



**THE PSYCHIATRIC SEQUELAE OF A
NATURAL DISASTER:
THE 1983 ASH WEDNESDAY
BUSHFIRES.**

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Volume 1



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SUMMARY

THE PSYCHIATRIC SEQUELAE OF A NATURAL DISASTER: THE 1983 ASH WEDNESDAY BUSHFIRES.

This thesis examines the impact of the Ash Wednesday bushfires in South Australia on the mental health of the affected community. In this setting a series of different but related questions were examined in four studies. Firstly, the prevalence of psychiatric morbidity was investigated in adults and children. Such epidemiological data are necessary for the planning and delivery of psychiatric services to disaster-affected communities.

Surprisingly, the prevalence of disorder in a group of 808 primary school children was found to be significantly lower than the comparison group two months after the disaster, but then increased to be nearly twice that in a comparison population 26 months after the disaster. In a cross-sectional study of all the registered adult disaster victims ($N = 1,526$) conducted 12 months after the disaster, the prevalence of psychiatric impairment, defined by the General Health Questionnaire, was 41.7%. This represented approximately twice that found in comparable epidemiological studies of Australian communities.

Second, the aetiology of the posttraumatic morbidity caused by the disaster was examined. In the children, disorder was more related to the posttraumatic morbidity of their parents and the patterns of family interaction than the direct impact of the fires. The onset and longitudinal course of posttraumatic stress disorder was also investigated in a group of 469 fire-fighters who had had an especially intense exposure to the disaster. Their chronic morbidity was more related to predisaster variables, such a past history of psychiatric illness and neuroticism than the impact of the disaster.

Third, to help define the problems that a clinical service must manage in the aftermath of a disaster, a detailed record was kept of all the victims ($N = 36$) who presented to a general hospital psychiatric unit which served part of the fire-affected region. Most of the patients with posttraumatic stress disorders presented many months after the onset of their illness and the nature of their morbidity had often not been diagnosed, despite their frequent contact with their general practitioners. The same problem occurred in the fire-fighters.

Finally, a series of observations were made about the phenomenology of posttraumatic stress disorder. For example, intrusive imagery about the disaster was experienced by many victims who were not psychiatrically impaired. In 77% of cases, posttraumatic stress disorder coexisted with a range of other psychiatric disorders, suggesting that there are shared characteristics with both anxiety and depressive disorders. These data lead to an alternative formulation that a disorder of attention was the central impairment in posttraumatic stress disorder.

ACKNOWLEDGEMENTS

Knowledge advances by steps, not by leaps.

Thomas Babington Macaulay. 1800-1859.

This thesis is founded on the experience and knowledge of the generations of social and medical scientists who have investigated the impact of adversity on people. It owes its origins and structure to this broader community and represents the development of the knowledge of others who have examined these issues. In particular, I wish to acknowledge the generous emotional support and intellectual guidance of Professor Beverley Raphael who both introduced me to this field of interest and encouraged my on-going endeavours. Her guidance has been particularly important because investigating the effects of trauma has a substantial impact on the personal psychology of the researcher. This type of research demands a personal acknowledgement of people's vulnerability to unpredictable tragedy, and the way one resolves this issue can colour a researcher's interpretation of the data. Thus her supervision integrated an understanding of the academic and emotional issues that are relevant to disaster research.

Professor Ross Kalucy, head of the Department of Psychiatry at the Flinders University of South Australia, is to be thanked for allowing my interest in this area to develop. He did this by structuring my work load in such a way as to make it possible for me to devote my time to this enterprise and by allocating secretarial and research assistant help for the many practical tasks these studies presented. He also acted as an intellectual supervisor by acting as a sounding board and critic for my developing ideas. His ability to condense the central issues of a problem has been a constant example of the importance of intellectual discipline.

Dr. Catherine McFarlane, my wife, has acted as both an intellectual colleague and constant source of emotional support throughout the seven years this work has taken to complete. She helped me sustain my interest and energy if it began to wane, tolerated my preoccupation with this subject and listened with nurturant interest to my developing ideas.

Dr. John Clayer and Ms. Clara Pratz of the South Australian Mental Health Research and Evaluation Centre were collaborating colleagues in the project which examined the prevalence of disorder in all the registered disaster victims. They responded to my urgings to conduct this study and were responsible for the negotiations with the South Australian Government's Department of Community Welfare who distributed the questionnaires, and for the collection and the construction of the data files.

Dr. Claire Irwin and Ms. Sandra Polickansky of the Child Adolescent and Family Health Services were involved in helping me to set up the study which examined the primary school children in the south-east of the South Australia. Dr. Irwin offered her administrative support and advice about the most suitable measures of disorder in the children. Ms. Polickansky accompanied me to the schools on several occasions, having been involved in providing a clinical child psychiatric service to these schools before the disaster. She had acted as a source of advice for these schools in the days which immediately followed the fires and offered many observations about the reactions to the fires by this community which were further examined in the study.

Other colleagues have assisted aspects of the work. The late Mr. Paul Duncan-Jones, the then senior statistician of the National Health and Medical Research Council Social Psychiatry Unit, acted as an invaluable source of advice about methodology and analysis.

This body of work would not have been possible without the assistance of three people. My secretary, Ms. Jane Tamkin

uncomplainingly has coped with the constant pressure which these studies placed on the limited secretarial resources available and met the many deadlines that they created with devotion. Ms. Vija Blumbergs and Ms. Joylene Eden created the data files and conducted the analyses. These tasks required an unusual level of competence for a research assistant because of the size of the files and the longitudinal nature of many of the analyses. Particularly Ms. Eden's thoroughness has been an invaluable asset in ensuring the accuracy of the data's management and the reliability of the analyses.

Conducting research in the aftermath of a disaster places extra demands on organizations and people who are already overloaded with tasks and responsibilities. I therefore acknowledge with particular gratitude, the assistance of the headmasters and teachers involved in the study of primary school children, the Director of the Country Fire Services of South Australia and the senior fire officers who distributed the questionnaires and the administrative staff of the Department of Community Welfare who mailed the questionnaires to all the registered disaster victims. The individual subjects who gave willingly of their time and offered their experience for investigation are owed recognition and gratitude.

The following people are also thanked for their work as interviewers and occasional research assistants: Drs. Peter Papay, Eli Rafalowiz, Mary Frost, Gary Croft, Julie Matisky, Helen Schinkel, Robyn Potter, Louise Martin, Patty Valchos, Valdo Gojak, Malcolm Higgins and John Pedersen. Dr. Papay presented part of the data from the chapter about the comorbidity of posttraumatic stress disorder for his fifth year project for the Fellowship of the Royal Australian and New Zealand College of Psychiatrists. The collection, analysis and discussion of the data was under my supervision and direction.

The following bodies awarded research grants to assist in the performance of this research: National Health and Medical Research Council, the South Australian Country Fire Service Research and Training Fund, the Flinders Medical Centre Research Foundation and the S.A.S. Channel 10 Children's Medical Research Foundation.

The Australian Social Sciences Archives in Canberra and Dr. P. Burvill and Dr. R. Finlay-Jones are thanked for providing the magnetic tapes containing the data used to define the comparison groups in the study examining the prevalence of psychiatric disorder in the adult victims of the disaster (Chapter 20).

Declaration about the contents of this thesis

- a. This thesis contains no material which has been accepted for the award of any other degree or diploma in any university and that, to the best of my knowledge and belief, the thesis contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

- b. I consent to the thesis being made available for photocopying and loan if applicable if accepted for the award of the degree.

PUBLISHED WORKS ARISING FROM THIS THESIS

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2. McFARLANE, A.C. & RAPHAEL, B. (1984), Ash Wednesday: The effects of a fire. Australian and New Zealand Journal of Psychiatry, 18:341-353. Summarized in the Digest of Neurology and Psychiatry, 1985, 205.
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Volume 2

**Section 4****THE AETIOLOGY, PHENOMENOLOGY AND
LONGITUDINAL COURSE OF POSTTRAUMATIC STRESS
DISORDERS IN ADULTS: THE FIRE-FIGHTERS' STUDY.**

- Chapter 10.** Life events and psychiatric disorder:
The role of a natural disaster.
- Chapter 11.** The relationship between psychiatric
impairment and a natural disaster:
The role of distress.
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following a natural disaster.
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Section 8: Appendix

The pages in this volume are not numbered but indexed in parts. This is because the questionnaires contained are direct copies of those used in the research.

APPENDIX

- Part 1 Instruments Used in Study of Primary School Students (chapters 4 - 9)
- Part 2 Instruments Used in Fire-fighters Study (chapters 10 - 19)
- Part 3 Instruments Used in Study of all Registered Disaster Victims (chapters 20 and 21)