

White, James David (1989) *A controlled comparative investigation of large group therapy for generalised anxiety disorder - "stress control"*. PhD thesis.

<http://theses.gla.ac.uk/3708/>

Copyright and moral rights for this thesis are retained by the author

A copy can be downloaded for personal non-commercial research or study, without prior permission or charge

This thesis cannot be reproduced or quoted extensively from without first obtaining permission in writing from the Author

The content must not be changed in any way or sold commercially in any format or medium without the formal permission of the Author

When referring to this work, full bibliographic details including the author, title, awarding institution and date of the thesis must be given

A CONTROLLED COMPARATIVE INVESTIGATION
OF LARGE GROUP THERAPY FOR
GENERALISED ANXIETY DISORDER - "STRESS CONTROL"

BY

JAMES DAVID WHITE B.A. (Hons), M.App.Sci.

IN THREE VOLUMES

VOLUME ONE

Department of Clinical Psychology

Lanarkshire Health Board

Udston Hospital

Hamilton

Thesis submitted for
degree of Ph.D

Faculty of Medicine

University of Glasgow

September, 1989

CONTENTS

VOLUME 1

List of Tables	i
List of Figures	xi
List of Appendices	xvii
Acknowledgements	xviii
Abstract	xix

INTRODUCTION	1
--------------	---

PART 1 - LITERATURE REVIEW

CHAPTER 1	GENERALISED ANXIETY DISORDER (GAD)	2
1)	GAD in DSM	4
2)	Prevalence and Onset	6
3)	Predisposition.	9
4)	Cognitive factors in GAD	12
5)	Problems of Diagnosis	14
6)	Conclusion.	25
CHAPTER 2	GENERALISED ANXIETY DISORDER - TREATMENTS	26
1)	Early Behaviour Therapy	28
2)	Relaxation Techniques	31
3)	Anxiety Management Training	42
4)	Cognitive-behavioural approaches	48
5)	Cognitive-behavioural Group Therapy.	56
6)	Methodological Issues	61
7)	Conclusions	68

CHAPTER 3	BIBLIOTHERAPY	69
1)	Behavioural Bibliotherapy	72
2)	Cognitive Bibliotherapy	74
3)	Issues in the Evaluation of Manuals	75
4)	Criteria for a Treatment Manual	83
5)	Maintaining and Enhancing Treatment Gain	86
6)	Potential Disadvantages of Treatment Manuals	87
7)	Conclusions	90
CHAPTER 4	COGNITIVE AND BEHAVIOURAL THEORIES	92
1)	Behavioural Theories	94
2)	Cognitive Theories	102
3)	Cognitive Theory - 'Revolution or Evolution'	119
CHAPTER 5	THREE SYSTEMS ANALYSIS	123
1)	Three Systems Analysis	124
2)	Criticisms of Three Systems Analysis	142
3)	Measurement of the Components	146
4)	Affect as a Separate Component	152
5)	Implications for Clinical Practice	163
CHAPTER 6	PRIMARY CARE	166
1)	Reasons for Interest 1 - 4	168
2)	Development of Psychology in Primary Care	173
3)	Conclusions	189

PART 2 - THE PRESENT STUDY

CHAPTER 7	REASONS FOR PRESENT STUDY	190
CHAPTER 8	METHOD	197
1)	Overview of Procedure	197
2)	Subjects and Subject Recruitment	198
3)	Assessment Interview	205
4)	Treatment Conditions	208
5)	Booklets	215
6)	Videos	219
7)	Benzodiazepines	220
8)	Measures	222
CHAPTER 9	STATISTICAL ANALYSIS	237
1)	Main and Process Data	238
2)	Follow-up Data	241
3)	Other Measures	242
4)	Handling of Missing Data	242
CHAPTER 10	PRELIMINARY INVESTIGATIONS	243
1)	Similarity of Baseline Measures across Conditions	244
2)	Similarity of Groups within each Active Treatment Condition	245
3)	Homogeneity of Subjects across Conditions	246
4)	Comparison of Repeated Measures Analysis of Covariance and Change Scores	246
5)	Credibility of Expectation Factors Associated with the Treatment Conditions.	246
6)	Distinctiveness of the Treatment Conditions	248
7)	Comparability with Other Studies	249

VOLUME 2

CHAPTER 11	THE EFFECTS OF DIFFERENT TREATMENTS : MAIN MEASURES (pre- to post-therapy)	252
1)	The Hypotheses	253
2)	Descriptive Analysis	253
3)	Statistical Analysis	265
4)	Addressing the Hypotheses	272
CHAPTER 12	THE EFFECTS OF DIFFERENT TREATMENTS : PROCESS MEASURES (pre- to post-therapy)	275
1)	The Hypotheses	276
2)	Descriptive Analysis	277
3)	Statistical Analysis	306
4)	Addressing the Hypotheses	330
5)	Other Measures : pre - post variables	334
CHAPTER 13	THE EFFECTS OF DIFFERENT TREATMENTS : SIX MONTH FOLLOW-UP	339
1)	Main Measures	341
2)	Process Measures	351
3)	Generalisation Effects and Global Ratings	364
4)	Component Analysis	375

PART 3 - WITHIN GROUP ANALYSES

CHAPTER 14	THE EFFECT OF THE PRESENCE OF PANIC ON TREATMENT OUTCOME	379
1)	Introduction	381
2)	Descriptive Analysis	382
3)	Statistical Analysis	384
CHAPTER 15	CONSONANT VS NON-CONSONANT TREATMENT	392
1)	Introduction	393
2)	Baseline Measures	395
3)	Comparison of the Cognitive- and Non-Cognitive- Responders within the Cognitive Therapy Condition	396
4)	Comparison of the Cognitive- and Non-Cognitive- Responders in the Cognitive, Behavioural and Cognitive-behavioural conditions	405
CHAPTER 16	SYNCHRONOUS VS DESYNCHRONOUS CHANGE AND THEIR RELATIONSHIP TO TREATMENT OUTCOME	416
1)	Relationship with Cognitive- and Non-Cognitive- Responders	417
2)	Baseline Measures	419
3)	Analysis of Treatment Outcome	419
CHAPTER 17	CLINICAL VS STATISTICAL SIGNIFICANCE	428
1)	ANXIETY Global Rating	431
2)	COPING Global Rating	
3)	TREATMENT OUTCOME Global Rating	439

CHAPTER 18	PREDICTING RESPONSE TO STRESS CONTROL	444
1)	Introduction	445
2)	Pearson Correlation	446
3)	Stepwise Multiple Regression	451
4)	Conclusions	462

CHAPTER 19	A COMPARISON OF TREATMENT RESPONDERS AND NON-RESPONDERS	464
1)	Introduction	465
2)	Criteria for Treatment Non-responders	465
3)	Stepwise Discriminant Analysis	469

PART 4

CHAPTER 20	DISCUSSION	472
A)	Psychological Treatments and their Effects	474
B)	Within Group Analyses	496
C)	Impressions of Stress Control	507
D)	Comparison with Other Treatment Outcome Studies	535
E)	Non-specific Factors	543
F)	Suggestions for Future Investigations	554

VOLUME 3

APPENDIX 1	561
APPENDIX 2	576
APPENDIX 3	589
APPENDIX 4	590
APPENDIX 5	657
APPENDIX 6	723
APPENDIX 7	791
APPENDIX 8	852
APPENDIX 9	877
APPENDIX 10	883
APPENDIX 11	884
REFERENCES	889

LIST OF TABLES

PAGE NO.

TABLE 1	:	Subject allocation details for the five experimental conditions.	203
TABLE 2	:	Details of subject characteristics for the five experimental conditions.	204
TABLE 3	:	Reading ease and intelligibility measures for the treatment booklets.	218
TABLE 4	:	Subjects taking benzodiazepines during therapy.	221
TABLE 5	:	Comparison across treatment conditions of mean scores on credibility rating (SCQ 2-4)	247
TABLE 6	:	Comparison across treatment conditions of mean scores on the expectancy rating (SCQ5).	248
TABLE 7	:	Comparison of mean pre-therapy scores - present study and other treatment outcome studies.	250
TABLE 8	:	Comparison across experimental conditions of SD scores at pre-therapy , mid-therapy and post-therapy for each of the main variables.	254
TABLE 9	:	Comparison across experimental conditions of SD scores at pre-therapy, mid-therapy and post-therapy for each of the main variables.	263
TABLE 10	:	Repeated measures analysis of pre-post variables across the experimental period using MANOVA.	266
TABLE 11	:	ANOVAs conducted upon each main variable at post-therapy across the five experimental conditions.	267
TABLE 12	:	Time within Treatment group simple effects and sub-effects at mid- and post-therapy.	269

TABLE 13	: Comparison across experimental conditions of mean scores during baseline and final week of therapy for each of the three diary scales.	278
TABLE 14	: Comparison across experimental conditions of mean scores at pre-therapy and post-therapy for FSAQ sub-scales and total scores.	279
TABLE 15	: Comparison across experimental conditions of mean scores at pre-therapy and post-therapy for each of the CRQ sub-scales.	280
TABLE 16	: Comparison across treatment conditions of mean scores during the first and final sessions for the four Imaginal Test sub-scales.	281
TABLE 17	: Comparison across experimental conditions of SD scores during baseline and the final week of therapy for each of the three diary scores.	302
TABLE 18	: Comparison across experimental conditions of SD scores at pre-therapy and post-therapy for the FSAQ measures.	303
TABLE 19	: Comparison across experimental conditions of SD scores at pre-therapy and post-therapy for the CRQ measures.	304
TABLE 20	: Comparison across experimental conditions of SD scores at Session 1 and Session 6 for the Imaginal Test measures.	305
TABLE 21	: Repeated measures analysis of diary variables across the experimental period using MANOVA.	306
TABLE 22	: ANOVAs conducted upon diary measures during the experimental period across the five experimental conditions.	307

TABLE 23	:	Time within Treatment Group simple effects and sub-effects at each data-point presented for each experimental condition for the diary measures.	310
TABLE 24	:	Repeated measures analysis of FSAQ variables across the experimental period using MANOVA.	312
TABLE 25	:	ANOVAs conducted upon FSAQ variables during the experimental period across the five experimental conditions.	313
TABLE 26	:	Time within Treatment Group simple effects and sub-effects at each data point presented for each experimental condition for the FSAQ measures.	316
TABLE 27	:	Repeated measures analysis of CRQ variables across the experimental period using MANOVA.	318
TABLE 28	:	ANOVAs conducted upon CRQ variables during the experimental period across the five experimental conditions.	319
TABLE 29	:	Time within Treatment Group simple effects and sub-effects at each data point presented for each experimental condition for the CRQ variables.	321
TABLE 30	:	Repeated measures analysis of Imaginal Test process variables across the experimental period using MANOVA.	324
TABLE 31	:	ANOVAs conducted upon Imaginal Test variables during the experimental period across the four treatment conditions.	325
TABLE 32	:	Time within Treatment Group simple effects and effects at each data point presented for each treatment condition for the Imaginal Test variables.	326

TABLE 33	: Comparison across treatment groups of mean and SD scores pre- and post-therapy and significance levels of PAIRED T-TESTS applied on mean scores within each treatment condition for patient and spouse global ratings of anxiety.	335
TABLE 34	: Comparison across treatment groups of mean scores, SDs, pre- and post-therapy and significance level of PAIRED T-TESTS applied on mean scores within each treatment condition for patients' global ratings of "coping".	337
TABLE 35	: Comparison across treatment conditions of mean scores pre- and post-therapy and follow-up for main measures.	342
TABLE 36	: T-TEST comparisons (post-therapy - follow-up) of the main measures for each of the treatment conditions.	347
TABLE 37	: Comparison across treatment conditions of SD scores pre- and post-therapy and follow-up for main measures.	349
TABLE 38	: Comparison across treatment conditions of mean scores pre- and post-treatment and follow-up for each of the FSAQ and CRQ measures.	352
TABLE 39	: T-TEST comparisons (post-therapy - follow-up) of FSAQ and CRQ variables for each of the treatment conditions.	360
TABLE 40	: Comparison across treatment conditions of SD scores pre- and post-therapy and at follow-up for process variables.	362
TABLE 41	: Comparison across treatment conditions of mean and SD values pre- and post-therapy and follow-up for patient and spouse global ratings of anxiety.	365

TABLE 42	:	T-TEST comparisons for each of the treatment conditions of patient and spouse global ratings of anxiety.	366
TABLE 43	:	Comparison across treatment conditions of mean and SD values pre- and post-therapy and follow-up for patient global ratings of "coping".	368
TABLE 44	:	T-TEST comparisons for each of the treatment conditions of global ratings of "coping."	369
TABLE 45	:	Comparison across treatment conditions of mean scores and SD scores of credibility ratings (SCQ 2-4).	370
TABLE 46	:	Comparison across treatment conditions of mean scores and SD scores of expectation of- and actual-treatment outcome.	371
TABLE 47	:	Comparison across treatment conditions of G.P. consultation rates for the six months pre- and post-therapy.	372
TABLE 48	:	Comparison across treatment conditions of PAIRED T-TESTS of G.P. consultations.	372
TABLE 49	:	Comparison of mean and SD scores across treatment conditions of benzodiazepine prescriptions issued during the six month periods pre- and post-therapy.	373
TABLE 50	:	PAIRED T-TEST comparisons of benzodiazepine prescriptions issued for each of the treatment conditions.	374
TABLE 51	:	Comparison across treatment conditions of mean ratings on 'general' and 'specific' items of Components Questionnaire with rankings in parentheses.	376

TABLE 52	: Comparison across treatment conditions of mean and SD scores of 'general' and 'specific' items of the Components Questionnaire.	377
TABLE 53	: Comparisons across the three active treatment conditions (sub-divided into panic and no panic groups) of mean and SD scores at pre- and post-therapy and follow-up for each of the main measures.	383
TABLE 54	: Repeated measures analysis of main measures across the active treatment conditions (sub-divided into panic and no panic) using MANOVA during therapy.	385
TABLE 56	: Time within Treatment group simple effects and sub-effects at mid- and post-therapy presented separately for each of the six conditions (panic and no panic).	387
TABLE 57	: T-TEST comparisons (post-therapy - follow-up) of the main measures for each of the active treatment conditions (panic and no panic).	389
TABLE 58	: Comparison of the cognitive- and non-cognitive responders within the Cognitive therapy condition of mean and SD scores at pre- and post-therapy and follow-up for each of the main measures.	397
TABLE 59	: Repeated measures analysis of main measures across the cognitive and non-cognitive responder groups within the Cognitive therapy condition using MANOVA during pre- and post-therapy.	400
TABLE 60	: Time within Treatment Group simple effects and sub-effects at mid- and post-therapy presented separately for the cognitive- and non-cognitive responders within the Cognitive therapy condition.	402

TABLE 61	:	T-TEST comparisons (post-therapy - follow-up) of the main measures for the cognitive and non-cognitive responders within the Cognitive therapy condition.	403
TABLE 62	:	Comparisons of the cognitive and non-cognitive responders within the three active therapy conditions of mean scores and SD scores at pre-therapy, post-therapy and follow-up for each of the main measures.	406
TABLE 64	:	Repeated measures analysis of main measures across the cognitive- and non-cognitive responders within each of the three active treatment conditions using MANOVA during therapy.	410
TABLE 65	:	Time within Treatment group simple effects and sub-effects at mid- and post-therapy presented separately for the cognitive and non-cognitive responders within each of the three active treatment conditions.	411
TABLE 66	:	T-TEST comparisons (post-therapy - follow-up) of the main measures for the cognitive- and non-cognitive responders within the three active treatment conditions.	413
TABLE 67	:	Comprison across conditions of patients meeting the criteria for cognitive responders desynchrony status.	419
TABLE 68	:	Comparisons across the three active treatment conditions of patients classified as either synchronous or desynchronous of mean and SD scores at pre- and post-therapy and at follow-up for each of the main measures.	420
TABLE 69	:	Repeated measures analysis of main measures across the active treatment conditions of patients classified as either synchronous or desynchronous using MANOVA during therapy.	423

TABLE 70	: Time within Treatment Group simple effects and sub-effects at mid- and post-therapy presented separately for each of the six groups (synchronous and de-synchronous across treatment conditions).	424
TABLE 71	: T-TEST comparisons (post-therapy - follow-up) of the main measures for each of the six group (synchronous and desynchronous across treatment conditions).	426
TABLE 72	: Comparisons across the four treatment conditions of percentage changes of ANXIETY global ratings (SCQ1).	431
TABLE 73	: Comparisons across the four treatment conditions of percentage change of COPING global changes (CQ7).	436
TABLE 74	: Percentage scores of TREATMENT OUTCOME global ratings across the four treatment conditions.	440
TABLE 75	: Predictor variables and their relationship with the same variable at post-therapy across the four treatment conditions.	447
TABLE 76	: Predictor variables and their relationship with the same variable at follow-up across the four treatment conditions.	449
TABLE 77	: Multiple Regression analyses showing the contribution of each variable to prediction of outcome at post-therapy for the four treatment conditions combined.	453
TABLE 78	: Multiple Regression analyses showing the contribution of each variable to prediction of outcome at follow-up for the four treatment conditions combined.	454
TABLE 79	: Multiple Regression analyses showing the contribution of each variable to prediction of outcome at post-therapy for the Cognitive condition.	455

TABLE 80	: Multiple Regression analyses showing the contribution of each variable to prediction of outcome at follow-up for the Cognitive Condition.	455
TABLE 81	: Multiple Regression analyses showing the contribution of each variable prediction of outcome at post-therapy for the Behavioural condition.	457
TABLE 82	: Multiple Regression analyses showing the contribution of each variable to prediction of outcome at follow-up for the Behavioural condition.	457
TABLE 83	: Multiple Regression analyses showing the contribution of each variable to prediction of outcome at post-therapy for the Cognitive-behavioural condition.	459
TABLE 84	: Multiple Regression analyses showing the contribution of each variable to prediction of outcome at follow-up for the Cognitive-Behavioural condition.	459
TABLE 85	: Summary of multiple regression analyses showing the amount of variance explained by the predictor variables across conditions at post-therapy and at follow-up.	461
TABLE 86	: Classification of patients, at follow-up, into successes and failures across the active therapy conditions.	466
TABLE 87	: Comparison of treatment successes and failures of mean scores at pre-therapy and follow-up for each of the main measures.	468
TABLE 88	: Stepwise discriminant analysis of treatment success and failure.	470
TABLE 89	: Number and percentage of cases classified into treatment sucess or failure by stepwise discriminant analysis.	470

TABLE 90	:	Comparison across studies of mean scores at pre-therapy and follow-up.	536
TABLE 91	:	Comparison across studies of mean amount of time spent in patient contact.	540
TABLE 92	:	Comparison across studies of average drop-out rates across treatment conditions within each study.	541

LIST OF FIGURES

Page No.

FIGURE 1	: Comparison across experimental conditions of mean scores at pre-, mid- and post-therapy for STAI:A-State.	256
FIGURE 2	: Comparison across experimental conditions of mean scores at pre-, mid-, and post-therapy for STAI:A-Trait.	257
FIGURE 3	: Comparison across experimental conditions of mean scores at pre-, mid-, and post-therapy for DAS.	258
FIGURE 4	: Comparison across experimental conditions of mean scores at pre-, mid-, and post-therapy for FSS.	259
FIGURE 5	: Comparison across experimental conditions of mean scores at pre-, mid-, and post-therapy for BDI.	260
FIGURE 6	: Comparison across experimental conditions of mean scores at pre-, mid-, and post-therapy for MSPQ.	261
FIGURE 7	: Comparison across experimental conditions of mean scores for diary ANXIETY variable during baseline and across the experimental period.	283
FIGURE 8	: Comparison across experimental conditions of mean scores for diary TIME variable during baseline and across the experimental period.	284

FIGURE 9	: Comparison across experimental conditions of mean scores for diary COPE variable during baseline and across the experimental period.	285
FIGURE 10	: Comparison across experimental conditions of mean scores for FSAQ Cognitive component across the experimental period.	287
FIGURE 11	: Comparison across experimental conditions of mean scores for FSAQ Behavioural component across the experimental period.	288
FIGURE 12	: Comparison across experimental conditions of mean scores for FSAQ Somatic component across the experimental period.	289
FIGURE 13	: Comparison across experimental conditions of mean scores for FSAQ Mood component across the experimental period.	290
FIGURE 14	: Comparison across experimental conditions of mean scores for FSAQ Total score across the experimental period.	291
FIGURE 15	: Comparison across conditions of mean scores for the CRQ Active-Cognitive coping scale across the experimental condition.	293
FIGURE 16	: Comparison across conditions of mean scores for the CRQ Active-Behavioural coping scale across the experimental condition.	294
FIGURE 17	: Comparison across conditions of mean scores for the CRQ Avoidance coping scale across the experimental condition.	295

FIGURE 18	: Comparison across treatment condition of mean scores for the Imaginal Test - Negative self-statements across the experimental period.	296
FIGURE 19	: Comparison across treatment condition of mean scores for the Imaginal Test - Positive self-statements across the experimental period.	297
FIGURE 20	: Comparison across treatment condition of mean scores for the Imaginal Test - Anxiety ratings across the experimental period.	298
FIGURE 21	: Comparison across treatment condition of mean scores for the Imaginal Test - Anxiety ratings across the experimental period.	299
FIGURE 22	: Comparison across treatment conditions of mean scores at pre-, mid- and post-therapy and six month follow-up for STAI:A-State.	343
FIGURE 23	: Comparison across treatment conditions of mean scores at pre-, mid- and post-therapy and six month follow-up for STAI:A-Trait.	347
FIGURE 24	: Comparison across treatment conditions of mean scores at pre-, mid- and post-therapy and six month follow-up for DAS.	344
FIGURE 25	: Comparison across treatment conditions of mean scores at pre-, mid- and post-therapy and six month follow-up for FSS.	344

FIGURE 26	: Comparison across treatment conditions of mean scores at pre-, mid- and post-therapy and six month follow-up for BDI.	345
FIGURE 27	: Comparison across treatment conditions of mean scores at pre-, mid- and post-therapy and six month follow-up for MSPQ.	345
FIGURE 28	: Comparison across treatment conditions of mean scores at pre-, mid- and post-therapy and six month follow-up for FSAQ-Cognitive Component.	354
FIGURE 29	: Comparison across treatment conditions of mean scores at pre-, mid- and post-therapy and six month follow-up for FSAQ-Behavioural Component.	354
FIGURE 30	: Comparison across treatment conditions of mean scores at pre-, mid- and post-therapy and six month follow-up for FSAQ-Somatic Component.	355
FIGURE 31	: Comparison across treatment conditions of mean scores at pre-, mid- and post-therapy and six month follow-up for FSAQ-Mood Component.	355
FIGURE 32	: Comparison across treatment conditions of mean scores at pre-, mid- and post-therapy and six month follow-up for FSAQ Total Score component.	356
FIGURE 33	: Comparison across treatment conditions of mean scores at pre-, mid- and post-therapy and six month follow-up for CRQ-Active-Cognitive coping scale.	357

FIGURE 34	: Comparison across treatment conditions of mean scores at pre-, mid- and post-therapy and six month follow-up for CRQ-Active-Behavioural coping scale.	358
FIGURE 35	: Comparison across treatment conditions of mean scores at pre-, mid- and post-therapy and six month follow-up for CRQ-Avoidance coping scale.	358
FIGURE 36	: Percentage change scores (pre-therapy - post-therapy and pre-therapy - follow-up) for the Cognitive condition - ANXIETY global rating.	432
FIGURE 37	: Percentage change scores (pre-therapy - post-therapy and pre-therapy - follow-up) for the Behavioural condition - ANXIETY global rating.	433
FIGURE 38	: Percentage change scores (pre-therapy - post-therapy and pre therapy - follow-up) for the Cognitive-Behavioural condition - ANXIETY global rating.	433
FIGURE 39	: Percentage change scores (pre-threrapy - post-therapy and pre-therapy - follow-up) for the Placbo condition - ANXIETY global rating.	434
FIGURE 40	: Percentage change scores (pre-therapy - post-therapy and pre-therapy - follow-up) for the Cognitive condition - COPING global rating.	436
FIGURE 41	: Percentage change scores (pre-therapy - post-therapy and pre-therapy - follow-up) for the Behavioural condition - COPING global rating.	437

FIGURE 42	:	Percentage change scores (pre-therapy - post-therapy and pre-therapy - follow-up) for the Cognitive-Behavioural Condition - COPING global rating.	437
FIGURE 43	:	Percentage change scores (pre-therapy - post-therapy and pre-therapy - follow-up) for the Placebo condition - COPING global rating.	438
FIGURE 44	:	Percentage change scores of TREATMENT OUTCOME global ratings at post-therapy and at follow-up for the Cognitive condition.	440
FIGURE 45	:	Percentage change scores of TREATMENT OUTCOME global ratings at post-therapy and at follow-up for the Behavioural condition.	441
FIGURE 46	:	Percentage change scores of TREATMENT OUTCOME global ratings at post-therapy and at follow-up for the Cognitive-Behavioural condition.	441
FIGURE 47	:	Percentage change scores of TREATMENT OUTCOME global ratings at post-therapy and at follow-up for the Placebo condition.	442

LIST OF APPENDICES

APPENDIX 1	ANXIETY DISORDER INTERVIEW SCHEDULE - REVISED.(EXTRACTS)	561
APPENDIX 2	DESCRIPTION OF THERAPY CONDITIONS.	576
APPENDIX 3	LIST OF MUSIC TRACKS - PLACEBO CONDITION.	589
APPENDIX 4	COGNITIVE THERAPY BOOKLET.	590
APPENDIX 5	BEHAVIOUR THERAPY BOOKLET.	657
APPENDIX 6	COGNITIVE-BEHAVIOUR THERAPY BOOKLET.	723
APPENDIX 7	PLACEBO THERAPY BOOKLET.	791
APPENDIX 8	MEASURES USED IN PRESENT STUDY.	852
APPENDIX 9	LIST OF ANXIETY-PROVOKING SITUATIONS USED IN IMAGINAL TEST.	877
APPENDIX 10	SEQUENCE OF IMAGINAL TEST SITUATIONS.	883
APPENDIX 11	COMPONENTS QUESTIONNAIRE - ALL VERSIONS.	884

ACKNOWLEDGEMENTS

I am indebted to the following for their help with this project:

Professor D.N. Brooks, Department of Psychological Medicine,
University of Glasgow who supervised and reviewed the manuscript.

Dr M.G.T. Dow, formerly of Stobhill Hospital Glasgow, now at
Department of Health Sciences, Cumberland College, Sydney, Australia
for reviewing an earlier draft of this manuscript.

Lanarkshire Health Board for the funds which made this project possible.
and Brenden Geraghty, Top Grade Psychologist, Lanarkshire Health Board
for allowing me the time to carry out this project.

Moirra Ford for all the work that has gone into typing this thesis.

The General Practitioners in Hamilton/ East Kilbride Unit for their
help in gathering data for the objective measures used in the study.

Particular thanks to all the patients who participated in this project
and whose enthusiastic involvement in Stress Control made the project
both satisfying and enjoyable.

I am deeply grateful to my colleague, Mary Keenan who is the co-deviser
of Stress Control. As co-therapist, her personality and skill have
significantly contributed to any success we have achieved.

Finally, and most of all, with love to my wife, Lilian, for her constant
encouragement and patience without which this project could not have
been undertaken.

ABSTRACT.

One hundred and nine generalised anxiety disorder (GAD) patients, referred by their General Practitioners to a clinical psychology primary care service, were assigned to either Cognitive, Behavioural, Cognitive-behavioural, Placebo or Waiting List conditions. 'Stress Control' large group therapy combined didactic therapy with a workshop model and emphasised the aim of turning patients into their own 'therapists' in order to enable them to deal with present and future problems. Patients were thus encouraged to view Stress Control as an "evening class" rather than "group therapy". Measures of treatment process and outcome were obtained mainly from self-report instruments. Follow-up data were collected at six months post-treatment.

At post-therapy, all active therapy conditions and, against expectation, the Placebo condition had shown significant time within treatment group change. The active therapy conditions, and to a lesser extent, the Placebo condition, were significantly different to the Waiting List condition, which, overall showed no evidence of improvement. At follow-up the active therapy condition generally enhanced therapy gains while the Placebo condition maintained therapy gains.

Process measures did not, with the exception of self-statement change, differentiate between the groups. Noted variable response in the main analyses was somewhat explained by various sub-group analyses. There appeared to be little benefit in dividing patients into those who experienced panic and those who did not. There was some evidence that 'matching' patients to therapy, i.e. cognitive responders to cognitive

therapy was of value at post-therapy although differences generally disappeared at follow-up. Synchronous change was associated with enhanced performance. Finally, attempts to predict response to Stress Control by a comparison of responders and non-responders were attempted and the results assessed in terms of clinical as opposed to statistical significance.

The results of the present study are discussed with reference to other treatment outcome studies and an attempt to produce a model to account for the similar effects found across treatment conditions. The implications of these findings and some suggestions for future research for GAD and other diagnostic categories are discussed.

INTRODUCTION

Generalised Anxiety Disorder (GAD) appears to be the most frequently occurring anxiety disorder in the community and GAD patients may comprise one-fifth of all referrals to primary care clinical psychology services (Espie & White, 1986). In a period of increasing dissatisfaction with the use of benzodiazepines as a treatment approach for this group, it is argued that clinical psychology services in primary care are well placed to provide effective treatment for this population. The literature on GAD reflects the difficulties imposed by the substantial alterations in the classification of GAD as study populations fitting DSM-III criteria may not be the same as those fitting DSM-III-R criteria. Perhaps related to the diagnostic difficulties associated with this population, GAD, in contrast to other anxiety conditions, e.g. Panic Disorder, has not been studied in depth (Hoehn-Saric, 1985).

Recent treatment outcome studies, based on research demonstrating an association between anxiety and a variety of cognitions (e.g. Hibbert, 1984), suggest that cognitive-behavioural approaches may be beneficial in dealing with patients described as "difficult customers" (Woodward & Jones, 1980). Although reasonably successful, little work has so far focused on the process of change. In addition, no placebo condition has so far been included in an outcome study.

The present study was conducted to provide systematic and controlled evaluation, using G.P. referred patients, of a large-group therapy approach designed not only as a short-term, cost effective approach to primary care treatment but also to investigate the process of change during treatment and to investigate the relative contribution of specific and non-specific treatment components.

PART 1

LITERATURE REVIEW

CHAPTER 1

GENERALISED ANXIETY DISORDER

While behavioural treatments have been shown to be successful for problems with an identifiable external focus, e.g. agoraphobia (Mathews et al, 1981) and obsessive-compulsive disorder (Foa et al, 1984), these treatments have been shown to be limited in the treatment of disorders characterised by a lack of external anxiety cues such as GAD. However, there has recently been a promising surge of interest which has focused on the internal fear cues associated with GAD and Panic Disorder (PD). In part this has been facilitated by changes in the Diagnostic and Statistical Manual of Mental Disorders (DSM), particularly by the delineation of GAD and PD in DSM-III (1980) and, more recently, in the revised version of this manual, DSM-III-R (1987).

This chapter will concentrate on Generalised Anxiety Disorder and divides into 6 sections:

- 1). GAD IN DSM.
- 2). PREVALENCE AND ONSET.
- 3). PREDISPOSITION.
- 4). COGNITIVE FACTORS IN GAD.
- 5). PROBLEMS OF DIAGNOSIS.
- 6). CONCLUSION.

1). GAD IN DSM

Although the DSM of the American Psychiatric Association has undergone revisions over the decades, DSM-III represented the most radical departure from its predecessors. In particular, the removal of the rather vague category of 'Anxiety Neurosis' allowed, for the first time, the distinction to be made between GAD and PD. Influenced by the work of Klein (1962, 1964, 1981), this distinction is now widely accepted although many authors raise the issue of whether there are true differences between these categories or whether they simply represent different points on a dimension of severity of anxiety (Lowe et al, 1984; Mathews, 1985). The division has probably been welcomed more in the United States than in Britain where Tyrer (1984) noted that, following the removal of the original criteria for classifying anxiety neurosis, DSM-III had turned GAD into "an atavistic ghost of its predecessor that can hardly stand alone as a diagnostic entity" (page 79).

In fact, the DSM-III definition of GAD produced so much confusion that few researchers or clinicians could agree on individuals who would meet the definition. This was influenced by the fact that, within DSM-III, GAD is considered a residual category only to be diagnosed if the specific symptoms of Phobic Disorder, Panic Disorder or Obsessive Compulsive Disorder are not present. This convention is absent in DSM-III-R which accords GAD equivalent status to the other anxiety disorders.

Almost all hierarchical exclusionary rules are eliminated thus allowing the establishment of patterns of comorbidity, i.e. a patient can be assigned several diagnoses of which one will normally be assigned a primary status. The criteria are more restrictive. In order to distinguish GAD from transient stress reactions, the minimum duration of symptoms has been extended from one month to six months and diagnosis requires the presence of at least six of the listed eighteen symptoms. Also of great importance, the diagnosis of GAD, unlike its predecessor, now allows for the presence of panic attacks. Thus DSM-III-R defines GAD as:

- A. Unrealistic or excessive anxiety and worry (apprehensive expectation) about two or more life circumstances, e.g. worry about possible misfortune to one's child (who is in no danger) and worry about finances (for no good reason), for a period of six months or longer, during which the person has been bothered more days than not by these concerns. In children and adolescents, this may take the form of anxiety and worry about academic, athletic, and social performance.
- B. If another AXIS I disorder is present, the focus of the anxiety and worry in A is unrelated to it, e.g., the anxiety or worry is not about having a panic attack (as in Panic Disorder), being embarrassed in public (as in Social Phobia), being contaminated (as in Obsessive Compulsive Disorder), or gaining weight (as in Anorexia Nervosa).
- C. The disturbance does not occur only during the course of a Mood Disorder or a psychotic disorder.
- D. At least six of the following 18 symptoms are often present when anxious (do not include symptoms present only during panic attacks):

Motor Tension

- (1) trembling, twitching or feeling shaky
- (2) muscle tension, aches, or soreness
- (3) restlessness
- (4) easy fatiguability

Autonomic hyperactivity

- (5) shortness of breath or smothering sensation
- (6) palpitations or accelerated heart rate (tachycardia)
- (7) sweating, or cold clammy hands
- (8) dry mouth
- (9) dizziness or lightheadedness
- (10) nausea, diarrhoea, or other abdominal distress
- (11) flushes (hot flashes) or chills
- (12) frequent urination
- (13) trouble swallowing or "lump in throat"

Vigilance and scanning

- (14) feeling keyed up or on edge
- (15) exaggerated startle response
- (16) difficulty concentrating or "mind going blank" because of anxiety
- (17) trouble falling or staying asleep
- (18) irritability.

- E. It cannot be established that an organic factor initiated and maintained the disturbance, e.g. hyperthyroidism, caffeine intoxication.

The cardinal feature of GAD is apprehensive expectation (Barlow, 1988b) while the most common spheres of worry have been shown to be family, money and work (Sanderson and Barlow, 1986).

2). PREVALENCE AND ONSET

Prevalence of GAD has been difficult to establish due to poorly defined diagnostic criteria and to alterations in these criteria e.g. DSM-III specifically excludes panic in GAD whereas DSM-III-R allows for the presence of panic as long as the frequency and severity of panic attacks do not reach the criteria for Panic Disorder. In addition, as there is no clear dividing

line between 'normal' and 'clinical' anxiety, the accurate determination of onset is beset with difficulties.

i. Studies prior to specific diagnostic criteria

Marks and Lader (1973) found a good deal of agreement among five populations conducted in the U.S.A., Great Britain and Sweden between 1943 and 1966. They reported a prevalence rate of between 2 and 4.7 per 100. Anxiety states were more prevalent in women especially between the ages of 16 and 40.

Barlow et al (1984) cite a Gallup Organisation Survey in the U.S.A. which found marked anxiety in 30 to 40% of the general population with greater prevalence in females. Lader (1975) notes similar levels in a British study. Marsland et al (1976) found that anxiety was the fifth most common diagnosis in medical practices in Virginia. Dunn (1983) states that 'anxiety neurosis' was the most common psychological disorder diagnosed by G.P.s in Britain. Weissman (1985) reviewed an additional nine community studies of anxiety states. Due to variations in diagnostic methodology and time periods studied, little can be said definitively. However, the studies, in general, are in agreement with those reviewed by Marks and Lader (1973).

ii. Studies using specific diagnostic criteria

Data are available from epidemiologic surveys, all in the U.S.A. and which utilize structured diagnostic interviews and specified criteria.

a). New Haven Survey

Using the Schedule for Affective Disorders and Schizophrenia-Lifetime Version (SADS-L), Weissman et al (1978) found a prevalence rate for GAD of 2.5 per 100 in Connecticut. They found a substantial overlap within the anxiety disorder group - over 80% of all individuals diagnosed as GAD had had at least one other anxiety disorder in their lifetime. The study also found that 7% of the GAD group had major depression at some time in their life. GAD was slightly more common in middle and younger aged women, non-whites, singles and those in lower socio-economic classes.

b). National Survey of Psychotherapeutic Drug Use

From a symptom check list administered by survey interviewers in a large scale survey, Uhlenhuth et al (1983) report a prevalence rate for GAD of 6.4 per 100 (prevalence of one year) making it the most commonly identified DSM-III disorder. Women were more likely to be diagnosed as suffering from GAD.

Weissman (1985) notes the marked discrepancy between the rates (2.5 - 6.4). She suggests it may be accounted for by the fact that the former is a current rate while the latter is a one year rate. Sample sizes also differed - the Uhlenhuth study interviewed, in all categories, 3161 individuals while Weissman interviewed, in all categories, only 511 individuals.

c). Epidemiologic Catchment Area Study Survey

ECA represents the most sophisticated epidemiological study. However, only preliminary data are available for GAD. Barlow (1988b) quotes a personal communication from L.N. Robins who places the prevalence of GAD at approximately 4%. GAD thus appears to be the most frequently occurring anxiety disorder, occurring 3 - 5 times more frequently than P.D.

The onset of symptoms is generally between the ages of 16 and 26 (median 21) (Hoehn-Saric and McLeod, 1988) - Barlow et al (1986) note that in his sample of 12 GAD patients, over half reported being anxious for more than half of their lives. Akiskal (1985), on the basis of this commonly found lengthy duration of symptoms, proposed that GAD patients actually suffer from an anxious personality.

3. PREDISPOSITION

The notion that anxiety disorders are familial is not new. Cohen et al (1951) described 19 reports published between 1869 and 1948 in which a familial predisposition to anxiety was described. More recently, Carey and Gottesman (1981) and Carey (1985) reviewed studies of first degree relatives of "anxiety neurosis" probands. Rates range from 14.9 to 15.6 per 100. All of these studies are, however, open to major methodological weaknesses (Barlow, 1988b).

Two studies have specifically looked at the families of GAD probands. Cloninger et al (1981) noted a GAD rate of 3.1 per 100 among first degree relatives. A similar frequency of GAD (3.5 per 100) was found among first degree relatives of the control group. Davidson et al (1985) identify similar rates - 3.8 per 100 among parents of GAD probands and 3.2 per 100 among siblings. Torgensen (1988), on the basis of these findings, thus suggests that the specific familial transmission of GAD is negligible although a nonspecific familial transmission may exist as Davidson et al (1985) note that only one of thirteen (7%) of the patients with GAD lacked a first degree relative with a psychiatric disorder.

Family studies are, however, open to the obvious criticism that not only do they share common genes but also common environments. Torgensen (1983), using DSM-III criteria, studied twelve monozygotic (MZ) and 20 dizygotic (DZ) adult, same sex twins of whom one had been diagnosed as having GAD. In stark contrast to PD, no specific genetic transmission was apparent. However, in accordance with the Davidson et al (1985) finding, 25% of the MZ and DZ co-twins had another psychiatric disorder.

Barlow (1988b) questions whether the difference between GAD and PD on genetic predisposition is so clear cut. He suggests that the results may be artifactual due to the use of DSM-III criteria which may have led to only milder non-panicking patients being assigned a GAD diagnosis and thus any differences may reflect

differences in severity rather than differences due to diagnosis. Indeed a re-analysis of Torgensen's data finds only a genetic contribution amongst those probands who were receiving in-patient treatment but not out-patient treatment. In addition, since almost all PD patients also present with marked generalised anxiety (Barlow et al, 1986), establishing different heritability rates for PD and GAD would require at least matching the two groups on severity.

There is interesting evidence supporting the view that GAD is a consequence of environmental events. Thomas and Chess (1977, 1984) followed children from the age of three months to their late teens. They noted that various personality traits including anxiety were present already in infants. High levels of anxiety in the mothers (Windhauser, 1977) and interpersonal relationship problems in later life (Ilfield, 1979) have been found to be related to the emergence and maintenance of anxiety. Torgensen (1986) noted that 31% of twins with GAD had lost their mother, father or both parents in childhood compared with 10% of PD twins.

While further studies are clearly called for, particularly using DSM-III-R criteria, current research suggests that while GAD patients may have a non-specific genetic 'vulnerability' e.g. Eysenck's (1967) work on the autonomic nervous system, increased attention is now being paid to the cognitive factors involved in GAD.

4). COGNITIVE FACTORS IN GAD

With increased emphasis being placed on the role of information processing in anxiety disorders (e.g. see Brewin, 1988), several studies have now highlighted that the widely accepted concept of GAD as comprising diffuse fears which are, by definition, unknown, is tautologous. The focus of fear in GAD is, however, on internally - rather than externally - elicited stimuli.

Beck et al (1974) studying 32 'anxiety neurosis' patients, identified cognitions revolving around the themes of:

- 1). Physical injury, illness or death
- 2). Mental illness
- 3). Psycho-social impairment or loss of control
- 4). Failure or inability to cope
- 5). Rejection, depreciation and domination.

70% of patients had fears in at least three of these areas.

Patients without panic attacks tended to focus on psycho-social rather than physical fears.

While this study can be criticised on methodological grounds, Hibbert (1984), studying 25 patients diagnosed as suffering from generalised anxiety or panic disorder according to RDC criteria (Spitzer et al, 1978), noted similar results with cognitions centreing on the theme of personal danger. Generally anxious patients had a central fear of an inability to cope with people whereas PD patients had fears of physical danger. Similar results have also been reported by Rapee (1985). Again comparing GAD

and PD patients (DSM-III criteria) he noticed that PD patients realised the symptoms were the result of reacting in an anxious fashion and therefore harmless. . Butler and Mathews (1983) asked subjects to estimate the subjective probability of a range of hypothetical dangers. Results showed that anxiety state patients over-estimated the probability of future (hypothetical) events related to themselves but not to other people. In addition, Beck et al (1974) and Hibbert (1984) provide some evidence that the danger related thoughts precede the anxious mood and thus support the cognitive view that cognitions are central in the mediation of anxiety.

The above evidence thus suggests that GAD patients have systematic biases in the way they process incoming information and, hence, the informational value of new experiences depends on how they are processed by the individual (Brewin, 1980). This helps explain why anxiety is not diminished by experience, i.e. why anxiety does not respond to new information disconfirming the expectation of threat as previously noted.

In a series of well designed studies, Mathews and his colleagues (Mathews and McLeod, 1985, 1986; McLeod et al, 1986) have shown that GAD patients process threat cues differently to normals. Mathews and McLeod (1985) reported that, on a colour naming task, GAD subjects performance was disrupted in the presence of threat words. Similar results were reported by McLeod et al (1986).

Mathews and McLeod (1986) present evidence that GAD patients process unattended and subsequently unrecognised threat-related words differently to normal controls - a finding which has clear implications for cognitive therapy. However, Mogg et al (1987) compared GAD patients and normal controls in recall of positive and negative; threatening and non-threatening; self and other reference words. They could not demonstrate a self-referent bias favouring negative or threatening words amongst anxious patients. Indeed, these patients had a relatively poorer memory for threatening material as compared to the control group. The authors note that ^{these} this data cannot be accounted for by the cognitive schema model.

While many of the preceding studies provide some evidence for cognitive mediation in anxiety, the proposal that danger related cognitions are a reflection of change in the activation of anxiety rather than a prime determinant cannot yet be ruled out. As Beck and Emery (1985) note

"We believe that the primary pathology or dysfunction during..... an anxiety disorder is in the cognitive apparatus. However, that is quite different from the notion that cognition causes these syndromes - a notion that is just as illogical as an assertion that hallucinations cause schizophrenia". (page 85).

5). PROBLEMS OF DIAGNOSIS

i. DSM

Although DSM-III and DSM-III-R now clearly define anxiety sub-categories and allow researchers a common language for communication, they have been criticised on the grounds of being overly descriptive,

neo-Kraepelian and too medically orientated. They have been referred to as an extension of a medical approach to behavioural disturbances (McReynolds, 1979; Gormezy, 1978; Zubin, 1977).

Barlow et al (1986) noted that GAD, defined by DSM-III as a residual category, could be identified in all anxiety disorders. DSM-III-R now gives GAD equivalent status to other disorders. However, using a well tested diagnostic assessment instrument (Anxiety Disorder Interview Schedule - ADIS - Di Nardo et al, 1983), Barlow et al (1985) demonstrated a Kappa coefficient of .571 for GAD, well below the reliability level of other anxiety disorders with overt behavioural features, for example, .854 for agoraphobia with panic, .905 for social phobia. This suggests that a degree of confusion still exists as to what is or is not GAD. Changes in the criteria imposed for diagnosing GAD within DSM-III-R both reflect and enhance this confusion. It is notable that DSM-III and DSM-III-R have made more changes in the criteria for the anxiety neurosis/GAD/PD states than for other disorders. Indeed Barlow (1988b) suggests that DSM-IV, due to be published in 1992, will again involve further modification of diagnostic criteria for these disorders.

Hoehn-Saric and McLeod (1983) and Hoehn-Saric and Masek (1981) suggest that patients included in the category of GAD are not a homogeneous group. In their studies patients with comparable ratings in anxiety scales, differed significantly in physiological response patterns. Some patients responded to psychological

stress with an elevation of heart rate, skin conductance and muscle tension while other patients with similar anxiety ratings only increased levels of muscle tension while autonomic responses were comparable with those of a normal control group. Hoehn-Saric (1983) concluded that GAD represented a heterogeneous group of disorders that differ from PD in having less severe symptoms. While the stricter criteria imposed by DSM-III-R and knowledge gained from 3 Systems Theory dilutes these criticisms, the DSM convention artificially promotes clearer divisions between the disorders than exists in reality, e.g. at what point does a GAD patient who panics become a PD patient with generalised anxiety?

ii Normal versus Abnormal Anxiety

GAD is closer to normal anxiety than other anxiety disorders. Establishing a dividing line between normal and abnormal anxiety is riddled with problems. Barlow et al (1987) noted that the most frequent reason given by two independent raters for disagreement was an inability to determine whether GAD was severe enough to be classified as a disorder. DSM-III criteria for GAD required only a one month duration of symptoms - a time period which also allowed transient stress reactions to be included as GAD. DSM-III-R increased the duration of symptoms to a minimum of six months. Breslau and Davis (1985), examining the utility of extending the duration criteria from one month to six months found prevalence rates were reduced from, perhaps an excessively high estimate of 11.5% (1 month) to 2.4% (6 months). Subjects reaching the 6 month criteria also reported a greater number of symptoms as well as more severe symptoms. Thus increasing the

duration criteria helps differentiate between clinical and transient anxiety, however the manifestation of GAD seems to differ from normal anxiety only in degree, not in quality. As with blood sugar levels in diabetes and blood pressure in hypertension, the dividing line between pathological and normal is arbitrary. In practice, it is exceedingly difficult, if not impossible to decide on the dividing line between clinical and sub-clinical anxiety.

Barlow et al (1986), in a co-morbidity study noted that 83% of patients given a primary diagnosis of GAD also warranted an additional diagnosis (GAD, defined as a residual diagnosis by DSM-III, is almost always an associated feature of other anxiety disorders (see Barlow, 1985)).

In addition to difficulties in establishing the dividing line between normal and pathological anxiety, there are also difficulties in differential diagnoses between GAD, depression and PD.

iii. Relationship to Depression

Roth et al (1982) point out that

"the depression and anxiety syndromes are distinct but related phenomena separated by a limited area of diagnostic uncertainty. The clean sharp line of distinction applied by DSM-III does not apply". (page 140)

Hamilton (1980) noted cognitive symptoms of anxiety in 96% of his depressed group and somatic symptoms in 86% of this group. On cross-sectional studies, both anxiety and depressed groups score

significantly higher on depression scales (Barrett, 1981; Lipman, 1982; Heohn-Saric 1983). In addition, depression patients rate themselves as more severely impaired in all but the somatisation scores of the Hopkins Symptoms Check List (Raskin et al, 1982). Patients diagnosed as reactively depressed tend to have the same personality characteristics as those suffering from GAD (Zerssen, 1980).

However, on longitudinal examination, depression in anxiety patients is a transitory reaction to the anxiety as are the feelings of inadequacy and failure. In contrast, in depressed patients, depression dominates the picture and severe tension occurs intermittently (Roth et al, 1972). During the course of an anxiety disorder, the anxiety state is more responsive to environmental events than in depression. Hamilton (1988) suggests this is one factor in explaining the differential effect (in favour of anxiety) of the placebo response.

Beck (1976) states that each disorder can be characterised by a cognitive content specific to that disorder. In depression, the automatic thoughts, interpretations and imagery relate to the feelings of self-deprecation and negative attitude towards the past and future. Anxiety disorders, on the other hand, are characterised by the theme of danger with GAD patients misreading their experiences as constituting either a physical or psycho-social threat and over-estimating both the probability and intensity of anticipated harm in future situations. Beck et al (1987),

in a test of this "cognitive content-specificity hypothesis" show clear evidence discriminating depressed and anxious patients on the basis of the nature of the automatic thoughts.

iv. Relationship to Panic Disorder (PD)

Differential diagnosis of GAD and PD seems problematic. While PD has traditionally been viewed as somatically-based compared to GAD which has been viewed as cognitively-based (Friedman and Jaffe, 1983), Barlow et al (1984) could find no significant differences between PD and GAD patients (DSM-III criteria) on cognitive questionnaires. Hoehn-Saric and McLeod (1985) replicated this finding. Anderson et al (1984) could not differentiate PD from GAD patients on the STAI or EPI. In general, Hoehn-Saric (1981) found few differences between the two groups on a battery of psychological tests.

On somatic measures, Anderson et al (1984) reported that PD patients showed a greater number of autonomic symptoms than GAD patients as measured by questionnaires. Similar results were obtained by Rapee (1985b) and Hoehn-Saric (1981). Barlow et al (1986), however, failed to find any difference on severity of somatic symptoms between the two groups. Barlow et al (1984) noted that PD patients had lower levels of EMG activity during pre-treatment physiological assessment than GAD patients. However, the differences were statistically significant on only two of the possible twelve measures of EMG arousal and were absent on all of the heart rate measures (Marshall and Segal, 1988).

PD and GAD can be differentiated on their ideational components. Rapee (1985b) noted that GAD patients seem to realise that fears centreing around psycho-social concerns are the result of reacting in an anxious fashion and are harmless. PD patients, on the other hand, tend to attribute their symptoms to mental or physical illness. Hibbert (1984), demonstrating similar findings, noted that non-panickers had less threatening fears. Beck and Emery (1985) have elaborated on the specific cognitive processes in PD patients with the pattern of catastrophic thoughts concerning present danger, e.g. dying, losing control, becoming mentally ill, etc. Thus the ideational components suggest that GAD and PD do differ although whether this difference is fundamental or epiphenomenal, i.e. simply reflecting defining characteristics falling into each category cannot at this stage be determined.

PD and GAD patients have been shown to differ on symptoms associated with hyperventilation (Hoehn-Saric, 1982; Rapee, 1985a). Rapee (1986) noted baseline differences with PD patients showing a greater tendency to overbreathe. The same study showed PD patients recording higher resting heart rate than the GAD group (92.4 compared to 76.4 bpm). This finding replicates Barlow et al (1984).

PD patients differ from those with GAD with respect to cardio-pulmonary hyper-excitability. Ratings of muscular and gastro-intestinal symptoms do not differ between the two groups (Hoehn-Saric, 1982). Mitral valve prolapse appears to occur more frequently in PD than GAD patients (Dagger et al, 1986) although more recent evidence calls this into question (Barlow and Cerny, 1988).

Dealy et al (1981) and Raskin et al (1982) noted that PD patients report depressive episodes twice as frequently as GAD patients.

Raskin et al (1982) compared GAD and PD patients in terms of developmental and psychiatric history. The two groups were similar in terms of having experienced childhood loss, separation disorder in childhood and separation as a precipitant of anxiety in adult life. PD patients, however, reported disturbed childhood environments more frequently. Hoehn-Saric (1982) failed to find differences between PD and GAD patients in terms of childhood history, social characteristics or personality features other than the finding that GAD patients showed greater levels of introversion as measured by the EPI.

Crowe et al (1983) studied families of PD patients. The morbidity risk amongst first degree relatives of patients was 24.7% compared with 2.3% amongst relatives of controls. The risk of GAD amongst the first degree relatives was only 4.8% compared to 3.6% amongst relatives of controls. The authors took this finding as evidence that GAD and PD are separate disorders, however due to the use of DSM-III criteria, GAD was not diagnosed if panic was present thus it is possible that individuals who would reach GAD criteria in DSM-III-R were instead given a diagnosis of PD. Thus the finding may be an artifact of the diagnostic convention now discarded.

Rapee (1985b) reported that GAD patients had an earlier age of onset than PD patients (25.7 years compared to 32.3); GAD patients were more likely to have a gradual onset of symptoms; were less

likely to explicitly remember the first instance of anxiety and to show more social dysfunction as measured by the Fear Questionnaire (Marks and Mathews, 1979). Barlow et al (1986) reported that, on average, GAD patients had been anxious for 56% of their life span whereas PD patients reported anxiety for only 16% of their life span.

Twin studies appear to strongly indicate hereditary factors in PD but not GAD. Torgensen (1983) observed PD in four of the thirteen MZ co-twins of index twins with PD (or agoraphobia with panic attacks) compared to none of the 16 DZ co-twins. The concordance rates were not influenced by whether the twins had been together a lot as children, whether they had strongly identified with each other or treated as "identical" by parents. None of the 12 MZ or 20 DZ co-twins in the GAD study had been diagnosed as having GAD although five (2 MZ, 3 DZ) twins did have other anxiety disorders. This was taken as evidence of a differential hereditary input in these disorders (see also Leckman et al, 1983). Reference has been made in a previous section to Barlow's criticisms of this research.

While GAD patients can panic - both predictably and unpredictably (Barlow, 1988) and while the vast majority of PD patients have a background of GAD symptoms (Barlow et al, 1986), Klein (1981) and Sheehan et al (1980) argue that panic attacks often occur spontaneously in the absence of an underlying anxiety disorder. Barlow(1988b) estimates that 25 - 35% of the general population may occasionally experience panic in any give year. Beitman (1987)

reported that 40% of a group of cardiology patients with non-anginal chest pain evidenced clear panic attacks.

Pharmacological evidence exists for GAD and PD being treated as separate disorders. The work of Donald Klein and his colleagues has produced many reports suggesting differential response to pharmacological treatment of PD versus GAD (e.g. Klein, 1981; Zitrin, 1981; Zitrin et al, 1983). Indeed, Klein's work was a major influence in the initial separation of GAD and PD in DSM-III.

Liebowitz and Klein (1982) reported that panic attacks can be successfully treated by tricyclic anti-depressants but not, with the possible exception of alprazolam, by benzodiazepines (see Vol.45 of the Archives of General Psychiatry for the effectiveness and problems associated with Alprazolam). Anticipatory anxiety, however, generally responds to benzodiazepines but not tricyclics. There is also evidence that MAOI's are also effective in treating panic attacks (Sheehan et al, 1980, 1981).

Marks (1983) criticises these studies, citing evidence suggesting that improvement of panic symptoms occurs simultaneously with improvement in depression and other mood disturbance. Tyrer (1984) believes that these arguments show the unsatisfactory nature of DSM-III criteria for GAD and PD which are based largely on evidence of treatment response studies by Klein. Tyrer points to alternative aetiological hypotheses evolved from behaviour therapy (Matuzas and Glass, 1983). Barlow and Maser (1984) suggested that panic may simply lie at the upper end of the anxiety continuum.

Cloninger et al (1981) reported that all of the PD patients in their study suffered from symptoms of GAD from two to twelve years prior to their first panic attack. Hoehn-Saric and McLeod (1985) report that many patients seen in their anxiety disorder clinic eventually developed panic attacks after experiencing GAD symptoms for years.

However, if PD were simply GAD in its most extreme form, then we should not expect to see patients with severe and chronic anxiety symptoms who have never experienced panic attacks. Clinical evidence is clearly to the contrary. In addition, Anderson, et al (1984) have noted a lack of difference on measures of "general" anxiety such as the STAI. If PD was a more intense version of GAD, we should expect those patients to score higher than GAD patients. They do not. Indeed, Rapee (1985b) noted that PD patients scored lower than GAD patients on the Taylor Manifest Anxiety Scale. The results thus suggest that PD may be a sub-group of GAD, i.e. some but not all patients suffering from GAD will experience panic attacks.

It is clear that the separation between GAD and PD is not as clear-cut as suggested by categorical classification. In any case, separating GAD and PD, although of theoretical interest, may be of little clinical utility. Barlow et al (1984) treated PD and GAD patients using an extensive array of psychological therapies.

While reporting significant treatment success for both, they could find no significant differences between the groups in the range of measures. Due to the variety of treatments utilized in the study, however, it may have been that the PD patients responded to certain aspects of the treatment and GAD patients to others.

6). CONCLUSION

In contrast to PD which has been the target of intense investigation over the last few years, GAD has not been studied in depth (Hoehn-Saric, 1985) even although it is probably the most frequently occurring anxiety disorder in the community (Hoehn-Saric and McLeod, 1988). In the light of this lack of knowledge about GAD, it is clear that it is likely to be the focus of a good deal of cognitive and behavioural-orientated research and that this research will concentrate on the intriguing theoretical and practical problems alluded to in this chapter. This study is part of this process.

CHAPTER 2

GENERALISED ANXIETY DISORDER- TREATMENTS

GENERALISED ANXIETY DISORDER : TREATMENTS.

In contrast to anxiety disorders with a specific external focus (e.g. phobias), treatments for diffuse anxiety states (GAD and PD) have, until recently, been largely untested. In an otherwise comprehensive review of the effects of psychological treatment, Rachman and Wilson (1980) point to the paucity of studies with GAD patients while Barlow and Wolfe (1981) called for outcome research to be carried out on the effects of various psycho-social treatments in comparison to pharmacological treatments and no-treatment controls. Tyrer (1984) noted that "Behaviour therapy has nothing for anxiety compared to the treatment available for phobias" (page 81). This pessimistic view was supported by the outcome study carried out by Woodward and Jones (1980). Using both cognitive and behavioural procedures with generalised anxiety patients, they concluded that this population comprises "difficult customers" and suggest a multi-dimensional approach to treatment would be more appropriate than treatments comprising one element only. Designing appropriate treatments is hampered by the fact that although non-phobic anxiety states have been estimated at approximately 15% of all out-patient problems (Lader, 1975; Reed, 1973), the nature of these problems is still poorly understood (Barlow et al 1984).

The aim of this chapter is to look at the main treatment approaches to GAD. It divides into seven sections:

1. EARLY BEHAVIOUR THERAPY.
2. RELAXATION TECHNIQUES.
3. ANXIETY MANAGEMENT TRAINING.
4. COGNITIVE BEHAVIOURAL APPROACHES.
5. GROUP THERAPY.
6. METHODOLOGICAL ISSUES.
7. CONCLUSIONS.

1. EARLY BEHAVIOUR THERAPY

GAD has, to a large extent, been conveniently ignored by behaviour therapists, possibly due to difficulties in incorporating it into conditioning models of anxiety disorders. This difficulty arises from the diffuse nature of the condition with its high level of autonomic arousal and cognitions existing generally in the absence of avoidance of specific situations. Thus, while exposure based therapy has been well developed and proven for phobias (Barlow and Beck, 1984), it is of limited use in GAD where avoidance is unlikely to be a focal feature. As Barlow et al (1984) point out, treatments for GAD have emerged from a quite different tradition than those for clinical phobias.

Cautela (1966) noted that early behavioural attempts have been of limited success with pervasive (free-floating) anxiety. Wolpe (1958) modified the La Verne technique (1953) of giving patients single inhalations of 70% carbon dioxide and 30% oxygen. Lang (1964) states "I think... that the desensitisation of very generalised anxiety response is difficult because it is hard to isolate the conditioned stimuli for anxiety" (page 51) while Lazarus (1963) notes that these patients had the most unfavourable prognosis. Costello (1964), however, reported a successful single case study using LSD.

Although Clark (1963) cautioned against the use of systematic desensitisation in the treatments of free-floating anxiety, Cautela (1966) described the use of a systematic desensitisation approach using a combination of :

1. Reassurance.
2. Relaxation combined with implicit verbal behaviour.
3. Modification of Wolpe's desensitisation technique.
4. Assertive training.

Missing pages are unavailable

The rationale for this approach was:

1. To reciprocally inhibit anxiety and thereby reduce the need for avoidance and increase a feeling of wellbeing.
2. Give the patient the definite feeling that he can control his own behaviour.

The first two techniques were designed to achieve the first aim, the latter to achieve the second. Using these techniques, Cautela presents anecdotal evidence of successful outcome in three cases.

2. RELAXATION TECHNIQUES.

Relaxation, including meditation, represents probably the oldest and most popular treatment for anxiety. Although the idea that relaxation is an appropriate treatment for anxiety seems self-evident, there is no clear theoretical rationale for its use. (Mathews, 1985).

a). Transcendental Meditation (TM)

TM was introduced to the West in 1959 by Maharishi Mahesh Yoga. It involves sitting quietly twice daily and passively attending to a special thought or "mantra". (Smith, 1976).

In his 1975 review of the TM literature, Smith concluded that research "does show the regular practice of meditation to be associated with decrement in psycho-pathology, particularly anxiety, over a period of time ranging usually from four to ten weeks". (page 562).

Studies suggest that TM lowers physiological arousal and increases alpha density (Wallace and Benson, 1972; Wallace et al, 1971), stabilises autonomic functioning and increases skin conductance habituation (Orme-Johnson, 1973) and it decreases blood lactate concentrate (Wallace et al, 1971). All these changes are in opposition to the changes found in anxiety (Raskin et al, 1980). Studies on self-referred volunteers suggest TM is effective in reducing anxiety (Orme-Johnson, 1974; Farwell, 1974; Hjelle, 1974).

Schwartz et al (1978) describe TM as a cognitively orientated technique because, they presume reciting the mantra involves some of the same brain pathways as verbally mediated cognitions. They noted that regular meditators (cognitive intervention) report fewer cognitive but more

somatic symptoms of anxiety than people who regularly take exercise (somatic intervention).

However, these studies have associated methodological weaknesses and do not take into account Smith's cautionary point that

"The critical therapeutic variables underlying meditation could be something other than the meditation exercise. Two main possibilities not controlled for.....are:

1. Expectational relief.
 2. The regular practice of sitting quietly."
- (page 562)

In order to isolate the effects of TM exercise from expectational relief and sitting quietly, Smith (1976) compared, in two experiments, TM with two placebo conditions. Findings indicate that:

1. TM has no more effect than producing relief in volunteer anxious college students than an exercise designed to be the near antithesis of meditation - "Cortically Mediated Stabilisation".
2. TM was no more effective than a controlled treatment - "Periodic Somatic Inactivity" - involving a daily exercise of sitting with eyes closed but not meditating.

All conditions had a high rate of attrition (30 - 59%).

Raskin et al (1980) compared TM, Progressive Muscular Relaxation (PMR) and Electromyographic Biofeedback (EMG-FB) with well motivated anxious volunteers. 40% of subjects reported a clinically significant decrease in anxiety. Results indicated that there was no great difference

between the three therapies and due to the fact that subjects were a self-selecting group highly motivated to obtain symptomatic relief without the use of medication, the authors conclude that:

1. The 40% improvement rate may be an overly generous estimate of the effectiveness of these therapies.
2. TM, PMR and EMG-FB have a limited place in the treatment of chronic anxiety when used as a sole intervention.

b). Progressive muscular Relaxation

Lehrer et al (1983), as part of a series of papers on Progressive Relaxation, noted that there are generally few differences to be found between PMR and meditation even on physiological responses. In a study of anxious volunteers either recruited through newspaper adverts or referred by physicians, Lehrer adapted a procedure developed by Jacobson (1964). Subjects were not taught to use relaxation imagery or cognitions and suggestions to relax were minimised. PMR was found to be somewhat more effective than meditation although both techniques were found to be useful in decreasing stress. Of interest is the fact that PMR was administered by a therapist rather than via audio tape which appears to be less effective than "live" relaxation training (Lehrer, 1982; Brauer et al, 1979).

Canter et al (1975) compared PMR to EMG-FB in a study of in- and out-patients diagnosed as 'anxiety neurotic' of whom 50% had associated acute panic. They found that both treatments were effective in reducing frontalis tension levels. Global ratings suggest that these improvements were not clinically significant. The study can be criticised on the grounds that it appears to have involved taped verbal suggestions rather

than individualised progressive relaxation and this may have decreased treatment effects on the PMR group and that it involved variable number of treatment sessions.

Leboeuf and Lodge (1980) studying patients diagnosed as 'chronically anxious' used either PMR or EMG-FB. Although significant differences were found pre and post therapy, the authors felt that the results were disappointing as global ratings showed little change in 22 of the 26 subjects. They further suggest that as physiological variables over sessions did not seem to be related to clinical improvement, any improvements in anxiety questionnaires may have been a function of non-specific effects. As there was no placebo control, the study was unable to clarify this issue.

Hutchings (1980), in a study using generally anxious college students, found that audio-taped relaxation exercises which omitted the application of voluntary self-control of anxiety resulted in little improvement and was significantly worse than Anxiety Management Training (AMT) and Applied Relaxation (AR) on several measures although these differences generally disappeared at follow-up. Applied Relaxation led to greater decreases in anxiety than passive relaxation. This form of relaxation is taught with a self-control rationale which suggests the ability to learn voluntary control over anxiety and, further, to apply this skill when in an anxiety provoking situation (Denny, 1980); Goldfried, 1971). AR is virtually identical to cue-controlled relaxation (CCR), - the main differences being that while the former stresses in-vivo application, the latter incorporates training in PMR with repeated association of relaxation and a self-produced cue word such as 'calm' or 'control'. (Russell and Sipich, 1974). (See Barrios and Shigetomi, 1975 for a review of coping skills training).

c). Biofeedback

Rice and Blanchard (1980), in a review of the biofeedback literature, conclude that evidence exists only for electromyographic feedback (EMG-FB) as an effective treatment of anxiety. If muscular relaxation is important in decreasing anxiety, then clearly EMG-FB should be an appropriate method to utilise. This idea is based on the principle of information feedback which suggests that behaviour is altered by the individual receiving continuous information about the consequences of actions and by acting appropriately in the face of these consequences. There is evidence that EMG-FB directed upon the frontalis muscle assists in the generalisation of the relaxation response to other muscle groups (Budzynski and Stoyva, 1974).

Townsend et al (1975) compared EMG-FB relaxation and group psychotherapy with patients objectively assessed as suffering from an anxiety condition. Results indicated that the EMG-FB therapy was at least as effective as the group therapy although two week follow-up results on only certain patients are anecdotal in nature.

Canter et al (1975), treating chronically anxious patients, found improvements with both EMG-FB and audio taped PMR. By the end of therapy, EMG-FB was superior in reducing frontalis muscular tension and this improvement was noted in patients in therapists global ratings. There was slight evidence favouring better outcome with those patients experiencing panic episodes.

Leboeuf and Lodge, (1980) criticised the above study on methodological grounds and, using patients similarly diagnosed, found no difference between frontalis EMG-FB treatment and PMR even although EMG-FB was more effective in reducing frontalis activity. However, at three month follow-up only two of the eleven in the EMG group reported even 'moderate' improvement.

Lavalle et al (1977) in a study with 'chronically anxious patients', compared EMG-FB, diazepam and a control group in which the individual was asked to sit alone and devise his own relaxation strategy. At the end of treatment, the EMG-FB group showed most improvement but by six month follow-up, the control group showed greatest improvement.

Raskin et al (1980), following on from some limited success with the use of EMG with treatment-resistant chronic anxiety patients (Raskin et al, 1973) used anxious volunteers recruited via advertisements. Comparing EMG-FB, PMR and TM they could find no difference between therapies. They also suggested that the improvement rate was probably overly generous due to the selection procedure.

d). Relaxation-Induced Anxiety (RIA)

While the above studies have shown some effectiveness as a treatment of anxiety (see also Beiman et al 1978; Zuroff and Schwartz, 1978; Borkovec and Sides, 1979) evidence exists that these procedures can lead to an exacerbation of, or initiation of anxiety in some individuals (see Heide and Borkovec, 1984, for a review of RIA).

The above authors note that GAD patients in particular are prone to RIA. Reports of RIA have been furnished from studies involving PMR (Borkovec and Grayson, 1980); group therapy (Borkovec and Hemmings, 1978); EMG-FB (Raskin et al, 1973) and meditation (Hassett, 1978).

Heide and Borkovec (1983) treated 14 chronically anxious subjects with one session of either PMR or mantra meditation. 31% of the PMR group reported increased tension during the relaxation compared to 54% of the meditation group. However, only 2 subjects showed an increase in measures. Heide and Borkovec (1984) suggest five related but distinguishable mechanisms:

1. Subjects may become frightened of sensations, physiological - behavioural reactions and cognitive-affective events that are released automatically through relaxation.
 2. Subjects may fear losing control or may attempt to achieve relaxation through active, effortful strategies.
 3. Subjects may fear the experience of their anxiety to which their attention is drawn during relaxation.
 4. Subjects may fear attending to their internal experience in general as a result of dissatisfaction with self.
 5. Subjects may engage in worrisome cognitive activity about matters unrelated to relaxation.
- (page 2).

There is some empirical support for the first two mechanisms (Cohen et al, 1985; Hauri et al, 1985).

A more extreme counterpart to RIA is described by Cohen et al (1985) and Adler et al (1987), namely the phenomenon of Relaxation-Induced Panic (RIP). The phenomenon of RIP differs from RIA in terms of the suddenness and severity with which the anxiety occurs (see the special issue of Integrative Psychiatry - Volume 5, 1987 for a comprehensive review of RIP).

While not an 'epidemic', the practical and theoretical implications of RIA are of significant importance to the future treatment of anxiety conditions and, in particular, GAD. Adler et al (1987) suggest that rather than avoiding the phenomena of RIA and RIP, it may be possible to use these responses therapeutically, e.g. from a behavioural perspective, repeated exposure to feared somatic and loss of control cues should result in anxiety extinction. In addition, heightened anxiety in response to relaxation suggests that fears regarding somatic and loss of control cues should be addressed early in therapy to increase the longer term benefits from relaxation.

e). Conclusions.

The general finding in clinical studies is that no one relaxation technique offers greater benefits than any other (Tarler-Benlolo, 1978; Mathews, 1985). These techniques are more effective than no treatment conditions although many of the studies suffer from serious methodological flaws and rely too heavily on self-report measures (Delmonte, 1985). Effectiveness may also be impaired because patients do not practice persistently (Hoelsher et al, 1984). However, in many of the reports, active treatment offers no greater benefit than credible placebo treatment (e.g. Boswell and Murray, 1979; Goldman et al, 1979).

Central to Biofeedback and PMR is the premise that muscular relaxation facilitates subjective relaxation and therefore emphasis is placed on the achievement of this in, for example, Jacobsen's (1970) PMR and Schultz and Luthe's (1959) autogenic training. However, the literature now clearly rejects this. Various studies have failed to find a relationship between an increased ability to achieve muscular relaxation and clinical improvement, e.g. Raskin et al (1980) note that -

"Those individuals who had the most substantial reduction in anxiety were no different from those who had the least clinical improvement with respect to their EMG scores or changes in those scores...subjects' EMG scores rose significant from the treatment period to the post treatment period while their anxiety level remained constant" (page 96).

The above authors argue that on the basis of their findings, the ability to relax is not directly related to the reduction of anxiety symptoms and cite as evidence the fact that physiological changes over sessions were not related to clinical improvement. Johnston (1986) argues that the therapeutic effects of relaxation may, in part, be mediated by cognitive and behavioural changes which occur as a result of the subjective effect of regular practice. Plotkin and Rice (1981) suggest that the perception of control of physiological process may be as important as actual physiological change, i.e the experience of success with feedback may contribute to the therapeutic outcome even if the actual physiological change is negligible or irrelevant to the outcome.

Lehrer et al (1983) discuss two possible mechanisms to explain the relaxation effects:

A. The unitary model of arousal/relaxation (Benson et al 1974):

This suggests that all relaxation techniques provide a common integrated 'relaxation response'.

B. Multi-process model (Davidson and Schwartz, 1976):

Within this model the authors suggest that techniques focusing on somatic aspects of stress (e.g. EMG-FB) would produce a pattern of physiological change different from that produced by a cognitively focused technique (e.g. meditation).

Evidence for these two models are inconsistent and studies often suffer from methodological limitations (e.g. see Cauthen and Prymak, 1977).

Warrenburg et al (1980) produce support for a revision of the multi-process model wherein specific effects are superimposed upon a general relaxation produced by relaxation techniques (Schwartz et al, 1970). As Lehrer et al (1983) point out, this is consistent with findings that show PMR and meditation both produce reductions in various measures of arousal (see Lehrer, 1982; Woolfolk, 1975) and see Poppen (1988) for a detailed assessment of these issues.

A previous chapter noted the difficulties in obtaining a reliable physiological assessment. These problems are of relevance in bio-feedback studies. It is unreasonable to expect that teaching a person control over a single physiological response will result in total physical and psychological relaxation. Lebeouf and Lodge (1980) showed that while their EMG-FB group evidenced the greatest reduction in frontal EMG activity, there was no difference between the EMG group and

a PMR group in heart rate. These authors note "It seems unlikely that the technique could ever be the panacea for chronic anxiety since there is an increasing awareness that anxiety neurosis consists of many dimensions of behaviour other than physiological ones" (page 284).

Raskin et al (1980) conclude that relaxation treatments were insufficient in the treatment of chronically anxious subjects.

It is clear that in the treatment of complex clinical problems such as GAD, reliance on single techniques is of limited use. However, recently, there have been signs that more complex multi-dimensional treatment packages may well be of greater benefit.

3. ANXIETY MANAGEMENT TRAINING (AMT)

AMT is the most successful modification of desensitisation (Suinn and Richardson, 1971; Suinn, 1976). It can be a useful technique in cases where exposure is difficult (Deffenbacher and Suinn (1987).

Anxiety is viewed as a drive state and, by teaching patients to become aware of internal cues of anxiety and to attend to them, the individual can control anxiety symptoms without having to tackle the root causes.

Patients are initially trained in relaxation and structured rehearsal of relaxation skills is carried out during consultation (Denney, 1980). Structured rehearsal achieves two objectives:

1. Discrimination of tension cues.
2. Practice and use of relaxation to decrease anxiety.

Patients are then asked to induce anxiety, generally by mental imagery. Following the use of a standard word (e.g. "relax") or stimulus (e.g. deep breath) the patient controls the anxiety by the use of imagery and/or relaxation . The cue can then be used in-vivo. The rationale offered is that the anxiety symptoms will cue the relaxation responses and thus prevent further cueing of anxiety. AMT has been shown to be useful in studies of generalised anxiety amongst college students (Edie, 1972; Schumacher, 1976).

Hutchings et al (1980) cited earlier, in a well controlled study of 70 college volunteers who reached the criteria of scoring in the upper 15% of the distribution of the EPI (Eysenck and Eysenck, 1960) and a modified version of the Taylor Manifest Anxiety Scale (Bendig, 1956),

randomly assigned subjects to AMT, Applied Relaxation, Relaxation only, Placebo and untreated control. Results suggested that relaxation alone had little impact on general anxiety while AMT and AR were both moderately effective in reducing self-report measures of generalised anxiety. The authors concluded that the addition of a structured rehearsal component to applied relaxation led to AMT being the most effective procedure for treating generalised anxiety. They hypothesised that the rehearsal helped subjects pinpoint somatic anxiety at an earlier stage thus finding it easier to reduce. By the use of rehearsal during the consultation, subjects were better prepared to use the skills in-vivo and more confident about their ability to cope.

While studies using college volunteers may, at times, be of use in the development of therapies, care has to be taken about generalising from this population to a clinical population. Bernstein and Paul (1971) assert that analogue and clinical subjects are sufficiently dissimilar as to obstruct the generalisation of findings from one population to another (evidence for this assertion has been found by Sallis et al, 1980).

Sipprelle (1967) offered a variant of AMT which he called "induced anxiety". A modification of this technique was devised by Hamilton and Bernstein (1977). They present a single case study involving a generally anxious male. Following relaxation, the patient was asked to turn his attention inward. Suggestions to "feel a small feeling start to grow" were given and indications of muscular tension, increased swallowing and breathing changes were verbally reinforced. At a predetermined SUD level the patient was instructed to relax. This procedure was repeated five times

during each of the three treatment sessions. Improvement was noted and the authors suggest that avoiding visualisation of anxiety-provoking situations circumvents problems with poor imagery and also facilitates a development of generalised coping responses.

Jannoun has produced two reports on clinical populations using AMT (Jannoun et al, 1981, 1982). The first paper reported on a primary care treatment of 15 patients complaining of anxiety problems. A self-help treatment was abbreviated for use in general practice and involved four components:

1. Self-monitoring - a daily diary recording occurrence of symptoms, severity and provoking events.
2. Instructional booklets.
3. Taped PMR.
4. Cognitive control - in which patients were taught to provoke images and to engage in positive self-talk.

By the end of treatment, an independent assessor rated 80% of patients as 'improved' or 'almost free of presenting symptoms' - the remaining 20% showed no improvement. 60% of patients maintained their progress at three month follow-up.

While accepting that this pilot study can be severely criticised on methodological grounds (see Wilkinson, 1985), Jannoun reports success in achieving the two main objectives, i.e. that AMT could be adapted for use in general practice and that it could be an effective treatment for generalised anxiety.

Jannoun et al (1982) followed up this report with a controlled study of 'anxiety state' patients. Independent and self-assessment showed significant improvement in the AMT group and this improvement was maintained at three month follow-up. Use of anxiolytic drugs showed a 60% decrease by end of treatment and this was again maintained at follow-up. Although again pointing to design limitations, Jannoun noted that comparisons between AMT and no treatment condition showed that the changes during treatment were mainly due to the effects of the treatment rather than other factors, e.g. self-monitoring.

Ramm et al (1981), in a small scale study of non-phobic anxiety patients of whom only one had not experienced panic, randomly assigned 12 patients to AMT with either positive or negative self-instruction. Therapies differed at the rehearsal stage when patients were asked to imagine themselves in an anxiety provoking situation and, as the therapist guided them through the situation, they were prompted with self-instruction statements from a standardised cue card. The 'positive group' used positive self-statements which included examples such as "I can cope with these feelings"; "Even if I make a fool of myself, it is not the end of the world", while the negative group used negative self-statements which included "I am really going crazy"; "I can't cope with this situation."

Surprisingly, there was little difference between the two groups and overall improvements were not impressive. At one month follow-up the only significant difference between the two groups related to background anxiety - a difference in favour of the positive condition. At three

month follow-up, this group showed less pathology as measured by the global rating of the Fear Questionnaire.

The use of standardised statements were found by some individuals as unrealistic or irrelevant but the paradoxical effects of the negative self-statement group is difficult to explain. Mathews (1985) suggests the result could involve a placebo effect or that exposure to the negative statements disrupted original mal-adaptive thinking patterns. He cites as evidence for this view the similar benefits obtained by combining paradoxical intention and exposure in the treatment of agoraphobia (Mavissakalian et al 1983).

Blowers et al (1987) randomly allocated 66 GAD patients to AMT, non-directive counselling or to a waiting list control. Individual treatments consisted of 8 sessions lasting approximately 45 minutes each. All therapists were trained nurses who were also qualified behaviour therapists. Results to six month follow-up show few significant differences between the two active therapies although AMT was consistently superior to the waiting list control. The authors raise the question of how much of the effects attributed to specific components in AMT are a function of non-specific factors present in many different psychological treatments. Interestingly, therapists in this study commented that, despite the presentation of very different rationales and procedures, patients in both treatments often reported similar cognitive changes possibly signifying the adoption of common cognitive strategies. These interesting speculations deserve future attention. It should be noted that there was a total of 29 (of 66) drop-outs within the first half of treatment perhaps reflecting the use of nurse therapists who may not have been adequately trained in cognitive techniques.

Another recent paper has compared the AMT with other established treatment approaches (Lindsay et al, 1987). This study will be discussed in detail in the following section.

4. COGNITIVE/BEHAVIOURAL APPROACHES.

These therapies are derived from the studies which have demonstrated an association between anxiety and a variety of cognitions (Beck et al, 1974; Mathews and Shaw, 1977; Hibbert, 1984; Rappee, 1985). Assuming that the relationship is causal and that the direction of causality is from cognition to affect, techniques have been developed to identify, challenge and modify the cognitions and beliefs associated with anxiety. These techniques can be subsumed under the title of Cognitive Behavioural Therapies.

Thought-stopping, although theoretically naive, was successfully reported for the treatment of "phobias of internal stimuli" in an uncontrolled study by Kumar and Wilkinson (1971). Mathews and Shaw (1977) compared thought-stopping to a 'thought satiation' technique wherein patients were asked to allow the anxious thoughts to remain. In a treatment study with generally anxious patients, they unexpectedly found no difference between the treatments, both showing clinically significant improvement. Anecdotal evidence from patients suggest that improvement in both groups was achieved by engaging in an alternative activity, patients being distracted from the anxiety provoking thoughts while, at the same time, realising that these thoughts could be changed.

Hollon (1981) produced an anecdotal report on two patients suffering from 'drug-induced' situational anxiety states. Using a variety of cognitive and behavioural treatments, Hollon reports clinically

significant improvements. Clark (1986) reports successful treatment of six patients using Beck's cognitive therapy.

Last (1983) presented a single case study of GAD. Two cognitive strategies - coping self-statements (Meichenbaum, 1977) and paradoxical intention (Frankl, 1960; Ascher, 1980) - were alternated randomly across sessions. Marked improvement was achieved and maintained at one year follow-up. The author was unable to point to a differential effectiveness of the two strategies. Interestingly, the greatest reduction in anxiety ratings occurred during baseline when a conditioning model was used to explain the aetiology and a cognitive model to explain maintenance. This suggests the clinical usefulness of information, expectation and perhaps other non-specific effects.

Ost (1985) also presented a single case of GAD. Stress-inoculation training (Meichenbaum, 1977) was utilised in combination with progressive relaxation. Significant improvement in a variety of measures was noted and this improvement was maintained at one year follow-up.

The preceding studies are all methodologically weak and therefore caution should be applied in interpreting the results. Barlow et al (1984) compared GAD and PD patients in an extremely comprehensive treatment package. Treatment consisted of PMR and Frontalis EMG-FB combined with cognitive behavioural therapy and cue controlled relaxation. Therapy was spread over 18 sessions in a fourteen week period. Results indicate significant improvement for both conditions on all measures

(physiological, diary and questionnaire). Further improvement was noted in some patients at the two follow-up points of three months and one year. GAD and PD patients responded equally well to treatment leading Barlow to question whether true differences exist between these categories. Due to the various techniques utilised in this package, the mechanisms behind the improvements are not clear as different patients may have responded to different therapeutic aspects of the package. Four recent British studies and two U.S. studies showed promising results in the treatment of this recalcitrant population.

a). British studies.

Durham and Turvey (1987) randomly assigned GAD out-patients to either cognitive or behavioural therapy. The two conditions followed a research protocol based on Beck and Emery's (1979) treatment manual. Patients received a maximum of 16 hours individual therapy. The behaviour therapy condition included strategies such as PMR distraction and graded exposure. Cognitive therapy was concerned with the elicitation and modification of automatic thoughts and dysfunctional assumptions using socratic questions and hypotheses testing.

By the end of treatment, both groups had shown improvement with no difference between the groups - 50-60% of patients in both conditions were rated as markedly or completely improved, 20-25% rated as moderately improved and 15-25% unchanged. This improvement is particularly significant for the behavioural group given the view that behaviour therapy has little to offer in the treatment of a condition characterised by a lack of avoidance of any external situations. It could be suggested that exposure treatments may be of value to patients who experience panic and who, conceivably, show some degree of phobic avoidance.

At six month follow-up, however, differences became more apparent with the cognitive group maintaining or enhancing their progress while the behavioural group reverted towards pre-treatment scores with 45% of this group reporting no change or only slight improvement.

While the authors regard their results as promising, they note that virtually no patients were symptom-free at follow-up and that one third of patients had shown no degree of improvement. In order to explain the superiority of cognitive therapy at follow-up, they suggest the cognitive therapy offers patients a frame-work for perceiving and coping with problems that inevitably build up in life and that techniques learned during therapy could be generalised to deal with a wide range of difficulties.

This study can be criticised on the following grounds:

1. Patients were not diagnosed according to an established classification system, e.g. DSMIII.
2. Cognitive and behavioural treatments may not have been as distinct as the authors suggest. They point out that the behaviour therapy condition included the use of positive self-statements and general problem-solving strategies while the cognitive condition included behavioural techniques 'when appropriate'. No information is given on how frequently these techniques were utilised.
3. The disappointing follow-up scores for the behavioural group may have been influenced by the less cohesive nature of that therapy - unlike the cognitive condition, a number of diverse techniques seem to have been used in a 'rag-bag' fashion which may have led patients to

view therapy as less intelligible and coherent than cognitive patients. (No expectation measures were taken before or during the study). It could also be argued that the use of graded exposure is not appropriate in GAD as the assumption is made that no significant phobic avoidance is present.

ii) Lindsay et al (1987) compared cognitive behavioural therapy, AMT, lorazepam and a waiting list control. Patients were described as chronically anxious although no attempt was made to separate GAD from PD patients or classify them according to DSMIII. In addition those patients showing high levels of depression were deliberately excluded from the study. Patients were seen for eight sessions over a four week period. The cognitive behavioural therapy was a composite of techniques suggested by Beck and Meichenbaum. AMT was based on the work of Suinn and Richardson (1971). The lorazepam group was prescribed the drug, 1 mg, t.i.d. for ten days and 1 mg b.d. for a further ten days. Interestingly, the lorazepam group showed the fastest and most significant improvement. However, as the trial progressed, this group reported increases in daily anxiety ratings, until, by the end of therapy, they were only slightly less anxious than the waiting list controls. However, due to concerns about the possibility of drug dependency, the dose used was reduced in the fourth and final week of treatment thus patients were essentially drug-free by post-treatment assessment thus invalidating any meaningful comparison between psychological and pharmacological treatment. In addition, patients were not matched in terms of the amount of therapist contact.

The CBT and AMT groups showed significant and consistent improvement as therapy progressed. Although the CBT group showed lower scores than the AMT group, differences were not significant. There was a correlation between statistical and clinical significant change in both groups with a clear trend towards CBT patients ratings demonstrating significant clinical change with about 50% of patients remaining in the functional range at three month follow-up.

iii) Butler et al (1987), using a modified version of AMT - 'Anxiety Management' (AM) with 45 patients diagnosed as GAD (RDC definition). The treatment package included a booklet, taped progressive relaxation, distraction techniques, a form of self-instructional training, graded exposure and activity scheduling. Patients were allowed to stop treatment after a minimum of four sessions if they were no longer experiencing distress. Average length of treatment was 8.7 sessions.

Patients were randomly allocated either to AM treatment or to a waiting list control. At three months, the AM group showed superior performance to the control group on a variety of measures. At six month follow-up improvement on all measures was either maintained or increased further. Informal follow-up at one year was collated from G.P. records. Two thirds of the patients had had no further consultations with their G.P.s although nine had required additional treatment for anxiety including the use of medication.

Due to the complex array of techniques used in this study, it cannot be determined why it works or what procedure contributed most to

treatment success. In addition, patients complaining of continuous symptoms for 2 years or more were excluded from this study. Thus these results may not apply to more chronic anxiety sufferers who may be more representative of GAD patients referred to out-patient clinics. However, the results are promising and the study requires replication and its various components analysed in more detail.

iv). Power et al (1989) report on a well controlled primary care study of generalised anxiety (RDC). Patients were randomly assigned to a cognitive-behavioural condition (n = 10), diazepam condition (n = 10) or placebo medication condition (n = 11). Treatments were balanced for degree of psychologist/patient contact. Although no significant differences existed between the groups, only the cognitive-behavioural group evidenced a significant improvement effect over time although a trend towards improvement was achieved by the other 2 groups. Of interest is the large variation (as evidenced by the S.D.s) in response all three treatments.

b). U.S. Studies.

i) Rapee and Barlow (1988) presented preliminary results of a large controlled study in Albany. They compared four treatment conditions : relaxation, cognitive restructuring, combined condition and waiting list control. All subjects received 15 weekly sessions. Data are available for 46 subjects for pre - post data and 13 subjects at follow-up.

Results suggest that relaxation treatment and cognitive restructuring are relatively effective. Interestingly, the combined treatment condition did not appear to produce as much improvement as either

the relaxation or cognitive restructuring treatments alone. It should be noted, however, that six subjects (of thirteen) dropped out of the relaxation condition. Due to the small number reported on at this interim stage, little can be concluded until completion of this study.

ii). Borkovec and Mathews (1988), following a successful study using volunteer subjects reaching criteria for GAD (DSM-III), (Borkovec et al, 1987), extended the investigation in three ways. Firstly, older and more severely anxious subjects (GAD and PD) were employed. Secondly, in addition to cognitive therapy and non-directive therapy, the study employed a coping desensitisation condition and finally, more experienced therapists were used. Random assignment resulted in six GAD subjects (DSM-III criteria) in each of the three therapy conditions. All subjects received twelve individual sessions, twice weekly and two booster sessions a week apart after the post-therapy assessments. Sessions varied from 60 to 105 minutes.

Results failed to support differential effectiveness among the three therapy conditions. Each condition produced significant improvement on a wide range of outcome measures, maintaining this improvement at one year follow-up. The authors suggest that the observed changes may have been due to elements common across the three therapy conditions. Relaxation training was involved in all conditions, however non-specific factors such as expectation may also have been of significance. They also suggest that processes such as alternative conceptualisations of one's anxiety or the self-discovery of coping methods may also be operative. This suggestion echoes that made by Blowers et al (1987).

5. COGNITIVE BEHAVIOURAL GROUP THERAPY.

Specific advantages of group work include more economical use of the therapist's time but, more importantly, allows for potentially beneficial factors such as vicarious learning, group pressure motivating the patient to attend new behaviours, group approval reinforcing these behaviours and generally letting the individual know that he does not have a unique problem (Upper and Ross, 1977; Johnson, 1975).

On the basis of investigations into the transactional patterns of groups carried out by workers from different persuasions (e.g. Flowers, 1979; Yalom, 1970), various factors believed to promote clinically relevant change have been abstracted. Yalom (1970), enumerates 10 such 'curative factors' - cohesion, altruism, universality, imparting of information, corrective recapitulation of family relationships, imitation, interpersonal learning, installation of hope, social skills acquisition and catharsis. Very similar factor clusters are offered by other investigators (Corsini and Rosenberg, 1955; Leiberman, 1975).

Woodward and Jones (1980) carried out group therapy on generally anxious patients. Patients were randomly assigned to one of four groups.

1. Modified systematic desensitisation.
2. Cognitive restructuring.
3. Cognitive behavioural modification (combination of one and two).
4. No treatment control.

There were only six to seven patients in each group and therapy consisted of eight weekly sessions although treatments were incompletely specified. Results show that the combined treatment group improved significantly more than the other two active groups in terms of Fear Survey Schedule although this may not be a valid measure of improvement in GAD patients. In terms of subjective diary ratings, the combined treatment and modified systematic desensitisation groups were significantly better than the cognitive restructuring group. This improvement was maintained at the short follow-up time of one month. The poor result with cognitive restructuring was similar to that obtained by Emmelkamp et al (1978) with agoraphobics and the authors hypothesised that this is not an effective treatment for GAD patients because it relies on 'insight' (Thorpe and Amati, 1976) and thus may be too difficult for some clinical patients. They suggest intelligent students used to thinking rationally may benefit more from this approach. The study can be criticised on a number of grounds. Diagnosis was subjective, choice of outcome measures poor and the numbers in each group were small. Treatments were incompletely specified and the four week follow-up inadequate. In addition, the extent of clinical change is not clear (Barlow et al, 1984).

Skinner (1984), in an uncontrolled pilot study, reports on a six session anxiety management group of primary care patients presenting with 'anxiety related symptoms'. A maximum of six patients were seen in each group. The course combined education about anxiety, PMR, cognitive restructuring/positive thinking and cue control of relaxation. At one year follow-up, 22 of the 35 patients reported that their target anxiety symptoms were eliminated. Another 12 reported improvement and two thirds had stopped psychotropic medication.

Shapiro et al (1982) compared cognitive behaviour group therapy with individual therapy and also traditional process-orientated interpersonal group therapy. Patients were diagnosed as 'adjustment disorder with depressed or anxious mood'. The cognitive behavioural group in individual therapy composed of relaxation training, a combined cognitive approach combining the work of Ellis and Beck and assertion training. Treatments consisted of ten weekly sessions. Results indicate that all three experimental groups significantly improved in all dependent measures from pre to post treatment. No differential treatment effects were found. As with many of the other group therapies, this is an extremely methodologically weak study. Patients had not been diagnosed according to any classification system, measures used are poor, no follow-ups included and little description of therapy or experience in using cognitive techniques given.

Jupp and Dudley (1984), in a descriptive paper of group anxiety management, present information on three groups run on an informal learning basis with a large didactic component. The content of the group therapy involved information, positive thinking, target setting, exposure and relaxation. Six weekly group sessions involving a maximum of seven generally anxious patients were undertaken. Questionnaire and therapist ratings showed significant improvement.

Eayres et al (1984) report on pilot studies designed to test a 'coping skills package' for generally anxious problems (although patients within the group also appeared to have included agoraphobics, socially anxious patients and those suffering from tension headaches).

Coping skills group included instruction in PMR, AMT, positive self-talk, targeting and self-monitoring. The relaxation group involved listening to a PMR tape followed by a general discussion. Results indicate that all but three subjects reported at least some progress. There was no significant difference between the two conditions except on the STAI:A-Trait (Spielberger, 1970) which favoured the coping skills group. The authors suggest that the coping skills package may have been too difficult for some patients to understand within the six session course. It may be that this package lacked consistency which would have aided patients' comprehension and appreciation of the methods being used.

Trepka et al (1986) compared individual therapy with two types of group treatment - an anxiety support group which involved 12 unstructured sessions during which the 7 patients were given the opportunity to discuss problems and an anxiety management group which contained 5 patients. This involved 11 sessions during which relaxation, self-hypnosis and graded exposure were taught. Neither group approach had a clinically significant effect on anxiety symptoms as reduction at the end of therapy disappeared by one year follow-up. Individual therapy was somewhat more successful.

Powell (1987) reports on 47 patients treated in six anxiety management groups of whom only one third were defined as 'generally anxious'. Coping skills such as deep and cued relaxation, respiratory control, rational self-talk, and distraction were utilised. Drop-out rate over the six sessions was 19%. Results suggested decrease in symptom severity, an increase in confidence in coping and a decrease in the negative effect of anxiety in daily life. Although anxiety levels

fell significantly Powell notes that they remained moderately high. Asked to rate what they had found useful about the course, patients suggested that "information about anxiety and stress" and the experience of "being in a group and meeting people with similar problems" were rated more highly than any of the coping skills. This corresponds to Jupp and Dudley's (1984) finding of the importance of the informational aspects of therapy and perhaps helps explain why most change was noted during the informational sessions of the individual cognitive therapy reported by Last et al (1983). Powell cites Eayres et al (1984) who noted that group members frequently suggested that the most helpful aspect of treatment was 'the opportunity to share problems with others in the same boat'. (page 126).

This finding taken from the above studies, most of which are extremely limited due to methodological weaknesses, suggest that simply being in a group may, in itself, be an integral part of therapy. Powell, indeed, suggests that psychologists should place less emphasis on our role as individual therapists and move towards the position of educators, utilising the benefits of groups.

6. OVERVIEW OF THE TREATMENT OUTCOME LITERATURE -
SOME METHODOLOGICAL ISSUES.

The previous sections have reviewed a range of interventions which appear to vary considerably in their impact on GAD (or related diagnoses). There appears to be little evidence suggesting the superiority of any one relaxation technique over any other and, further, that reliance on a single technique in the treatment of a complex multi-faceted problem such as GAD is of limited use. Several treatment packages derived from Anxiety Management Training and Cognitive-Behavioural therapies seem to offer clinically effective techniques.

From a methodological point of view, treatment studies have varied from the grossly inadequate to the imaginative and well-controlled. This is inevitable in a review of any clinical condition. More recent studies have identified and remedied a number of weaknesses in methodology which were previously evident. Nevertheless, there remain some serious shortcomings, and it is partly through a concern to address these that the present study has been undertaken. In the interests of parsimony, therefore, it may be of value to review these studies on the basis of their major methodological deficiencies. These are as follows:

- i Subject selection.
- ii Changes in diagnostic convention.
- iii Measures of change.
- iv Confounding of treatment variables.
- v Adequacy of controls.
- vi Analysis of treatment outcome data.

i). Subject Selection.

Many of the studies previously noted have used non-clinical populations and, in particular, students and are, therefore, subject to the criticisms commonly levelled against analogue research. An analogue approach does, of course, have its place. Used in an exploratory manner, key issues can be identified and methodological, practical and conceptual questions raised for further enquiry. One good example of using analogue research in this way can be found in the work of Borkovec and his colleagues reported in a previous section. However, the more typical picture is of analogue populations being regarded as sufficiently similar to clinical populations to warrant generalisation of results from one group to another.

A related point concerns the use of 'volunteers' for a particular technique. The suggestion that a volunteer for, e.g. T.M., can be regarded in the same light as an unsolicited subject is fraught with problems as are subjects solicited through "recruitment drives" through media advertising. It could also be argued that subjects in many U.S. studies who initiate contact with the treatment centres and pay for therapy may differ in important respects from British patients who are referred by their General Practitioner to N.H.S. out-patient departments.

It is also evident that some studies which report on clinical samples may, by the nature of the exclusion criteria employed, "clean up" samples in such a way as to make them less representative of typical clinical case-loads and, further, possibly bias their results by treating problems which are less hampered by associated difficulties which have been

removed by the exclusion criteria. An example of this is the Butler et al (1987) study which excluded patients reporting consistent anxiety for two years or more and the Borkovec and Mathews study (1988) which excluded GAD patients who also reported severe depression as a secondary problem.

ii) Changes in Diagnostic Convention.

More so than almost any other disorder, the definition of GAD has been substantially altered by changes in the DSM system over the decades. Thus patients diagnosed as GAD under DSM-III conventions may not be similar to those diagnosed under DSM-III-R conventions. In addition, many studies do not use DSM (or, indeed, a reliable assessment procedure) and thus diagnoses of "generally anxious", "anxiety state", "non-phobic neurosis" and "chronically anxious" dominate particularly the poorly controlled studies relating to the T.M., Progressive Relaxation and Biofeedback literature. Such diagnoses are also common in the group therapy literature making comparison across studies difficult if not impossible.

iii). Measures of Change

It is clearly of great importance to ensure that in any comparative study, a balanced assessment is conducted to minimise the possibility of any bias favouring any one treatment and that all relevant aspects of the desired behavioural change are represented. The former is particularly relevant where therapies of conflicting theoretical bases and conceptually distinct objectives are being compared.

There is often an overemphasis on measures of cognitive and somatic anxiety with the relative neglect of behavioural measures of anxiety. This in part reflects the view that GAD is characterised by a lack of behavioural dysfunction but from evidence presented in the chapter on the Three Systems Theory of Anxiety, the importance of adequate assessment of all 3 systems attains greater importance than it has been previously.

Adequate follow-up is of considerable importance. For the purpose of most psychological research it appears that follow-up at three or six months is viewed as reasonable. However, several studies have used much shorter follow-ups, e.g. four weeks (Woodward and Jones, 1980) and two weeks (Townsend et al, 1975).

One final area of neglect has been the failure to investigate the generalised changes in day-to-day functioning which result from therapy. Thus measures of, for example, coping would be useful.

The present study was designed to address these issues.

iv). Confounding of Treatment Variables.

At this stage in research into the effectiveness of treatments for GAD, many studies involve a number of techniques. For example, Butler et al (1987) utilised a heterogeneous treatment package in their study. Although showing that the package produced significant improvement, it is not clear why the treatment worked or what procedure or combination of procedures contributed to its success.

The present study will address this issue.

v) Adequacy of Controls

While most studies have employed a waiting list control, few have used a placebo condition to control for non-specific factors. This is a particular weakness in the literature. Both Blowers et al (1987) and Borkovec and Mathews (1988) point to the absence of a placebo comparison condition in all investigations of non-phobic anxiety disorders. In the absence of a placebo condition, these workers are unable to explain the similar changes found across conditions in their studies and are left suggesting that non-specific factors may be of importance. It is noteworthy that anxiety has been found to be among the few consistent predictors of positive placebo reactors (Shapiro and Morris, 1978).

The present study will address this issue.

vi). Concomitant medication.

Given the large number of generally anxious patients who may be using benzodiazepine drugs, there is clearly a need for drug intake to be controlled. Little attention has been paid to this issue (e.g. Mathews and Shaw, 1977; Durham and Turvey, 1987). Power et al (1989) note that diazepam treatment, at least initially, may have useful clinical application while withdrawal symptoms following cessation of medication may significantly affect anxiety reports. Thus failure to control for these possibilities may influence outcome measures.

The present study will address this issue.

vii). Analysis of Treatment Outcome Data.

The most useful outcome data are those which are both statistically and clinically meaningful. Analyses may be statistically robust and significant without necessarily being of great clinical importance. The traditional comparison of group mean values across experimental conditions may be particularly suspect since no information is provided on the variability of treatment outcome amongst subjects in each group. This information is of considerable interest as clinical research should drive clinical practice, but may do so only when research findings are known reliably to predict outcome for the individual case.

A number of workers have made recommendations as to how testing for clinical significance might be achieved. For example, Kazdin (1977) has suggested that a return to normal functioning may be a standard against which to determine the significance of clinical change. This approach requires that some normative information is available with which to compare post-treatment scores. The proportion of patients achieving normal scores after treatment can then be deduced. Other workers have recommended a 50% change of symptomatic level (Jansson and Ost, 1982) as a useful criterion. Jacobsen et al (1984) have also discussed these issues and have stressed the need for an agreed Standard convention which is "applicable to a wide variety of clinical problems, ...objective, relatively free of bias and sound from both a psychometric and clinical perspective". Although no such standard has as yet been determined, some analysis of this type is clearly required.

Analysis of outcome, conducted upon mean values, may be incomplete also if the mean score is taken to be a representative statistic descriptive of "typical" anxiety pattern. A simple measure of range or standard deviation would appear to be useful as an index of variability. Thus the employment of both mean and SD scores would make it possible to report treatment effects in terms of changes in typical anxiety patterns.

The present study addresses both of these issues outlined above. Both mean and SD scores for all variables will be analysed in the Results section and the clinical significance of the results obtained will form a major focus of the Discussion to follow.

In this and in other ways noted in previous sections, the present study hopes to overcome some of the shortcomings of past research.

7. CONCLUSIONS

In general, there is now increased emphasis being placed on cognitive mediation in behavioural change. This suggests that it is no longer as important to distinguish procedures as it is in simply defining effective treatment programmes combining effective strategies. There is a growing recognition from representatives of different schools of thought acknowledging the potential value of a range of techniques and to show increasing flexibility in the application of these techniques (Goldfried and Padawer, 1983). Frank (1985) suggests that this reflects the growing recognition that all psycho-therapeutic procedures share certain healing components which account for a considerable proportion of their effectiveness. (See Beitman et al, 1989 for a review of the movement toward integrating the psychotherapies).

At this point in time, cognitive approaches seem to be a promising approach to the treatment of this population, however the preceding evidence is often marred by the methodological weaknesses outlined which must be seen as an indictment of a profession supposedly well trained in research methodology. However, final evaluation of the effectiveness of cognitive approaches awaits further large scale well conducted control trials.

In the preceding section on group therapy, the importance of information transmission during therapy was highlighted. The following chapter looks at an important method of information transmission utilised in the present study - bibliotherapy.

CHAPTER 3

BIBLIOTHERAPY

BIBLIOTHERAPY

Although the concept of the use of books in the treatment of physical or psychological problems was not formally identified until the twentieth century, the idea itself was recognised much earlier (Alston, 1962; Sclabassi, 1973). Tews (1970) notes that the great libraries of three millennia ago bore the Greek inscription "Medicine [or remedy] for the soul". The first century Roman encyclopaedist Aulus Cornelius Celsus urged that critical judgement could be stimulated in patients by means of the reading and discussing of the sayings of the great orators while Rabelais prescribed literature for his patients as part of their treatment (Schneck, 1944). While of interest in classical times, the therapeutic emphasis on bibliotherapy has now shifted from active reading itself to become a medium for directive guidance (Dow, 1982).

Although during the century the emphasis on bibliotherapy echoes that of wider theoretical and therapeutic concerns, e.g. Dumont's (1913) *Self-Help Treatment* for developing personal magnetism, it was in its application to psychoanalysis that bibliotherapy became an established adjunct to therapy.

A relationship of the dynamic of psychotherapy to psychological principles in the application of bibliotherapy was postulated by Schrodes (1949, 1960, 1961). Theorising that the use of imaginative literature may produce results similar to those produced by direct analysis, Schrodes believed that the experiences induced by reading paralleled, in substance and function, the phases occurring in psychoanalysis: universalization, identification, projection, introjection, catharsis and insight (see also Slaveson, 1950).

The examples used in psychoanalysis include group therapy (Powell et al, 1952; Roman, 1957; Floch, 1958); Children (Cohoe, 1960); Stammerers (Emerick, 1966) and Schizophrenics (Mascarino and Goode, 1940). However, as Dow (1982) points out, there is no empirical evidence to substantiate these early claims for its effectiveness, (see Peterson, 1935; Darling, 1957; Ryan, 1956).

This chapter will concentrate on -

- 1). BEHAVIOURAL BIBLIOTHERAPY.
- 2). COGNITIVE BIBLIOTHERAPY.
- 3). ISSUES IN THE EVALUATION OF MANUALS.
- 4). CRITERIA FOR A TREATMENT MANUAL.
- 5). MAINTAINING AND ENHANCING TREATMENT GAIN.
- 6). POTENTIAL DISADVANTAGES OF TREATMENT MANUALS.
- 7). CONCLUSION.

1. BEHAVIOURAL BIBLIOTHERAPY

While self-help books today relate to a wide range of techniques, for example, Gestalt, Rational-Emotive Therapy, Transactional Analysis and Hypnosis, the greatest growth in the development and use of bibliotherapy material has been by behavioural therapists. Glasgow and Rosen in their 1978 review identified 75 self-help manuals published or reported in the preceding five years. O'Farrell and Keuthen (1983) identified 124 behavioural self-help manuals. In both papers the authors noted that this represented only a fraction of all manuals available - Kimbrel (1975) identified over 100 books on dieting alone. The majority of manuals are problem orientated and so wide that almost all problem areas are covered, e.g. controlled drinking (Robertson and Heather, 1982); depression (Burns, 1980); insomnia (Alperson and Biglen, 1979); sexual dysfunction (Dow, 1980); social skills (Fensterheim and Baer, 1975); agoraphobia (Mathews et al, 1977); child behaviour problems (Matson and Ollendick, 1977); smoking cessation (Lando, 1977).

The interest in self-help (or D.I.Y.) procedures may represent the growing ethos of self-help which leads people to seek help for a wide range of problems from a wide range of sources other than health and social services (Turvey, 1985).

Psychologists, aware that they are able only to see a fraction of the psychological problems in the community (e.g. Espie and White, 1986), therefore see bibliotherapy as an opportunity to reach larger numbers of people while, at the same time, solving or at least reducing the dilemma voiced by Hawks (1981) of meeting the demands

of a large clinical population while allowing time for a detailed assessment in the treatment of complex problems requiring the therapist's direct intervention.

Dow (1982) suggests that the development and examination of behavioural bibliotherapy have been prompted by a number of potential advantages with this form of treatment:

- a) enhanced cost-effectiveness (Kahn and Baker, 1968).
- b) may help counteract negative views of behaviour therapy by providing "power to the people".
(Rosen, 1976)
- c) increased accessibility of treatment.
(Bastien and Jacobs, 1974)
- d) may help maintain treatment gains (1) by extending the involvement of significant others (Mathews et al, 1977), or (2) by increasing perception of self-efficacy by self-initiated change (O'Brien and Kelly, 1980).
- e) providing various support by reducing feelings of "standing alone" (McCary and Flake, 1971).
- f) increasing privacy and reduced embarrassment
(Kass and Stauss, 1975).
- g) potential use in enhancing compliance with treatment (Ley, 1977).

2). COGNITIVE BIBLIOTHERAPY

Within the 'cognitive revolution', the use of treatment manuals has been described as a "small revolution" (Luborsky and DeRubeis, 1984). Many of the assumptions of cognitive bibliotherapy can be traced to behavioural principles. For example, in the preface of their treatment manual on cognitive therapy for depression, Beck et al (1979) stated that "Methodological behaviourism, with its emphasis on specifying discreet goals, delineating the concrete procedures instrumental for achieving these goals and providing prompt tangible feedback, added new dimensions to cognitive therapy" (page 4).

However, cognitive bibliotherapy has modified the behavioural assumption that therapist variables are much less important than treatment variables and procedures in treatment outcome. In general, cognitive treatment manuals provide a greater degree of flexibility in treatment guidelines. For example, in the Beck et al (1979) manual referred to above, specific reference is made to the interpersonal context of therapy and the need for flexibility (see also Luborsky, 1984; Beck and Emery, 1986). Thus cognitive theorists, to a greater degree than behavioural theorists, identify hypothesized critical features of both the therapist (warmth, empathy, genuineness) and the therapeutic interaction (basic trust, rapport) - the 'collaborative empiricism' that Beck regards as the cardinal feature of the therapeutic relationship in cognitive therapy.

3). ISSUES IN THE EVALUATION OF MANUALS

It is important to distinguish between the varying degrees of therapist contact in bibliotherapy. Glasgow and Rosen (1978) divide the degree of patient reliance on the therapist contact into three categories:

1. Self-Administered Therapy - In this condition the written material constitutes the sole basis of treatment and therapy is administered in the absence of therapist contact.
2. Minimal Contact Therapy - Although the written material constitutes the main basis of treatment, some therapist contact, e.g. in the form of telephone calls, infrequent meetings or correspondence by mail can occur.
3. Therapist Administered Therapy - Regular contact with the therapist with sessions focused on clarification or elaboration of information in the manual. This differs from therapist directed therapy in which the sole basis for treatment is contact with a therapist and a manual is not used.

This section will concentrate on some of the main issues associated with the evaluation of manuals.

"Imagine for a moment, a group of professionals who adequately validated self-help books and who educated consumers in their proper use. This indeed would be something new".
(Rosen, 1976 - page 179).

Given the obvious attraction for busy psychologists, it is not surprising that there has been a vast increase in the number of therapy manuals available both for clinical and sub-clinical problems (Frankel and Merbaum, 1982). While these manuals have been developed from clinical expertise and experience, there has been little empirical research into their efficacy. This state of affairs is not unique in behaviour therapy - e.g. Barlow in his presidential address at the 1979 Association for the Advancement of Behaviour Therapy, criticized the current research effort as "A shallow approach to scientific evaluation which ignores failures and discourages a more thorough analysis". Others have noticed that the effect of many behavioural procedures remains unclear and there are problems which seem refractory to almost all psychotherapeutic interventions (Kazdin, 1979; Yates, 1975; Agras and Berkowitz, 1980).

In addition, difficulty relates to the assumption that a treatment manual shown to be effective under one condition will be efficacious under another. Turvey (1985) notes that this ignores possible problems of generalization (Stokes and Baer, 1977). He examines, for example, the claims on the cover of a book by Burns (1980) "Feeling Good", that the book contains a clinically proven drug-free treatment for depression. While the treatment (Beck's

cognitive therapy) has been shown to be effective under therapist directed conditions (see Rush et al, 1977; Blackburn et al, 1981; Teasdale et al, 1984), there is no evidence as yet for its comparable efficacy under self-administered conditions.

Some authors have addressed this problem, e.g. Mathews et al (1981), in the treatment of agoraphobia and Robertson and Heather (1982) for problem drinking. The latter authors also included a control group to assess whether changes were due to the specific instructions in the manual or other factors. Heather et al (1986, 1987) compared a self-help manual based on behavioural principles (Robertson and Heather, 1983) and a general advice and information booklet on alcohol problems (Grant et al, undated). Evidence at both six month and one year follow-up showed that the self-help manual showed a significantly greater reduction in consumption than those receiving the control group booklet. O'Dell et al, (1982) in a study relating to acquisition of parenting skills, presented the same information in different formats; written manual, audio tape, video tape modelling or live modelling and rehearsal with the parent's child. All training methods were superior to minimal instructions. The video tape manual was significantly less effective than the written manual or the live modelling with rehearsal. There were no significant differences among the written, video tape or live modelling with rehearsal training methods. O'Dell et al conclude that the data support the utility of replicable media materials as important adjuncts to training and in particular cite the effectiveness of video taped modelling.

a. Subject Attrition

A major problem when self-help manuals are self-administered with minimal therapist contact is a large degree of sample attrition. Glasgow and Rosen (1987) suggest that as many as 50% of subjects starting self-administered desensitisation dropped out during treatment. Heather et al (1987) note that of the 785 individuals who responded to newspaper advertisements offering free help to cut down drinking, only 247 returned questionnaires in the free post envelope provided or were successfully contacted by telephone. This represents a 69% attrition rate between responding and completion of assessment measures. At one year follow-up, only 110 subjects returned questionnaires - an attrition rate of 86%. Turvey (1985) notes that knowing what proportion of the initial sample start and complete treatment is important in terms of evaluating cost effectiveness. There are also important implications in terms of improving the overall success of treatment.

b. Manual Intelligibility

Some of the above attrition rates may, in part, be due to difficulties understanding the manual (although Heather et al report 80% understanding for the booklet), as a number of studies have shown that level of readability is an important factor in reader perseverance and compliance with contents of the text (e.g. Klare, 1963; Smart, 1973). Dow (1982) stresses the importance of readability and comprehensibility inasmuch as they contribute to a cognitive hypotheses of compliance. He notes that a patient's retention and comprehension of the medical information presented to him are directly related to his satisfaction with the doctor's communication and his

compliance with the advice thereafter. It is a criticism of bibliotherapy that few studies have investigated readability (Glasgow and Rosen, 1978; Arkell et al, 1976).

Using the Flesch formula (1948), in the manner employed by Andrasik and Murphy (1977), O'Farrell and Keuthen (1983) assessed the readability of 124 (of the 159 listed by Glasgow and Rosen, 1978) self-help manuals. They concluded that 35% of the United States population over 25 "Might find many of the manuals too difficult for comfortable reading" (page 451). Dow, (1982) reviewing the readability of published self-help sex therapy manuals found that they were, in general, unsuitable for 60% of the general population. Dow (1980) was able to produce four manuals for sexual problems which can be understood by 75% of the population.

Investigating problems of comprehension and recall of medical information, several authors uncovered significant areas of misunderstanding and a lack of appropriate knowledge. Asking people to locate internal organs, Boyle (1970) found that only 20% could locate the stomach and 42% the heart. Boyd et al (1984) suggested that medical information given by doctors was based on an exaggerated estimate of patients' knowledge. In this study only 40% of patients understood doctors' verbal directions concerning location.

There also exists a basic lack of knowledge about body function (for example, Spelman and Ley, 1966; Roth et al, 1962). It seems reasonable to suggest that patients may hold the same inaccurate beliefs about psychological problems as about medical problems.

Given the often highly inaccurate folklore which exists, it may be that psychologists and their patients initially look at problems in very different ways. Indeed, an essential component for Stress Inoculation Training is assessing the patients' understanding of their problem and, if necessary, re-defining it in more accurate ways (e.g. Meichenbaum, 1986).

In a further series of studies, evidence was elicited that patients frequently forget or misinterpret advice. Ley et al (1973) found that patients forgot 50% of statements made by their General Practitioners within five minutes of the visit (see also Ley et al, 1976). Svarsted, (1976) found that half of the patients he interviewed made at least one error in describing what their doctor had recommended to them immediately after consultation.

In a series of studies with medical out-patients, Ley and his co-workers found that patients could recall only between 48 - 63% of information stated during the consultation when interviewed up to 18 minutes following consultation (Ley and Spelman, 1965, 1967; Joyce et al, 1969). As expected, there was a strong correlation between accuracy of recall and adherence to advice. It also seems that the number of statements forgotten increases with the number given, such that the patient could be expected to remember three out of four statements but only four out of eight (Ley, 1979).

Ley has suggested simple solutions to minimising these difficulties. Ley (1976) advises reducing the number of instructions to a minimum and also taking advantage of the "primacy effect", i.e. making

sure the important advice is given first in a consultation.

In this study he found that recall increased from 44% to 75% and the important advice was given at the beginning of the consultation.

Based on the evidence that patients recall the information which they believe to be most important Ley (1972) advised physicians to stress the information which they considered to be most important. By adhering to this advice, recall was increased from 44% to 66%.

Bradshaw et al (1975), by making advice more specific, found that adherence and outcome improved with dieting, e.g. "you must lose 7 pounds in weight" rather than more general advice, e.g. "You must lose weight". Patients given specific advice recall 49% of information compared to only 19% recall amongst patients given general advice.

By increasing the readability of instruction leaflets, Ley was able to show increased compliance with medication advice (Ley et al, 1976). It is of particular importance given previous studies which have shown that many written communications over-estimate patients' ability to understand the information contained within (e.g. Wild and Evans 1968) found that only 28% of the general population could be expected to understand a barium meal leaflet for patients. Similar findings were reported by Lovius et al (1973) with a dental leaflet. Ley and Morris (1984) suggested giving written information in addition to verbal information aids comprehension and adherence to treatment. Ellis et al (1979) compared two groups - one given solely verbal information, the other receiving verbal and written information on diagnosis and purpose of drugs prescribed. The authors found that the group which received both forms of information showed a significant

increase in material recall. In view of the existence of empirically validated readability measures (e.g. Flesch, 1948, Fry, 1968) assessing this variable poses no significant problems.

In addition to the readability measures using the above formula (sentence length and number of syllables) Hartley (1984) offers practical suggestions on layout. Hartley (1981) and Stone (1981) demonstrate that text comprehension and recall can be aided by the systematic use of vertical and horizontal space. Vertical spacing is used to separate out into group related sections with the text while horizontal spacing requires equal spacing between words. In order to gain access to the text, Waller (1979) discusses devices such as title, contents pages, summaries, running headings, sub headings, numbering systems, references, bibliographies and indexes. Hartley (1978) and Waller et al (1982), discuss typographical aids, for example, use of italic or bold faces, different type faces, different type sizes, capital and lower case letters, underlining and colour. Brooks et al (1983) and Loman and Mayer (1983) have shown that the effectiveness of headings and sub headings aids recall and also helps readers retrieve information from the text. Hartley (1984) notes that with the current increase of interest in information technology, much research has to be done in, for example, the area of electronic text which includes features such as colour, scrolling, flashing, reverse-video, etc.

4). CRITERIA FOR A TREATMENT MANUAL

Turvey (1985) offers clear guidelines for writing a treatment manual.

These are as follows:

1. Ensure that the manual is easily understood by a large proportion of the public (or of the client group it is intended for) and give some indication of the reading level or schooling required for understanding.
2. Organize material clearly in labelled sections with the main points summarized and repeated as often as possible. Longer manuals should have a contents or index page (see also Ley, 1977).
3. At the start give a clear description of the problem the manual is intended for and how this can be distinguished from any other similar problem.
4. Describe any factors which indicate that people with this problem should not follow the treatment described in the manual; give advice about how to obtain more appropriate help (e.g. Miller and Boca, 1983; Heather et al 1986).
5. Briefly describe any factors related to outcome and indicate rate of progress with treatment (if known) to help generate realistic expectancies.
6. Summarize or give references to, any treatment reports (e.g. Carruthers and Murray, 1976)

7. Include baseline diaries or other assessment measures, such as forms for clients to record their treatment goals and progress on.
8. Include checks on understanding - regular summary pages, multiple choice questions (e.g. Mathews et al, 1981) where a questionnaire that the client, having read the manual, should be able to answer before starting therapy.
9. Provide background information about the nature of the problem - prevalence, common features, etc and correct common misperceptions about the problem.
10. Provide the rationale for the treatment being suggested and a description of what factors may be maintaining the problem; (Sloane et al, 1975) found this to be rated as an important part of treatment by subjects in their study (page 206).
11. Indicate how much time treatment will take with suggestions for fitting this into people's lifestyle.
12. Include techniques which may help increase compliance with the treatment (though check that what you are suggesting does have a positive effect on the type of therapy being used; e.g. Barrera and Rosen, 1977).
13. Where appropriate have a section for significant others to increase their understanding of the problem and ideas for how they can help; also, alert them to any behaviours they may carry out that may be

13. (contd.)

maintaining the person's problems. Mathews et al (1981) provide a manual for the agoraphobic spouse, although Cobb et al (1984) did not find spouse involvement to be necessary.

14. Include a section on long term maintenance of progress, particularly to help anticipate situations that may be difficult to deal with in the future.

15. Deal with set-backs. Help the person to accept that set-backs can occur, to work out what is causing them and to resume progress. Since some people may fail with self-help manuals, it may be useful to include a brief section recognizing this, and suggesting that, rather than give up with psychological treatment, assist them to reassess the difficulties and possibly carry out a more appropriate treatment with a greater degree of help. (Turvey, 1985 pages 239 - 240).

5). MAINTAINING AND ENHANCING TREATMENT GAIN.

Some studies suggest that treatment maintenance gain is greater under self-administered conditions (Mathews et al (1976); Baker et al (1973); Hanson (1976); Rosen et al (1976). Mathews et al (1981) reported that "about half as much change took place after treatment as during its course" (page 23). Clearly this is an area of great clinical and theoretical importance. Failure to achieve maintenance of gain becomes "an exercise in futility". (Zielinski, 1978), page 353. Dow (1982) suggests that self-help manuals aid generalization in the following ways:

1. By reduced dependence on external reinforcement and stimulus control (Kanfer, 1971; Mahoney and Thorensen, 1974).
2. Given a characteristically strong directive and didactic element, they should provide an opportunity for learning general coping strategies (Lazarus, 1976).
3. By their contributing to an altered self-perception based on personal causal attribution of behavioural change.

6). POTENTIAL DISADVANTAGES OF TREATMENT MANUALS.

Dobson and Shaw (1988) suggest six potential disadvantages to treatment manual use in the field of psychotherapy research and theory:

1). Inability to assess the effects of therapist variables.

The use of treatment manuals produces an enhancement of the degree of control resulting in an inability to assess the variability associated with extraneous factors, e.g. therapist variables. Thus, for the purposes of investigating the maximally effective treatment for a particular problem, these variables only add error variance to this outcome data. Kazdin (1986) notes that, in comparative outcome research using treatment manuals, factors such as therapist variables may be suppressed through techniques such as crossing therapists with treatment conditions.

2). Diminished ability to study the therapy process.

Orlinsky and Howard (1978), in a review of therapist behaviour, suggest that this variable can be broken, for the purpose of analyzing the therapeutic process, into instrumental activity (clinical technique), communicative activity (verbal and non-verbal communication) and interpersonal behaviour. Manual guided treatments allow only communicative activity to vary to any considerable degree. Dobson and Shaw (1988), however, suggest modifications to manual-guided treatment research which could overcome these restrictions.

3). Focus on treatment fidelity rather than on competence.

A potential disadvantage to the use of manuals is that, because they emphasize technique, they may underplay the need to assess and ensure competence in the therapies under consideration. Although therapists may be extremely knowledgeable about techniques, if delivery of these techniques is awkward, poorly timed, inappropriate or conducted within a poor therapeutic relationship, treatment outcome will be negatively affected. There is a need for the assessment, therefore, both of treatment fidelity (e.g. the Minnesota Therapy Rating Scale (De Rubeis et al, 1982) and treatment competence (e.g. the Cognitive Therapy Scale (Dobson et al, 1985)).

4). Increased expense.

Expense accrues in terms of time required to develop the manual, to develop the measures to assess treatment fidelity and time required for the distillation of the treatment techniques. Rigorous therapist training and monitoring of therapy will also increase expense.

5). Overresearching of older, codified therapy procedures.

Dobson and Shaw (1988) suggest that 'overresearching' may arise from:

- a) the investment theorists may have with established treatments, particularly if treatment manuals exist.
- b) the costs associated with establishing new treatment manuals and procedures.
- c) pragmatic issues such as funding availability.

They suggest a worst-case scenario that the extensive use of treatment manuals will lead to a stagnant, codified set of accepted treatments that are set as the standard against which other treatment approaches are judged.

6). Promotion of "Schoolism" in psychotherapy.

At a time when the movement towards eclecticism is gaining pace (Smith, 1982), the use of highly specific treatment manuals may be viewed as an aberration. To the extent that manuals present unique models and methods of therapeutic intervention, they also implicitly reinforce the idea that it is proper to uniquely identify such models and methods. This issue can, however, be resolved by the development of eclectic manuals which could be contracted with pure forms of therapy.

7). CONCLUSIONS

It is obvious to clinicians that irrespective of increases in staff, psychologists will only be able to see a small proportion of psychological problems in the community (Espie and White, 1986). In the absence of appropriately qualified and experienced psychologists, ever increasing consumer demands will be dealt with by non-psychologists with widely varying degrees of competency. Bibliotherapy can help psychologists bridge the gap between maintaining quality of service and quantity of problems seen. While in no way being a panacea, it can help provide therapy to a screened population allowing therapists to continue the provision of treatment to those requiring individual attention.

There are also promising avenues developing with the expansion and availability of computer technology, e.g. word processors could allow standard material to be readily altered to take into account individual needs and to provide a tailored therapy. Turvey (1985) suggests the potential of interactive assessment programmes which could be made available at health centres or via teletext services.

There is a need for psychologists to carry out a detailed assessment of bibliotherapy intervention as, too often, reports suggest that treatment manuals are based more on intuition than on empirical research. Turvey (1985) warns against immoderate claims for self-help therapy and suggests that unfulfilled expectations of the efficiency of psychological treatment could damage the reputation of proven psychological treatments and provoke a backlash against the profession in general. He cites as an example, the inappropriate

use, in many cases, of tranquillizers which were, following their introduction, hailed by some practitioners as a wonder drug. Current public dissatisfaction with these drugs has probably dented confidence in the use of other potentially more effective psychotropic drugs.

It is now over ten years since the Glasgow and Rosen review of bibliotherapy appeared. Since then there has been a significant growth of interest in this area but while many studies have been published citing the effectiveness of this approach, there is need for a good deal of careful research and assessment before bibliotherapies can be accepted as standard therapy in clinical practice.

CHAPTER 4

COGNITIVE AND BEHAVIOURAL THEORIES

THEORIES OF ANXIETY

In this section, the two currently most influential theories of anxiety disorders will be examined - behavioural and cognitive theories.

Behavioural theories, in essence, conceptualise anxiety disorders as learned reactions which have been acquired as a result of traumatic or inappropriate conditioning experiences. By applying the principles of learning the SR chain is weakened/eliminated by counter-conditioning or extinction techniques (i.e. "unlearning" the mal-adaptive behaviours).

Cognitive theories conceptualise anxiety disorders arising through such factors as expectation, attribution, self-perception, attitudes and beliefs. The focus of therapy thus becomes the removal or modification of these erroneous cognitions.

This chapter divides into 3 sections:

- 1). BEHAVIOURAL THEORIES.
- 2). COGNITIVE THEORIES.
- 3). COGNITIVE THEORY - 'REVOLUTION OR EVOLUTION'.

1). BEHAVIOURAL THEORIES.

Behaviourism, as defined by Watson (1913), was viewed as an objective natural science. It can be seen as a revolt against the role of consciousness in the analysis of behaviour and of introspection as a tool of that analysis. It is possible to identify at least three major conceptual models in behaviour therapy. Wilson (1978) identifies these as:

1. Applied behavioural analysis.

This is the model most closely identified with the radical behaviourism of Skinner (1953). Treatment focuses primarily on overt behaviour and is based on the principles of operant conditioning. In this model, subjective events are regarded as epiphenomena determined by the external environment. While acknowledging the existence of subjective events, they are eschewed as subjects for scientific investigation for methodological reasons (Latimer and Sweet, 1984).

2. The neobehaviouristic mediational SR model

This model derives from the work of Pavlov. It relies heavily on the principles of classical conditioning and anxiety is hypothesized to be a classically conditioned autonomic response arising in response to conditioned stimuli. This model will be dealt with in detail.

3. Social learning theory

This model incorporates the role of both classical and operant conditioning processes while emphasising the importance of cognitive mediational processes. Wilson (1978) states: "The latter determine what environmental influences are attended to, how they are perceived and whether they might affect future action". (page 11).

a. S-R Theory

The theory and therapy as developed over the years by, amongst others, Wolpe, Eysenck and Rachman, owes a good deal to earlier work by Pavlov, Watson, Miller and Mowrer.

By a process of classical conditioning, a previously neutral external or internal stimulus (CS) is paired with an aversive stimulus (UCS). As a result of this conditioning and subsequent stimulus generalisation and higher order conditioning, fear (CR) may be evoked by many stimuli which have no primary aversive property.

This model was thought to have been demonstrated most clearly by the classic "Little Albert" experiment by Watson and Rayner (1920) which demonstrated that fear could be conditioned and that generalisation could occur. By the application of learning principles, the fear could subsequently be "unlearned". Kazdin (1978) notes two conclusions from this work:

1. Behavioural concepts and objective methods could be applied to investigate emotional states and private experiences.
2. Experimental observation of how emotional responses are experienced provide clues as to how everyday fears might be created and how they could be treated.

In view of the difficulties associated with the model, particularly in view of the observed persistence of fear reaction to conditioned stimuli in the absence of continued pairing with the UCR (e.g. see Eysenck (1979), Mowrer (1947), revising his earlier 1939 theory, proposed a two factor theory.

b. Mowrer's Two Factor Theory

As classical conditioning leads to the development of fear, this fear, with its drive properties, motivates the organism to avoid - a behaviour which is reinforced by the subsequent fear reduction. "Solution" learning acquired in drive/fear reduction is then assimilated into the repertoire of the organism. The first factor - acquisition - is a prerequisite for the second - avoidance - (Rachman, 1976).

Rachman (1974) has reviewed several sources of evidence which have been thought to support the two-factor theory:

1. The results of observational studies on the production of fear in combat soldiers and disaster victims which have shown that complete breakdown could follow either one single traumatic incident or a long succession of mildly traumatic events (Gillespie, 1945; Trinker and Speigle, 1945; Tyhurst, 1951; Petrovic and Popovic, 1964).
2. The animal literature - in particular aversive conditioning, avoidance learning and "experimental neurosis" in which neurotic behaviour was artificially induced by conflict, frustration or other stress (Wolpe, 1958; Broadhurst, 1960).
3. Traumatic stimulation studies which, if the UCS is sufficiently strong, can provoke one trial learning. The classical animal studies here are Hudson (1950) and Napalkov (1963). The effect has also been produced in humans using induced respiratory paralysis as the UCS (Campbell et al, 1964; Sanderson et al, 1963, 1964).

c. Criticisms of Two Factor Theory.

Clinical studies show clearly that problems such as agoraphobia are commonly found together with multiple other symptoms (e.g. see Buglass et al, 1977; Hallam and Hafner, 1978). Mowrer's theory does not explain why these symptoms develop, why they occur together nor why they are associated more often with agoraphobia than with other anxiety disorders. The theory also does not account for the possibility of observational learning and modelling (Bandura and Walters, 1963; Bandura, 1969), or the transmission of information (Ost and Hugdahl, 1985), as agencies for developing fear responses.

Gray (1971) argues that not all stimuli are equally prone to conditioning and argues for the innateness of certain fears in certain animals.

Seligman (1971) proposes that certain stimuli are more susceptible to conditioning and resistant to extinction.

Mowrer proposes that conditioning acts as a drive leading to avoidance and is thus a prerequisite for avoidance behaviour. Hodgson and Rachman (1974) however, in an in-vivo flooding treatment, noted that subjective anxiety remains high even in the face of a marked decrease in avoidance behaviour. In addition, in the face of diminution of subjective and physiological anxiety responses, avoidance persists. This suggests that the relationship between the two is weaker than that supposed (Gray, 1971).

Eysenck (1979) criticizes two factor theory on the following grounds:

1. Lack of replicability - Watson's (1920) experiment, apart from being anecdotal in nature, has proven difficult to replicate (English, 1929; Bregman, 1934). While this may have been a function of the conditioned stimulus chosen (Delprato and McGlynn, 1984), many authors (e.g. Kimble, 1961; Marks, 1969), are of the opinion that Watson's case was overstated and took insufficient account of the quality of the UCS.
2. In experimental studies great precision must be taken in the design in order to achieve conditioning. Such precision is highly unlikely in real life.
3. According to theory, extinction should occur following presentation of unreinforced condition stimuli. In clinical problems, in some circumstances the opposite effect is noted.

d. Revision of the Two Factor Theory

Three revisions of the original version of the theory, formulated in view of the inadequacies outlined above and as a result of more recent research are worth mentioning:

- i. Preparedness.
- ii. Incubation.
- iii. Safety signal theory.

i. Preparedness.

Seligman (1971) has proposed the concept of "preparedness". Seligman's thesis is that the majority of clinical phobias concern objects of natural importance for the survival of the species. He suggests that evolution has pre-programmed the human species to acquire phobias easily

for potentially dangerous situations. Such prepared learning is selective, highly resistant to extinction, probably non cognitive and can be acquired in one trial. This theory allows a re-interpretation of the two factor theory within the understanding of the biological boundaries of learning without any alteration of learning paradigms.

ii. Incubation.

Eysenck proposed the concept of "incubation" to explain the failure of the unreinforced CR to extinguish (Eysenck, 1968, 1976, 1982). He proposed the existence of tendencies for incubation (enhancement) or extinction (weakening) of the CR. The stronger tendency will dominate the outcome. Citing the Napalkov experiment (1963) as evidence, he proposes that the stronger the UCS, the more likely incubation becomes. He further suggests that for a CS to be reinforcing, it must have drive properties. In addition, incubation is made more likely if presentation of the CS is of short duration (see Nunes and Marks, 1975; Barkovec, 1972 for empirical support). Clinical implications of this include the need for prolonged exposure to the CS in order to ensure a weakening rather than an enhancement of the CS.

Paxton (1983) criticised Eysenck for advancing the model as an explanation of the development of anxiety disorders without distinguishing between the sub-categories. He suggests that with his frequent mention of "fear responses", it applies more readily to phobias than, for example, generalized anxiety. In addition, the attempt to replicate the Napalkov phenomenon has produced mixed results (Bersh, 1980; Boyd, 1981). Bandera (1979) argues that incubation does not explain the adaptive flexibility of obsessive rituals and Kimbel (1979) points to the paucity of evidence for the theory.

iii. Safety Signal Theory

In response to criticisms that two factor theory was not adequate in accounting for the marked persistence of avoidance behaviour, Mowrer (1960) revised his earlier theory by introducing the concept of "safety signals". Gray (1971) developed the theory. He states:

"The omission of anticipated punishment is a reinforcing event... (and it) confers conditioned or secondary, rewarding properties on stimuli (safety signals) which occur in association with it". (page 170)

It is postulated that animals (and people) will learn to perform behaviour that is followed by such safety signals. Thus while Mowrer maintained that avoidance behaviour was initially reinforced by fear reduction, the concept of safety signals was necessary to explain the maintenance and extraordinary persistence of avoidance behaviour. Thus, many phobias could be construed as being a function of:

- a. classically conditioned fear.
- b. instrumental conditioning of avoidance responses.
- c. reinforcement of avoidance initially by fear reduction.
- d. in order to account for their persistence, the secondary reinforcing effects of safety signals.

The theory has been developed in some detail to account for the maintenance of agoraphobia (Rachman, 1983, 1984).

e). Conclusions

Behavioural theories in general, have concentrated on SR connections and hence consists in modifying-eliminating mal-adaptive behaviour. This has always fitted phobias much better where the anxiety has a clearly identifiable external focus. In the case of, for example, generalised anxiety, where avoidance is expected to be minimal, behavioural theories are clearly lacking. By neglecting to study the individual perception and interpretation of events, strict behaviourism is unlikely to shed sufficient light on the mechanisms involved in non-phobic anxiety and there is now a noticeable trend even within the behavioural camp, to accept the necessity of cognitive processes thus discarding the view of such processes as epiphenomena (e.g. Goldfried and Davison, 1976; Lazarus, 1971). In any case, it is clear that there is a large discrepancy between the practice of behaviour therapy and the limited theory justifying its use (Guidano and Liotto, 1983).

It is clear that no one theory is likely to provide a model for all the anxiety disorders. Progress depends on accepting that different theories can help provide partial explanations, e.g. Ullman and Krasner (1975) concentrate on operant processes and especially social factors in anxiety disorders. Rachman suggests three "pathways" to fear acquisition - vicarious/observational; informational/instructional learning and conditioning (see also Rimm et al, 1977). In general, however, there has been a distinct lack of fresh theorising within the behavioural literature without taking into account concepts stemming from the current "cognitive revolution".

2). COGNITIVE THEORIES

Despite the surge of interest in cognitive approaches in recent years, the idea that emotional suffering is related to cognition is by no means new (Mahoney, 1977). Beck (1976) cites the "Radical cognitivist position" of Marcus Aurelius:

"If thou are pained by any external thing, it is not this thing that disturbs thee but thine own judgement about it - and it is in thy power to wipe out this judgement now".

Meichenbaum (1977) quotes Epictetus:

"Man is disturbed not by things but by the view he takes of them"

Philosophical roots can be traced back to Kant (1798) who considered the substitution of "private sense" for "common sense" to be basic to the development of all mental disorders. According to Kant, judgements made on the basis of "common sense" are modified by feedback from others; judgements that arise from "private sense" however, are idiosyncratic and are not tested in the external world (see also Adler's (1936) distinction between "private intelligence" and "common sense"). Other proponents include Sullivan (1953) who considered correction of "parataxic distortions" (i.e. patients' misperceptions of situations) to be crucial to psychotherapy. Kelly (1955) developed a therapy based on his cognitive theory of personality, which involved the modification of disordered "personal constructs" or schemata which he assumed constituted the core of the patient's disorder. (See Raimy (1975) for a description of the historical development of cognitive approaches).

More recently, cognitive theory and therapy has developed from two directions:

1. From dissatisfaction with psychodynamic approaches (Beck, 1976)
2. From dissatisfaction with behavioural approaches (Meichenbaum, 1977).

The latter author points to criticisms of the conceptual basis of learning theory on both theoretical grounds (e.g. Bandura, 1974; Breger and McGaugh, 1965; McKeachie, 1974) and empirical grounds (e.g. Brewer 1975; Mahoney, 1974; Meichenbaum, 1974).

Meichenbaum cites Bandura's presidential address to the American Psychological Association:

"So called conditioning reactions are largely self-activated on the basis of learned expectation rather than automatic labels. The critical factor therefore is not that events occur together in time but that people learn to predict them and to summon up appropriate reactions". (1974, page 860).

Other influences on the development of cognitive theory include:

1. Information processing which involves such concepts as feedback loops and serial information processing in describing memory, language problem-solving and perceptual functions - a process begun by experimental psychologists in the 1950s (McLeod, 1987).
2. Piagetian theories - rather than seeing the child as a passive receptor of environmental input, Piaget put the view of the child as an active information seeker and processor.
3. Social learning theory. Bandura's work on modelling (e.g. Bandura 1968) produced evidence for cognitive mediation in the regulation of some behaviours, i.e. observation rather than direct reinforcement could lead to the acquisition and maintenance of a new behaviour.

Within the behavioural schools, there was an increasing awareness of the need to study cognitive processes. Homme (1963) introduced the term "coverant" - a contraction of "covert operant". Coverants encapsulated events such as thinking, imagining, fantasizing, etc and he assumed that these "private behavioural events" obey the same laws as non-private ones. He discussed the possibility that these coverants could be controlled, assuming:

1. Everybody is an organism and obeys the same laws of nature including the laws of reinforcement.
2. The occurrence or non-occurrence of coverants can reliably be discriminated by at least one organism - the one to whom they are private.
3. The organism to whom the events are private can control the presentation of reinforcement in the form of permitting the occurrence of high probability behaviours.

Current approaches to cognitive therapy differ widely and it is not possible to present a precise model unifying these approaches. The following principles are, however, fundamental to most of them:

1. That human beings respond not to environments per se but to the cognitive representations of those environments.
2. That thinking, emotion and behaviour are all causally related.

3. That human learning involves the active acquisition of complex rules and skills ("deep structural changes") rather than the passive conditioning of simple habits or responses ("surface structural manifestations").
4. That the task of the clinician is to teach skills and offer experiences which replace mal-adaptive cognitive representations with more adaptive cognitive systems. (Heide and Mahoney, 1980 page 100).

Cognitive therapy can be thought of as an intermediary between behaviour therapy and psychodynamic therapy (Gelder, 1983). As in behaviour therapy, treatment is structured, the therapist assumes an active role, the goals of therapy are circumscribed, treatment is in the "here and now" and therapy endorses the belief that mal-adaptive reactions can be altered without insight into the precise origin of the symptom. Unlike behaviour therapy, cognitive approaches concentrate explicitly on the ideation associated with the symptom. In addition to producing symptom reduction, cognitive therapy seeks to modify attitudes, beliefs and expectations. Thinking processes constitute a quasi autonomous system which can, at times, function independently of the environment. In general terms, cognitions are given central role on behavioural disorders - abnormalities of behaviour and mood are seen as a consequence of abnormalities in cognitions.

Three cognitive therapies will be considered, those of Ellis, Beck and Meichenbaum.

RATIONAL/EMOTIVE THERAPY - ELLIS

Ellis developed rational/emotive therapy (RET) in the 1950s and 60s and is now regarded as a pioneer of cognitive therapy, even although RET itself is in decline. The basic premise is that much, if not all, emotional suffering is due to the irrational ways people construe the world and the assumptions they make. These assumptions lead to self-defeating internal dialogue or self-statements which have an adverse affect on behaviour. The task of therapy, therefore, is threefold:

1. The therapist must determine precipitating external events which lead to distress.
2. The therapist must then determine the specific thought patterns and beliefs which constitute the internal response to these events and give rise to negative emotions.
3. The patient is helped to alter these beliefs and thought patterns.

Ellis postulated an ABC of irrational thinking and emotional disturbance. In its most recent form (Ellis, 1984)

RET supposes:

- A : The activating events, e.g. current events, thoughts, feelings or behaviours related to these events, memories or thoughts about past experience.
- B : Forms the mediation between the activating event (A) and the consequences (C). This takes the form of the individual's beliefs, cognitions about the activating event and exerts a strong influence on
- C : The consequences. These take the form of cognitive, emotional or behavioural disturbance.

Ellis assumes that psychological problems are a function of the individual implicitly or explicitly accepting strong, absolutistic "musturbatory" irrational beliefs. Thus a sequence of unqualified shoulds, oughts, musts and commands end inevitably in emotional distress - in what Horney (1965) termed a "tyranny of shoulds".

Grieger and Boyd (1980) view anxiety as involving three "fantasies":

1. A belief in a "have to" - e.g. "I have to be liked".
2. A belief in a negative outcome relating to this first belief, e.g. "Nobody will like me - they think I am not a nice person".
3. A belief in the "awfulness" of these events, e.g. "It will be awful if nobody likes me".

Acceptance of these beliefs will, inevitably, lead to distress.

Therapy, aimed at removing these beliefs begins at point D during which time patients are initially made to adopt the point of view that mal-adaptive behaviour and feeling arise from their belief systems.

Phadkel (1982) divided stage D into three areas:

1. Detecting irrational beliefs and clearly seeing that they are illogical and unrealistic.
2. Debating these irrational beliefs and showing oneself exactly how and why they are irrational.
3. Discriminating rational beliefs from irrational beliefs and showing oneself that the former leads to healthier results than the latter. Success at this stage leads directly to stage E - a stage where old, harmful beliefs are discarded in favour of a more appropriate belief system.

Meichenbaum (1976) suggests that it is not simply the incidence of irrational beliefs that distinguishes "normal" from "abnormal" populations. He assumes that non-clinical individuals also hold many of these irrational beliefs about themselves, but goes on to suggest that it is what the population say to themselves about these irrational beliefs, i.e. the coping mechanisms they employ that may distinguish them from a clinical population, e.g. the set of management techniques employed - the ability to "compartmentalize" such events or use humour, rationality or what Meichenbaum calls "creative repression".

There is a paucity of controlled experimental studies of RET although a few encouraging studies are available (Baker, 1966; Di Loretto, 1971; Karst and Trexler, 1970; Wolfe and Fodor, 1975). Mahoney (1974) however, reviewing the outcome literature on RET concludes:

"The clinical efficacy of Ellis's rational emotive therapy has yet to be adequately demonstrated"

(page 182)

COGNITIVE BEHAVIOUR THERAPY - BECK

This was first developed for the treatment of depression (e.g. Beck, 1967; Beck and Greenberg, 1974; Beck et al, 1978) and has since evolved into treatment for anxiety disorders (e.g. Beck and Emery, 1979). Within the system, behavioural techniques are utilized for cognitive purposes, i.e. to undermine irrational beliefs and style of thinking.

As with RET, Beck posits the view that the core of the cognitive model is that it is not events per se, but rather people's interpretation of the event that determines the emotional response. In depression, the interpretation considered important relates to perceived loss; in anxiety the interpretation relates to the perception of danger. In pathological anxiety, this perception of danger is unrealistic in that it is based on an overestimation of the danger inherent in the given situation. Clark (1986) lists four errors involved in these overestimations:

1. Overestimating the probability of a feared event.
2. Overestimating the severity of the feared event.
3. Underestimating coping resources (what you can do about it).
4. Underestimating rescue factors (what other people can do to help you).

In a situation perceived as dangerous, the "anxiety programme" is automatically activated. Clark and Beck (1988) suggest this programme is a complex constellation of cognitive, affective and behavioural changes inherited from our evolutionary past. These changes are hypothesized to have been designed to protect us from harm in a primitive environment. These include:

- a. Marked changes in autonomic arousal as a preparation for flight, fight, freezing or fainting.
- b. An inhibition of ongoing behaviour.
- c. Selective scanning of the environment for threat.

In primitive environments, the anxiety programme would have been a useful survival mechanism. While this may also be the case in contemporary life, the system is seen to be activated following misperception or exaggeration of danger and thus the experience of anxiety is inappropriate for initiating remedial action (Clark and Beck, 1988).

Beck distinguishes between two different levels of disturbed thinking.

1. **Negative Automatic Thoughts.** These refer to the thoughts and images present in specific situations, e.g. an agoraphobic patient may have the automatic thought of "I am going to pass out" or "I am going to make a fool of myself". The characteristics of these "automatic thoughts" are that they are usually upsetting, irrational, concern the near future, are habitual and may come "out of the blue".

2. **Dysfunctional assumptions.** These underlying values are said to predispose the individual to the above dysfunctional automatic thinking. These assumptions result from early learning experiences and may lay dormant until activated by a specific event which meshes with them. Dysfunctional assumptions may revolve around the themes of, e.g. love, (e.g. if your father dislikes you you are bound to be less happy); approval (e.g. "I need other people's approval in order to be happy"); omnipotence (e.g. "I should be upset if I made a mistake").

These dysfunctional beliefs relate to higher order cognitive structures called schemas. According to Anderson (1985), once activated, these schemas facilitate the processing of information consistent with the content of the schema and inhibits the processing of information inconsistent with the schema. Activated schemas also lead to an increase in false alarms consistent with the content of the schema. (Clark and Beck, 1984).

Marzillier (1980) suggests that, within cognitive therapy, there is considerable vagueness in the use of these terms. He quotes Meichenbaum (1977) who notes;

"Cognitive structures seem to be the cognitive psychologist's Rorschach Card or Linus-Blanket.....He can see anything he wants in it and it gives him a sense of security" (page 212).

During therapy, three key epistemological principles are conveyed to the patient:

1. Perception or interpretation of reality is not identical to the reality itself.
2. Interpretation of reality is dependent on cognitive processes which are in themselves, inherently fallible.
3. Beliefs are hypotheses which are subject to disconfirmation and modification.

According to the model, Beck asserts that if we know the meaning a person attaches to a given situation then we should be able to predict his or her emotional reaction. He states that the different neurotic disorders are not in form but in content. Within these categories, reality is changed in order to fit the concepts that dominate the patient's thinking. Therefore, the idiosyncratic ideational content of depressed thoughts reflects the devaluation of the patient's personal domain; in anxiety, a danger to that domain and, in paranoia, an unjustified intrusion into that domain (Beck, 1976).

While the range of cognitive distortion is potentially infinite, Beck cites the following as occurring regularly in clinical practice:

1. **Selective abstraction:** This involves focusing on a context so that the significance of the total situation is missed.
2. **Arbitrary inference:** Refers to conclusions which are made on the basis of inadequate or improper information - e.g. the anxiety patient indiscriminately interpreting his perception stimuli in terms of personal danger.
3. **Overgeneralization:** This involves blanket judgement or predictions based upon a single incident.
4. **Polarized thinking:** This involves sorting information into one of two dichotomous categories; good or bad, success or failure, etc.
5. **Magnification:** Another manifestation of the tendency to make extreme judgements. This refers to an over-emphasis on the most unpleasant, negative consequences that can arise in any situation.
6. **Minimisation:** This refers to an underemphasis of, e.g. positive personal attributes, etc.
7. **Assuming excessive responsibility:** In this form of distortion, patients may attribute negative events to their supposed personal deficiencies.

These thinking errors can be found by helping the patient recognise his dysfunctional thoughts either by discussion, diaries, or through imaginal techniques such as "As If". A range of behavioural techniques such as relaxation, behavioural rehearsal, exposure, activity scheduling, etc may be utilized, usually early on in therapy, to help disconfirm distorted thinking.

Cognitive techniques include, e.g. decentring, decatastrophizing, re-attribution, etc may be used as more permanent ways of altering cognitions. Within sessions, patient and therapist work in a collaborative fashion to try and identify and modify these irrational thoughts. Socratic questioning such as "What is the evidence for this thought?", "Am I confusing a low probability event with a high probability event?", "Is my judgement based on feelings rather than facts?", etc can be used to help patients examine and reality test negative thoughts. In this way, rational responses are acquired leading to the modification or elimination of automatic thoughts.

In addition to modifying these thoughts, therapy should aim at modifying the dysfunctional assumptions assumed to underly the thoughts.

STRESS INOCULATION TRAINING (SIT) - MEICHENBAUM

Meichenbaum came to cognitive therapy from a different route from Ellis and Beck. Increasingly dissatisfied with traditional behavioural approaches, he initially sought cognitive factors to explain improvement in behaviour therapy, e.g. systematic desensitisation (Klein et al, 1969; Sloan et al, 1975); assertiveness skills training (Glasgow and Arkowitz, 1975; Schwartz and Gottman, 1974); aversive conditioning (Steffy, Meichenbaum and DeSt, 1970; McFall and Lillesand, 1971). Early work on coping skills training (e.g. Meichenbaum et al, 1971; Meichenbaum et al, 1975) led directly to the development of SIT.

SIT is not a single technique. It combines elements of didactic teaching, Socratic discussion, cognitive restructuring, problem-solving and relaxation training, behavioural and imaginal rehearsal, self-monitoring, self-instruction, self-reinforcement and efforts at environmental change. It is designed to nurture and develop coping skills and provide for a pro-active defense or set of coping skills to deal with future situations (Meichenbaum, 1985).

The term is analogous to the concept of medical inoculation - SIT aims at developing a set of "psychological antibodies" (coping skills) and to enhance resistance through exposure to stimuli powerful enough to arouse defences but not powerful enough to overcome them. Specifically, SIT is designed to:

1. Teach clients the transactional nature of stress and coping.
2. Train clients to self-monitor mal-adaptive thoughts, images, feelings and behaviours in order to facilitate adaptive appraisals.

3. Train clients in problem-solving, i.e. problem definition, consequence, anticipation, decision-making and feedback evaluation.
4. Model and rehearse direct-action, emotion-regulation, and self-control coping skills.
5. Teach clients how to use mal-adaptive responses as a cue to implement their coping repertoires.
6. Offer practice in vitro imaginal and in behavioural rehearsal and in vivo graded assignments that become increasingly demanding, to nurture clients' confidence in and utilization of their coping repertoires.
7. Help clients acquire sufficient knowledge, self-understanding and coping skills to facilitate better ways of handling (un)expected stressful situations.

(Meichenbaum, 1985 page 22)

SIT comprises three phases:

1. Conceptualization.
2. Skills acquisition and rehearsal.
3. Application and follow-through.

These vary according to the target population, the severity of the problems and the length of treatment. A brief over-view of each of these stages will be given.

1. Conceptualization Phase

Meichenbaum, (1985) outlined the following as the main objectives during this phase:

- i. Establish a collaborative relationship with the client and with significant others where appropriate.
- ii. Discuss the client's stress-related problems and symptoms focusing on a situational analysis.
- iii. Collect information in the form of interviews, questionnaires, self-monitoring procedures, imagery based techniques and behavioural assessments.
- iv. Assess client's expectations with regard to effectiveness of the training programme and formulate treatment plans, establishing short, intermediate and long term goals.
- v. Educate the client about the transactional nature of stress and coping and consider the role that cognitions and emotions play in engendering and maintaining stress.
- vi. Offer a conceptual model or reconceptualization of the client's stress reactions.
- vii. Anticipate and subsume possible client resistance and reasons for treatment non-adherence. (page 27).

Skills Acquisition and Rehearsal Phase

In this phase the patient is helped to develop various coping strategies, tailored to his own personal need. The coping strategies are of two types:

- i. Instrumental (problem focused).
 - ii. Palliative (emotion regulation).
- (Lazarus and Launier, 1978)

The following strategies will be utilised at this stage:

- a. Cognitive strategies.
- b. Problem-solving training.
- c. Self-instructional training (guided self-dialogue).

Meichenbaum presents examples of coping self-statements which patients should adapt to meet their own requirements. They are divided into four stages:

Preparing for the stressor.

Confronting and handling the stressor.

Coping with feelings of being overwhelmed.

Evaluation of coping efforts and self-reward.

The thoughts differ from the simple positive thinking suggested by, e.g. Norman Vincent Peale in that they are not said as a "psychological litany" but rather the patient personalises his self-statements which should be rational rather than unrealistic, e.g. "one step at a time" not "I can cope with anything".

3. Application and Follow-Through Phase.

The objectives of this phase are to help patients implement coping skills in daily life and to institute generalized change. A variety of techniques can be used to aid these objectives, e.g. imagery rehearsal - this allows the patient to rehearse coping efforts which approximate real life situations while in the clinic. Behavioural rehearsal is closely related to this. Role reversal (when the patient takes on the role of the therapist and vice versa) may help the patient generate strategies,

arguments and examples that are personally convincing (Janis and Mann, 1977). It also helps the therapist evaluate the patient's understanding of the therapy.

Time will also be spent in relapse prevention - in particular to help patients identify and deal with factors that could contribute to relapse. Meichenbaum also recommends "follow-through" or booster sessions rather than abruptly terminating therapy.

Although the brief review of three cognitive therapies has shown differences between the approaches, the three models all share the central concept of the importance of irrational thinking patterns on behavioural and emotional disturbance and, consequently, their long-term improvement for these disorders will only be achieved by the identification, assessment and elimination of these cognitive distortions.

The most recent reviews of cognitive therapy (Miller and Berman, 1983; Shapiro and Shapiro, 1982; Dush, et al, 1983) suggest that:

1. Cognitive therapies are superior to no treatment controls over a wide range of problems.
2. The extent of difference diminishes when compared to placebo conditions.
3. They are equally effective when administered to a group or individual form.
4. Cognitive behavioural therapies are no more effective than cognitive only approaches.

There is a need, in the face of current popularity of these techniques for controlled research before dismissing other forms of treatment and in particular multi model therapies which, irrespective of theoretical difficulties, have been accepted as a clinically effective approach for many emotional disorders (Barlow and Wolfe, 1981).

3. COGNITIVE THEORY - 'REVOLUTION OR EVOLUTION'

Thomas Kuhn (1970) in "The Structure of Scientific Revolutions", proposed that the history of a science is punctuated by "revolutions" - the essence of these revolutions being the emergence of a new paradigm which replaces in whole or in part, the old paradigm to which it is incompatible. He states:

"Led by a new paradigm, scientists adopt new instruments and look in new places. Even more important, during revolutions, scientists see new and different things when looking with familiar instruments in places they have looked before".

(page 111).

In light of this, cognitive theory and therapy can be seen as revolutionary only when contrasted with Skinnerian behaviour modification. Even then, as Blackburn (1986) notes, Skinner (1963) in "Behaviourism at Fifty" concedes that -

"It is particularly important that a science of behaviour face the problem of privacy an adequate science of behaviour must consider events taking place within the skin of the organism... as part of behaviour itself"

(page 956)

Cognitive models with their emphasis on cognitive mediation are best seen as evolving from neo-behaviouristic and social learning theories which were already familiar with cognitive concepts and practices, (e.g. systematic desensitization, covert sensitization, thought stopping). Indeed Blackburn (1986) suggests that behaviour therapy has "come of age" in that it can accommodate the investigation of cognitive functions without fear of losing its hard-won scientific status. Salkovskis (1986) notes that cognitive therapy and behavioural therapy clearly make "comfortable bed-fellows".

Recently, there has been a greater emphasis on a more critical approach to cognitive theory, e.g. Rachman's (1981) contention that clinical data fail to identify patterns of automatic thoughts that correlate with emotional arousal or anxiety. Leventhal (1984) believes that the emotional system is largely inaccessible to conscious influences (e.g. cognitive therapy), while Eelen (1982) states that cognitive therapists have given too much emphasis to patients' conscious or semi-conscious private "self-talks". He believes this self-talk represents epiphenomena, or surface structures, that might or might not be congruent with some deeper knowledge of their world.

It is worthwhile quoting the criticisms of a leading cognitive researcher, Michael Mahoney:

"Much of what is being popularized in today's wave of cognitivism seems superficially mediational and unnecessarily restrictive in its notions of contemporary cognitive psychology. I do not believe that the simple

cueing, recitation, or reinforcement of "positive self-statements" or the rationalistic "reconstruction" of explicit beliefs are optimal or sufficient approaches for facilitating significant and enduring personal development. These interventions on explicit surface structures are, I believe, a welcome movement towards the refinement of our understanding, but I think we should be careful not to over-rationalize a developing system (the person) that contains powerful and primitive prerational modes of knowing and adapting to its world.

(Mahoney, 1985, pages 13-14)

These criticisms should be attended to and the likelihood is that following what can best be described as a 'honeymoon period', during which many clinicians began jettisoning behavioural techniques in favour of cognitive techniques perhaps without a full understanding of these techniques, a more mature consideration of the advantages and disadvantages of cognitive therapy will take place and new paradigms emerge.

Teasdale (1982) argues that new paradigms directly stimulate clinically useful strategies due to the growth of new hypotheses and methodology. These new ideas and approaches supplement the most useful of the tried and tested ones. Marshall and Segal (1988) note that researchers and clinicians are now less interested in distinguishing procedures as in designing effective treatment programmes which may combine strategies adopted from various theoretical models. While this may obfuscate differences among approaches, it does allow for better theories, more precise research and more comprehensive therapy programmes.

Salkovskis (1986) would find in this strong evidence in favour of the "scientific eclecticism" which he regards as a hallmark of research orientated clinicians in behaviour therapy.

The logical extension of this "eclecticism" involves the study of behavioural, cognitive and somatic processes involved in the anxiety disorders. The next chapter concentrates specifically on this area and also investigates the status of affect in a systems analysis of anxiety.

CHAPTER 5

THREE SYSTEMS ANALYSIS

THREE SYSTEMS MODEL OF ANXIETY

Following criticisms of Mowrer's two factor theory and related unitary models of fear, Lang (1968, 1967) suggested that anxiety comprises three loosely correlated response systems (behavioural, physiological and cognitive). These "three systems" were described as highly interactive but also partially independent, the latter being attributed to the fact that none of the systems uniquely defined an emotional state and each could be influenced by non-emotional factors (Craske and Craig, 1984). "Three Systems Analysis" of anxiety has now achieved a wide degree of acceptance amongst clinicians. From both a theoretical and clinical point of view, the importance of the three systems model is that fear is no longer seen as an entity or, in Lang's phrase "a lump" which could be measured in different ways (Hugdahl, 1981). As Lang et al (1972) put it:

"In human subjects, emotional behaviour includes responses in three expressive systems; verbal, gross motor, physiological (autonomic, cortical, neuro-muscular). The responses of no single system seem to define or encompass an "emotion" completely. Verbal statements of hostility are obtained from subjects who show no tendency to avert attack. Individuals may report no fear of objects they have systematically avoided for a lifetime. Subjects in rage show elevated blood pressure, but the same reading can be caused by kidney failure or exercise. The clinical examples are legion, and the laboratory is yielding a similar range of low correlations between systems, even when the subject

population and the emotional stimuli are quite
homogeneous". (page 624).

This chapter divides into 5 sections:

- 1). THREE SYSTEMS ANALYSIS.
- 2). CRITICISMS OF THREE SYSTEMS ANALYSIS.
- 3). MEASUREMENT OF THE COMPONENTS.
- 4). AFFECT AS A SEPARATE COMPONENT.
- 5). IMPLICATIONS FOR CLINICAL PRACTICE.

- 1). THREE SYSTEMS ANALYSIS.

a) Development of the concept of multi-measurements.

a) Development of the Concept of Multi-Measurements.

Impetus for multiple response measurement predates behaviour therapy and can be seen, for example, in Jung's measurement of the emotional responses accompanying word association. It has, however, had to battle against behaviourists such as Thorndike who felt it sufficient to rely on a single index of behaviour change, for example, rate of lever pressing (Himadi et al, 1985).

While Lang played the pioneering role in the development of three systems theory, credit must be given to the work of Campbell. In arguing against the use of single fallible methods such as questionnaires, Campbell and Fiske (1959) called for a multi-trait - multi-method matrix (i.e. relatively different but ultimately convergent measurements of behavioural processes). While most behaviour therapists recognised the ideas behind Campbell and Fiske's proposals, only a small minority of treatment studies have included a "Triple Response Measurement" (TRM). Generally, assessments have been limited to a single response mode, usually a psychiatric rating scale or patient functioning (Mathews et al, 1981). Himadi et al (1985) suggests that two factors have contributed to this resistance:

1. The behavioural tradition of single peripheral measurements as explicated by Thorndike.
2. The inherent difficulties of TRM (see Boice, 1983).

b) Development of Three Systems Analysis.

The starting point for Lang was the finding by Lang and Lazovik (1963) on automated desensitisation of snake phobics. While some subjects showed rapid change in overt behaviour (i.e. decreased avoidance) they still continued to verbally label themselves fearful. Others showed a lessening of fear when measured by fear questionnaires but still exhibited marked physiological responding. From this, Lang (1968, 1971, 1978) concluded that different systems - cognitive, physiological and behavioural - are, to some extent, capable of independent change through the shaping of environmental demands.

Evidence for Lang's theories came from the work of the Laceys in the late fifties and early sixties (see Lacey's review, 1967).

Physiological and behavioural measures rarely coincided and instead low correlations were legion. Lacey and Lacey (1958) put forward the view of individual response-stereotypy. Using various groups of subjects and several different stressors, they found that individuals tend to respond by showing the greatest degree of activity in the same physiological system no matter what the source of stress was. For many subjects, the pattern of physiological responding was repeated from stressor to stressor.

Engel (1960) advanced the notion of stimulus-response specificity to explain discrepancies within a single system. He suggested that different emotional stimuli would have their own autonomic correspondence irrespective of individual differences. Support for this view was demonstrated by Ax (1953). He found anger and fear could be differentiated in terms of autonomic response. Anger resulted in a more intense increase in diastolic blood pressure and decrease in heart

rate compared to the corresponding autonomic responses when the subject was made fearful. These results were replicated by Weerts and Roberts (1976) who had subjects simply imagine being in the situation used by Ax. However, as Hugdahl (1981) points out, these studies are exceptions and the overall impression from a review of the literature is that the systems do not covary and especially not in clinically significant emotions. Foessler and Engel (1977) make the point that stimulus response specificity and individual response stereotypy are not mutually exclusive.

Support for Lang's idea that anxiety comprises relatively independent systems was found by Leitenberg et al (1971) who noted, that by adding physiological measures to overt behavioural measures, discrepancies were found as patients functioned well despite continuing high heart rates. Leitenberg drew two important conclusions from the study:

1. There may have been too much emphasis on reducing anxiety and not enough on training patients to function well regardless of anxiety.
2. Wolpe's notion (based on Hullian psychology) that anxiety must be inhibited before avoidance behaviour could be reduced, needed reconsideration (see also Bernstein and Paul, 1971).

c) Synchrony and Desynchrony

Rachman and Hodgson (1974) suggested the terms "synchrony" and "desynchrony" to describe the relationships between the existing response systems. These terms were in addition to the concept of concordance which refers to the degree of correlation between two or more response

systems at any one time. Synchrony refers to the degree of covariance as response systems change over time.

Hodgson and Rachman (1974) extended the three systems model on the basis of the observation that not only are the three systems imperfectly correlated at any given point in time (discordance) but they also change at different rates (desynchrony). These authors emphasise the significance of desynchronous changes in fear:

"There is no doubt that, during the next decade, psychologists will be concerned with the differential changes of various response systems and need to consider the factors which tend to reduce correlations between measures at a particular point in time (i.e. discordance) and between change scores from one point in time to another (i.e. desynchrony).

(page 319)

Hodgson and Rachman (1974) developed five hypotheses to provide a framework for predicting degrees of concordance and/or synchrony. Partial empirical support for the hypotheses that concordance between response systems is likely to be high during strong emotional arousal comes from the studies of Sartory et al (1977) and Marks et al (1971). Indirect support derives from studies examining mildly fearful individuals which suggest, in general, an absence of autonomic responding (Borkovec, 1973; 1976). Sallis et al (1980) reviewed 41 clinical and 54 analogue studies and reported that incongruence amongst channels tended to be higher for the clinical populations.

Empirical support has also been offered for the hypothesis that the degree of concordance between measures and different response systems after treatment intervention will increase during follow-up period. (Foa et al, 1980; Lande, 1982; Nunes and Marks, 1975; Watson et al 1982). There is evidence that desynchronous patterns, especially those involved in the continued manifestation of anxiety in at least one response system, increases the likelihood of treatment failure (Poplar, 1977; Vermilyea et al, 1984). Evidence for the hypothesis that flooding would produce desynchrony whereas participant modelling would produce synchrony remains inconclusive (Craske and Craig, 1984).

As Himadi et al (1985) assert, three generalisations can be drawn from tests of these hypotheses:

1. Most reports deal exclusively with simple phobias (e.g. fear of spiders).
2. The tests have appeared at a rather slow rate.
3. Attempts at confirming hypotheses have met with mixed success where, for example, concordance was predictably high during strong emotional arousal while discordance was not evident during mild emotional arousal (Sartory et al, 1977).

In contrast to the prediction of Rachman and Hodgson, Kaloupek and Levis (1983) found that low fearful subjects produced a greater degree of response concordance than high fearful subjects and where expected desynchrony appeared in the high demand treatment, it occurred at an unexpected time - during and not between treatment sessions (see Gray et al, 1979).

Craske and Craig (1984) compared three systems analysis theory to Bandura's Self Efficacy Theory (Bandura, 1977). The latter theory proposes that the strength of an individual's conviction in his or her ability to perform particular tasks mediates the degree of subjective, autonomic and behavioural anxiety, i.e. cognition is accorded causal status. Bandura confirmed that different therapeutic strategies strengthen self-perception of efficacy and that subsequent behaviour corresponds to the degree of self-efficacy change regardless of the method by which it was enhanced (see Bandura and Adams, 1977; Bandura et al, 1982; Bandura, 1982). The theory has been the subject of extensive theoretical and experimental analysis (Eysenck, 1978; Kazdin, 1978). In studying performance anxiety in pianists, Craske and Craig contrasted three systems theory which associates concordance and synchrony with specific conditions and self-efficacy theory which suggested that although systems can be discordant and desynchronous, they are generally concordant and synchronous. Results favoured three systems theory. There was greater synchrony amongst behavioural, cognitive and physiological measures in the relatively anxious group while there was a greater tendency towards desynchrony in a relatively non-anxious group. Results were consistent with the three systems emphasis on the relative independence of the different measures.

While the above study dealt with a non-clinical population, Barlow et al (1980) investigated synchronous and desynchronous changes between heart rate and subjective anxiety during 12 sessions of cognitive therapy with three agoraphobic women. While substantial behavioural improvement was noted in all three cases, different patterns of synchrony were

observed between heart rate and self-report. They concluded that desynchrony was "an established fact in the treatment of phobias". (page 447, 1980). Lehner and Leiblum (1981) looked at the three systems measurement of assertiveness anxiety. Results revealed low correlations between the three channels thus supporting three systems theory.

d) Implications for Clinical Psychology :
individual responses to treatment.

Paul (1969) formulated the important questions to be answered in behavioural research:

"What treatment, by whom is most effective for the individual with a specific problem, under which set of circumstances and how does it come about?" (page 44).

As Ost et al (1981) point out, behavioural research in the 1970s focused almost exclusively on the first question and, to some extent, on the last. Borkovec (1976) states that research "lumping" together individuals with the same diagnoses almost completely ignored the role of individual differences in anxiety response components despite Paul's (1969) warning that -

"The question of technique effectiveness cannot be divorced from the subject characteristic considerations".
(page 274).

Acceptance of three systems analysis by the National Institute of Mental Health (NIMH) and the Albany Research Conference (Barlow and Wolfe, 1981) helped stimulate research directed towards effective

treatment based on this new method by first assessing which components played the prominent role in an individual's anxiety and secondly applying the treatment which focused on that component (see Ost et al, 1981, 1982, 1984; Cobb, 1983).

Davidson and Schwartz (1976) suggest that maximum treatment effectiveness should occur when patients are treated with a technique which matches the most prominent system of reaction (i.e. consonant treatment).

This means that a treatment method emphasising cognitive effects should primarily be used with patients with strong negative cognitions as their primary complaints. Similarly a physiological treatment method such as Applied Relaxation should primarily be used with patients with profound physiological reactions as their primary complaint (Haug et al, 1987).

In order to help match the patients to the treatments, Ost et al (1981) suggested the following divisions:

1. Treatments focusing on the behavioural component.

Reinforced practice.

Flooding.

Modelling.

Contact-desensitisation.

2. Treatments focusing on the cognitive component.

Stress inoculation training.

Systematic rational restructuring.

3. Treatments focusing on the physiological component.

Relaxation methods.

Anxiety management training.

Systematic desensitisation.

Biofeedback.

Norton and Johnson (1983) compared the effectiveness of two different relaxation procedures in the treatment of snake anxious individuals who expressed anxiety primarily in a somatic or a cognitive manner. Forty moderately snake phobic subjects were categorised as either "somatically-anxious" or "cognitively-anxious" on the basis of a questionnaire. Half of the subjects in each group were given modified progressive muscular relaxation and the other half received training in Agni Yoga for four sessions. The results provided tentative evidence that the two relaxation procedures produced differential effects according to whether subjects expressed anxiety somatically or cognitively. The authors, however, stressed that the interpretation of the results must be tempered by the fact that the subjects were college students who expressed only a moderate fear of snakes. They quote the finding that clinically anxious subjects may not respond to progressive relaxation (Borkovec and Sides, 1979) or other behavioural procedures (Emmelkamp, 1979) in the same way as moderately anxious college student volunteers. They note that it is not certain that the results of the study therefore apply to clinical populations. (See also Sharhar and Merbaum, 1981).

Haug et al (1987) categorised flying phobic patients as either cognitive or physiological responders on the basis of pre-treatment evaluation. Within each group, half the patients were assigned to cognitive treatment (Stress Inoculation Training, Meichenbaum and Turk, 1976 or Applied Relaxation (Ost et al, 1981). Both treatment methods yielded significant reduction in both physiological arousal and subjective anxiety. The reduction during post treatment follow-up compared to pre-treatment measurements was more marked for the consonant compared to the non-consonant treatment group particularly for self-reported physiological arousal and fear of flying scale scores. However, no

differential effects between the consonant versus non-consonant treatment groups were found for changes in heart rate and subjective anxiety.

Ost and his colleagues have reported on a series of consonant treatments. Ost et al (1981) stressing the importance of individual response patterns in the treatment of social phobia, assessed patients during a social interaction test and physiological and behavioural indices. On the basis of this information, patients were divided into behavioural and physiological reactors. Half the patients within each group were then assigned to a behaviourally focussed method (Social skills training) or to a physiological focussed method (Applied Relaxation). Within group comparisons showed that Social skills training was better for behavioural reactors than was Applied Relaxation in six out of ten measures while Applied Relaxation was significantly better for physiological reactors in three of the measures.

Ost and his colleagues found similar results with claustrophobics (Ost et al, 1982) although with agoraphobics, state that "in no case was exposure in vivo significantly better than Applied Relaxation for the behavioural reactors or vice versa for the physiological reactors" (Ost et al, 1984, page 705). Jerremalm, Jansson and Ost (1986) again focusing on the treatment of social phobics, report that classifying patients into physiological and cognitive reactors did not predict different outcome, with a physiologically and cognitively-focussed method respectively.

Thus the literature currently offers only weak support to the hypothesis that "tailoring" a treatment method in accordance with the most prominent response system is most effective for treatment outcome. Haug et al (1987) suggest that the role of "tailored" consonant anxiety coping strategies could be of importance for the maintenance of treatment effects. When the individual has to confront the anxiety-provoking situation, the availability of coping strategies related to the most prominent response in terms of three systems model could be beneficial.

The above authors, however, note that the clinical value of the above studies still remains an open question. They point out that frequently the non-consonant subjects benefitted from treatment and thus the obtained statistical significance may not have a corresponding clinical significant.

These studies are, however, open to the criticism that the specificity of treatment is undocumented. For example, the view that cognitive restructuring selectively affects cognitive responding and that exposure techniques primarily alter motor behaviour are based on intuition rather than empirical evidence. (Bellack and Lombardo, 1984). Odom et al (1978) reported that cognitive restructuring reduced heart rate more effectively than systematic desensitization, and that guided participation was more effective than cognitive restructuring in change self-reported anxiety. These data therefore suggest that the hypothesized specificity of various treatments may differ from their actual effects. Therefore while the idea of "tailoring" therapy to fit an individual's needs is appealing, further research is clearly needed to clarify this issue.

e) Relationship between the Mode of Acquisition and Anxiety Responses

In a further series of papers, Ost and his colleagues investigated Rachman's 1977 paper on the acquisition of fears and phobias.

Dissatisfied with Mowrer's (1979) two factor theory, Rachman proposed three "pathways" to fear acquisition:

- a. Conditioning.
- b. Vicarious acquisition.
- c. Information/instruction.

It was suggested that physiological reactors would predominate in fears acquired through conditioning whereas on fears developed indirectly through vicarious learning or information, negative cognitions would predominate.

Ost and Hugdahl (1981) looked at ways of acquisition among animal phobics, social phobics and claustrophobics. Taken together, 57.8% of these patients reported conditioning experiences, 17% vicarious acquisition and 10.4% reported information/instruction acquisition. 15.1% could not recall any specific circumstances. In addition, the highest proportion of conditioning experiences were reported by the claustrophobic group followed by the social and animal-phobic groups. A tendency toward higher self-reported physiological arousal was observed in the animal phobic group amongst those patients exposed to conditioning experiences. However, when actual heart rate recordings during exposure to the phobic situation were taken into account, higher activity was observed only in the claustrophobic group. Ost et al (1981) suggest that the hypothesis of differential loadings on the physiological versus cognitive/subjective anxiety component depending on the way of acquisition (conditioning versus indirect) was only partially supported.

Ost and Hugdahl (1983) studied the acquisition of agoraphobia and anxiety response patterns. The overwhelming majority of the agoraphobic patients in this study (81%) described the onset to conditioning experiences, 9% recalled vicarious experiences, no patient developed the phobia through instruction/information while 10% had no recall of onset. Regarding the relationship between the ways of acquisition and the anxiety response patterns, questionnaire data yielded no significant difference between the conditioning and the indirect-onset groups on any of the components. The results were therefore similar to the authors' 1981 study. It was concluded that, in agoraphobia, there does not seem to be any significant relationship between the way the phobia is acquired and the degree of loading on the different anxiety response components.

Ost and Hugdahl (1985) applied the same approach to blood and dental phobics. In this study, 45% of blood phobics acquired their phobia through conditioning compared to 68% of dental phobics. 32% reported vicarious experiences (12% in dental phobics) 9% through instruction/information (6% in dental phobics) while 14% in each group had no recall. In terms of relationship between the ways of acquisition and the anxiety response pattern, the results were similar to the two previous findings where no significant relationship between the way of acquisition and the degree of loading on the different anxiety responses was found.

f) Role of Synchrony in Treatment Outcome

Schroeder and Rich (1976) in a study of female student snake phobics, analysed the process of fear reduction during systematic desensitisation. They noted linear reduction on behavioural and subjective measures but

a cubic trend was detected for baseline heart rate. The initial variable in unravelling the fear response seemed to be idiosyncratic to the individual subject and the process of change appeared to involve complex interactions among the components, i.e. changes in one system could not be considered primary in initiating change in other systems. Based on the hypothesis proposed by Hodgson and Rachman (1974) that the degree of concordance between measures and different response systems after treatment intervention will increase during the follow-up period, it has been suggested that these synchronous patterns, especially those involved in the continued manifestation of anxiety in at least one response system increases the likelihood of treatment failure (Poplar, 1977; Vermilyea et al 1984). Thus the view has developed that desynchrony is a useful prognostic index.

Barlow et al (1980) reporting on three agoraphobic women treated in a group therapy programme, noted that the three patients demonstrated varying patterns of synchrony with one example of marked desynchrony. The authors noted that these divergent patterns were all the more striking in view of the fact that each patient had the same problem (agoraphobia), were seen in the same group therapy setting and thus received the same treatment administered at identical times. The desynchronous patient relapsed thus providing the suggestion that desynchrony could be predictive of treatment outcome.

Vermilyea et al (1984) in a cognitive rehearsal/graded practice treatment outcome study involving agoraphobics, noted overall modest improvement. When the data were divided into synchronous and desynchronous patients, treatment effects became much clearer in favour of the synchronous patients

with desynchronous patients showing a tendency towards increase in heart rate. When patients were divided into treatment responders and non-responders, five of the six non-responders were desynchronous compared with eleven of the twenty-two treatment responders. It was also noted that those patients who began with the most substantial problem showed most responsiveness to treatment thus lending support to the Law of Initial Values (Hodgson and Rachman, 1974).

Vermilyea et al (1984) state that the link between desynchrony and poor response to treatment gives credence to the suggestion made in the Barlow et al study noted above. It also supports the theory expressed by Lang (1979) that exposure to fear stimuli without processing of the emotional component (as indicated by changes in heart rate) is necessarily ineffective. Foa and Kozak (1976) elaborated Lang's model and suggested that physiological habituation is a prerequisite for successful permanent processing. Craske et al (1987) report on 21 of the 28 patients treated in the Vermilyea study noted above. At six month follow-up, they noted continued improvement between post therapy and follow-up for both synchronous and desynchronous groups and thus conclude that response desynchrony did not predict treatment failure.

Michelson et al (1988) randomly assigned 88 severe agoraphobics to either cognitive, behavioural or psycho-physiological treatment. The phenomenon of concordance was investigated with regard to both treatment outcome and short term follow-up. Results indicate no significant differences in concordance rates between the three treatments. In terms of outcome measures at post and follow-up, concordant subjects exhibited superior

functioning. These findings corroborate previous studies which depicted differential outcomes and follow-up between concordant versus discordant subjects (Michelson et al 1985; Michelson, 1986).

The current research seems to suggest that the role of desynchrony may be of importance in terms of treatment outcome. A limitation to generalising these results stems from the fact that all the above studies have involved phobics. Further studies with non-phobic populations are clearly required.

2). CRITICISMS OF THREE SYSTEMS ANALYSIS

Himadi et al (1985) point out that Three Systems Analysis can be seen as placing too much emphasis on response as scientific unit. Hugdahl (1981) suggests that the model discourages the search for distinctions between stimuli and responses, i.e. that it may predispose researchers to neglect controlling stimulus functions and to overemphasise response patterns. Cone (1979) cautions that Three Systems Analysis may be tantamount in its emphasis of modes and channels to speaking in trait-like notions.

a. Methodological Problems.

Agras and Jacob (1981) reviewed studies of Three Systems Analysis and noted typically small numbers. They further complain of inappropriate use of statistics. Jansson and Ost (1982) in their review found only three studies which used in vivo physiological recording. They criticised all of these papers for their inappropriate follow-up measures. Schwartz (1978) criticised the nature of psychophysiological data, describing much of it as "meaningless". Schwartz goes on to suggest a "bio-psychosocial" model of emotion. He argues that the lack of concordance among anxiety measures may result primarily from a failure to assess patterns of responding within and between systems. Chambless et al (1981) criticised the unsystematic measurement of the cognitive component. This point will be described in detail later.

b. Convergent Validity

Cone (1979) points to the necessity for measures of a construct such as anxiety sharing a high correlation in order to fulfill the requirements of convergent validity. However, in Three Systems Analysis, the response

modes do not necessarily correspond in expected ways. A common finding in three systems research is that while measurements of self-reported anxiety and behavioural avoidance show expected improvement in, for example, agoraphobia, heart rate does not. Kozak and Miller (1982) led to ask "If... triple response measurement produces nothing but confusion (i.e. a lack of expected convergence) why bother?".

However, Lang, in his theory has detailed the reasons why correlation would often be low. (e.g. the enormous variety of internal and external stimuli that can differentially effect responses). He also warned against assuming that any single event could be used in an exact substituted way to index a psychological state (Himadi et al 1985). Lang refers to an expectation of correspondance as the "indicant fallacy".

c. Definitional problems

Hugdahl (1981) suggests that one of the most important consequences of three systems theory is that the definition of fear is shifted from the behaviour to the stimulus which may be the only available source of information as to what constitutes "fearful behaviour" if no single behaviour can be taken as a reliable index of fear. He asks how we can define two individuals who show different responses (e.g. physiological and cognitive) to the same stimulus. Are these two people sharing the same emotion?, are they equally disturbed?. He suggests you may have to speak of "physiological snake phobics" as compared to "cognitive snake phobics". While this complicates the picture, from the three systems theory point of view, both are anxious regardless of the component through which the anxiety is manifested (Koksalf, 1987).

d. Content and Method Differences

Cone (1979) notes that "It has been difficult to know whether lack of correspondence between systems or contents was due to real differences between them or to differences in the methods used to assess responding within them". (page 91).

Cone presents an example of assessments of heterosexual interpersonal interaction. To show that the demonstrated relationship between various behavioural responses are not merely the result of a common measuring method, the same behaviours would be assessed differently, for example, the study of trembling and eye contact could be assessed by:

1. The use of true/false questions.

I tremble noticeably when talking to a stranger.

I don't look people in the eye when talking to them.

2. By direct observation.

Thus by studying these behaviours by self-report and by direct observation only the method changes while the content remains stable. Cone suggests that failure to find relationships between the measures may be due to content (systems) differences, method differences or content-method interactions.

Lehrer and Woolfork (1982) carried out a three systems assessment of anxiety by means of self-report, i.e. they used the same method to investigate three content areas - cognitive, behaviour, physiological.

By subjecting the data to factor analysis, they found that the systems could be measured as orthogonal factors. Lehrer and Woolfork thus showed that desynchrony and discordance could not be attributed to method differences in the assessment of anxiety in the three different systems.

3). MEASUREMENT AND QUANTIFICATION OF COMPONENTS.

a. Behavioural component

Most studies utilise approach-avoidance tests of behavioural anxiety. Behavioural avoidance tests (BATs) allow for precise measures of approach behaviour. Schroeder and Rich (1976) designed a behavioural avoidance test which consisted of a graded series of tasks that range from allowing a four foot boa constrictor to be brought into the therapy room to holding the snake on one's lap for fifteen seconds. In the behavioural measurement of agoraphobia, Agras et al (1968) have devised "the behavioural walk". In order to assess the behavioural system in a social situation, the Social Interaction Test (SIT) (Marzillier et al 1976) has been devised. In this, such items as volume, tone, pitch, clarity, pace of speech, speech disturbance, proximity, orientation, facial expression, gaze, posture, gesture, length of speech, meshing, turn taking and question asking can be rated.

Hugdahl (1981) notes that the quantification of the behavioural load in phobic disturbance is often made with reference either to how far the subject can approach the stimulus or the time spent within the situation. This, however, fails to take into account covert avoidance (Borkovec, 1979) where the subject is "avoiding" the stimulus by such techniques as blunting (Miller and Grantz, 1979); covert pep-up talks (Meichenbaum, 1977) or through emotional processing (Rachman, 1980). Hugdahl (1981) asks how we are to conceptualise a patient scoring low on a behavioural avoidance test if it is caused by proximal blunting from the impact of a distal event? (A distal event is any specific identifiable stimulus that can elicit a fear reaction. A proximal

event relates to the perception and cognitive process whereby the individual identifies and attends to the distal event).

Hugdahl asks if this person is having a low load on the behavioural component and a high on the cognitive or is covert avoidance part of the behavioural system?

In addition to these problems for phobic assessment, behavioural assessment seems to have difficulties in the identification of the behavioural component in non-phobic states, e.g. GAD where the assumption is made that avoidance will be minimal.

b. Physiological Component

On the face of it, this component should be precisely and reliably measured without any great difficulties. However, there are various problems associated with the quantification of physiological response.

Individual response stereotypy tells us that subjects may make idiosyncratic responses in a situation where quite a different pattern response might be expected (Stern et al, 1980). Stimulus-response specificity tells us that we should record several psychophysiological measures. However, against activation theory (Duffy, 1962; Lindsley, 1951; Lacey, 1967) observed that while some behavioural manipulations, e.g. mental arithmetic produced the classic pattern of physiological arousal, e.g. increases in both heart rate and electrodermal activity, other manipulations such as those involving perceptual processing, produce "directionally fractionated" response patterns (simultaneous decrease in heart rate and increase in electrodermal activity). (Papillo et al, 1988).

Sturgis and Arena (1984) consider subject variables affecting psychophysiological responding. These variables include age, sex, race, menstrual cycle and even meteorological variables. There is also a growing body of literature suggesting that seasonal changes can affect the electrodermal response (Wegner and Cullen, 1962).

In addition, Sturgis and Arena (1984) suggest that the following factors have to be taken into account - length of time the participant is given to adapt to the experimental setting, the impact of carry over effects from one stage of the evaluation to another and once quantification and interpretation of the data begin, the laws of initial values and homeostasis will influence the response patterns obtained. In addition, the issue of response variability patterns must be considered and decisions made as to how this variability will be dealt with.

Himadi et al (1985) noted that results obtained in their study of agoraphobics supported the laboratory assessment study by Arena et al (1983) that test - re test reliability figures for heart rate were low. Results by Arena et al (1983) and Holden and Barlow (1984) on the temporal stability of physiological recordings suggest caution in the use and interpretation of results from physiological measurements obtained in treatment outcome studies. Himadi et al (1985) suggested unreliable physiological measures will also adversely affect efforts to demonstrate the prognostic significance of patterns of responding among the three response systems.

c. Cognitive Component

Hugdahl (1981) points to the marked discrepancies in what is meant by the cognitive component (see also Kozak and Miller, 1982). Lang (1971) and Lang et al (1972) seem to include only verbal statements of overall subjective feelings without specification of the source of these statements. (i.e. whether the referant is physiological or behavioural activity). Sartory et al (1977), Grey et al (1979) and Ost et al (1981, 1982, 1984) used the fear thermometer. Ohmen and Ursin (1979) however, view the cognitive component as the "awareness of the irrationality of the behaviour". Hollandsworth (1986) points to the definition of the cognitive component as the most problematic area of three systems theory.

Hugdahl points out that the lack of consistency in the definition and identification makes comparisons between various studies difficult. He suggests that the cognitive component may mean at least three things:

1. The first conceptualisation is that the subject has perceived his autonomic arousal and has cognitively labelled it fear or anxiety. This is reminiscent of the view of Schachter (1964). Vermilyea et al (1984) and Himadi et al (1985) have, however, suggested that the conceptualisation of the cognitive component is simply a perception of autonomic arousal.
2. The second conceptualisation involves subjects showing anticipatory fear in the form of worrying about forthcoming fear-provoking events, i.e. negative thoughts in advance of exposure.

Hugdahl contrasts the individual who shows anticipatory anxiety towards a forthcoming plane journey with another who shows no anticipatory anxiety but experiences great distress on boarding the plane. He asks whether they are sharing the same load in the cognitive component and again suggests, following the operationalist emphasis built into the model, dividing the component and speaking of "anticipatory cognitive phobics" and "exposure based cognitive phobics". (page 80).

3. The third conceptualisation refers to changes in mood and feelings of unreality, uncontrollability, guilt, self-blame, etc. This accords with the approaches of Ellis, Beck and Meichenbaum. Problems associated with this conceptualisation include how worry should be quantified - e.g. the number of thoughts per day?, duration of thoughts?.

An additional conceptualisation suggests a division of the cognitive component to produce a fourth component - affect. This will be dealt with in detail in a subsequent section.

d. Use of Self-Report Measures.

Cone (1979) suggests that studies which employ three different kinds of measurement to assess the three different components of anxiety are bound to obtain low levels of correlation. As Koksalf (1987) points out, the relationship between two behaviours (e.g. I tremble and I do not look) which were related to the same underlying construct (heterosexual interpersonal anxiety) was consistently highest when measured in the same way, i.e. assessor observation. Lowest correlations resulted when different behaviours were assessed in different ways, e.g. "I do not look" is measured by observation while trembling is assessed by asking the subject.

Lehrer and Woolfork (1982) developed a checklist to assess subjective report of cognitive, behavioural and somatic complaints. They found that cognitive behavioural and somatic self-reports could be measured as orthogonal factors, i.e. by using the same methods of measurement to assess the level of anxiety in three different content areas, orthogonal factors were obtain. The low correlation among the three systems obtained, is therefore less likely to be due to methodological error. (Koksalf, 1987)

In addition, several studies have found a high correlation between the subjects own perception of physiological arousal and objective physiological measurement. Ost et al (1982) found that changes in the Autonomic Perception Questionnaire paralleled changes in heart rate in social phobics. Douglas et al (1988) found that physiological and cognitive questionnaires were good predictors of physiological anxiety and cognitions in a social interaction test.

It was pointed out in a previous section that due to stimulus response specificity, at least two physiological measurements should be taken. The use of a somatic questionnaire would help overcome the various measurement problems detailed earlier. Lehrer and Woolfork's (1982) questionnaire includes 16 items assessing various somatic symptoms in different parts of the body. As such a comprehensive assessment is, due to time, methodological and financial considerations, impossible to do by physiological measurement, the use of self-report may be a useful way to measure the "somatisation" of anxiety.

4). AFFECT AS A SEPARATE COMPONENT

In dealing with the conceptualisation of the cognitive component, a fourth possibility relates to separating affect from cognition.

In terms of twentieth century psychological theory, emotions and feelings have played a very ambiguous role. While psychodynamic practice emphasises the emotional determinants of overt or hidden behaviour, when we deal with a theoretical presentation of this matter, we discover a state of utter confusion (Ratier, 1970). Of particular interest here, is the determination of the status of emotions in human behaviour and, in particular, whether affect is independent of cognition and thus can be accorded causal status.

a) Cognitive Theory

While psychodynamic theory, in common with the philosophical traditions of Plato, Kant and Hume, distinguishes between cognition and affect, cognitive and three systems theorists assume affect to be post-cognitive. Thus while a psychodynamic theory focuses on affect and attributes a primary role to feeling in the aetiology of anxiety (e.g. Valenstein, 1962), Kuiper and McDonald (1983) note two inherent assumptions can be identified in cognitive theory:

1. Emotional and psychological disturbances are caused largely by illogical or irrational thinking.
2. The restructuring of cognitions accessible to awareness represents a therapeutic solution.

Thus the role of cognitive therapy is to identify and alter the individual's mal-adaptive conceptualisation and interpretations by concentrating on thinking style readily accessible to the conscious

mind. This confers a critical function to the role of "appraisal" defined by Strongman (1978) as cognition(s) intervening between environmental stimulation and physiological and behavioural responses, the appraisal being an evaluation of the personal worth of incoming stimuli.

Arnold (1970) suggests that appraisals are the crucial elements leading to the development of emotions, i.e. appraisal is given causal status and thus treatment should focus solely on cognitions as the generation of emotion presupposes the evaluation of the stimulus situation as good or bad. Peters (1970) states:

"They [emotions] differ from each other because of the differences in what is appraised... These differences in appraisals are largely constitutive of the different emotions. By that I mean that the least logical necessary condition for the use of the word emotion is that some kind of appraisal should be involved and different emotions must be involved in different appraisals. In other words, emotions are basically forms of cognition" (page 188).

Lazarus et al (1970) sees man as an evaluating organism searching his environment for cues about what he needs and wants and evaluating each stimulus as to its personal relevance and significance. In this model, affect is seen as an epiphenomenon. (Scheff, 1985).

Arnold (1970), however, modifies this model of man. She states that man is more than simply an information processing system and suggests that not only are some appraisals "intuitive" but also suggests that emotions can be sub-divided into two elements:

"One static, the appraisal, which is a mere acceptance or refusal of the expected effect of the situation on us; another dynamic, the impulse towards what is appraised as good and away from anything appraised as bad... Whatever is perceived remembered, imagined will be appraised; if it is appraised as desirable or harmful, an action tendency is aroused" (page 176)

b. Criticisms of Cognitive Theory

The view of man as an information processing system is analogous to computers. While models of man often resemble current technological knowledge (e.g. Descartes and the Hydraulic Statues of Versailles), the analogy should not be stretched beyond certain limits. Neisser (1963), although accepting that both man and computer are goal directed, learn from experience and can produce novel or creative output, cites four major differences.

1. Computers never get bored; people do.
2. Computers have a single motivation; people have many.
3. Computer memories can be instantly erased; people have little control over what they will learn or forget.
4. Computers neither dream nor play.

Strongman (1978) points out the contradiction between, on the one hand, accepting some appraisals as being intuitively determined and, on the other, the view of man as an evaluating organism capable of controlling

his emotions. Costello (1976) criticises the cognitive view of the determining status of appraisal in the development of emotion as this implies that the object of emotion must always be its cause. While this may often be the case, he points out that, on certain occasions, the cause may be inaccessible to awareness at that moment (see also Kenny, 1963).

While cognitive theorists restrict the definition of cognitions to include only those accessible to awareness, Derry and Kuiper (1981) suggest that cognitive schemata may not always be readily accessible to consciousness and that those which are not would, by definition, be immune to change using current cognitive techniques.

Costello (1976) criticises the view of negative emotions being disorganised and useless. These emotions may serve a useful signalling function, i.e. may serve to indicate an individual's present behaviour repertoire as inadequate to deal with environmental demands. If so, then focusing simply on removing these negative emotions would be futile. Kuiper and McDonald (1983) therefore suggest a more eclectic therapeutic approach which, in addition, to the modification of faulty cognitions, would also modify inadequate behavioural repertoires and, if necessary, the modification of the patient's environment.

Drawing from the psychodynamic literature, Koksalf (1987) suggests that affect and cognition are relatively independent systems. This is in accord with various psychodynamic theorists who view affective and cognitive processes as parallel but separate (e.g. Freud, 1940; Green, 1977). Velenstein (1962) states that:

"Affects and ideas stand in an interesting relationship to one another developmentally. Affect being closely related to instinctual drives and tension levels close to the primary process and, in this sense, more archaic than ideas. Ideas as thought representatives are expressions of secondary processes and ego functioning." (page 322).

The implication is that in one (anxious) individual the affective (primary process) may dominate leading to distress being experienced mainly in the affective domain, while in another, the cognitive (secondary process) may dominate leading to distress mainly being experienced in the form of mal-adaptive thought processes (Koksalf 1987). This echoes the view of Kendall (1984) who states:

"It is..... possible for there to be individual differences in the degree to which affect versus cognition contributes to the development and/or maintenance of certain types of maladjustments". (page 131).

A well adapted personality has both processes functioning harmoniously (Arlow and Brenner, 1984).

c. Affect as a Separate Component - Supporting Evidence.

Zajonc (1980) in a rather speculative paper, argued against the orthodox view that affective judgements are post cognitive. Based largely on social psychological research, his hypothesis is that affect and cognition are separate and partially independent systems. Although they generally function con-jointly, affect could be generated without a prior cognitive process. He states:

"Affective judgements may be fairly independent of and precede in time, the sorts of perceptual and cognitive operations commonly assumed to be the basis of these affective judgements. Affective reactions to stimuli are often the very first reactions of the organism and for lower organisms they are the dominant reactions. Affective reactions can occur without extensive perceptual and cognitive encoding, are made with greater confidence than cognitive judgements and can be made sooner... It is concluded that affect and cognition are under the control of separate and partially independent systems". (Zajonc, 1980 page 151)

Although Zajonc admits that "The language of my paper has been stronger than can be justified by the logic of the argument or the weight of the evidence" (page 1972) his article has sparked off a vigorous debate in literature, e.g. Rachman, 1981; Watts, 1983; Lazarus, 1984; Zajonc, 1984).

Zajonc (1984) presents an up-dated summary of evidence for his position first stated in 1980. Evidence for and against is presented here:

i. Affective reactions show phylogenetic and ontogenetic primacy. Izard (1984) provides, in an extensive examination of the ontogenetic primacy of emotion, convincing evidence to support the hypothesis, i.e. that if the emotion precedes cognition at some level of the individual's development then, at that level of development, no cognitive appraisal is necessary (or even possible) for the arousal of an affective reaction.

Lazarus (1984) suggests that due to methodological limitations in developmental research, doubt must be cast on Zajonc's "facts".

- ii. Separate neuro-anatomical structures can be identified for affect and cognition.

Izard (1984) states that:

"The limbic system is sometimes referred to as the "emotional brain" and that at least one limbic structure, the hippocampus, has been strongly implicated in information processing (Simonov, 1972) and memory. (O'Keefe and Nadel, 1979) suggest the existence of brain mechanisms specially adapted for mediating emotion - cognition interactions". (page 25).

Zajonc states that emotional reactions are likely to be under the control of the right brain hemisphere whereas cognitive processes are predominantly the business of the left hemisphere (Cacioppo and Petty, 1981; Schwartz et al 1975; Suberi and McKeever, 1977). He further quotes the Ross and Mesulam (1979) study which found that patients with lesions directly across from Broca's area could produce intelligible speech but devoid of emotional inflections and other affect-dependent prosodic parameters.

However, Sperry, 1982 notes:

"Unlike other aspects of cognitive functioning, emotions have never really been readily confinable to one hemisphere...

In tests of self-consciousness in social awareness, it was found that even subtle shades of emotion or semantic connotations generated in the right hemisphere could help the left hemisphere guess the stimulus known only to the right hemisphere. The results suggested that this affective, connotational or semantic

component could play an important role in cognitive processing"
(pages 1225 - 1226).

Lazarus (1984) suggests that it is dangerous to pontificate about cognition/affect relationships in an area where confusion still reigns.

iii Appraisal and affect are often uncorrelated and disjointed.

Anderson and Hubert. (1963) and Posner and Snyder (1975) produce evidence that affective judgments of persons are characterised by a primacy affect whereas appraisal information is more likely to display recency affect. Zajonc (1984) states that if cognitive appraisal is a necessary determinant of affect, then changing appraisal should result in a change in affect. This is frequently not so and persuasion is one of the weakest methods of attitude change (Petty and Cacioppo, 1981).

Lazarus (1984) criticises the use of the above study as evidence in favour of the hypothesis. The study is highly selective and its results contrary to a mass of psychophysiological research carried out in Lazarus's laboratory. If the failure of persuasion is relevant to the argument, it suggests, to Lazarus, only that it may not always be so easy to alter how people think about themselves and the world.

iv. New affective reactions can be established without an apparent participation of appraisal.

Zajonc quotes the Garcia and Rusiniak (1980) study where taste aversion was established even when the possible association between food (CS) and the delayed nausea (UCS) was obliterated by anaesthesia. Kunst-

Wilson and Zajonc (1980) found that preferences for stimuli (tones, polygons) could be established by repeated exposure, degraded to prevent recognition. Seamon et al (1983) showed that affective preferences were best for stimuli presented in the right visual field and recognition memory was best for stimulation on the left visual field.

Birnbaum (1981) criticises the use of studies to support this contention first expounded by Zajonc in his 1980 article. Birnbaum points to methodological weakness in these studies and therefore suggests that Zajonc's conclusions are not justified by the evidence. He also suggested that the key findings can easily be explained by the theory that recognition mediates the exposure effect. Mellors (1981) suggests that the main arguments for Zajonc's position are based on a misinterpretation of the theories under consideration.

d. Affect as a separate component - Cognitive view

Lazarus (1984) criticises Zajonc for his lack of precision in defining what an emotion is or is not. He states that:

"An emotion is not definable solely by behaviour, subjective reports or physiological changes; its identification requires all three components since each one can be generated by conditions which do not necessarily elicit emotion. An emotion researcher must worry about which response states or processes can be called emotions and which cannot" (page 125).

Lazarus (1984) suggests that while cognition is a necessary precondition for emotion, this does not imply that emotions, once elicited, do not

affect cognition. He states that:

"The causal linkages one perceives among emotion, motivation and cognition depend, in part, on where in an ongoing behaviour sequence one arbitrarily stops the action".

(Page 125).

Watts (1983), commenting on Zajonc's earlier 1980 paper, states that:

"One of the problems in Zajonc's argument is an ambiguity as to whether "cognition" refers solely to conscious cognitive processes or whether it also includes pre-conscious cognition. If some cognitive processes are preconscious, then an absence of awareness of cognitive processes associated with affective reactions cannot be used as evidence of the absence of any involvement of cognition in affective reactions".

(Page 89).

In similar vein, Rachman (1981) criticises the imprecision of much of Zajonc's language.

e. Conclusions

Swann et al (1987) in a study comparing Self-Consistency and Self-Enhancement Theory, found evidence supporting the view of relative independence of cognitive and affective responses. They cite the work of Dual - and Multiple-Systems Theorists (for example Gazzaniga, 1985; Greenwald, 1982) which suggests that the cognitive and affective systems are designed to perform very different tasks. The major difference is in terms of how they improve the organism's chances of survival.

The cognitive system's function is to systematically analyse the subjective veridicality of stimuli; the affective system quickly recognises threats to safety spurring the organism to action. Thus, although the distinction between the two systems is not clearcut (e.g. Epstein, 1983), Swann et al (1987) stress the utility of conceptualising them as relatively independent systems with distinct capabilities and agendas.

Lazarus (1984) urges that a more precise theory about the conditions underlying diverse emotion qualities and intensities is needed. Zajonc (1984) offers the notion of affective independence and primacy as a hypothesis to be empirically verified not as a definition to be disputed. If strong evidence does become available that not all affect is dependent on appraisal, it will have significant implications for three systems analysis and clinical practice.

5). IMPLICATIONS FOR CLINICAL PRACTICE

In a previous section, we surveyed the work of Ost and his colleagues who, on the basis of a social interaction test, divided socially phobic patients into behavioural and physiological reactors (Ost et al, 1981). Within each group half of the patients were assigned to a behaviourally focused treatment and half to a physiologically focused treatment. Some weak evidence was produced to show the behavioural reactors benefitted more from the behaviourally focused therapy and physiological reactors from the physiologically focused therapy.

Thus on the basis of a thorough assessment of the three systems, it could be discovered which of the systems is functioning most abnormally and the treatment be "matched" to the individual's pattern of dysfunction - cognitive therapy for cognitive reactors, etc.

If Zajonc is correct in his hypothesis that the affective and cognitive components are at least partially independent, we can expect even more (and different) instances of desynchrony and discordance than was originally anticipated (Rachman, 1981).

Pavio (1978) argues that affective judgements are more closely related to the imagery system than the verbal system and thus if the affective and cognitive systems have different forms of coding retrieval and processing then we may suggest that Zajonc's conclusions would cast doubt on the prospects of developing powerful cognitive therapies for modifying abnormal affective reactions (Watts, 1983).

By challenging the assumption that cognitive and behavioural therapies are, in themselves, sufficient to produce affective changes, there is a need for clinicians to attempt to systematically modify affective reactions. Koksalf (1987) suggests that psychodynamic techniques could be utilised to deal with an affectively orientated patient while Rachman (1981) suggests the use of visual material, the use of imagery and musical stimulation (see Sutherland et al, 1981). These interesting views await empirical studies.

Missing pages are unavailable

CHAPTER 6

PRIMARY CARE

PRIMARY CARE

Primary Care, in the late 1970s and early 1980s, represented the single most salient growth area in clinical psychology. Indeed as Hood (1979) pointed out, it had become one of the more 'trendy' areas of the profession. After initial optimism and enthusiasm regarding the role of clinical psychology in this area, there has, more recently, been some more thoughtful discussion in the literature concerning, amongst other issues, the role of psychologists in primary care, evaluation of that role and, indeed, whether psychology has a place in primary care (e.g. Spector, 1984).

This has, however, in no way restricted interest in the area.

Broadhurst (1977) estimated that one in seven clinical psychologists were involved in primary care work and, by 1986 27% of posts in England had some involvement in this area (Hall et al 1986). As psychology posts in general have not increased at the same pace, it seems as if primary care is increasingly obtaining a larger slice of psychologists' time than before and now involves more psychologists than are involved in geriatrics or general medicine (Salmon, 1984).

This chapter will concentrate on the development of clinical psychology in primary care, and in particular, look at recent developments intended both to improve service provision and to develop the role. The present study is part of that development.

The chapter divides into 3 Sections:

- 1). REASONS FOR INTEREST 1 - 4.
- 2). DEVELOPMENT OF PSYCHOLOGY IN PRIMARY CARE.
- 3). CONCLUSIONS.

1). REASONS FOR INTEREST

a. Reasons for Interest 1 : The experience of psychiatry

Interest in psychiatric morbidity in the community had been stimulated by studies in the 1960s showing a higher incidence than had previously been thought (Kessel, 1960; Shepherd et al, 1966; Watts, 1966). These studies led to experimental attachments by psychiatrists to G.P. practices (e.g. Brook, 1967; Lyons, 1969; Rodger, 1973). As Mitchell (1985) notes, enthusiastic reports increased in the seventies (e.g. Brook and Cooper, 1975; Corser and Ryce, 1977; Schniewind, 1977) and that in the 1980s, the interest continued unabated (e.g. Oxman and Smith, 1980, Tait, 1983; Mitchell, 1983, 1984; Tyrer, 1984).

Strathdee and Williams (1984), in a survey of all consultant psychiatrists in England and Wales listed in the 1981 Medical Dictionary, found that one in five respondents indicated that they, or their junior staff, spent some time working in primary care settings. The study identified three distinguishable working patterns:

1. The Consultation Pattern - 28% of the psychiatrists chose to adopt the 'consultation' pattern of working. This consisted of the assessment of patients, often in collaboration with the general practitioner with treatment being administered by the general practitioner.
2. The 'Shifted out-patient clinic' pattern - 64% of respondents favoured this approach in which the format was similar to that used in hospital out-patient clinics.
3. The 'Liaison-attachment team' pattern - This was found to be more characteristic of the longer standing attachments. The psychiatrists had instituted working links in training with other professionals, e.g.

social work, clinical psychology, community psychiatric nursing.

Brown et al (1988) compared referrals to psychiatric clinics in primary care and hospital out-patient clinics. Women in all diagnostic groups were preferentially referred to primary care clinics which provided especially for psychotic and chronic illnesses. Hospital clinics were those with less common neuroses and personality disorder.

Based on the severity of patients' problems presenting to primary care clinics, the authors were able to refute the claim that these clinics serve only the "worried well".

b. Reasons for Interest 2 : General Practitioners.

Many of the above studies consist of anecdotal or uncontrolled surveys. Hassall and Stillwell (1977) noted that patients seen in primary care in liaison with psychiatric services did not reduce consultation rates. While lower consultation rates may be, in themselves, an insufficient objective, it would be likely to influence G.P.s perception of agencies to which they could refer a group of patients who are regarded as more difficult to treat and manage and whom G.P.s feel insufficiently trained and equipped to deal with (Cooper, 1964). Shepherd (1972) described G.P.s handling of psychological problems as 'often haphazard and inadequate' (page 175) (See also Goldberg and Huxley, 1980; Goldberg et al, 1982). Salmon et al (1988) report that problems with a large psychological component lead independently to dissatisfaction in the G.P. and to a lengthened consultation. Bennett et al (1978) reported that G.P.s cite termination of consultation to be a particular source of difficulty with such patients.

Koch (1979) reviewed studies showing that patients with psychological problems make more demands on G.P.s' time than most other groups (see also Trepka et al, 1986; Westcott, 1977). With the exception of patients suffering from respiratory disorders, this group make most demands on primary care services. Patients receiving psychotropic drugs consult 1.7 times more than patients not receiving these drugs (Wilks, 1975). Indeed, Hassell and Stillwell (1977) suggested that this represents an underestimate of G.P. time as it fails to take into account the longer consultation times given to these patients. These authors report that 30% of all consultation time is taken up with these patients.

As later surveys suggest that a mean of 19% of patients in a practice present primarily with a psychological complaint (e.g. Espie and White, 1986) and that the vast majority of these cases are dealt with by G.P.s (between 81% and 95% Espie and White, 1986, Eastman and McPherson, 1982, Mayou, 1980), it is not surprising that G.P.s respond favourably to psychiatric approaches aimed at establishing a closer tie.

c. Reasons for interest : external factors.

In addition to the increased awareness of the extent of psychological problems in primary care, Spector (1984) cites, as additional factors contributing to the development of primary care psychology, the NHS reorganisation of 1978, developing interest in 'holistic' medicine (Engel, 1977) and the Trethowan report (1977) which strongly advocated that psychology could make a positive contribution in primary care and suggested that pilot studies be carried out on G.P. referrals.

During the late seventies and eighties, G.P.s were looking more favourably at alternatives to a medical model as anxiety conditions were increasingly viewed as being due to emotional or behavioural disturbance rather than being seen as mental illness. Consequently, G.P.s were more likely to welcome non-medical interventions for these problems.

This, in part, reflected a growing dissatisfaction with the benzodiazepine group of drugs which, in the past, were used extensively in primary care in the management of anxiety. Current concerns about cognitive impairment (Golombok et al, 1988); dependence (Lader, 1987); withdrawal symptoms (Tyrer and Murphy, 1987) and also the more general issues related to efficacy (Woods and Charney, 1988) has led the Committee on the Review of Medicine (1980) to produce strict guidelines on the use of these drugs. Interest has been generated into non-pharmacological treatment which would, in theory, do more than provide symptomatic treatment as obtained by benzodiazepine prescribing.

d. Reasons for interest 4: psychologists.

Johnston (1978) suggested that compared to hospital based psychologists primary care psychologists offered the following advantages:

1. Access to psychological patients with a need for such help but who could not attend the central clinic owing to problems associated with travel, work, physical disability, or even a presenting problems such as agoraphobia.
2. Greater continuity of care of patients.

3. Increased communication between psychologists and members of the primary care team.
4. The possibility of the psychologist seeing the patient earlier, before the problems have become entrenched.
5. Less need for referral to other agencies.
6. Reduced stigma for the patient.
7. Development of new therapeutic approaches relevant to problems presenting in primary care.
8. More flexible and more relevant therapy due to seeing patients in their home setting.
9. Greater therapeutic involvement with the patient's family.
10. Reduced costs and inconvenience to the patients.
11. Reduced administrative and ambulance service costs.

(page 661)

Spector (1984) suggests that the interest in working this area reflect more selfish concerns, e.g. the congeniality of the working environment and the work itself. There is also the unspoken assumption that moving from the psychiatric hospital helps psychologists come from beneath the wing of psychiatry and, in so doing, gain increased professional autonomy.

2). DEVELOPMENT OF PSYCHOLOGY IN PRIMARY CARE.

In discussing the development of primary care 'psychology, we can usefully divide its progress into five stages:

a. Phase 1 : Making the case

The first paper to make the case was first published in 1972 (Broadhurst) and was followed by others generally concerned with 'selling' psychological skills to G.P.s. For example, Kinsey (1974) writing in the Journal of the Royal College of General Practitioners, described the training and qualifications of psychologists, expounded the psychological skills and the problems that might usefully be tackled by psychology, and, in general, informing G.P.s of the suitability of having a psychological resource.

Kinsey suggested a possible classification of clinical problems which could be used by the G.P. as a form of 'shorthand' for assessing cases which could benefit from referral to a psychologist:

- a. Problems of anxiety and stress: generalised anxiety, panic disorder, obsessive-compulsive disorder, psychosomatic illness.
- b. Habit disorder: smoking, obesity, enuresis/encopresis, alcohol/drug abuse, tics, stammering, childrens' behavioural disorders.
- c. Educational/occupational difficulties.
- d. Interpersonal-social-marital problems.
- e. Psychological adjustments to problems from physical illness or other significant life events involving medical care. (page 883 - 884).

McAllister and Phillip (1975) published the first descriptive study of primary care work. In an uncritical study, they reported on 94 cases referred in one year (1% of patients registered at the practice). 52% of these referrals were for children under the age of 16. Asked how these patients would have been dealt with in the absence of a psychologist, G.P.s would have dealt with 46% themselves, not out of choice but of necessity as no appropriate resource would have been available. The remainder would have been referred to psychiatry, educational psychology, paediatrics or hospital based psychologists.

Davidson (1977) in a survey of G.P.s found that 80% of respondents^e were in favour of direct access and the main requirement was for the provision of psychological treatment. The largest demand, (75% of G.P.s) was for psychological treatment of sexual/marital problems followed by phobic disorders (56%). 59% requested intellectual assessment for patients.

Timms et al (1981) point out two facts based on surveys (Davidson 1977; Timms, 1978; Dhillon, 1980):

1. G.P.s wanted to have psychologists involved in their area of work.

This was based on the high percentage of returns in each survey and the high number of respondents requiring teaching facilities.

2. G.P.s lacked a clear idea of what psychologists do. This view was based on the findings of low levels of requests for well known treatment techniques, e.g. relaxation training, social skills training.

In a national survey of G.P.s, Broadhurst (1977) found that when primary care involvement existed, initiation for contact was usually taken

by the psychologists and usually provoked a satisfactory response in terms of referring (see Liddell, et al 1981).

Virtually all the papers published in this first phase are enthusiastic and optimistic in terms of the contribution psychology could make to primary care although the studies by Kat (1978) and Taylor (1979) suggested that traditional individual treatment models were not appropriate in primary care.

b. Phase 2 - Examining the role of clinical psychologists in primary care.

Kat's (1970) paper on 'Finding one's Place in the Team' discussed the fact that psychology traditionally did not have a role in primary health care and any role had therefore, to be created. He loosely classified his patients into three groups:

1. Sexual and marital problems.
2. Psychosomatic complaints.
3. Anxiety based problems.

In common with many of these early studies, Kat reports on relatively few referrals - in this case 64 patients over a period of 3 years (see also McAllister and Phillip, 1975; McPherson and Feldman, 1977; Johnston, 1978; Ives, 1979; Koch, 1979; Clark, 1979; Spector, 1981).

Taylor (1979) one of the G.P.s serviced by Kat reviewed the psychology service. He noted that the 64 referrals represented the 'tip of the iceberg'. They comprised 19 cases of chronic anxiety, 11 phobics,

16 cases of marital/sexual problems, 2 bereavement reactions, 4 patients with dependency problems and a heterogeneous group of 9 patients.

There was little evidence of improvement in any of these categories although as Jerrom (1983) notes, Taylor presents a clinical review of treatment rather than an objective assessment.

McAllister and Phillip (1975), in a review study of one year's clinical work in a health centre, noted that as referrals to the psychologist increased, it became increasingly impractical to continue to treat patients in the traditional one to one manner of hospital based psychology. They stressed the need to develop methods more suited to primary care. This need was further highlighted by McPherson and Feldman (1977) who assessed a number of patients in two practices, who, according to psychologist and G.P. ratings, could benefit from referral. They extrapolated a figure of 3,500 full-time psychologists in primary care which was, at that time, three times greater than the total number of psychologists employed by the NHS (Barden, 1977). It was therefore suggested that psychologists use group therapy as a more appropriate method of dealing with a large number of patients and also involved non-psychological resources, e.g. G.P.s, community nurses, health visitors or family members. However, even if these ideas were implemented, the implication was that psychologists could easily be 'swamped' by referrals.

Hood (1979) viewed the move into primary care with some reservations, noting:

"Given the present state of the evidence, we must not let our enthusiasm for an attractive area of work blind us to the possibility that such a service does not represent an efficient use of very limited manpower" (Page 422.)

She stressed the need to develop a wider concept of the psychologist's role to include not only the provision of a direct therapeutic service but also teach and support lay counsellors and help in the area of preventative work. She anticipated that the psychologists working in primary care would become a 'jack of all trades and master of none' while attempting to provide a generalist service in the absence of establishing a genuinely different role.

Stress was placed on the need to identify and set up the criteria for a useful intervention and to evaluate that intervention as an alternative to existing treatment or simply as an adjunct to them.

c. Phase 3 : Evaluating the work.

Ives (1979) reported on 149 patients discharged over a two year period. Subjective assessment of global improvement indicated that, of this number, 47 patients were almost free of presenting symptoms; 42 showed good progress with patients coping adequately and 34 showing little or no progress. Broken down into diagnostic categories, good prognosis was more likely with anxiety disorders (which comprised 42% of all patients referred). With the exception of personality disorders, the outcome was poor of all other groups. Thus, although Ives reports decrease in consultations and prescription rates during the twelve to fifteen month follow-up period, it is impossible to tell whether this reflects the outcome of the group as a whole or for only the anxiety group. It was also noticeable that of all the patients referred, the author rejected 21% prior to the study.

Koch (1979) reported on 30 patients referred during a year from a university teaching practice. Following behavioural treatment, patients attending surgery decreased by 50% and prescriptions decreased by 30%. Koch divided G.P. consultations into four types; advice only, psychotropic prescription, physical drug prescription and mixed prescription. He found that the decrease in consultation and prescribing related only to the first two groups.

Wilkinson (1986) points out these studies are limited as the method of patient selection may have been biased, and measures used of unknown reliance and validity. There was no no-treatment control group, independent assessment or individual measures of severity by the patient or patient's relative. Jerrom et al (1983) cast doubt on the two main outcome measures used, viz. drug intake and consultation rate. While these represent objective measures of behaviour and are easy to obtain, they have not yet been demonstrated to be valid indicators of symptomatic improvement. The former, in particular, will be affected by changes in the G.P.s prescribing practices.

Earll and Kincey (1980) randomly allocated consecutive referrals either to behavioural treatment (N = 23) or to a no treatment condition (N = 19). Between referral and discharge, improvement was achieved by the treatment group in terms of a reduced frequency of prescriptions for psychotropic medication. Although patients in the treatment group were highly satisfied with the service, this difference was not maintained at the 7 month follow-up period and the authors point to the need for

further studies to devise ways of maintaining short term improvement. Again the study is open to the criticisms cited by Jerrom in terms of outcome measures employed (see also Freeman and Button, 1984).

In contrast to the above studies on heterogeneous groups of patients, Jannoun et al (1981) reported on a small sample (N = 15) of patients referred for help with non-phobic anxiety disorders. Treatment involved a modification of Richardson and Suinn's (1971) Anxiety Management Training and included a treatment booklet. Improvements during treatment were maintained at the three month follow-up and in terms of therapist time (2½ hours with each patient) cost effective. This study, and its criticisms, have been dealt with in a previous chapter.

France and Robson (1982), in a paper written from the perspective of a behaviourally orientated G.P., suggested that the aim of treatment should be to carry out treatments designed to achieve quick recovery rather than looking for long term benefits. The authors argue that many of the problems in general practice are short term and related to life transitions and that these problems, which have been overshadowed by the long term chronic conditions, take up a large proportion of G.P. time and create significant problems in the community (see also Robson et al, 1984). This point will be looked at in greater detail below.

d. Phase 4 : Primary care psychology from the G.P. point of view.

Eastman and McPherson (1982) note:

"The striking... degree of variation among general practitioners in the perception of psychological problems, their practice and dealing with these and their view of the involvement of other professions in primary care" (Page 84).

Davidson (1977) reported that 80% of G.P.s responding to her survey wished direct access to a psychologist while Eastman and McPherson (1982) found 57% who wished this access. However, when asked to rank the professions in paramedics in terms of utility, psychologists were rated, along with psychiatrists, only eighth (of ten). The relevance of this finding is, however, limited. The G.P.s were asked to rate groups such as midwives, health visitors and district nurses who are long standing integral members of the primary care team.

Reid and Kahn (1983), in a subjective study of treatment outcome, report that 73% of patients referred, and who attended, recovered partially or completely. G.P.s felt that psychologists had a significant contribution to make in the assessment and treatment of anxiety states, phobias and sexual/marital problems. Only 50% of G.P.s however, felt that psychology had a part to play in the treatment of depression. Reid and Kahn concluded there was a significant correlation between G.P.s' perception of, and the actual efficacy achieved by, psychological treatment for the above conditions.

These optimistic findings, have however, been challenged by Jerrom et al (1983) who reported that psychological treatment produced definite benefit in only 56% of a sample of 261 cases according to G.P. ratings. Patients' ratings, however, were more positive - 94% reported that seeing the psychologist helped 'a bit/lot'. This study highlighted the problems of a well developed primary care service where problems referred are probably wider and more severe than those reported previously.

Robson et al (1984) reported on 429 patients given psychological treatment. The treatment group showed greater improvement more quickly although the control, during the follow-up period of one year, improved almost the same degree although only with more frequent consultations and psychotropic prescriptions.

The authors attribute this finding to short-term life transitions ("worst year" effect). Freeman and Button (1984) similarly found evidence of this "worst year" effect, i.e. that the problems being tackled by psychologists had a natural history of crisis and remission. This leads to the conclusion that attending a psychologist is not beneficial as the passage of time can be expected to produce improvement.

While this conclusion may be true for the less chronic psychosocial cases presenting in general practice, (although see the criticisms of this study by Haines (1984) and Bennett (1984)), Milne (1987) and Milne and Souter (1988), evaluating a routine clinical psychology service, produce firm evidence that, firstly, patients referred to the service show no sign of a transient life stress phenomenon and that, secondly, the presenting problems require specialist intervention. The implications of these findings are that psychologists have a clear role to play in the treatment of the chronic and severe problems referred to primary care services which are unlikely to remit without psychologist treatment.

Evidence for this was found by Espie and White (1986a) in a descriptive study of 1165 patients who surveyed 85 G.P.s in 35 practices within Hamilton/East Kilbride Unit. 50 replies were obtained - 74% rated the service as very useful, 78% reported that the service had "definite

benefit upon patients' problems" and G.P.s also cited "specific skills" as the greatest advantage of the service. Relatively few disadvantages were reported. G.P.s also reported interest in the provision of seminars/workshops. In a related study on 132 consecutively referred patients (Espie and White, 1986b), ratings were obtained by patients, G.P.s and psychologists. Statistical comparisons revealed high inter-rater agreement and indicated 43% of patients had reliably achieved either "moderate" or marked" improvement and 75% had shown at least slight improvement. Favourable outcome was particularly associated with anxiety disorders. The results were viewed as disappointing and the authors argued that psychologists had to develop more efficient ways of dealing with problems presented in primary care.

e. Phase 5 : Creating alternative roles.

In the light of the disappointing findings reported on the better controlled studies, a series of papers considered whether the traditional one to one therapeutic relationship was the most appropriate role for psychology in primary care. Salmon (1984) points out that the treatment of anxiety predominates in the primary care literature, i.e. problems typically seen by hospital based psychologists. He notes that the hopes of the Trethowan report (1977) which envisaged a widening of psychological services to include areas previously sparsely dealt with - neurology physical handicap, general medicine, geriatrics and preventative medicine - have not been realised. Bender (1981) points to the imbalance of the allocation of NHS resources and has argued that psychologists should be attempting to redress this by offering services in these less well staffed areas.

This view has yet to be accepted by many psychologists who have, to some extent, failed to heed Eastman and McPherson's (1983) warning that concentrating on "showing off" our skills has led to the establishment of a stereotype and that by giving a priority to "traditional" psychiatric problems, psychologists are now finding themselves swamped with referrals and hence incapable of developing other roles, e.g. in the areas of preventative work, education and research (see Griffiths, 1978; Cape, 1982; Holden, 1980).

Espie and White (1986a) suggested future research should aim at identifying those factors which were predictive of outcome and also investigate the maintenance of improvement over time. They also suggest a departure from individual out-patient therapy in favour of group therapy and the provision of self-management skills which would allow truly preventative work to be carried out. The present author has now organised workshops and seminars for G.P.s with the aim of teaching basic behavioural assessment and therapy skills.

Various projects have now involved the adoption of alternative approaches:

Alternative treatment approaches.

Cormack and Sinott (1983) reported on a project to provide direct psychological alternatives to a long term benzodiazepine use. No significant differences were found between treatment group patients and patients who were simply advised by letter to cut down their pills.

Trepka et al (1986) compared group therapy for anxious patients - an anxiety support group and an anxiety management group. Neither offered clinically significant results (see also Skinner, 1984; Medlik and Fursland, 1984). Ross and Scott (1985) however, showed that group cognitive therapy was as effective as individual cognitive therapy in the treatment of depression. Treatment gains were maintained at one year follow-up.

Heller (1985), faced with a long waiting list, set up a "walk-in clinic" to service a number of functions.

- a. To enable people who might otherwise be many months on the waiting list of prompt access to psychologists who could provide advice, support and reassurance to tide them over the long waiting period.
- b. To enable an assessment to be made of those who most urgently needed and could benefit from, psychological help and thus offer an appointment more quickly than might otherwise have been possible.
- c. To serve a clearing house function so that referral could be made to relevant agencies for investigation, counselling or other forms of help and support thus avoiding a long and perhaps pointless waiting period.
- d. To provide information to the client on the likely ways in which a psychologist could help, and on other helping agencies in the area.

- e. To enable a proportion of people attending the clinic for one or more visits to be sufficiently helped by information, advice and brief counselling so that they no longer needed further help. They could then either be removed from the waiting list, or, as a consequence of this front line contact, avoid entering the "psychiatric system" with its attendant problems of stigmatisation. (Page 27).

Subjective evaluation of the clinic was favourable by psychologists, clients and referring agencies (although most clients were self-referred). While this raises issues concerning accountability and clinical responsibility (Lewis, 1985), in general, the authors feel that it represents a useful addition to primary care work.

There has been an increasing emphasis on psychologists teaching self-help in primary health care (e.g. see Robinson, 1980). Butcher and de Clive-Lowe (1985) report on a 12 session adult education evening class aimed at teaching strategies to improve self-awareness and relationships to control anxiety, confront fear, reduce worrying thoughts, fight depression and cope with major life events (page 275). The authors felt that the students who attended (biased towards professionals) benefitted from the course. The approach was deemed to offer a useful alternative to the traditional treatment approaches although it should be noted that these students were not probably clinically anxious or depressed (see also Davis and Butcher, 1985).

Training other groups.

Weinman and Medlic (1985) discuss sharing psychological skills in a general practice setting with patients, staff and students. They discuss a course organised for G.P.s, the general aims of which were:

1. To examine the process of clinical problem solving and decision making in order to consider what, when and how decisions are made during consultation.
2. To understand the different types of decision which are made by the doctor and the patient.
3. To consider various constraints on problem solving and decision making which can either facilitate or interfere with the process.

Another course, for undergraduate medical students, aimed at:

1. Developing the students' awareness of the role of psychological factors in physical disease and hence the importance of understanding why the patient is seeking help.
2. To increase the students' awareness of the prevalence and nature of psychological problems in general practice and the extent to which these often present in conjunction with physical disorders.

In addition, they helped in the development of specific patient management skills for G.P.s. Weinman and Medlic (1985) view such courses as useful not only for G.P.s but also for psychologists. By helping G.P.s identify their own learning needs, psychologists had to become aware of a very different model of clinical involvement; one based on community care and brief consultations which, in the view of the authors, is beneficial in identifying the areas in their own ways of working that could change and improve service delivery. (see also Cormack and Forrest, 1985).

Long and Bourne (1985) describe a project involving psychologists in self-help groups. They trained project leaders in the use of anxiety management skills and established anxiety management courses for self-referred clients (although they also had to have the consent of the G.P.s). Results indicate improvement across different measures (self-report, decreased tranquilliser intake, decrease G.P. consultation rate). For the psychologist, it represented an efficient way of providing help to a greater number of people; as a self-help group it represented a useful way of using a professional's skills and experience whilst still retaining its autonomy.

Self-help packages

Kiely and McPherson (1986) report on the use of self-help packages for stress (six separate leaflets containing information on the causes, consequences and control of stress). G.P.s involved in the study selected patients who were then randomly allocated to a treatment group (N = 14) and control group (N = 12) who received existing G.P. treatment.

At 3 month follow-up, "clinical state" as judged by the General Health Questionnaire (GHQ) and patients' self ratings were superior in the experimental group who also consulted less frequently for psychological problems in the three month follow-up period. Both groups, however, showed an increase in prescriptions for psychotropic drugs during follow-up. The authors were aware of the limitations of the study. They did not have pre-treatment GHQ scores and thus differences at follow-up may simply have reflected pre-treatment differences. G.P.s

also spent longer with the experimental group patients and the self-help package was found to be difficult to understand and the information contained in it, insufficient (personal communication).

Despite these criticisms, the authors feel that this approach is promising in terms of clinical effectiveness, low cost and ease of dissemination. The project represents a useful approach to increasing the flexibility of provision of psychological services while maximising scarce professional resources. An improved version is currently being evaluated.

3). CONCLUSIONS.

As Trepka and Griffiths (1987) point out, the measures frequently used to assess the impact of psychological intervention in primary care are of doubtful validity and that evaluation outcome for a mixed group of patients (both in terms of diagnosis and severity of problems) poses difficult methodological problems.

It does seem that the preoccupation of psychologists with global evaluation of primary care work is of limited value. It also diverts attention from studies which show clearly that psychological treatment in primary care can be effective for particular problems (e.g. Jannoun et al, 1981; Blackburn et al, 1981).

At this stage in primary care work, psychologists should be concentrating on better studies of specific intervention strategies on specific problem areas. There will be an increased demand for psychological services in primary care but it is to be regretted that over the past decade, we have not been well served by poor research design and we have been negligent in deciding what are the appropriate questions we wish to answer in primary care work. We must accept that the question of what the psychologist's role in primary care is, or can be, must still be an open one.

PART 2

THE PRESENT STUDY

CHAPTER 7

REASONS FOR PRESENT STUDY

REASONS FOR PRESENT STUDY

There appears to be a growing gulf between researchers and clinicians in clinical psychology (Jacobsen et al, 1984). Bergen and Strupp (1972) point to the irrelevance of much psychological research for clinical practice while Barlow (1981) notes "At present clinical research has little or no influence on clinical practice". (page 147). Indeed, Cohen (1976) cites the findings of a survey indicating that 40% of mental health professionals thought that there was no research which was relevant to their practice.

While analogue research allows the use of sophisticated research methodology and control over extraneous variables, the utility of such studies is limited for clinicians partially due to the very precise control which can never pertain in "real life" settings. American college students receiving course credits for participation in treatment trials (e.g. Borkovec et al, 1987) have little in common with clinically anxious individuals presenting for treatment at busy out-patient N.H.S. clinics. While the clear solution is for clinicians to carry out research with relevant populations, too often the value of this research is limited by methodological flaws. This is particularly true of primary care research.

Milne and Souter (1988) point out the inadequacies of much psychological research in primary care including the use of unrepresentative or biased samples, use of global outcome measures and the use of criteria which are of only indirect relevance to the evaluation of an intervention, e.g. G.P. consultation and use of medication. Trepka and Griffiths (1987) suggest that global evaluation of psychological treatment for disparate

problems represents an attempt by psychologists to convince G.P.s of the benefit of their techniques. Bennett (1984) argues that it is time to go beyond questions such as "are psychologists effective?" and to address questions relating to specific techniques designed to tackle specific problems using appropriate outcome criteria.

This view accords well with the view of experts (clinicians, research workers, policy makers) in the primary care field. Wilkinson and Williams (1985) report on the findings of a Delphi study ⁽¹⁾ which was conducted with a multi-disciplinary group of experts attending a conference on mental illness in primary care settings. In keeping with the importance of economic appraisal, the focus of the study was on research which was likely to maximise the benefits for service developments. The study showed marked agreement that priority should be given to the investigation of:

- 1) Effectiveness of treatment measures.
- 2) Problem of mental health presenting to primary care services.

Milne (1987) also stresses a number of general pressures on the clinician to engage in research. They include a shift in public attitudes towards greater accountability on the part of the health services, more concern for patients' rights, a growing demand for more efficient services and a trend toward community care. In addition, Milne cites the considerable restriction on financial resources. In a period of

(1) Participants in a Delphi study are given information and their anonymous judgements are prepared and returned to them; and their judgements are solicited again. This process may be continued until the change in group opinion between successive judgements is negligible.

increasing dissatisfaction with benzodiazepine prescribing, there is a clear need for primary care psychologists, in particular, to achieve a reasonable compromise between effective treatment and minimising service costs.

One way in which to do this is through group therapy which represents an economical use of scarce therapist time although treatment effectiveness may, as a result, be reduced due to fewer opportunities to deal with patients' specific difficulties (Trepka et al, 1986).

In view of the generally disappointing results of group therapy noted in a previous chapter and arguing in favour of the development of innovative techniques in primary care, the present study combines elements of "traditional" group therapy and an educational/self-help package for clinically anxious patients. By combining a didactic teaching element with workshops, a multi-faceted therapy package was developed. The package was planned in such a way as to allow a much larger number of individuals to attend the group than could be dealt with in "traditional" group therapy. By doing this, the present study hopes to achieve an alternative short-term, cost-effective approach to the treatment of a group of patients who are likely to present themselves to primary care psychology clinics in large numbers - namely those individuals suffering from GAD

In addition to this pragmatic attempt to improve primary care services, the present study also addresses theoretical issues.

Barlow and Wolfe (1981) report on a National Institute of Mental Health (NIMH) sponsored conference of leading and active researchers in the area of the anxiety disorders in the world. The conference was convened to recommend research strategies into the 1980s. Noting that the effectiveness of psychosocial treatments for GAD is either unknown or undemonstrated, the researchers recommend:

- 1). There is a need for outcome studies for this group.
- 2). Research involving either process or outcome questions should use the 3 systems model in the assessment.
- 3). Related to 2), the researchers confer high priority to the determination of the prevalence of, and implications of, desynchrony in anxiety disorders.
- 4). Priority should also be given to the study of cognitive changes and their relationship to changes in mood. They suggest that they should precede or accompany attempts to determine the relative efficacy of cognitive therapies in conjunction with, or compared with, other therapeutic approaches.
- 5). Research is needed into cost-effectiveness measures.
- 6). Research should be conducted to examine differences between treatment responders and non-responders.

- 7). Research should be conducted to examine the usefulness of self-help manuals combined with various levels of therapist intervention.
- 8). Research is needed on methods for reducing relapse and for increasing generalisation of treatment effectiveness.

The present study hopes to incorporate all of these recommendations.

Particular attention will be paid to cognitive theory and therapy. As noted previously, much has been made of the "cognitive revolution". However, as Latimer and Sweet (1984) point out, unless it can be shown that the inclusion of cognitive procedures in existing behavioural techniques increases treatment effectiveness, then nothing "revolutionary" has been added and perhaps nothing of value. There is, therefore, a need to evaluate not only whether cognitive procedures are effective but also to evaluate the cognitive theory underlying those procedures. In particular, Latimer and Sweet ask:

- 1). Are cognitive distortions altered by effective therapy?
- 2). If so, is cognitive therapy better at this than behavioural therapy?
- 3). Is the alteration of these distortions necessary for successful outcome?

The present study will direct its attention towards these questions.

In summary, the present study intends to look at the following questions:

- 1). Does a multi-dimensional group therapy package result in significant improvements in GAD patients treated in primary care?
- 2). Are treatment gains maintained at six month follow-up?
- 3). Are there any outcome differences between Cognitive, Behavioural, Cognitive-behavioural, Placebo and Waiting List conditions?
- 4). Do patients in each condition show a different process of change - specifically in terms of the three (or four) systems of anxiety?
- 5). Does cognitive change, in terms of positive and negative self-statements differ between the therapy conditions?
- 6). Does the presence of panic affect outcome within and/or between the therapy conditions?
- 7). Does matching the patient to therapy (i.e. consonant therapy) improve outcome?
- 8). Does the presence of desynchron^{ous} change affect outcome?
- 9). Can treatment outcome be predicted from pre-treatment variables?
- 10). Can treatment responders and non-responders be reliably discriminated?
- 11). Are the results also of clinical as well as statistical significance?

CHAPTER 8

METHOD

METHOD

1. OVERVIEW OF PROCEDURE

Consecutive out-patients, referred to the Primary Care Service for treatment of generalised anxiety, were assigned to one of five conditions:

1. Cognitive Therapy.
2. Behaviour Therapy.
3. Cognitive-Behaviour Therapy.
4. Placebo.
5. Waiting List.

There were two groups for each of the active therapy conditions and one placebo group.

Patients were initially assessed during an individual appointment one to three weeks prior to the group therapy using the revised Anxiety Disorder Interview Schedule (ADIS-R) (Di Nardo et al, 1985). Those patients meeting the ADIS-R criteria for generalised anxiety disorder (GAD) and meeting other criteria, were offered a place on the next Stress Control group therapy programme. The therapy, run by two psychologists, comprised six two hour sessions.

Main measures were taken pre-, mid-, and post-therapy and at six month follow-up. Process measures were taken throughout the group therapy and at six month follow-up. Baseline measures (diaries) were recorded between the individual assessment interview and commencement of the course.

2. SUBJECTS AND SUBJECT RECRUITMENT

a). General.

All subjects were referred by their General Practitioners to a well developed Primary Care Service in Hamilton/East Kilbride Unit (Lanarkshire Health Board). On the basis of details in the referral letter, subjects were put on to a 'Stress Control' waiting list instead of being placed on the general waiting list. At this point, they were sent a standard letter (sent to all referred patients) informing them that due to the very long waiting list, it would be approximately one year before an appointment would be offered. Approximately one month before a course and approximately 3 months after being referred, consecutive subjects were offered an individual assessment appointment. They were also informed at this stage, that the assessment would be to judge their suitability for group therapy. The individual assessments took place between one to three weeks prior to a group beginning.

It was made clear that if they did not wish to take part in the group therapy, they would be placed back on the general waiting list at the appropriate point (patients who did not reach criteria were generally offered alternative individual therapy immediately). Random allocation was not possible as, generally, only one course ran at any one time therefore a 'batch' of subjects were allocated to whichever course was next to take place.

On the basis of information in the referral letter, 185 subjects were offered an individual assessment interview. 133 reached the criteria imposed and were offered a place on a Stress Control group therapy.

Information regarding each treatment condition is provided separately below.

As Stress Control was part of a regular clinical service, patients with other diagnoses were, where appropriate, offered a place on the course if it was thought attendance at the group would augment individual therapy. For example, agoraphobic patients could attend the group not only to learn control over generalised anxiety symptoms but also to expose themselves to an anxiety-provoking situation. Similarly, a socially phobic individual could use the setting as an appropriate situation to practise conversation skills in-vivo. Thus, total numbers attending each group exceed the number of GAD individuals noted below.

Although all individuals attending the course completed the measures only data on GAD subjects are presented here.

Exclusion Criteria.

It was decided to exclude subjects from data analysis if data were missing for more than one test point for main measures (pre-, mid-, post-therapy and follow-up) and/or more than two of the seven test points for process measures. In addition, subjects were excluded from analysis if they attended for less than five of the six group sessions.

In the following sections, information concerning subjects within each condition is presented.

b). Cognitive Therapy Condition.

Group 1.

29 patients were offered an assessment interview, 26 of whom attended. 3 patients did not reach trial criteria; they comprised 1 panic disorder, 1 marital problem and 1 patient who had a sub-clinical problem. Of the 23 patients offered a place on the course, 22 accepted, 19 attended the first session and 1 dropped out during therapy. 3 patients did not furnish adequate data and were thus excluded from the analysis leaving 15 GAD subjects in all.

In addition to these GAD patients, 4 patients receiving concurrent individual therapy attended all sessions. These comprised 2 agoraphobics (with panic) and 2 panic disorder patients. Thus in all, the group consisted of 23 patients of whom 22 completed the course.

Group 2

31 patients were offered an assessment interview, 30 of whom attended. 7 patients did not reach trial criteria; they comprised - 1 schizophrenic, 3 panic disorder, 2 depressed and 1 sub-clinical problem. Of the 23 patients offered a place on the course, 21 accepted. 11 of these were initially put into the waiting list condition for 6 weeks prior to the group therapy. 20 attended the first session and 2 dropped out during therapy. 2 patients did not furnish adequate data and were thus excluded, leaving 16 GAD subjects in all.

In addition, 2 patients receiving concurrent individual therapy attended all sessions, both having panic disorder and both of whom completed the course. Thus, in all, the group consisted of 22 patients of whom 20 completed the course.

c). Behaviour Therapy Condition.

Group 1

24 patients were offered an assessment interview, 21 of whom attended. 5 patients did not reach trial criteria: they comprised 2 agoraphobic, 2 depressed and 1 socially phobic patient. Of the 16 patients offered a place on this course, all accepted and attended the first session, and completed the course. 2 patients did not furnish adequate information and were thus excluded from analysis, leaving 14 GAD subjects in all.

In addition, 4 patients receiving concurrent individual therapy attended the course of whom 1 dropped out. They comprised 3 agoraphobics (2 with panic) and one socially phobic patient. Thus, in all, the group consisted of 20 patients of whom 19 completed the course.

Group 2.

33 patients were offered an assessment interview, 29 of whom attended. 6 patients did not reach trial criteria: they comprised 3 agoraphobics and 3 depressed patients. Of the 23 offered a place on the course, all accepted. 22 attended the first session and 2 dropped out, 3 patients did not furnish adequate data and were thus excluded, leaving 17 GAD subjects.

In addition, 2 patients receiving concurrent individual therapy completed the course. Both had agoraphobia with panic. Thus, in all, the group consisted of 24 patients of whom 22 completed the course.

d). Cognitive-Behaviour Therapy Condition.

Group 1

30 patients were offered an assessment interview, 27 of whom attended. 6 patients did not reach trial criteria: they comprised 3 panic disorder, 1 agoraphobic, 1 depressed and 1 alcohol abusing patient. Of the 21 patients offered a place on the course, all accepted. 19 attended the first session and 2 dropped out. 2 patients did not furnish adequate data and were thus excluded leaving 15 GAD subjects in all.

In addition, 3 patients receiving concurrent individual therapy completed the course. Two had agoraphobia with panic and one was socially phobic. Thus, in all, the group consisted of 22 patients of whom 20 completed the course.

Group 2

23 patients were offered an assessment interview of whom 20 attended. 4 patients did not reach trial criteria: they comprised 1 schizophrenic, 1 agoraphobic and 2 depressed patients. Of the 16 patients offered a place on the course, 15 attended, 1 dropped out and 3 did not furnish adequate data leaving 11 GAD subjects in all.

In addition, 2 agoraphobic (with panic) patients completed the course. Thus, in all, the group consisted of 18 patients of whom 17 completed the course.

e). Placebo Condition.

This comprised 1 group. 15 patients were offered an assessment interview of whom 14 attended. 3 patients did not reach trial criteria. They comprised 2 panic disorder and 1 depressed patients. Of the 11 patients offered a place on the course, 1 declined. The remaining 10 attended

the first session and completed the course. All subjects furnished sufficient data. There were no concurrent individual therapy patients in this group which thus comprised of 10 GAD subjects who began and completed the course.

f). Summary of subject allocation and subject characteristics.

In summary, Table 1 provides information regarding subject allocation.

TABLE 1: Subject allocation details for the five experimental conditions.

	Cognitive Therapy	Behaviour Therapy	Cogn.-Beh. Therapy	Placebo	Waiting List
Number reaching criteria and accept- ing place on course	41	39	37	10	-
Number attending first session	39	33	34	10	-
Number completing course (> 5 sessions)	36	36	31	10	-
Number completing adequate data	31	31	26	10	11

Table 2 details subject characteristics.

TABLE 2: Details of subject characteristics for the five experimental conditions.

	Cognitive	Behavioural	Cogn.-Beh.	Placebo	Waiting List	
	Mean SD	Mean SD	Mean SD	Mean SD	Mean Sd	
Age (Years)	36.9 11.4	40 11.7	41.8 12	33.1 7.7	37.9 11.2	
Duration (Years)	6.4 6.1	6.6 4.2	8.9 6.9	4 3	3.7 2.5	
Time on waiting list (weeks)	12.8 9	13.5 10.5	15.8 7.3	13.5 6.6	6.9 5	
	n	n	n	n	n	
Sex	Male	6	10	6	5	3
	Female	25	21	20	5	8
Previous Psychiatric Treatment	Yes	6	5	3	3	2
	No	25	26	23	7	9

3. ASSESSMENT INTERVIEW

Subjects were assessed by either the present author (JW) or by the co-therapist (MK), using a shortened version of the revised Anxiety Disorder Interview Schedule - ADIS-R (Di Nardo, O'Brien, Barlow, Waddell and Blanchard, 1985). This involves a structured interview designed to permit differential diagnosis among the anxiety disorders according to DSM-III-R and to provide detailed information for functional analyses of the anxiety disorders.

DSM-III-R and ADIS-R do not adhere to the hierarchical organisation that was present in DSM-III, where, for example, any anxiety disorder such as panic disorder could be subsumed under an affective disorder if an affective disorder were also found. Thus ADIS-R, which also requires clinical judgement and experience of the anxiety disorders, involves the clinician assessing patterns of comorbidity and making a distinction between a primary and a secondary disorder, based on severity and interference with functioning. In some cases a patient may be assigned 2 (or conceivably more) primary diagnoses.

In addition to providing information required for establishing the diagnostic criteria, ADIS-R gathers information on the history of the problem, situational and cognitive factors influencing the anxiety and use of symptom ratings (including depression). As the full version of ADIS-R takes about two hours to complete and as it was hoped to use ADIS-R on a routine basis in primary care work, it was decided to omit the rating scales (Hamilton Anxiety and Depression Scales). In addition, only patients receiving a primary diagnosis of GAD (with no other primary diagnosis present) were considered for inclusion in the present study.

Di Nardo et al (1983), using ADIS (DSM-III criteria) found a low KAPPA co-efficient (.467) for GAD based on only six subjects. Barlow (1985) extending this study, found a KAPPA co-efficient of .571 based on twelve patients. Although suggesting diagnostic reliability, the KAPPA co-efficients for GAD remain lower than for disorders for which clear behavioural referents are available, e.g. social phobia (.905). ADIS-R is reproduced in Appendix 1.

If subjects were assigned a primary diagnosis of GAD and also met additional criteria (see below), the nature of the therapy and research were explained in detail. Subjects were given a therapy booklet (see below), consent form, pre-treatment questionnaires and baseline diaries to complete at home. They were also given written information about the nature of the therapy and research. The referring General Practitioner was written to and a standardised consent form sent. Subjects were then not seen until the first session of the Stress Control group therapy.

Additional criteria.

1. Age between 18 and 65.
2. No previous contact with the Clinical Psychology Department or concurrent therapy from Clinical Psychology or Psychiatry.
3. Symptoms existing for at least 1 year.
4. Written consent obtained from subject and G.P.

5. Those patients currently taking psychotropic medication accept maintaining regular dosage throughout therapy.
6. Subjects rate anxiety level at a minimum of 5 on a 12 point scale ranging from no anxiety to extreme anxiety.

Although ADIS-R requires symptom duration of at least six months, it was decided to impose a criterion of at least 1 year duration of symptoms in order to have chronic anxiety patients who were representative of primary care referrals. In fact, all patients who met the six month criterion imposed by ADIS-R also met the 1 year criterion imposed by the present study.

4. TREATMENT CONDITIONS - 1.

a). General - "Stress Control" entails six two hour sessions in the Hunter Health Centre, East Kilbride. It was devised by the present author and female co-therapist (MK). Both therapists have extensive experience in cognitive and behavioural treatment of anxiety disorders in primary care in both individual and group therapy. Both psychologists had run four Stress Control groups prior to the present study (Cognitive Behavioural therapy). The present author, following training in behavioural theory and therapies, participated in several cognitive therapy workshops including those led by Meichenbaum and Beck.

Subjects were encouraged to see Stress Control as an "evening class" rather than "group therapy". The classes were held in a large, comfortable staff room at a time when the Health Centre was empty. Stress Control entails a large didactic component although subjects' comments were welcome. However, prior to , and during, the course, subjects were explicitly told that they did not have to speak if they did not wish to. As Stress Control comprised up to 24 subjects, this was easily accomplished. Subjects were told that the aims of Stress Control were:

1. To teach them about the nature of anxiety and its associated problems.
2. To teach them methods for controlling these problems.
3. To give them the opportunity of practising these techniques both within and between sessions.
4. To turn them into their own "therapists" and thus be able to deal with present and future problems.

Therefore subjects were asked to see Stress Control as a training course rather than as a therapy during which the psychologists "treated" patients.

b). Teaching Style

In agreement with Meichenbaum (1985), we believe that many therapy programmes do not emphasise the important role of the therapist - patient relationship which provides a framework in which coping skills are nurtured. Both psychologists deliberately adopted a relaxed style, first names were used and humour introduced when appropriate. Teaching was augmented by anecdotes about (generally fictitious) patients. In accordance with Meichenbaum (1985), it was felt that, by the use of these "stories", anecdotes could act as a retrieval cue for the recall of relevant information. The use of anecdotes also allowed the psychologists to talk about problems and failures and ways in which these past "patients" had dealt with them.

Subjects were explicitly asked not to discuss personal problems unless this would involve a discussion in ways of dealing more effectively or to enhance understanding of the topic under discussion.

c). Group Format

All therapy conditions followed the same format. In general, each session entailed:

1. Review: of last session. Feedback encouraged re problems/successes in using techniques between sessions.
2. Education : The psychologists talk in detail about that session's topic, e.g. nature of negative self-statements, avoidance, etc.

3. Therapy: Based on 2. This involves teaching a specific approach to be used to deal with the session's topic, e.g. relaxation techniques, graded practice, etc.
4. Tea Break.
5. Imaginal Test (see page 229)
6. Workshop: Group divides into two, each sub-group led by a psychologist. Subjects are given the opportunity to practice the skills learned earlier in the session. Subjects are also given the opportunity to go over any aspect of the session they had not understood or to ask for additional information, etc.
7. Review: Information taught during session reviewed.
8. Homework assignment: Based on the therapeutic technique taught and practised during the session.

Subjects were discouraged from asking for individual help at any point during or after each session. It was emphasised that Stress Control was a "complete" therapy and that subjects would not be offered further therapy following the end of the course.

All sessions in all conditions were audio-taped.

TREATMENT CONDITIONS - 2

There were five conditions:

1. Cognitive Therapy.
2. Behaviour Therapy.
3. Cognitive-Behaviour Therapy.
4. Placebo.
5. Waiting list.

There were two groups in each of the active therapy conditions, and one Placebo group. The ten subjects in the Waiting list group later joined the second Cognitive therapy group.

A brief summary of the therapy conditions is given here. A detailed description of the therapies appear in Appendix 2.

a. Cognitive Therapy

This therapy, devised by the present author, developed from the work of Beck and, in particular, Meichenbaum. The course entailed:

- Session 1 - Overview of information contained in the cognitive booklet.
- Session 2a) - A description of tranquillisers and their usage.
 - b) - Identification of negative self-statements.
- Session 3 - Monitoring of negative self-statements and use of rational re-appraisal.
- Session 4 - Continuation of the previous session and the division of anxiety management into Meichenbaum's four stages.
- Session 5a) - The assessment and alteration of dysfunctional assumptions.
 - b) - Cognitive treatment of panic attacks.
- Session 6a) - Associated problems (depression and insomnia).
 - b) - Review and relapse prevention.

b. Behaviour Therapy.

This approach, devised by the present author, comprised behavioural therapies found useful in previous individual and group therapies.

No cognitive approaches were utilised. The course entailed:

Session 1 - Overview of information contained in the behavioural booklet.

Session 2 a) - Information about tranquillisers.

b) - Progressive muscular relaxation.

Session 3 - Functional analysis of anxiety.

Session 4 - Exposure therapy - targeting and graded exposure.

Session 5 a) - Behavioural relaxation training.

b) - Behavioural treatment of panic attacks.

Session 6 a) - Associated problems (depression and insomnia).

b) - Review and relapse prevention.

c. Cognitive-behavioural therapy.

This approach was devised by the present author and the co-therapist (MK).

It had been developed over the course of four Stress Control groups which took place prior to the present study.

Session 1 - Overview of information contained in the cognitive-behavioural booklet.

Session 2 - As Behaviour therapy condition.

Session 3 - An amended cognitive approach based on Sessions 2, 3 and 4 of the Cognitive Therapy condition.

Session 4 - An amended behavioural approach based on Sessions 3 and 4 of the Behaviour therapy condition.

Session 5 a) - Meshing the therapies.

b) - Cognitive-behavioural treatment of panic attacks.

Session 6 a) - Associated problems (depression and insomnia).

b) - Review and relapse prevention.

d. Placebo - "Subconscious Reconditioning"

The term was borrowed from Lent et al (1981). The treatment, devised by the present author, entailed highlighting the role of the subconscious in the production of, and maintenance of, anxiety. By reference to subliminal perception, it was explained that messages received by the sub-conscious mind could result in an alteration in behaviour. Thus by aiming anti-anxiety messages at the subconscious, it was suggested that anxiety could be alleviated. Anti-anxiety messages, both general and specific were said to be embedded in white noise and in musical tracks recorded on audio tapes which patients passively listened to both in group sessions and at home (a list of the musical tracks can be found in Appendix 3). In fact, no subliminal messages appear on the tapes. The aim of therapy was to "recondition the sub-conscious". The structure of each session adhered as closely as possible to that of the active therapy conditions. The course entailed:

Session 1 - Overview of information contained in the placebo booklet.

Session 2 a) - Introduction to generalised anti-anxiety tape.

b) - Specific anti-anxiety tape 1 : Controlling your body.

Session 3 - Specific anti-anxiety tape 2: controlling your thoughts.

Session 4 - Specific anti-anxiety tape 3: controlling your actions.

Session 5 - Specific anti-anxiety tape 4: controlling panics

Session 6 a) - Specific anti-anxiety tape 5: Asserting yourself.

b) - Specific anti-anxiety tape 6: Controlling depression.

The placebo condition differed from the active therapy conditions in the following ways:

- 1). Only 1 group of 10 patients were involved.
- 2). Only 1 therapist (JW) ran the group.
- 3). Patients were told it was an experimental condition and no expectation of success was given.
- 4). Based on 3), patients were told, in person and in writing, before and immediately after therapy and, in writing, at six months follow-up that, if they felt they had not benefitted from Sub-conscious Reconditioning, 'traditional' individual treatment would be immediately offered. General Practitioners, who had consented to their patients being offered Placebo therapy were given the same information (no patient subsequently asked for individual therapy).

e. Waiting List.

Subjects who met the various criteria were told that they would be offered a place on Stress Control in six week's time and asked if they would complete (and return) questionnaires and diaries posted to them weekly during this time. Subjects therefore completed the main questionnaires at Weeks 1, 3 and 6. Diaries were completed daily and other process measures weekly.

Subjects in this condition were then offered a place on the second cognitive therapy group thus the measures taken at Week 6 became the pre-treatment scores for the cognitive therapy condition. It should be noted that as no significant statistical change (indeed little change at all) took place, including this group in the cognitive therapy condition seems justified.

5. BOOKLETS

a. General

Four booklets have been written:

- 1). Cognitive therapy.
- 2). Behaviour therapy.
- 3). Cognitive-behavioural therapy.
- 4). Placebo.

All four booklets are about 64 pages in length and in A5 size. All follow the same format and all divide into two main sections:

- i information section.
- ii treatment section.

i Information Section

Anxiety is described by use of the acronym T A B.

T: thoughts

A: actions.

B: body.

The information section in each of the four booklets contains eight sub-sections.

- 1). Information.
- 2). What is anxiety?
- 3). Anxiety symptoms.
- 4). Are there different types of anxiety?
- 5). What causes anxiety?
- 6). What keeps anxiety going?
- 7). Conclusions.
- 8). Important statements about anxiety.

The main differences between the booklets are contained in Sections 5, 6 and 7 where the causes, maintenance and conclusions are suited to the particular therapy associated with that booklet. The aim of the first part of the booklet is to inform, rectify misconceptions (e.g. "anxiety is a mental illness") and help fit the therapy into a comprehensible framework.

ii. Treatment section.

The second half of the booklet, printed on different coloured pages, summarises the content of each session and provides written information on the treatment of anxiety which augments the spoken information given during each session. This part of the booklet:

- 1). Helps guide subjects, prior to the course, towards the type of therapy involved and to generate realistic expectations about Stress Control.
- 2). Acts as an aid to retrieve information discussed during sessions, most of which, in accordance with the findings of Ley (1972, 1979) may be quickly forgotten.

b. Specific

i. Cognitive booklet.

While discussing the same T A B model as in the other booklets, the cognitive booklet highlights a cognitive model of stress acquisition and maintenance. It highlights the causal status of cognition and diminishes the importance of behavioural and somatic symptoms. The therapy section emphasises the importance of identifying and eliminating dysfunctional thinking and replacing it with rational re-appraisals. The booklet is reproduced in Appendix 4.

ii. Behavioural booklet

This booklet emphasises both the role of heightened arousal and mal-adaptive behaviours in causing and maintaining stress. It emphasises the need to control these two systems in order to achieve control over anxiety. Cognitive symptoms are seen as a consequence of these systems. This booklet is reproduced in Appendix 5.

iii. Cognitive-behavioural booklet.

This booklet accords equal importance to all three systems in causing and maintaining the 'vicious circle' of anxiety. The treatment rationale is based on the need to control all three. This booklet is reproduced in Appendix 6.

iv. Placebo booklet.

Adhering as far as possible to the same format as the other booklets, this booklet suggests that the three systems of anxiety (T A B) are caused and maintained by underlying subconscious conflict with the conscious mind. Therapy is based on the need to 'recondition' the subconscious by means of generalised and specialised 'anti-anxiety messages'. This booklet is reproduced in Appendix 7.

c). Booklet intelligibility

Flesch Formula reading scores (Flesch, 1948) have been calculated for all four booklets. This formula involves a 'reading ease' score on a scale between 0 (practically unreadable) and 100 (easy for any literate person). Based on the 'reading ease' score, Flesch (1948) provides a description of the style and enables an estimation of the

U.S. population who would understand a given piece of writing.

Ley (1977) provides a 'cautious' estimate of the IQ level required for understanding.

Table 3 provides a description of reading ease for the booklets.

TABLE 3: Reading ease and intelligibility measures for the treatment booklets.

	Reading Ease	Description of style	% of population who would understand	IQ required for comprehension
Cognitive	73.8	Fairly easy	80	87 +
Behavioural	74.7	Fairly easy	80	87 +
Cogn-Behavioural	73.2	Fairly easy	80	87 +
Placebo	73.2	Fairly easy	80	87 +

6. VIDEOS

Two videos were used - an assessment interview standard to all conditions and a 'follow-up' interview. Three versions of the latter were produced each emphasising the techniques appropriate to the particular therapy condition. It was not possible to produce a follow-up video for the placebo group.

Assessment Interview Video.

The assessment interview was carried out by the co-therapist (MK). The 'patient' - a generally anxious middle-aged man, was role played by a Senior Nurse Tutor chosen specifically because of his experiences in dealing with anxiety patients and role playing ability. The interview lasts for 20 minutes and the symptoms are broken up into the three systems model. It emphasises the role of life events in the aetiology of the condition (death of mother, problems at work) and proved convincing to subjects. The limitation of the videos is a slight over-emphasis by the 'patient' on his fear of cancer.

Follow-up Video

The 'follow-up' interview is set six months after Stress Control treatment. It involved the same 'therapist' and 'patient'. In each version of this video, the 'patient' is considerably improved although still experiencing some anxiety problems. He emphasises the importance of working hard at putting the techniques learned on the course into practice and the importance of accepting 'bad days'. Again this video seemed convincing to subjects.

Copies of both of these videos are available from the present author.

7. BENZODIAZEPINES

In order not to confound autonomic symptom ratings, subjects taking psychotropic medication (in practice all benzodiazepines) were asked to stay on their regular dosage until the end of treatment. Due to time limitations in setting up these groups, it was not possible to take patients off medication prior to the study. As all subjects had been taking benzodiazepine medication for more than four months, it is unlikely that any subject was receiving any active therapeutic effect from the medication (Committee on the Review of Medicines, 1980). Tranquilliser intake was noted on daily diary forms and inspection shows that, generally, subjects did maintain prescribed levels throughout the course. At the end of the course, they were offered, with G.P. approval, a self-help booklet written by the present author, giving information about tranquillisers and offering a slow reduction method.

Table 4 shows the number of subjects in each condition taking benzodiazepines.

TABLE 4. Subjects taking benzodiazepines during therapy.

	Yes	No
Cognitive therapy Total n = 31	19	12
Behavioural therapy Total n = 31	14	17
Cognitive- Behavioural therapy Total n = 26	12	14
Placebo Total n = 10	7	3
Waiting list Total n = 11	3	8

8. MEASURES

For practical purposes, reliance was placed on self-report scales although some objective indices of change were also recorded.

In order to provide a comprehensive assessment of treatment effects, a wide range of measures ^{used} were incorporated into this study. Whenever possible, measures were selected on the basis of established validity and reliability. Another consideration in the choice of some of the measures was their use in related research to help render the findings, to some extent at least, comparable.

The measures can be divided into 3 categories:

- a) Main measures.
- b) Process measures.
- c) Other measures.

All of the measures are detailed in Appendix 8.

a) MAIN MEASURES.

These were completed at pre-, mid- and post-therapy and at six month follow-up and were as follows:

- i STATE-TRAIT ANXIETY INVENTORY - STAI
(Spielberger et al 1970)
- ii MODIFIED SOMATIC PERCEPTION QUESTIONNAIRE - MSPQ
(Main, 1983)
- iii FEAR SURVEY SCHEDULE III - FSS-III
(Wolpe and Lang, 1964).
- iv DYSFUNCTIONAL ATTITUDE SCALE -DAS
(Weissman and Beck, 1978)
- v BECK DEPRESSION INVENTORY - BDI
(Beck et al, 1961).

In terms of a three systems analysis of anxiety and in the absence of physiological and behavioural measures, the STAI, MSPQ and FSS were chosen as verbal measures of the three systems. The advantages and disadvantages associated with this approach will be discussed elsewhere. The STAI: A-TRAIT and BDI in particular are used in most GAD studies thus comparison with these studies can also be considered. The DAS was chosen to test whether therapies which do not attempt to modify dysfunctional thinking can, nevertheless, alter dysfunctional attitudes. As Clancy et al (1978) have reported that 44% of GAD and PD patients present with secondary depression the BDI was included in the present study.

Further details of each measure

1. STATE-TRAIT ANXIETY INVENTORY -STAI.

The STAI consists of two scales each of twenty items. State anxiety (A-State) indicates how an individual feels at a particular moment in time. Trait anxiety (A-Trait) refers to relatively stable individual differences in anxiety proneness.

The split-half reliabilities of the A-State and A-Trait scales, based on over 1500 college and high school students, indicate high levels of reliability for both scales (between the ranges of .92 and .83). Test-re-test reliabilities taken over one hour, 20 and 104 day intervals indicate that A-Trait scores were reliable (ranging from .86 to .73). A-State scores have lower levels of reliability (ranging from .16 to .54). However, by definition, A-State refers to a transient level of anxiety and therefore low correlations are expected.

Concurrent validity of A-Trait has been calculated by evaluating the correlation between A-Trait and IPAT (Cattell and Scheir, 1963), the MAS (Taylor, 1953) and the Zuckerman Affective Check List (Zuckerman 1960). Results indicate a satisfactory level of validity (ranging from .52 to .84).

11. MODIFIED SOMATIC PERCEPTION QUESTIONNAIRE - MSPQ

This questionnaire was developed from the Mandler Autonomic Perception Questionnaires (MAFQ). The 33 item scale differentiating anxious patients from normal controls was used in this study.

Main (1983) reports on test - re-test reliability (taken over 1 day) only. Variables with a retest correlation of at least .60 or a KAPPA value reaching significance at the $p < .01$ level were included. Split-half reliability of the scale is .89.

Concurrent validity of the MSPQ when correlated with the MMPI Hypochondriasis scale is .61 and .54 with the Zung Depression Inventory (Zung 1965).

iii. FEAR SURVEY SCHEDULE. - FSS-III

This consists of 72 items measuring the following sub-classification of fears : Animal; tissue damage; illness; death and associated stimuli; classical phobias; social stimuli; noises and miscellaneous fears. Only total scores are presented here.

Geer (1965) found a split-half reliability for the FSS-II of .939. Braun and Reynolds (1969) assessing test - retest reliability over 10 weeks found correlations of .88 for males and .85 for females.

Lang and Lazovik (1963) note a concurrent validity of .80 when correlating the FSS and the MAS (Taylor, 1953).

iv. DYSFUNCTIONAL ATTITUDE SCALE - DAS

In its original 100 item form, this form has been shown to be a reliable and valid measure of the beliefs and assumptions thought to underly the faulty cognitions associated with anxiety.

These assumptions or beliefs act as schemas by which the individual's world is construed (for detailed psychometric data see Weissman and Beck, 1978)

In order to facilitate compliance in completing this measure, it was decided to use the shorter, 35 item scale devised by Burns (1980). The scale measures 7 'value systems' - approval, love, achieving, perfectionism, entitlement, omnipotence and autonomy. Only the total score is presented here. The lower the total score, the more distorted is the individual's way of thinking. There have been no reliability or validity studies on this version of the DAS.

v. BECK DEPRESSION INVENTORY - BDI

This 21 item form, measuring depressed mood, has been shown to be a reliable and valid measure of depression. Beck and Beamesderfer (1974) report a split-half reliability coefficient of .93. No test - retest reliabilities are reported as the above authors view traditional methods of assessing the stability and consistency of inventories as not being appropriate for the evaluation of the BDI. Indirect methods of evaluation strongly suggest stability over time.

b) PROCESS MEASURES

The following were included as process measures:

- i. DAILY DIARY (devised by present author)
- ii FOUR SYSTEMS ANXIETY QUESTIONNAIRE - FSAQ (Koksalf, 1987)
- iii COPING RESPONSES QUESTIONNAIRE -CRQ (Billings and Moos, 1981)
- iv IMAGINAL TEST (devised by present author).

i. DAILY DIARY

Subjects were given a weekly 'booklet' of diaries. The cover page contains instructions, the second page a completed example, followed by seven pages - one for each day of the week. Subjects completed three measures, each on an 11 cm line and scored 1 to 12. In the first two measures, a score of 12 indicates greatest distress. In the third measure, a score of 12 indicates least distress.

a) Daily anxiety.

Subjects were asked to rate :

"How anxious have you been today?" A cross was placed at the appropriate point on the line graded from:

"no anxiety" through "mild anxiety", "moderate anxiety", "marked anxiety" to "extreme anxiety."

b) Daily cognitions.

Subjects were asked to rate:

"How much time have you spent thinking or worrying about your problems today?"

Subjects placed a cross on the line graded from:

"No time" through "a bit of time", "a lot of time" through "all the time".

c) Daily coping

Subjects were asked to rate:

"How well have you coped today?"

Subjects placed a cross at the appropriate point on a line graded from:

"Extremely badly" through "Badly", "Moderately", "Well" to "Extremely well".

Baseline measures were obtained for 1 to 3 weeks prior to commencement of therapy. Thereafter the diaries were kept throughout the course.

11 FOUR SYSTEMS ANXIETY QUESTIONNAIRE - FSAQ

This consists of 60 Thurston type (Yes - No) items. It comprises 15 cognitive, 15 behavioural, 15 somatic and 15 mood items developed so that mean weights of each component are almost equal.

The split-half reliabilities based on the responses of 272 respondents (218 University students, 54 anxiety patients) were satisfactory for Total anxiety score (between the ranges .89 to .94); for the Mood component (.76 to .86); for the Cognitive component (.71 to .85); for the Behavioural component (.59 to .74) and for the Somatic component (.59 to .74).

Concurrent validity was evaluated by calculating the correlation between the FSAQ and the Three Systems Anxiety Questionnaire (Lehrer and Woolfork, 1982). Results indicate acceptable levels of validity (ranging from .62 to .87).

The FSAQ was completed, at home, after each session of Stress Control and at six month follow-up.

iii COPING RESPONSES QUESTIONNAIRE - CRQ

This consists of a 19 item scale measuring personal coping strategies.

The CRQ gauges three dimensions of coping:

- 1) Active cognitive coping.
- 2) Active behavioural coping
- 3) Avoidance coping.

Billings and Moos (1980) report that the internal consistencies of the method of coping categories are .72 for active cognitive coping, .80 for active behavioural coping and .44 for avoidance coping. The inter-correlations among the three methods of coping categories ($X = .21$) indicate that the categories are relatively independent.

The present study used the amended rating scale devised by Milne (personal communication, undated). Thus a five point frequency rating was employed ranging from 'almost never' to 'almost always' and scored 0 to 4.

The CRQ was completed at the same times as the FSAQ.

iv IMAGINAL TEST

Devised by the present author, this was carried out during each session of Stress Control (i.e. six times in all). Cognitive theorists assume, not only that mal-adaptive cognitions are causally related to stress but also that successful treatment of anxiety involves removing these cognitions and replacing them with more adaptive cognitions. Thus, in order to assess changes in cognitions and in particular negative and positive

self-statement, an expressive method has been devised based on studies by Sutton-Simon and Goldfried (1979), Craighead et al (1979) and Galassi et al (1981a, 1981b). (See Martzke et al, 1987, for a recent review of cognitive assessment techniques).

Sutton Simon and Goldfried (1979) developed the Situations Questionnaire which allowed for open-ended responding. In that study, an anxiety provoking acrophobic situation was read to subjects who were then asked to complete two sentences:

"In this situation I am feeling.....".

"I am feeling this way because I am thinking....."

This, however, led to subjects being unable to produce a sufficient number of negative self-statements and scores were not sensitive to change.

Therefore, in the present study, six diverse anxiety provoking situations were devised. Prior to the commencement of the present study, the situations were rated by 13 GAD patients outwith the study using a 4 point scale.

1. "Didn't make me feel anxious".
2. "Made me feel a bit anxious".
3. "Made me feel anxious".
4. "Made me feel very anxious".

All six situations were rated at "4" (Made me feel very anxious).

The situations were based on those elicited from a factor analysis of the FSS carried out on the responses of a neurotic sample (Lawlis, 1971) and from the studies identifying specific cognitions in GAD (e.g. Hibbert, 1984; Rapee, 1985). All situations are reproduced in Appendix 9.

In summary, the situations involved:

Situation 1.

This situation involves standing at the counter of a busy department store. You are unable to attract the assistant's attention to serve you even although people who have arrived after you at the counter are being served.

Situation 2.

You are sitting in a church at a wedding service when you feel increasingly hot and uncomfortable. You feel you may be sick and have to decide whether you should leave the church during the service.

Situation 3.

You are in the shopping centre. You chat to a neighbour until another neighbour comes up and begins talking to the other person and ignoring you.

Situation 4

You have been invited into your new neighbour's house for a drink. You do not know anyone else there. The atmosphere is formal and you feel out of your depth.

Situation 5.

You are standing in a queue outside the cinema. A down-and-out is being abusive to the people in the queue and is approaching you.

Situation 6.

You are sitting in your doctor's waiting room and having to listen to two men who are speaking loudly and contemptuously about anxiety sufferers.

One situation was read out during each session. The group was asked to close their eyes and the following standard instruction given:

"In the following excerpt, I want you to imagine yourself in this situation, as if you are really there. Concentrate on how you feel and what you are thinking. Immediately after the situation has been described twice, continue to be aware of your thoughts and feelings and complete the questionnaire".

The situation was then read twice. Immediately following the second presentation, subjects completed an 18 item questionnaire devised by the present author and included in Appendix 9. This was based on a self-statement questionnaire devised for social anxiety by Glass et al (1982).

Subjects were asked to rate how strong their belief was in the following thoughts by placing a cross at the appropriate point on an 11 cm line which ranged from -

"Don't believe at all to "Believe strongly".

There then follows eight negative self-statements:

e.g. "I can't cope with this", "I am making a fool of myself".

and eight positive self-statements:

e.g. "I am doing alright", "I can see this through to the end".

There are two additional questions:

1. How anxious were you when listening to the tape?

Subjects placed a cross on an 11 cm line ranging from

"Not at all anxious" to "Extremely anxious".

2. How well were you able to imagine yourself in the situation?

Subjects placed a cross on an 11 cm line ranging from

"Not at all well" to "Extremely well".

The 16 self-statements and two questions were scored from 1 - 12.

Scores of 12 on the negative self-statements indicates more dysfunctional thinking while on the positive self-statements indicates more functional thinking.

The sequence of presentation for each group was randomly determined (see Appendix 10).

OTHER MEASURES

At pre- and post-therapy and follow-up, subjects completed the following questionnaires (all on 11 cm lines, scored 1 - 12):

i. STRESS CONTROL QUESTIONNAIRE (SCQ)

This questionnaire was devised by the present author. The pre-therapy version differed slightly from that used at post-therapy and follow-up. The alterations necessary for the latter two are placed here in parenthesis:

1. How anxious have you been over the last week?
2. How appropriate is (was) the booklet in explaining stress?
3. How well does (did) the booklet explain your own problem?
4. How sensible does (did) the treatment seem to you?
5. How well do you think this treatment will work for you?
(How well did this treatment work for you?)
6. TO BE COMPLETED BY SPOUSE OR CLOSE RELATIVE.
How would you rate your relative's/spouse's anxiety?
7. Do you have any comments to make about the booklet?

ii. COPING QUESTIONNAIRE (CQ)

This questionnaire was devised by the present author.

1. How well are you coping with your job (housework)?
2. How well are you coping with financial affairs?
3. How well are you coping with your social life?
4. How well are you coping with your marriage/relationship?
5. How well are you coping with your family?
6. How well are you generally coping with your life?

iii. CONSULTATION RATES.

General Practitioners will be asked to calculate the number of consultations for each patient (for all problems) for the:

- 1) Six months prior to therapy.
- 2) Six months post therapy.

iv. PSYCHOTROPIC MEDICATION PRESCRIPTIONS.

As with the other objective measure noted above, G.P.s will be asked to calculate the number of psychotropic medication scripts issued to patients during the:

- 1) Six months prior to therapy.
- 2) Six months post therapy.

v. COMPONENTS QUESTIONNAIRE.

In a retrospective analysis, this questionnaire, devised by the present author, was sent to patients approximately nine months to one year following completion of therapy. Patients were asked:

"Looking back on the course, can you rate each of the following items according to how useful (or useless) you found it. Rate each item on a scale of 1 to 100 with 1 being "no use at all" and 100 being "extremely useful".

Patients were then presented with twelve components of Stress Control. Nine of the statements were applicable to all four treatment conditions, e.g.

Hearing the psychologists talk about Stress Control;

Being in a group and meeting others with similar problems.

The remaining four were specific to each therapy condition, e.g.

- "Learning about automatic thoughts"(Cognitive therapy).
- "Learning about avoidance" (Behaviour therapy).
- "Using your relaxation tape". (Cognitive-behaviour therapy).
- "Using the specialised anti-anxiety tapes". (Placebo).

There were therefore four versions of the questionnaire - one for each treatment condition. All versions are reproduced in Appendix 11.

CHAPTER 9

STATISTICAL ANALYSIS

STATISTICAL ANALYSIS.

1. MAIN AND PROCESS DATA (pre- post-therapy)

Due to the number of dependent variables in the present study, there was a large quantity of data for each patient. As repeated measures were available across the experimental period for each variable, statistical analysis using repeated measures analysis of variance with treatment type as the grouping factor was considered appropriate.

This analysis generates main effects for time, treatment groups and treatment x time interaction effects. Further exploration of significant main effects concentrates on the sub-effects of treatment group within time (i.e. which between group differences were significant at which time points), and time within treatment group (i.e. at which point significant change occurs within each treatment). This design is termed "split-plot factorial" - SPF (see Kirk (1968) for detailed information on the design identified as SPF - 2.4.)

All analyses were conducted on main frame computing facilities using SPSSX programmes. In the results sections, SPSSX commands (and sub-commands) are printed in block capital script in order to identify the procedures selected.

Manova

O'Brien and Kaiser (1985) outlined detailed recommendations and computing instructions for analysing repeated measure designs using the MANOVA approach. This involves the computation of change scores as time contrast

variables for the within subjects part of the analysis and the use of these as dependent variables in a regular MANOVA with the grouping factor acting as the between subjects test. The present study derives change scores using the formula : pre-therapy - score at week n.

This approach provides multivariate tests of significance with associated F ratios and probabilities for the time main effect and the treatment x time interaction. There are three alternative multivariate test statistics: Pillai, Hotelling and Wilks. All have the same distributional assumptions and similar roots. All have good methods for converting them to appropriate F statistics (see Srivastava and Khatri, 1979). Olson (1976) compared these statistics and recommended Pillai for general use. In the present study, only Pillai will be quoted.

Finally O'Brien and Kaiser (1985) recommend that the treatment group main effect is obtained by conducting ONEWAY ANOVA upon the average score of all data points.

Concerning the issue of how to follow-up significant multivariate effects in order to understand the data set and identify the source(s) of main effects, Borgen and Selling (1978) advocate the use of discriminant function analysis while others argue for further exploration via univariate ANOVAS especially when hypothesis testing is required (Spector, 1977; O'Brien and Kaiser, 1985). As the SPSSX MANOVA programme is very adaptable in this respect (see Table 6 in O'Brien and Kaiser), the latter approach was utilised in the present study.

Following a significant F value, the specific significant group differences were then identified using NEWMAN-KEULS test. The principle advantages of the Newman-Keuls test are that it preserves the overall significance level and it is possible, therefore, to determine which pairs of means differ significantly with more assurance, and more parsimoniously, than by the use of multiple paired comparisons. (Zivin and Bartko, 1976).

MANOVA was selected for the following reason:

1. Huck and McLean (1975) point out disadvantages in using the ANOVA approach - performing separate univariate analyses of multiple measures on the same subjects may inflate Type I errors, i.e. an unwarranted rejection of the null hypothesis (Bock, 1975; Turner, 1978). This could lead, in treatment outcome research, to concluding that true differences exist where, in fact, there are none. While one option is to conservatively adjust alpha levels, MANOVA can be regarded as more likely to produce reliable treatment effects (Hummel and Sligo, 1971).
2. It is assumed that, in regular ANOVA, repeated observations are independent. However, as Jaccard and Ackerman (1985) point out, in clinical psychology this 'sphericity' demand is unlikely to be met as successive measurements are often more highly correlated than non-successive measurements. Regular ANOVA also assumes equality of group variances as a pre-condition for sphericity. O'Brien and Kaiser (1985) however, state "In general, sphericity is unnatural for most repeated measures data, and we believe that it is commonly violated in most designs with more than two repeated measures" (page 317).

Box (1954) established that non-sphericity artificially inflates F values for omnibus tests of main effects resulting in inflated Type 1 error rate. While systematic reduction of the degrees of freedom for the sampling distribution of the F statistic may be one solution for the ANOVA approach (e.g. see Huynh and Feldt, 1976) the MANOVA approach presents no difficulties regarding proper error terms or modifications to the degrees of freedom.

3. O'Brien and Kaiser (1985) suggest that the greatest virtue of MANOVA is that, in the strictest sense, it is the natural generalisation of the use of the specific type of error term for contrasts with one degree of freedom. MANOVA handles sets of contrasts in such a way that each contrast in the set remains linked with just its specific error term. As a result, all the problems associated with general (average) error terms are avoided. They conclude -

"Because no clear-cut power differences exist, the best strategy is to choose a single method and seek to master it. We believe that method should be the MANOVA approach". (page 319).

2. FOLLOW-UP DATA.

In order to investigate the significance of change over time within each of the treatment groups, PAIRED T-TESTS were conducted on post-therapy and follow-up scores. In order to investigate between group differences change scores were computed : (pre-follow-up) - (pre-post) and subjected to ONEWAY ANOVA. This approach was preferred to ANCOVA with pre-therapy scores as the covariate (Huck and McLean, 1975) as the SPSSX ONEWAY programme allows the use of supplementary range-testing procedures (in the study, NEWMAN-KEULS) to identify the loci of significant effects.

3. OTHER MEASURES.

The objective measures employed - number of psychotropic prescriptions and number of G.P. consultations, the Stress Control Questionnaire and the Coping Questionnaire-were assessed by means of PAIRED T-TESTS for within group change and ONEWAY ANOVA for between group differences as outlined above.

4. HANDLING OF MISSING DATA.

There was a negligible amount of missing data over the course of treatment although at follow-up an average of 15% of data were missing across all outcome measures. These missing values were distributed across all treatment conditions and were not differentially associated with high or low pre-treatment scores. A weighted score was substituted for missing values (Winer, 1972) to take account of trends over the data.

CHAPTER 10

PRELIMINARY INVESTIGATIONS

PRELIMINARY INVESTIGATIONS

Prior to embarking on the treatment outcome analyses, seven important issues must be addressed:

- 1). Similarity of baseline measures across conditions.
- 2). Similarity of groups within each active treatment condition.
- 3). Homogeneity of subjects across conditions.
- 4). Comparison of repeated measures analysis of co-variance and change scores.
- 5). Credibility of expectation factors associated with the treatment conditions.
- 6). Distinctiveness of the treatment conditions.
- 7). Comparability with other studies.

1). Similarity of baseline measures across conditions.

Each subject in the treatment conditions completed the daily diaries for between one and three weeks prior to treatment. As most subjects completed diaries for between one and two weeks, it was decided to compute one mean score over this period for each subject. Subjects also completed all main and process measures prior to the commencement of therapy.

In order to test whether the allocation method resulted in any significant differences across conditions on all clinical and demographic pre-treatment variables, a ONEWAY ANOVA was conducted across the five experimental conditions. The NEWMAN-KEULS test was applied to identify the loci of any significant differences.

Forty-one variables were subjected to the test. Two variables showed significant differences:

- a) SCQ - 2nd item. "How appropriate is the booklet in explaining stress?"

The Behavioural condition scored significantly higher than the Cognitive behavioural condition ($F(3,93) = 3.503, p < .05$). As the lower score was 9.4, on a 12 point scale, this difference was not considered clinically important.

- b) Diary - Daily Coping. "How well have ^{you} ~~to~~ coped today?"

The Placebo condition scored significantly higher than the Behavioural condition ($F(4,82) = 3.616, p < .01$).

As was noted previously, the computation of change scores negates the influences of any baseline differences. In an analysis of 41 variables, 2 significant differences would be expected by chance at the .05 level).

2). Groups within treatment conditions

Each of the three active treatment conditions (Cognitive, Behavioural and Cognitive-behavioural) represents an amalgamation of two group therapies. In order to ensure that no differences existed between the two groups comprising each active condition, a ONEWAY ANOVA was conducted across the following groups : 2 Cognitive therapy groups; 2 Behavioural therapy groups; 2 Cognitive-behavioural therapy groups; 1 Placebo group and the waiting list condition.

Forty-one variables (clinical and demographic) were subjected to the test. No differences emerged on any variable. It was thus concluded that combining the groups within each active therapy condition was justified.

3). Homogeneity of subjects across conditions.

As the assumption of homogeneity of variance is of importance in repeated measures designs, all pre-treatment variables were subjected to the COCHRAN homogeneity of variance test. All variables demonstrate homogeneity.

4). Comparison of Repeated Measures ANCOVA and change scores.

The case for the use of change scores as outlined by O'Brien and Kaiser (1985) has been made in a previous section. However, as the use of change scores has its critics, e.g. Cronbach and Furby (1970) who note that 'raw change' or 'raw gain' scores are systematically related to any random error of measurement (see also Adams (1978), it was decided to compare the two approaches. All main and process measures were compared. The ANCOVA method (SPSSX) used the pre-treatment score as the covariate. Results indicated close agreement. In all cases significant F ratios found in one method were found in the other. It was thus felt that the use of change scores as previously outlined, was justified.

5). Credibility and expectation factors.

a) Credibility

In order to investigate the credibility of treatment rationales, 3 questions (on a 12 point scale) were assessed:

QUESTION 2: "How appropriate is the booklet in explaining stress?"

QUESTION 3; "How well does the booklet explain your own problem?"

QUESTION 4: "How sensible does the treatment seem to you? "

Table 5 presents mean values for these questions across treatment conditions.

TABLE 5. Comparison across treatment conditions of mean scores on credibility rating (SCQ 2 - 4).

	Cognitive	Behavioural	Cogn-Beh.	Placebo
Question 2	10.84	11.06	9.38	10.90
Question 3	9.52	10.10	8.58	9.40
Question 4	9.58	10.3	9.44	10.30

Although ONEWAY ANOVA produced a significant difference between the Behavioural and Cognitive-Behavioural condition on Question 2, it is clear that as the maximum score is 12, the results provide evidence for a high degree of treatment credibility across conditions. Of particular importance is the fact that subjects both in the active treatments and the placebo condition regard their treatments equally logical and credible.

b). Expectation.

In order to investigate subjects expectations of their therapy, Question 5 from the SCQ was assessed - "How well do you think this therapy will work for you ?" Table 6 presents mean values for this question across treatment conditions.

TABLE 6. Comparison across treatment conditions of mean scores on the expectancy rating (SCQ5).

	Cognitive	Behavioural	Cogn-Beh.	Placebo
SCQ-5	8.3	8.6	7.3	8.8

ONEWAY ANOVAS demonstrate that no significant differences existed between the four conditions. Of interest is the fact that active treatment and placebo conditions produce reasonably high levels of expectation of treatment success.

6). Distinctiveness of the treatment conditions.

It is of crucial importance to demonstrate that the treatments are distinct from one another. Although there are measures to assess treatment competence, e.g. the Cognitive Therapy Scale - CTS (Dobson et al, 1985) and treatment fidelity, e.g. the Minnesota Therapy Rating Scale - MTRS (DeRubeis et al, 1982), these measures are not suitable for use in large group studies.

As all sessions in all conditions were audio-taped, two tapes were randomly selected from each of the Cognitive, Behavioural and Placebo conditions. (The Cognitive-behavioural condition was omitted as it, obviously, was composed of sections of the Cognitive and Behavioural conditions). The tapes were then given to two clinical psychologist raters outwith the study, both of whom were trained in cognitive and behavioural therapy.

The raters were simply asked to identify the type of therapy being carried out. Both raters independently demonstrated 100% accuracy in matching tapes to therapy condition.

7). Comparability with other studies.

In order, at a later stage, to compare treatment effectiveness of this study with other treatment outcome studies, we must first establish that patients in the present study are comparable in terms of pre-therapy ratings of anxiety. Table 7 presents a comparison of pre-treatment scores. The scores presented here represent the average scores across conditions in both the present and other studies.

TABLE 7/

TABLE 7. Comparison of mean pre-therapy scores - present study and other treatment outcome studies (* individual therapy, + group therapy).

<u>Variable</u>	<u>COMPARISON STUDIES</u>		
	<u>Present Study</u>		
	Mean	Mean	Author(s) and Presenting Problem.
STAI:A-State	55.5	56.3	Butler et al (1987) - GAD *
		49.5	Eayres et al (1984) - 'generalised anxiety' +
STAI:A-Trait	57.9	55.5	Butler et al (1987) - GAD *
		54	Borkovec & Mathews (1988) - GAD *
		50.1	Jannoun et al (1982) - 'anxiety state' +
		52	Eayres et al (1984) - 'generalised anxiety' +
		56.6	Powell et al (1987) - 'general anxiety'
DAS	99.2	72.9	Durham & Turvey (1987) - 'general anxiety' *
BDI	19.1	16.5	Durham & Turvey (1987) - 'general anxiety' *
		14	Borkovec & Mathews (1988) - GAD *
FSS	108.3	137.6	Woodward & Jones (1980) - 'general anxiety' +
MSPO	31.3	28.2	Durham & Turvey (1987) - 'general anxiety' *

Table 7 demonstrates clearly that the present study involves a representative sample. The present sample shows greater initial level of depression as measured by the BDI. The DAS scores are noticeably higher (i.e. more functional) than scores in the Durham and Turvey study. The discrepancy on FSS scores may be due to the Woodward and Jones study using a larger item FSS-III questionnaire thus inflating the score. The paper does not offer enough information to confirm this (see Tasto (1977) for a comprehensive review of FSS schedules).

Having addressed these important issues, we can now turn to the treatment outcome analyses.

