journal of Emergency Medical Services, 22*(5), 27–28.

Gist, R., & Lubin, B. (1999). Epilogue. In R. Gist & B. Lubin (Eds.), *Response to disaster: Psychosocial, community, and ecological approaches* (pp. 347–352). Philadelphia: Brunner/Mazel.

Gist, R., Lubin, B., & Redburn, B. G. (1999). Psychosocial, ecological, and community perspectives on disaster response. In R. Gist & B. Lubin (Eds.),

Response to disaster: Psychosocial, community, and ecological approaches (pp. 1–27). Philadelphia: Brunner/Mazel.

Gist, R., & Woodall, S. J. (1995). Occupational stress in contemporary fire service. *Occupational Medicine: State of the Art Reviews, 10,* 763–787.

Gist, R., & Woodall, S. J. (1999). There are no simple solutions to complex problems: The rise and fall of critical incident stress debriefing as a response to occupational stress in the fire service. In R. Gist & B. Lubin (Eds.), *Response to disaster: Psychosocial, community, and ecological approaches* (pp. 211–235). Philadelphia: Brunner/Mazel.

Gist, R., Woodall, S. J., & Magenheimer, L. K. (1999). And then you do the Hokey-Pokey and you turn yourself around. . . In R. Gist & B. Lubin (Eds.), *Response to disaster: Psychosocial, community, and ecological approaches* (pp. 269–292). Philadelphia: Brunner/Mazel.

Gump, B. B., & Kulik, J. A. (1997). Stress, affiliation, and emotional contagion. *Journal of Personality and Social Psychology, 72,* 305–319.

Hammarberg, M. (1992). Penn Inventory for Posttraumatic Stress Disorder: Psychometric properties. *Psychological Assessment, 4,* 67–76.

Hart, P. M., & Cotton, P. (2003). Conventional wisdom is often misleading: Police stress within an organisational health framework. In M. F. Dollard, A. H. Winefield, & H. R. Winefield (Eds.), *Occupational stress in the service professions,* (pp. 103–140). London: Taylor and Francis.

Hart, P. M., Wearing, A. J., & Headey, B. (1994). Perceived quality of life, personality, and work experiences: Construct validation of the Police Daily Hassles and Uplifts Scales. *Criminal Justice and Behavior, 21,* 283–311.

Harvey, A. G., & Bryant, R. A. (1998). The relationship between acute stress disorder and Posttraumatic Stress Disorder: A prospective evaluation of motor vehicle accident survivors. *Journal of Consulting and Clinical Psychology, 66,* 507–512.

Helzer, J. E., Robins, L. N., & McEvoy, L. (1987). Post-traumatic stress disorder in the general population: Findings of the Epidemiologic Catchment Area survey. *New England Journal of Medicine, 317,* 1630–1634.

Hobbs, G., & Adshead, G. (1997). Preventive psychological intervention for road crash victims. In M. Mitchell (Ed.), *The aftermath of road accidents: Psychological, social and legal perspectives* (pp. 159–171). London: Routledge.

Hobbs, M., Mayou, R., Harrison, B., & Worlock, P. (1996). A randomised controlled trial of psychological debriefing for victims of road traffic accidents. *British Medical Journal, 313,* 1438–1439.

Hoffman, R. R. (2001). The relation of optimism and self-mastery to responses to unfavorable contingency changes. *Dissertation Abstracts International: Section B: The Sciences and Engineering, 61*(9), 5055B.

Hovens, J. E., & Van de Weerd, M. (1998). Posttraumatic Stress Disorder in debriefed survivors of a bus accident. *Psychological Reports, 82,* 1075–1081.

International Critical Incident Stress Foundation. (2003). *Education and Training.* Retrieved on May 12, 2003 from http://www.icisf.org/Training/classes/index.asp

Jenkins, S. R. (1996). Social support and debriefing efficacy among emergency medical workers after a mass shooting incident. *Journal of Social Behavior and Personality, 11,* 477–492.

Jones, N., Roberts, P., & Greenberg, N. (2003). Peer-group risk assessment: A post-traumatic management strategy for hierarchical organizations. *Occupational Medicine, 53,* 469–475.

Kadet, A. (2002). Good grief! *Smart Money, 11,* 108–114.

Kaniasty, K., & Norris, F. (1993). A test of the support deterioration model in the context of natural disaster. *Journal of Personality and Social Psychology, 64,* 395–408.

Kaniasty, K., Norris, F. H., & Murrell, S. A. (1990). Perceived and received social support following natural disaster. *Journal of Applied Social Psychology, 20,* 85–114.

Kenardy, J. (2000). The current status of psychological debriefing: It may do more harm than good. *British Medical Journal, 321,* 1032–1033.

Kenardy, J., & Taylor, C. B. (1999). Expected versus unexpected panic attacks: A naturalistic prospective study. *Journal of Anxiety Disorders, 13,* 435–445.

Kenardy, J. A., Webster, R. A., Lewin, T. J., Carr, V. J., Hazell, P. L., & Carter, G. L. (1996). Stress debriefing and patterns of recovery following a natural disaster. *Journal of Traumatic Stress, 9,* 37–49.

Kessler, R. C., Sonnega, A., Bromet, E., Hughes, M., & Nelson, C. B. (1995). Posttraumatic Stress Disorder in the national comorbidity survey. *Archives of General Psychiatry, 52,* 1048–1060.

Kessler, R. C., Zhao, S., Katz, S. J., Kouzis, A. C., Frank, R. G., Edlund, M., et al. (1999). Past-year use of outpatient services for psychiatric problems in the National Comorbidity Survey. *American Journal of Psychiatry, 156,* 115–123.

Keuler, D. J., & Safer, M. A. (2001). Memory bias in the assessment and recall of pre-exam anxiety: How anxious was I? *Applied Cognitive Psychology, 12,* S127–S137.

Kierein, N. M., & Gold, M. A. (2000). Pygmalion in work organizations: A meta-analysis. *Journal of Organizational Behavior, 21,* 913–928.

Kulik, J. A., Mahler, H. I. M., & Moore, P. J. (1996). Social comparison and affiliation under threat: Ef-

fects on recovery from major surgery. *Journal of Personality and Social Psychology, 71,* 967–979.

Lee, C., Slade, P., & Lygo, V. (1996). The influence of psychological debriefing on emotional adaptation in women following early miscarriage: A preliminary study. *British Journal of Medical Psychology, 69,* 47–58.

Litz, B. T., Adler, A. B., Castro, C. A., Wright, K., & Thomas, J., & Suvak, M. K. (2004, November). *A controlled trial of Group Debriefing.* In M. Friedman (Chair), Military psychiatry, then and now. Plenary session conducted at the 20th Annual Meeting of the International Society for Traumatic Stress Studies, New Orleans, LA.

Litz, B. T., Gray, M. J., Bryant, R. A., & Adler, A. B. (2002). Early intervention for trauma: Current status and future directions. *Clinical Psychology: Science and Practice, 9,* 112–134.

Lohr, J. M., Hooke, W., Gist, R., & Tolin, D. F. (2003). Novel and controversial treatments for trauma-related stress disorders. In S. O. Lilienfeld, S. J. Lynn, & J. M. Lohr (Eds.), *Science and pseudoscience in clinical psychology* (pp. 243 – 272). New York: Guilford Press.

Lopez, G., Piffaut, G., & Seguin, A. (1992). Psychological treatment of victims of rape. *Psychologie Medicale, 24,* 286–288.

Macnab, A. J., Russell, J. A., Lowe, J. P., & Gagnon, F. (1998). Critical incident stress intervention after loss of an air ambulance: Two-year follow up. *Prehospital and Disaster Medicine, 14,* 8–12.

Madon, S., Smith, A., Jussim, L., Russell, D. W., Eccles, J., Palumbo, P., et al. (2001). Am I as you see me or do you see me as I am? Self-fulfilling prophecies and self-verification. *Personality and Social Psychology Bulletin, 27,* 1214–1224.

Major, B., Cozzarelli, C., Sciacchitano, A. M., Cooper, M. L., & Testa, M. (1990). Perceived social support, self-efficacy, and adjustment to abortion. *Journal of Personality and Social Psychology, 59,* 452–463.

Matthews, L. R. (1998). Effect of staff debriefing on posttraumatic stress symptoms after assaults by community housing residents. *Psychiatric Services, 49,* 207–212.

Mayou, R. A., Ehlers, A., & Hobbs, M. (2000). Psychological debriefing for road traffic accident victims: Three-year follow-up of a randomized controlled trial. *British Journal of Psychiatry, 176,* 589–593.

McCarroll, J. E., Fullerton, C. S., Ursano, R. J., & Hermsen, J. M. (1996). Posttraumatic stress symptoms following forensic dental identification: Mt. Carmel, Waco, TX. *American Journal of Psychiatry, 153,* 778–782.

McCarroll, J. E., Ursano, R. J., & Fullerton, C. S. (1993). Symptoms of Posttraumatic Stress Disor-

der following recovery of war dead. *American Journal of Psychiatry, 150,* 1875–1877.

McCarroll, J. E., Ursano, R. J., Fullerton, C. S., & Lundy, A. (1993). Traumatic stress of a wartime mortuary: Anticipation of exposure to mass death. *Journal of Nervous and Mental Disease, 181,* 545–551.

McCarroll, J. E., Ursano, R. J., Ventis, W. L., & Fullerton, C. S. (1993). Anticipation of handling the dead: Effects of gender and experience. *British Journal of Clinical Psychology, 32,* 466–468.

McCrae, R. R. (1984). Situational determinants of coping responses: Loss, threat, and challenge. *Journal of Personality and Social Psychology, 46,* 919–928.

McFarlane, A. C. (1988). The longitudinal course of posttraumatic morbidity: The range of outcomes and their predictors. *Journal of Nervous and Mental Disease, 176,* 30–39.

McFarlane, A. C., Bookless, C., & Air, T. (2001). Posttraumatic Stress Disorder in a general psychiatric inpatient population. *Journal of Traumatic Stress, 14,* 633–645.

McNally, R. J., Bryant, R., & Ehlers, A. (2003). Does early psychological intervention promote recovery from post traumatic stress. *Psychological Science in The Public Interest, 4,* 45–79.

McNally, R. J., Luedke, D. L., Besyner, J. K., Peterson, R. A., Bohm, K., & Lips, O. J. (1987). Sensitivity to stress-relevant stimuli in Post-Traumatic Stress Disorder. *Journal of Anxiety Disorders, 1,* 105–116.

Mitchell, J. T. (1983). When disaster strikes . . . The critical incident stress debriefing process. *Journal of Emergency Services, 8,* 36–39.

Mitchell, J. T. (1992). Protecting your people from critical incident stress. *Fire Chief, 36,* 61–67.

Mitchell, J. T. (2003). *Crisis intervention and CISM: A research summary.* Retrieved on May 12, 2003, from http://www.icisf.org/articles/cism_research _summary.pdf

Mitchell, J. T., & Everly, G. S. (1997). The scientific evidence for critical incident stress management. *Journal of Emergency Medical Services, 22*(1), 86–93.

Mitchell, J. T., & Everly, G. S. (2000). Critical incident stress management and critical incident stress debriefings: Evolutions, effects and outcomes. In B. Raphael & J. P. Wilson (Eds.), *Psychological debriefing: Theory, practice and evidence.* New York: Cambridge University Press.

NATO: North Atlantic Treaty Organization. (2002). NATO-Russia advanced research workshop on social and psychological consequences of chemical, biological and radiological terrorism. Retrieved on August, 2006 from http://www.nato.int/docu/ update/2002/03-march/e0325a.htm

Norris, F. H. (2001, September). 50,000 disaster victims speak: An empirical review of the empirical literature, 1981–2001. Unpublished manuscript, The National Center for PTSD and The Center for Mental Health Services (SAMHSA).

Norris, F. H., Kaniasty, K., & Thompson, M. P. (1997). The psychological consequences of crime. In R.C. Davis, A. J. Lurigo, & W. G. Skogan (Eds.), *Victims of crime (2nd ed.)*. Thousand Oaks, CA: Sage.

Nurmi, L. A. (1997). *Experienced stress and value of CISD among Finnish police officers (DVI) and emergency personnel in the Estonia ferry disaster.* Paper presented at the Fourth World Congress on Stress, Trauma and Coping in the Emergency Services Professions, Baltimore, MD.

Nurmi, L. A. (1999). The sinking of the Estonia: The effects of Critical Incident Stress Debriefing (CISD) on rescuers. *International Journal of Emergency Mental Health, 1,* 23–31.

Parry, G. (2001). *Evidence based clinical practice guidelines for treatment choice in psychological therapies and counselling.* London: UK Department of Health.

Raphael, B. (1986). *When disaster strikes: A handbook for caring professionals.* London: Hutchinson.

Redburn, B. G. (1992). Disaster and rescue: Worker effects and coping strategies. *Dissertation Abstracts International,* 54(01-B), 447.

Redburn, B. G., Gensheimer, L. K., & Gist, R. (1993, June). Disaster aftermath: Social support among resilient rescue workers. Paper presented at the Fourth Biennial Conference on Community Research and Action, Society for Community Research and Action (Division 27, American Psychological Association), Williamsburg, VA.

Ritchie, E. C. (2001). *Draft consensus document of the mass violence and early intervention workshop.* Washington, DC: U.S. Department of Defense.

Robinson, R., & Mitchell, J. T. (1993). Evaluation of psychological debriefings. *Journal of Traumatic Stress, 6,* 367–382.

Rose, S., Brewin, C. R., Andrews, B., & Kirk., M. (1999). A randomized controlled trial of individual psychological debriefing for victims of violent crime. *Psychological Medicine, 29,* 793–799.

Rose, S., Wessely, S., & Bisson, J. (2001). Brief psychological interventions ("debriefing") for trauma-related symptoms and prevention of Post Traumatic Stress Disorder: Review. *The Cochrane Library, Issue 2.*

Rubonis, A. V., & Bickman, L. (1991). Psychological impairment in the wake of disaster: The disaster-psychopathology relationship. *Psychological Bulletin, 109,* 384–399.

Salzer, M. S., & Bickman, L. (1999). The short and long term psychological impact of disasters: Implications for mental health interventions and policy. In R. Gist & B. Lubin (Eds.), *Response to disaster: Psychosocial, community, and ecological approaches* (pp. 63–82). Washington, DC: Taylor & Francis.

Shalev, A. Y., Peri, T., Rogel-Fuchs, Y., Ursano, R. J., & Marlowe, D. (1998). Historical group debriefing after combat exposure. *Military Medicine, 163,* 494–498.

Sijbrandij, M. (2002, November). *A closer look at debriefing: Emotional ventilation vs. psychoeducation.* In M. Oliff & R. Bryany (Chairs), Early interventions: New contributions to outcome research. Symposium conducted at the 18th Annual Meeting of the International Society for Traumatic Stress Studies, Baltimore, MD.

Solomon, Z., Mikulincer, M., & Benbenishty, R. (1989). Locus of control and combat-related posttraumatic stress disorder: The intervening role of battle intensity, threat appraisal and coping. *British Journal of Clinical Psychology, 28,* 131–144.

Staab, J. P., Fullerton, C. S., & Ursano, R. (1999). A critical look at PTSD: Constructs, concepts, epidemiology, and implications. In R. Gist, & B. Lubin (Eds.), *Response to disaster: Psychosocial, community, and ecological approaches.* Philadelphia, PA: Brunner/Mazel.

Stallard, P., Velleman, R., & Baldwin, S. (2000). Prospective study of post-traumatic stress disorder in children involved in road traffic accidents. *British Medical Journal, 7173,* 1619–1623.

Taylor, S. E. (1983). Adjustment to threatening events: A theory of cognitive adaptation. *American Psychologist, 38,* 1161–1173.

Taylor, S. E. (1991). Asymmetrical effects of positive and negative events: The mobilization-minimization hypothesis. *Psychological Bulletin, 110,* 67–85.

Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin, 103,* 193–210.

Taylor, S. E., & Lobel, M. (1989). Social comparison activity under threat: Downward evaluation and upward contacts. *Psychological Review, 96,* 569–575.

Turner, S. W., Thompson, J., & Rosser, R. M. (1995). The Kings Cross fire: Psychological reactions. *Journal of Traumatic Stress, 8,* 419–427.

Turpin, G., Downs, M., & Mason, S. (2005). Effectiveness of providing self-help information following acute traumatic injury: Randomised controlled trial. *British Journal of Psychiatry, 187,* 76–82.

van Emmerik, A. A. P., Kamphuis, J. H., Hulsbosch, A. M., & Emmelkamp, P. M. G. (2002). Single

session debriefing after psychological trauma: A meta-analysis. *The Lancet, 360,* 766–771.

Viney, L. L., Clarke, A. M., Bunn, T. A., & Benjamin, Y. N. (1985). An evaluation of three crisis intervention programmes for general hospital patients. *British Journal of Medical Psychology, 58,* 75–86.

Wee, D. F., Mills, D. M., & Koehler, G. (1993). *Stress response of emergency medical services personnel following the Los Angeles civil disturbance.* Paper presented at the Third World Congress on Stress, Trauma and Coping in the Emergency Services Professions, Baltimore, MD.

Wee, D. F., Mills, D. M., & Koehler, G. (1999). The effects of Critical Incident Stress Debriefing (CISD) on emergency medical services personnel following the Los Angeles civil disturbance. *International Journal of Emergency Mental Health, 1,* 33–37.

Weiss, D., & Marmar, C. (1997). The Impact of Event Scale -Revised. In J. Wilson & T. Keane (Eds.), *Assessing psychological trauma and PTSD* (pp. 399–411). New York: Guilford Press.

Wiedemann, G., Pauli, P., & Dengler, W. (2001). A priori expectancy bias in patients with panic disorder. *Journal of Anxiety Disorders, 15,* 401–412.

Woodall, S. J. (1994). Personal, organizational, and agency development: The psychological dimension. A closer examination of critical incident stress management. (Available from the National Fire Academy Executive Fire Officer Program, Learning Resource Center, National Emergency Training Center, Emmitsburg, MD)

Yates, S., Axom, D., Bickman, L., & Howe, G. (1989). Factors influencing help seeking for mental health problems after disasters. In R. Gist & B. Lubin (Eds.), *Psychosocial aspects of disaster* (pp. 163–189). New York: Wiley and Sons.

Yates, S., Axom, D., & Tiedeman, K. (1999). The help-seeking process for distress after disasters. In R. Gist & B. Lubin (Eds.), *Response to disaster: Psychosocial, community, and ecological approaches* (pp. 133–165). Philadelphia: Brunner/Mazel.

Zlotnick, C., Warshaw, M., Shea, M. T., & Keller, M. B. (1997). Trauma and chronic depression among patients with anxiety disorders. *Journal of Consulting and Clinical Psychology, 65,* 333–336.