

A Meta-Analysis of 36 Crisis Intervention Studies

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This article is designed to increase our knowledge base about effective and contraindicated types of crisis intervention. A number of crisis intervention studies focus on the extent to which psychiatric morbidity (e.g., depressive disorders, suicide ideation, and posttraumatic stress disorder) was reduced as a result of individual or group crisis interventions or multicomponent critical incident stress management (CISM). In addition, family preservation, also known as in-home intensive crisis intervention, focused on the extent to which out-of-home placement of abused children was reduced at follow-up. There are a small number of evidence-based crisis intervention programs with documented effectiveness. This exploratory meta-analysis of the crisis intervention research literature assessed the results of the most commonly used crisis intervention treatment modalities. This exploratory meta-analysis documented high average effect sizes that demonstrated that both adults in acute crisis or with trauma symptoms and abusive families in acute crisis can be helped with intensive crisis intervention and multicomponent CISM in a large number of cases. We conclude that intensive home-based crisis intervention with families as well as multicomponent CISM are effective interventions. Crisis intervention is not a panacea, and booster sessions are often necessary several months to 1 year after completion of the initial intensive crisis intervention program. Good diagnostic criteria are necessary in using this modality because not all situations are appropriate for it. [*Brief Treatment and Crisis Intervention* 6:10–21 (2006)]

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Trauma-provoking and crisis-inducing events have escalated in frequency and prevalence throughout the world. The spectrum of crisis

events ranges from public events that impact large segments of society, such as community-wide natural disasters, a commercial airliner crash, or terrorist attacks, to private events, such as domestic violence, a suicide attempt, death of a loved one, or the onset of mental illness. Hundreds of thousands of individuals become so distressed and overwhelmed by a life-threatening or traumatic event that they rapidly experience an acute crisis episode. Every year millions of individuals are confronted with crisis-producing events that they are unable to resolve on their

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own, and they frequently seek help from crisis intervention programs, crisis intervention units of community mental health centers, outpatient clinics, family counseling agencies, and clinicians in private practice (Roberts, 2005). "Crisis events and situations can often be critical turning points in a person's life. They can serve as a challenge and opportunity for rapid problem resolution and growth, or as a debilitating event leading to sudden disequilibrium, failed coping, and dysfunctional behavior patterns" (Roberts, 2005, p. xx).

Crisis intervention has become the most widely used time-limited treatment modality in the world. As a result of the crisis intervention and critical incident stress management movement, millions of persons in crisis situations have been helped in a cost-efficient and timely manner The increased development of crisis services and units reflect a growing awareness among public health and mental health administrators of the critical need for community crisis services. (Roberts, 2005, pp. 6, 32)

Is crisis intervention effective in facilitating crisis resolution and bolstering crisis mastery? The answer is determined based on statistical analysis and quantitative synthesis of 36 peer-reviewed crisis intervention studies. For purposes of this meta-analysis, we classified crisis intervention into three types: (a) *family preservation*, also known as in-home intensive family crisis intervention. This is usually given over a 3-month period and lasts 8–72 hr. (b) *Multi-session crisis intervention* (usually lasting 4–12 sessions) or *multicomponent critical incident stress management (CISM)*, also referred to as group crisis intervention. The latter consists of a minimum of three sessions including pre-crisis training (e.g., stress inoculation), individual or group crisis intervention right after the traumatic event, and postevent crisis counseling 1 month later. (c) A *single-session individual*

or *group crisis debriefing* lasting anywhere from 20 min to 2 hr.

Early intervention in the form of disaster relief programs, disaster mental health initiatives, crime victim services, and community mental-health-based crisis intervention units grew out of a fervent desire to lessen the suffering and aid in the recovery of all persons affected by crises. There is a general consensus among many crisis clinicians, researchers and administrators " . . . that a strong desire to help, if not grounded in empirical and practical foundations, might lead to interventions that prove ineffective or potentially harmful despite good intentions" (Kaul & Welzant, 2005, p. 203). Therefore, education and training informed by evidence-based research and practice experience may well be the optimal method to prevent possible harmful impacts of early interventions such as crisis intervention in the aftermath of community-wide disasters or terrorist bombings. It is of paramount importance that, " . . . disaster mental health approaches (be) firmly based in crisis intervention theory and guided by best practice recommendations and cautions" (Kaul & Welzant, 2005, p. 218) as well as evidence-based studies.

The recent literature review of crisis intervention services of Everly, Lating, and Mitchell (2005) concluded that there is " . . . a corpus of well-controlled empirical support . . . using randomized controlled designs" (p. 223) that crisis intervention was superior to inpatient psychiatric hospitalization and other interventions in reducing acute psychological distress, anxiety, and subsequent hospitalizations. These three prominent scholar-practitioners clearly point out that disaster mental health interventions such as critical incident stress management are not designed to stand alone and instantly cure all mental health problems. They view successful crisis intervention as "one point on a continuum of care which certainly includes psychotherapy" (p. 240).

Professors Dziegielewski and Powers (2005) eloquently call for a critically important ongoing commitment toward integrating research and practice through evidence-based practice:

We recommend that all practitioners make a commitment to evidence-based practice. In other words, all crisis workers and counselors need to thoroughly prepare for intervening on behalf of a large number of different types of persons in crisis. This can be done effectively only if practitioners develop the knowledge base to find out which crisis intervention protocol is most likely to lead to positive outcomes and crisis resolution among clients in crisis. Evidence-based practice places necessary emphasis on the crisis clinician's use of empirically validated lethality assessments, intervention protocols, and program evaluation procedures as well as the use of critical thinking in making decisions. (Dziegielewski & Powers, 2005, pp. 742–743)

Methodology

This meta-analysis examined 36 research studies on crisis intervention published in peer-reviewed scholarly journals. Seven electronic journal databases were searched. These included Academic Premier, Criminal Justice Abstracts, EBSCO, PubMed, Psych-Info/Psych Abstracts, HighWire, and Social Work Abstracts. The analysis that follows is based on the 36 research articles that were found. To be included, studies had to be projects with a clearly stated research design that collected data, which included baseline and posttreatment follow-up on specific outcome measures.

Meta-analysis is a well-established procedure (Glass, McGaw, & Smith, 1981; Hedges & Olkin, 1985; Hunter & Schmidt, 1990). It refers to the synthesis of results from a number of studies and provides a statistical alternative to the narrative discussion of research findings that fall under

the rubric of content analyses and literature reviews (Glass et al., 1981). During the past three decades meta-analytic techniques have been used to estimate the net effects of psychotherapy (Smith et al., 1981), gender differences, crisis intervention in medical settings (Stapleton, 2005), and school-based prevention of crime and substance abuse (Wilson, Gottfredson, & Najaka, 2001). Roberts and Camasso (1990) have used the method to assess the impact of juvenile offender treatment programs.

The principal advantage of meta-analysis over narrative summations is a capacity to estimate and compare the amount of change in a group that can be linked to a treatment intervention. The combination or summation of the studies through statistical analyses provides the best estimate of the effects of an intervention procedure.

Data are analyzed by the computation of a common metric of treatment impact, a measure termed the effect size (ES). This statistic has the virtue of understandability as well as comparability because ES (really a *z*-score difference) shows the percentile at which the average individual in the treatment group is performing relative to the average person (i.e., the mean) in a comparison group.

The statistical synthesizing inherent in meta-analysis is not without critics. Glass et al. (1981) has classified criticisms into four types:

1. Unreliability due to divergent measuring procedures, variable definitions, and subject characteristics.
2. Unreliability due to the aggregation of weakly and strongly designed studies.
3. Unreliability due to sampling of studies that report primarily significant findings.
4. Unreliability due to differing number of outcome measures in a sample of studies.

We address the first criticism by computing effect sizes that are specific with respect to crisis

intervention modality, location, and a host of research design factors (i.e., year of study, type of statistics used, etc.). We choose the most important outcomes that are consistent across studies, and we combine all of the outcomes for each grouping of studies into one. In an effort to avoid sampling bias (criticism three), published articles were reviewed from a broad range of journals, many of which have a well-documented history of printing positive as well as negative findings. Wolf (1986) makes the point that the magnitude of the effect in many research domains does not appear to be affected by the worthiness of the research design. Notwithstanding Wolf's contention, two factors that distinguish design strength in any outcome study, vis-à-vis length of follow-up period and use of statistical controls, were included in this meta-analysis database.

Effect size measures can be calculated for both group differences and for correlational relationships. Whatever the statistical test base, ES measures go beyond simple expression of statistical significance and provide information about the degree to which the hypothesis of no difference between treatment and comparison groups is false (Hedges & Olkin, 1985). ESs can be calculated directly from correlation coefficients, chi squares, *t*, or *F* ratios—statistics readily found in any elementary research method text. If these statistics are not presented in a study, ESs can still be derived so long as means, variances, frequencies, and/or percentage point differences are provided. Of course, the stronger the research design the more confidence one can place in ES calculations. Studies that employ randomization, comparison groups, or covariates will, on balance, yield more reliable ES measures than will research characterized by judgmental samples, pre-post comparisons, and no statistical controls.

The computation of an ES sometimes referred to as Cohen's *d* for experimental or quasi-experimental studies for a study possessing

ample information is a rather simple affair. For data presenting group differences, that is, the difference between a treatment and comparison group or pretest-posttest comparison, ES has this form:

$$ES = \frac{X_r - X_c}{SD},$$

where X_r is the mean effect for the treatment group, X_c is the mean effect for the comparison group, SD is the pooled (within) standard deviation.

If data analysis takes the forms of associational or correlational analysis, ES can be computed by

$$ES = \frac{2r}{1 - r^2},$$

where r is the Pearson, Spearman, or fourfold point correlation. The reader is referred to Hedges and Olkin (1985), Cohen (1977), or Wolf (1986) for tables that facilitate the conversion of test statistics to ES parameters.

Effect size can range from a -4.0 to a $+4.0$ for Cohen's *d* or Hedges delta; ESs based on correlations are restricted to $+1.0$ to -1.0 . Rarely, however, in studies of treatment interventions do effects reach levels as high as 1.5 standard deviation units. Analyses of treatment effectiveness conducted by Cordy and Sonnefeld (1985) and Lipsey (1990) have demonstrated an average ES of about 0.45. Such research has prompted Cohen (1977) to posit $ES = 0.2$ as a small treatment effect, $ES = 0.5$ as a medium effect, and $ES = 0.8$ as a large effect. In this exploratory study, the average ES is 1.35, which is quite large for studies of human services interventions.

The notion of effect size, while possessing the advantage of common metric, may not make intuitive sense to some readers—especially those who work in treatment domains where little practical guidance exists about the substantive meaning of treatment group differences. Hence, it is useful to present ESs in a form that facilitates interpretation. One approach to

TABLE 1. Effect Size by Location of Study

Effect size	Location of study		Grand total	Outside United States	United States
	Outside United States	United States			
Low	7	5	12	41.18%	26.32%
Medium	6	8	14	35.29%	42.11%
High	4	6	10	23.53%	31.58%
Grand total	17	19	36		

Note. Low effect size: less than 0.45; medium effect size: 0.45–1.85; high effect size: greater than 1.85.

ES translation is to report treatment effects as the percentage or percentile overlap between treatment and comparison groups. Inasmuch as ESs are nothing more than standard scores (z scores), the translation amounts to looking up the area under the normal curve that corresponds to ES.

As an example let us take the ES of 0.45—a value that corresponds to 0.674 under the normal curve. As a treatment effect, an ES of 0.45 denotes that the typical person receiving treatment can expect to have an outcome that is superior to that of 67.4% of the individuals in the comparison group. Said differently, the treatment can be expected to move the typical person from the 50th percentile to the 67.4th percentile of outcome, where the 50th percentile represents the mean outcome for the comparison population.

Results of the Application

The database employed in this meta-analysis appears as Tables 1–8. Thirty-six studies met

the two chief criteria for inclusion in the analysis, a focus on crisis intervention and out-of-home placement or reduction in psychiatric morbidity, as one of principal outcomes of the research. Each was classified by crisis intervention type, sample size, type of research design, the presence or absence of a comparison group, the types of pretest measures employed, and manner in which psychiatric morbidity and out-of-home placements were measured.

In addition, data are presented in Table 1 on the location of the study and Table 2 on the year of the study.

The average sample size was 237, whereas the average time between treatment completion and final follow-up was a respectable 12 months. This can be misleading inasmuch as the follow-up periods ranged from a 3-month follow-up to as long as 3 years. Approximately 50% of the studies used follow-up periods of 7–12 months.

Only 12 (33.3%) of the studies in the database had strong experimental designs, randomization to experimental and control groups. The

TABLE 2. Effect Size by Year of Study

Effect size	Year of study			Grand total	≤1989	1990–1999	≥2000
	≤1989	1990–1999	≥2000				
Low	1	5	6	12	16.67%	41.67%	33.33%
Medium	2	3	9	14	33.33%	25.00%	50.00%
High	3	4	3	10	50.00%	33.33%	16.67%
Grand total	6	12	18	36			

TABLE 3. Effect Size by Study Sample Size

Effect size	Sample size			Grand total	Small	Medium	Large
	Small	Medium	Large				
Low	5	6	1	12	41.67%	31.58%	20.00%
Medium	3	8	3	14	25.00%	42.11%	60.00%
High	4	5	1	10	33.33%	26.32%	20.00%
Grand total	12	19	5	36			

other designs were weaker in terms of quasi-experimental studies and a pre–post-tests. On the positive side, 81% (29) of the studies used multivariate statistical design. Sample sizes were also highly variable ranging from 48 in one study to 886 in another to a huge sample of 1,681 in another study.

The principal findings from this meta-analysis of crisis intervention treatment effects are captured in Tables 1–8. Each table displays low, medium, and high ESs by type of crisis treatment, follow-up period, and other research design factors.

The findings from descriptive Tables 1 through 7 can be summarized as follows: ESs are typically medium or high for studies done in the United States, which were done before 1990 and used bivariate statistics and pre–post research designs. Sample size and length of follow-up period do not appear to have any influence on ES. With respect to the type of intervention, family preservation studies typically show larger ESs than multisession crisis intervention and single-session group debriefing.

The high treatment effects of family preservation are not limited to the descriptive data presented in Table 6. This treatment effect holds up even when a host of research design issues are taken into consideration. As the multiple regression results in Table 8 show, family preservation (also known as in-home crisis intervention with abusive families) treatment exhibits the average ES that is 1.1 standard deviation units higher than the other treatments.

Seven studies, as noted earlier, did not use true comparison groups; instead, these investigations chose to use pretest or baseline data as a way of establishing control. This strategy of using the treatment group as its own comparison was especially prominent in studies of crisis debriefing as well as persons with suicide ideation and depressive disorders.

Family preservation in-home crisis intervention ESs hold up even after controlling for methodological factors. The typical family preservation study employs samples of 200–225 cases, uses multivariate methods sometimes, and measures follow-up at 12- to 15-month intervals. There is little evidence, therefore,

TABLE 4. Effect Size by Type of Statistical Analysis

Effect size	Statistical analysis		Grand total	Bivariate	Multivariate
	Bivariate	Multivariate			
Low	1	11	12	14.29%	37.93%
Medium	1	13	14	14.29%	44.83%
High	5	5	10	71.43%	17.24%
Grand total	7	29	36		

TABLE 5. Effect Size by Type of Research Design

Effect size	Research design			Grand total	Experiment	Quasi-experiment	Pre-post
	Experiment	Quasi-experiment	Pre-post				
Low	6	3	3	12	50.00%	25.00%	25.00%
Medium	5	5	4	14	41.67%	41.67%	33.33%
High	1	4	5	10	8.33%	33.33%	41.67%
Grand total	12	12	12	36			

to suggest in this meta-analysis that the effect of family preservation is inflated by research design flaws.

Discussion

The relative effectiveness of in-person, in-home, and/or telephone crisis intervention has not been systematically and rigorously studied. Although the 36 crisis intervention studies included in this meta-analysis provide a solid beginning and important composite measures of effectiveness, all too often crisis intervention programs are implemented without any built-in outcome measures or evaluation component. Many more studies measuring the impact of crisis intervention on anxiety, depression, phobia, suicidality, and posttraumatic stress disorder (PTSD) levels and symptoms are critically needed in the important years ahead.

The key finding of this meta-analysis is that in-home intensive family-based crisis interven-

tion is a highly effective treatment for sharply reducing child abuse and neglect with troubled families. The average ES was very positive for these types of crisis intervention programs. But we did find that ESs varied considerably by the type of program as indicated in Table 8—family preservation had a high average ES of 1.624, multicomponent CISM or multisession (4–12 sessions) of crisis intervention also had a high average ES of 1.545, and single-session crisis debriefings had a lower average ES of 0.635.

Crisis intervention can certainly provide a challenge, an opportunity, and/or a turning point within the individual or families life. Many operational definitions of crisis view it as a potential turning point in a person’s life. But it is important to note that the crisis is not the hazardous event or situation itself, rather, it is the person’s “perception of and response to the situation” (Parad, 1971, p. 197).

An example of a study that measured the effectiveness of one-session critical incident

TABLE 6. Effect Size by Type of Treatment

Effect size	Treatment type					Grand total	FP	Multi-C.I.	GRP CISM	Single DBr.
	FP	Multi-C.I.	GRP CISM	Single DBr.	Grand total					
Low	1	3	1	4	9	9.09%	27.27%	12.50%	66.67%	
Medium	3	3	3	1	10	27.27%	27.27%	37.50%	16.67%	
High	7	5	4	1	17	63.64%	45.46%	50.00%	16.67%	
Grand total	11	11	8	6	36					

Note. FP = family preservation, Multi-C.I. = multisession crisis intervention; GRP CISM = multicomponent group critical incident stress management; Single DBr. = single debriefing.

TABLE 7. Effect Size by Length of Follow-up Period

Effect size	Follow-up period			Grand total	≤6 months	7–12 months	>12 months
	≤6 months	7–12 months	>12 months				
Low	8	3	1	12	61.54%	17.65%	16.67%
Medium	2	9	3	14	15.38%	52.94%	50.00%
High	3	5	2	10	23.08%	29.41%	33.33%
Grand total	13	17	6	36			

debriefing compared to multicomponent CISM was that by Richards (2001). The subjects were bank employees who became victims of armed robberies in Manchester, England, banks. The total sample comprised 524 employees—299 were given CISM and 225 one-session debriefing. The integrated CISM consisted of four sessions of pre-bank-robbery stress inoculation training, 1.5–2 hr of group critical incident stress debriefing 3 days after the robbery, and one individual crisis intervention session 30 days after the robbery lasting for 45 min each. There was significant improvement in terms of a sharp reduction in posttrauma morbidity at 1-year follow-up for the inte-

grated CISM group (only 5.3% with clinical symptoms of PTSD) versus the one-session debriefing group (with 11.3% with symptoms of PTSD).

Campbell's (1998) study of intensive family preservation services in Victoria, Australia, found a 69.6% reduction in both child abuse and out-of-home placements. About 10 years earlier, the study of Pecora and Fraser (1992) found a 93.9% reduction in Washington state and a 90.7% reduction in Utah in both child abuse and out-of-home placements at follow-up. The average total number of intensive in-home crisis intervention sessions was 37.5 hr/family in Washington and Utah.

TABLE 8. Regression Analysis of Effect Size on Crisis Intervention Treatment Type and Research Methods Controls

Name of variable	Model A regression		Model B regression	
	Coefficient (SE)	t value	Coefficient (SE)	t value
Location	0.062 (0.067)	0.132	−0.149 (0.447)	−0.333
Year of study	−0.002 (0.028)	−0.083	0.014 (0.027)	0.511
Sample size	0.000 (0.001)	0.436	−0.000 (0.001)	−0.106
Statistic method	−0.312 (0.580)	−0.537	−0.109 (0.571)	−0.191
Experimental design	0.157 (0.564)	0.278	0.619 (0.497)	1.249
Quasi-experimental design	0.048 (0.477)	0.101	0.058 (0.475)	0.122
Family preservation	1.10 (0.679)	1.624	1.068* (0.514)	2.079
Crisis debriefing	0.311 (0.425)	0.635	—	—
Multisession crisis intervention or CISM	1.381 (0.894)	1.545	—	—
Follow-up period	0.003 (0.036)	0.082	0.036 (0.031)	1.174
Adjusted R^2	0.17		0.14	

Note. Interpretation of significant effect: family preservation treatment increases the average effect size by 1.1 standard deviation units.

SE = standard error; CISM = critical incident stress management.

Conclusion

The first conclusion relates to the clear positive and high effect scores found with intensive in-home family crisis intervention—family preservation—programs. Many of the family preservation studies had comparison groups as well as intensive treatment for the experimental groups. This experimental evidence heightens the conclusion about the importance of intensive in-home crisis intervention, rather than one short crisis intervention session. *In summary, the primary finding is that ≥ 8 hr of in-home crisis intervention over a 1- to 3-month period consistently had been found to be highly effective. Also effective, but to a slightly lesser extent than the in-home modality, is multicomponent CISM as well as a 4- to 12-session format of crisis intervention.* More well-planned and methodologically rigorous experimental and quasi-experimental studies are needed on the effectiveness of crisis intervention so that practitioners and administrators can base interventions on procedures known to work.

Although 36 studies were found, which had either (a) pre–post design and a follow-up period or (b) an experimental group and control/matched comparison group plus a follow-up period, 26 were not experimental studies. With regard to sample size, 33% of the 36 studies utilized samples of less than 61. Therefore, our second conclusion is that research on crisis intervention is in its early stage of development.

Before we determine the current clinical utility and effectiveness of crisis intervention, systematic outcome research must become accepted by all therapists, educators, administrators, and funding agencies. The future horizon is bright. Promising therapeutic modalities have emerged as a result of recent evidence-based studies and best practices. Systematic efficacy research as well as crisis intervention outcome studies have made important progress toward

identifying the best practices. In addition, during the past decade, common factors in treatment success have been identified including therapist warmth and empathy, the therapeutic alliance, insight and feedback, and action factors such as cognitive mastery. Nathan (2004) predicts future growth and wide-ranging implementation of evidence-based treatments based on the success of the State of Hawaii Empirical Basis to Services Task Force. This interdisciplinary task force recently reviewed treatment efficacy of all empirically supported treatments for children. The findings were systematically cataloged and included effectiveness parameters across more than 100 treatment outcome studies. Thus, the State of Hawaii allocated a large segment of state funds for dissemination and implementation. In the words of Dr. Peter Nathan: “If it can be done in Hawaii, perhaps it can be done elsewhere!” (Nathan, 2004, p. 958). Finally, the National Institute of Mental Health (2002) challenged and encouraged the field of crisis intervention to conduct empirically validated research with the goal of rapidly improving assessment, early intervention, and crisis intervention protocols for individuals and groups exposed to mass violence.

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References

- Arendt, M., & Elklit, A. (2001). Effectiveness of psychological debriefing. *Acta Psychiatrica Scandinavica*, *104*, 423–437.
- Barber, M. E., Marzuk, P. M., Leon, A. C., & Portera, L. (2001). Gate questions in psychiatric interviewing: The case of suicide assessment. *Journal of Psychiatric Research*, *35*, 67–69.

- Barracough, B. M., Jennings, C., & Moss, J. R. (1977). Suicide prevention by the Samaritans: A controlled study of effectiveness. *Lancet*, *2*, 237–239.
- Berry, M. (1992). An evaluation of family preservation services: Fitting agency services to family needs. *Social Work*, *37*, 314–321.
- Bisson, J. I. (2003). Single-session early psychological interventions following traumatic events. *Clinical Psychology Review*, *23*, 481–499.
- Bisson, J. I., & Deahl, M. P. (1994). Psychological debriefing and prevention of post-traumatic stress: More research is needed. *British Journal of Psychiatry*, *165*, 717–720.
- Bisson, J. I., Jenkins, P. L., Alexander, J., & Bannister, C. (1997). A randomised controlled trial of psychological debriefing for victims of acute burn trauma. *British Journal of Psychiatry*, *171*, 78–81.
- Bordow, S., & Porritt, D. (1979). An experimental evaluation of crisis intervention. *Social Science and Medicine*, *13*, 251–256.
- Borg, S. E., & Stahl, M. (1982). A prospective study of suicides and controls among psychiatric patients. *Acta Psychiatrica Scandinavica*, *65*, 221–232.
- Boscarino, J. A., Adams, R. E., & Figley, C. R. (2005). A prospective cohort study of the effectiveness of employer-sponsored crisis interventions after a major disaster. *International Journal of Emergency Mental Health*, *7*, 9–22.
- Busuttill, W., Turnbull, G., Neal, L., Rollins, J., West, A., Blanch, N., et al. (1995). Incorporating psychological debriefing techniques within a brief group psychotherapy programme for the treatment for post-traumatic stress disorder. *British Journal of Psychiatry*, *167*, 495–502.
- Campbell, L. (1998). Translating intensive family preservation services across national boundaries: An Australian experience. *Child Welfare*, *77*(1), 79–94.
- Chemtob, C., Tomas, S., Law, W., & Cremniter, D. (1997). Post disaster psychosocial intervention. *American Journal of Psychiatry*, *134*, 415–417.
- Cohen, J. (1977). *Statistical power analysis for the behavior sciences*. New York: Academic Press.
- Cordy, J., & Sonnefeld, D. (1985). Quantitative synthesis: An actuarial base for planning impact evaluations. *New Directions for Program Evaluation*, *27*, 27–30.
- Deahl, M., Gillham, A., Thomas, J., Searle, M., & Srinivasan, M. (1994). Psychological sequelae following the Gulf War. *British Journal of Psychiatry*, *165*, 60–65.
- Dziegielewski, S. F., & Powers, J. T. (2005). Designs and procedures for evaluating crisis intervention. In A. R. Roberts (Ed.), *Crisis intervention handbook: Assessment, treatment and research* (3rd ed., pp. 742–773). New York: Oxford University Press.
- Evans, M. O., Morgan, G., & Hayward, A. (2000). Crisis telephone consultation for deliberate self-harm patients: How the study groups used the telephone and usual health-care services. *Journal of Mental Health*, *9*(2), 155–164.
- Everly, G. S., Boyle, S. H., & Lating, J. M. (1999). The effectiveness of psychological debriefing with vicarious trauma: A meta-analysis. *Stress Medicine*, *15*, 229–233.
- Everly, G. S., Jr., Lating, J. M., & Mitchell, J. T. (2005). Innovations in group crisis intervention. In A. R. Roberts (Ed.), *Crisis intervention handbook: Assessment, treatment and research* (3rd ed., pp. 221–245). New York: Oxford University Press.
- Flannery, R. B., Jr. (2001). Assaulted staff action program (ASAP): Ten years of empirical support for critical incident stress management (CISM). *International Journal of Emergency Mental Health*, *3*, 5–10.
- Glass, G. V., McGaw, B., & Smith, M. L. (1981). *Meta-analysis in social research*. Beverly Hills, CA: Sage Publications.
- Grady, A., & Travers, E. (2003). Hospice at home 2: Evaluating a crisis intervention service. *International Journal of Palliative Nursing*, *9*, 326–335.
- Haapala, D. A., & Kinney, J. M. (1988). Avoiding out-of-home placement of high-risk status offenders through the use of intensive home-based family preservation services. *Criminal Justice and Behavior*, *15*, 334–348.
- Hedges, L.V., & Olkin, I. (1985). *Statistical methods for meta-analysis*. Orlando, FL: Academic Press.

- Hunter, J. E., & Schmidt, F. L. (1990). *Methods of meta-analysis: Correcting error and bias in research findings*. Newbury Park, CA: Sage Publications.
- Kaul, R. E., & Welzant, V. (2005). Disaster mental health: A discussion of best practices as applied after the Pentagon attack. In A. R. Roberts (Ed.), *Crisis intervention handbook: Assessment, treatment and research* (3rd ed., pp. 200–220). New York: Oxford University Press.
- King, R., Nurcombe, B., Bickman, L., Hides, L., & Reid, W. (2003). Telephone counselling for adolescent suicide prevention: Changes in suicidality and mental state from beginning to end of a counselling. *Suicide and Life-Threatening Behavior*, *33*, 400–411.
- Kirk, R. S., & Griffith, D. P. (2004). Intensive family preservation services: Demonstrating placement prevention using event history analysis. *Social Work Research*, *28*(1), 5–16.
- Leonard, R., & Alison, L. (1999). Critical incident stress debriefing and its effects on coping strategies and anger in a sample of Australian police officers involved in shooting incidents. *Work and Stress*, *13*(2), 144–161.
- Lester, D. (1993). The effectiveness of suicide prevention programs. *Suicide and Life-Threatening Behavior*, *23*, 263–267.
- Lipsey, M. W. (1990). *Design sensitivity: Statistical power for experimental design*. Thousand Oaks, CA: Sage Publications.
- MacDonald, C. M. (2003). Evaluation of stress debriefing interventions with military populations. *Military Medicine*, *168*, 961–968.
- Mishara, B., & Diagle, M. (1997). Effects of different telephone intervention styles with suicidal callers at two suicide prevention centers: An empirical investigation. *American Journal of Community Psychology*, *25*(6), 861–885.
- Nathan, P. E. (2004). Epilogue—The clinical utility of therapy research. In A. R. Roberts & K. Yeager, *Evidence-based practice manual: Research and outcome measures in health and human services* (pp. 949–960). New York: Oxford University Press.
- National Institute of Mental Health (NIMH). (2002). *Mental health and mass violence: Evidence-based early psychological intervention for victims/survivors of mass violence*. Bethesda, MD: NIMH, National Institutes of Health, U.S. Department of Health and Human Services.
- Parad, H. J. (1971). Crisis intervention. In R. Morris (Ed.), *Encyclopedia of social work* (Vol. 1, pp. 196–202). New York: National Association of Social Workers.
- Pecora, P. J., & Fraser, M. W. (1992). Intensive home-based family preservation services. *Child Welfare*, *71*(2), 177–189.
- Raphael, B., Meldrum, L., & McFarlane, A. (1995). Does debriefing after psychological trauma work? *British Medical Journal*, *310*, 1479–1480.
- Richards, D. (2001). A field study of critical incident stress debriefing versus critical incident stress management. *Journal of Mental Health*, *10*(3), 351–362.
- Roberts, A. R. (2005). Bridging the past and present to the future of crisis intervention and crisis management. In A. R. Roberts (Ed.), *Crisis intervention handbook: Assessment, treatment and research* (3rd ed., pp. 3–33). New York: Oxford University Press.
- Roberts, A. R., & Camasso, M. J. (1991). The effect of juvenile offender treatment programs on recidivism: A meta-analysis of 46 studies. *Notre Dame Journal of Law, Ethics, and Public Policy*, *5*(2), 421–441.
- Rose, S., Brewin, C. R., Brewin, A. B., & Kirk, M. (1999). A randomized controlled trial of individual psychological debriefing for victims of violent crime. *Psychological Medicine*, *29*, 793–799.
- Ryan, J. P., & Schuerman, J. R. (2004). Matching family problems with specific family preservation services: A study of service effectiveness. *Children and Youth Services Review*, *26*, 347–372.
- Smith, M. L., Glass, G. V., & Miller, T. I. (1980). *The benefits of psychotherapy*. Baltimore, MD: Johns Hopkins University Press.
- Solomon, Z., Margalit, C., Waysman, M., & Bleich, A. V. (1991). In the shadow of the Gulf War: Psychological distress, social support and coping among Israeli soldiers in a high risk area. Israel: Department of Mental Health, Israel Defense Forces Medical Corps.

- Spooren, D., Van Heeringen, K., & James, C. (1997). Short-term outcome following referral to a psychiatric emergency service. *Crisis: International Journal of Suicide*, 18(2), 80–85.
- Stapleton, A. B. (2005). Effects of medical crisis intervention on anxiety, depression, and posttraumatic symptoms: A meta-analysis. *International Journal of Emergency Mental Health*, 7(1), 72.
- Travers, E., & Grady, A. (2002). Hospice at home 1: The development of a crisis intervention service. *International Journal of Palliative Nursing*, 8(4), 162–168.
- Van Emmerik, A. P., Kamphuis, J. H., Hulsbosch, A. M., & Emmelkamp, P. G. (2002). Single session debriefing after psychological trauma: A meta-analysis. *The Lancet*, 360, 366–371.
- Viney, L. L., Clarke, A. M., Bunn, T. A., & Benjamin, I. N. (1985). An evaluation of three crisis intervention programmes for general hospital patients. *British Journal of Medical Psychology*, 58, 75–86.
- Walton, E. (2001). Combining abuse and neglect investigations with intensive family preservation services: An innovative approach to protecting children. *Research on Social Work Practice*, 11, 627–644.
- Wells, K., & Biegel, D. E. (1992). Intensive family preservation services research: Current status and future agenda. *Social Work Research and Abstracts*, 28(1), 21–27.
- Westerfeld, J. S., & Heckman-Stone, C. (2003). The integrated problem-solving model of crisis intervention: Overview and application. *The Counseling Psychologist*, 31(2), 221–239.
- Wilson, D. B., Gottfredson, D. C., & Najaka, S. S. (2001). School-based prevention of problem behaviors: A meta-analysis. *Journal of Quantitative Criminology*, 17(3), 247–272.
- Wohlfarth, T., Winkel, F. W., & van den Brink, W. (2002). Identifying crime victims who are at high risk for post traumatic stress disorder: Developing a practical referral instrument. *Acta Psychiatrica Scandinavica*, 105, 451–460.
- Wold, C. I. (1973). A two-year follow-up of suicide prevention patients. *Life-Threatening Behavior*, 3(3), 171–183.
- Wolf, F. M. (1986). *Meta-analysis: Quantitative methods for research synthesis*. Beverly Hills, CA: Sage Publications.
- Wood, S., Barton, K., & Schroeder, C. (1988). In-home treatment of abusive families: Cost and placement at one year. *Psychotherapy*, 25, 409–414.