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Keith Jennings
Registrar and Deputy Principal

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**THE PSYCHOLOGICAL MANAGEMENT OF
CHRONIC TINNITUS:
AN EVALUATION OF COGNITIVE INTERVENTIONS**

Jane L Henry
B.A. (Hons.); M. Psychol.

This thesis is submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy, Department of Psychology, University of Sydney, Australia.

March, 1992

Volume 2

VOLUME 2

TABLE OF CONTENTS

	<u>PAGE</u>
<u>APPENDICES</u>	475
APPENDIX 1: Hypnosis in the Management of Tinnitus.	476
APPENDIX 2: General Tinnitus Questionnaire.	483
APPENDIX 3: Consent Form	489
APPENDIX 4: Tinnitus Coping Strategies Programme.	492
APPENDIX 5: Tinnitus Education Programme.	559
APPENDIX 6: Tinnitus Reaction Questionnaire.	644
APPENDIX 7: Tinnitus Handicaps Questionnaire.	646
APPENDIX 8: Tinnitus Effects Questionnaire.	648
APPENDIX 9: Scoring Key For Tinnitus Effects Questionnaire.	652
APPENDIX 10: Tinnitus Cognitions Questionnaire.	655
APPENDIX 11: Tinnitus Coping Strategies Questionnaire.	657
APPENDIX 12: Tinnitus Knowledge Questionnaire.	660
APPENDIX 13: Beck Depression Inventory.	670

	<u>PAGE</u>
APPENDIX 14:	Locus of Control of Behaviour Scale. 673
APPENDIX 15:	Tinnitus Daily Record Sheet. 675
APPENDIX 16:	Summary of ANOVAs of Pre-Treatment Dependent Variables: Treatment Study 1. 676
APPENDIX 17:	TEQ Insomnia and Auditory Difficulties Factor Scores for Treatment Study 1. 677
	(i) Group Means and Standard Deviations 678
	(ii) Summary of Results of Repeated Measures ANOVAs For Mean TEQ Insomnia Factor Scores From Pre-Treatment to Post-Treatment. 679
	(iii) Summary of Results of Repeated Measures ANOVAs For Mean TEQ Auditory Perceptual Factor Scores From Pre- Treatment to Post-Treatment. 680
	(iv) Summary of Results of Repeated Measures ANOVAs For Mean TEQ Insomnia Factor Scores From Pre-Treatment to 12-Month Follow-Up. 681
	(v) Summary of Results of Repeated Measures ANOVAs For Mean TEQ Auditory Perceptual Factor Scores From Pre- Treatment to 12-Month Follow-Up. 682
	(vi) Summary of Results of Trend Analysis For Mean TEQ Insomnia Factor Scores. 683
	(vii) Summary of Results of Trend Analysis For Mean TEQ Auditory Perceptual Difficulties Factor Scores. 684
APPENDIX 18:	Audiological Measures For Treatment Study 1. 685
	(i) Group Means and Standard Deviations. 686
	(ii) Summary of Repeated Measures ANOVAs For Mean Loudness Match From Pre- Treatment to Post-Treatment. 687
	(iii) Summary of Repeated Measures ANOVAs For Mean Pitch Values From Pre- Treatment to Post-Treatment. 688

	<u>PAGE</u>
APPENDIX 18:	(iv) Summary of Repeated Measures ANOVAs For Mean MML Values From Pre-Treatment to Post-Treatment. 689
APPENDIX 19:	Summary of The Results of Trend Analysis. 690
	(i) Tinnitus Reaction Questionnaire. 691
	(ii) Tinnitus Handicaps Questionnaire. 692
	(iii) Tinnitus Effects Questionnaire : Emotional Distress Factor. 693
	(iv) Tinnitus Effects Questionnaire : Irrational Beliefs Factor. 694
	(v) Tinnitus Cognitions Questionnaire. 695
	(vi) Tinnitus Coping Strategies Questionnaire - Frequency Scale. 696
	(vii) Tinnitus Coping Strategies Questionnaire - Benefits Scale. 697
	(viii) Beck Depression Inventory. 698
	(ix) Locus of Control of Behaviour Scale. 699
	(x) Rating of Subjective Loudness of Tinnitus. 700
	(xi) Rating of Noticeability of Tinnitus. 701
	(xii) Rating of Botheredness of Tinnitus. 702
APPENDIX 20:	Copy of Newspaper Advertisement to Recruit Potential Subjects For Treatment Study 2. 703
APPENDIX 21:	Copy of Letter to Potential Subjects Describing the Research Programme. 704
APPENDIX 22:	Questionnaire concerning Details of Audiological and ENT Investigations. 706
APPENDIX 23:	Consent Form 707

	<u>PAGE</u>
APPENDIX 24:	Cognitive Therapy Treatment Programme. 708
APPENDIX 25:	Revised Tinnitus Education Programme. 799
APPENDIX 26:	Revised Tinnitus Coping Strategies Treatment Programme. 800
APPENDIX 27:	Automatic Thoughts Questionnaire. 836
APPENDIX 28:	Tinnitus Daily Recording Sheet. 837
APPENDIX 29:	Sleep Daily Recording Sheet. 838
APPENDIX 30:	Summary of ANOVAs of Pre-Treatment Dependent Variables: Treatment Study 2. 839
APPENDIX 31:	TEQ Insomnia and Auditory Perceptual Difficulties Factor Scores . 840
	(i) Group Means and Standard Deviations. 841
	(ii) Summary of Results of Repeated Measures ANOVAs For Mean TEQ Insomnia Factor Scores from Pre-Treatment to Post-Treatment. 842
	(iii) Summary of Results of Repeated Measures ANOVAs For Mean TEQ Auditory Perceptual Difficulties Factor Scores From Pre-Treatment to Post-Treatment. 843
	(iv) Summary of Results of Repeated Measures ANOVAs For Mean TEQ Insomnia Factor Scores From Pre-Treatment to 6-Month Follow-Up. 844
	(v) Summary of Results of Repeated Measures ANOVAs For Mean TEQ Auditory Perceptual Difficulties Factor Scores From Pre-Treatment to 6-Month Follow-Up. 845

	<u>PAGE</u>
APPENDIX 32: Predictors of Outcome.	846
(i) Results of Multiple Regression Analysis.	847
(ii) Correlations Between Predictor Variables.	848
(iii) Summary Of Results Of Analysis of Variance of Predictor Variables.	849
APPENDIX 33: Tinnitus Cognitions Questionnaire: Frequency Distribution.	850
APPENDIX 34: Tinnitus Cognitions Questionnaire: Factor Analysis.	
(i) Four Factor Solution: Eigenvalues, Percentage of Variance Accounted For and Cumulative Percentages.	863
Two Factor Solution: Eigenvalues, Percentage of Variance Accounted For and Cumulative Percentages.	863
(ii) Four Factor Solution : Item Loadings on the 4 Factors.	864
(iii) Two Factor Solution: Item Loadings on the 2 Factors.	865
APPENDIX 35: Tinnitus Coping Strategies Questionnaire:	
(i) Frequency Distribution of the TCSQ-F Scale.	866
(ii) Frequency Distribution of the TCSQ-B Scale.	883

	<u>PAGE</u>
APPENDIX 36:	Tinnitus Coping Strategies Questionnaire- Frequency Scale : Factor Analysis.
	(i) Six Factor Solution: Eigenvalues, Percentage of Variance Accounted For and Cumulative Percentages. 900
	(ii) Six Factor Solution: Item Loadings For the 6 Factors. 901
APPENDIX 37:	Tinnitus Coping Strategies Questionnaire- Benefits Scale : Factor Analysis.
	(i) Nine Factor Solution: Item Loadings For the 9 Factors. 902
	(ii) Four Factor Solution: Item Loadings For the 4 Factors. 903
APPENDIX 38:	Tinnitus Coping Strategies Questionnaire- Benefits Scale: Factor Analysis.
	(i) Nine Factor Solution: Eigenvalues, Percentage of Variance Accounted For and Cumulative Percentages. 904
	(ii) Four Factor Solution: Eigenvalues, Percentage of Variance Accounted For and Cumulative Percentages. 904
APPENDIX 39:	Tinnitus Handicaps Questionnaire: Factor Analysis. 905
	(i) Eight Factor Solution: Item Loadings For the 8 Factors. 905
	(ii) Three Factor Solution: Item Loadings For the 3 Factors. 907
APPENDIX 40:	Tinnitus Handicaps Questionnaire.
	(i) Eight Factor Solution: Eigenvalues, Percentage of Variance Accounted For and Cumulative Percentages. 908
	(ii) Three Factor Solution: Eigenvalues, Percentage of Variance Accounted For and Cumulative Percentages. 908

	<u>PAGE</u>	
APPENDIX 41:	Tinnitus Effects Questionnaire: Factor Analysis.	
	(i) Fourteen Factor Solution: Item Loadings for the 14 Factor Solution	909
	(ii) Five Factor Solution: Item Loadings for the 5 Factor Solution.	912
APPENDIX 42:	Tinnitus Effects Questionnaire: Factor Analysis.	
	(i) Fourteen Factor Solution: Eigenvalues, Percentage of Variance Accounted For and Cumulative Percentages.	913
	(ii) Five Factor Solution: Eigenvalues, Percentage of Variance Accounted For and Cumulative Percentages.	913
APPENDIX 43:	Factor Structure of the Tinnitus Effects Questionnaire (TEQ): Results of Study II Reported by Hallam, Jakes, and Hinchcliffe (1988)	914
APPENDIX 44:	Raw Data: Treatment Outcome Study 1	916
APPENDIX 45:	Raw Data: Treatment Outcome Study 2	926
APPENDIX 46:	Raw Data: Multiple Regression Analysis	
	(i) All subjects	934
	(ii) Treatment Subjects Only	936
APPENDIX 47:	Raw Data: TCQ and TCSQ: Factor Analysis	937
APPENDIX 48:	Raw Data: THQ: Factor Analysis.	941
APPENDIX 49:	Raw Data: TEQ: Factor Analysis.	944
APPENDIX 50:	Raw Data: High versus Low Distress Sufferers.	947
APPENDIX 51:	Raw Data: 4 Samples compared on Audiological Measures.	949

APPENDICES

APPENDIX 1 : Hypnosis in the Management of Tinnitus

The earliest studies on the use of hypnosis in the management of chronic tinnitus were published in the 1950's (Pearson and Barnes, 1950; Guild, 1959; Mihalyka and Whanger, 1959). Pearson and Barnes (1950) recognized the clonic contraction of the palatine and eustachian tube orifice muscles as a tic phenomenon and report on the successful use of hypnosis in two cases.

Mihalyka and Whanger (1959) report a case of a 36 year old male who complained of "clicking" in both ears. The clicking was audible to observers. It was of an irregular nature which could be heard up to two feet from the patient's head; it was not synchronous with the pulse. Examination revealed that the tinnitus was produced by spasms in the muscles of his palate and eustachian tube. It was suggested to the patient that "if he could learn to relax properly and then to focus his relation, he could help himself" (Mihalyka and Whanger, 1959, p.86). Trance induction was achieved via eye fixation and had levitation and treatment consisted of four hypnotic trances totally 150 minutes. By the end of the third session the tinnitus had reportedly ceased completely. A method of auto-suggestion was introduced in the fourth session both to obtain relaxation and to control the tic. At one month follow up the condition was "improved" and was reported to be present only during periods of emotional stress. However, the patient was able to control the tinnitus by the auto-suggestion method.

Marlowe (1973) reports on the use of hypnosis in two cases. The first case involved a 35 year old male with bilateral "ringing" tinnitus. Hypnosis was provided in six weekly sessions. Induction was achieved via eye fixation and distraction. The deepening process involved progressive muscle relaxation; arm heaviness and hand levitation. An ego strengthening procedure followed. As part of the deepening process, the subject was instructed to concentrate on the noise of his tinnitus. This was combined with the suggestion that the subject would notice a "gradually diminished intensity, and as the intensity of the noise diminished he would go deeper and deeper into the relaxed trance state" (Marlowe, 1973, p.164). The subject was also provided with the post-hypnotic suggestion that bed-time should be used as a cue for employing the relaxation techniques and this would be accompanied by diminished intensity of the tinnitus noise, with progression into a deep relaxed sleep. Treatment is reported to have resulted in the tinnitus being less bothersome, with faster sleep onset. These changes occurred despite the fact the actual tinnitus sound persisted.

The second case was a 46 year old male with bilateral "buzzing" tinnitus. Eye fixation with distraction was used as an induction technique, with arm heaviness and hand levitation procedures employed for deepening purposes. An ego strengthening technique was also included.

Treatment was provided over eight weekly sessions, with a six month follow up. It was suggested that

relaxation could be effective in diminishing "the psychic response to any type of disturbing symptom such as tinnitus" (Marlowe, 1973, p.165). The subject was asked to recall a pleasant musical tune, and suggestions were offered that each time he became aware of his symptoms "a supervening masking sound, consisting of the recalled music, would appear" (Marlowe, 1973, p.165). Training aimed at more rapid induction and deeper trance depth. Treatment reportedly resulted in a lessening of symptoms and during the follow up period the subject reported minimal symptoms and a reduction in sleep disturbance.

Macleod-Morgan, Court and Roberts (1982) report on three case studies. Case 1 was a female, aged 36 years with tinnitus of five years duration. The tinnitus was a persistent hum combined with crunching noises in the jaw. A rationale for hypnosis was presented and hypnosis was induced via progressive relaxation. A mental image of a control knob by which the tinnitus could be turned up was suggested. She was encouraged to actively seek out the hum and use it as a cue for relaxation and comfort. At a second visit, a second control knob was suggested which could be used to tune out background noise. A suggestion was also given that during routine environmental noise she should actively seek out the hum to remind herself to relax. With practice the client was able to control the tinnitus via autohypnosis and at three month follow up she reported little bother from her tinnitus.

Case 2 was a 43 year old female with tinnitus, depression and vertigo. She was introduced to relaxation

d

with pleasant imagery of a beach scene, followed by hypnotic trance. Cognitive-behavioural interventions for depression were also introduced. The suggestion of a control console with two knobs was provided; one control for the tinnitus and one for the vertigo. Ego-strengthening was also used and following nine sessions therapy was terminated. On completion, the client was satisfied with her control of balance and tinnitus and her ability to relax. Her score on the Beck Depression Inventory also dropped from 19 to 4 over therapy.

In the third case, a 60 year old female with tinnitus of ten years duration was treated with relaxation and hypnotic suggestions. The suggestions consisted of imagining a rose-garden scene and that the hum of her tinnitus was the basis of some beautiful music. Suggestions were further made that each visit to the rose-garden would make her more peaceful, relaxed and confident. Therapy terminated after nine sessions with the client reporting that she was pleased with her skill in relaxation and control over the tinnitus.

Brattberg (1983) describes the use of hypnosis in the treatment of 32 patients diagnosed as having tinnitus. The aim of the project was described as follows: "to determine if treatment time in the doctor's office could be shortened with the aid of an audio cassette tape to be used by the patient in the home" (Brattberg, 1983, p.91). Over a two year period a total of 32 patients, 16 males and 16 females were treated with hypnosis. Treatment was conducted during a one hour consultation. The initial 30 minutes was

devoted to an interview session. Following this a 15 minute hypnotherapy session was conducted which was simultaneously recorded on audiocassette.

The remaining 15 minutes was devoted to a discussion of the hypnosis session and to encourage the subject to use the audiotape regularly to assist home practice. The induction technique followed a progressive muscle relaxation procedure. The hypnotherapy aimed to achieve deep a relaxed state as possible. Following this the suggestion was given that the subject "would no longer be troubled by the noise" (Brattberg, 1983, p.93). During the final 15 minutes of discussion the patient was advised that although it was not clear that the tinnitus would disappear, it was stated that the subject "would probably become less conscious of the noise/buzzing although the effect could not be expected until after two to three weeks of treatment and practice" (Brattberg, 1983, p.93). One month after the initial session a further session was conducted. In this session of 30 minutes the results of treatment and practice were discussed, advice was given as to continued use of self-hypnosis and subjects were informed that use of the tape was no longer necessary. Follow up occurred between two months and two years after completion of treatment. As this time 22/32 subjects reported they felt better and 3/ these herself completely cured. The noise is still there but she commented "If it became quiet in my head now I would think there was something seriously wrong with me" (Brattburg, 1983, p.95). Given lack of clarification of the term "completely cured"

one remains confused to its meaning. Whilst the term suggests absence of symptomatology the above case example contradicts this and rather suggests a change in reaction to the tinnitus or diminished awareness. Other results reported are that 12 subjects reported improved sleep, 13 reported less depression, 13 reported improved ability to cope with daily tasks, 17 reported feeling calmer. Of the ten patients who experienced no improvement, four reportedly showed symptoms of a depressive disorder. At a second follow up (ten months) "The initial positive results were similarly unchanged for at least 15 of the 32 patients who had been treated" (Brattberg, 1983, p.95).

Marks, Karl and Onisiphorou (1985) describe a study wherein 14 patients with chronic unilateral tinnitus were subjected to hypnosis in three forms in random order. The induction of a trance state alone formed the control aspect of the trial. Compared to this were the effects of ego strengthening and active suppression of the tinnitus whilst in a trance state. This latter treatment used imagery either of a bank of switches, or an old fashioned telephone switchboard to be used to assist in altering the tinnitus noise. The standard induction procedure was of the suggestion of general relaxation followed by eye catalepsy, eye opening and closure and deepening via descent in lift or escalator with counting. Evaluation of outcome consisted of (1) the patients subjective response as to whether he/she had been helped; (2) daily visual analogue scales from 0-100 rating loudness and unpleasantness of tinnitus; and (3) audiometric tinnitus matching procedures

were carried out at pre- and post-treatment. Treatment was conducted over some 5-6 months. There was a three week baseline where VAS recordings were obtained. This was followed by a one hour session. A second 20 minute session of the same treatment occurred one week later. There was then three weeks of no treatment. Then the second and third treatments followed in the same pattern.

Results of the trial indicated a significant reduction in VAS scores during treatment for only one of the 14 subjects. For the remaining 13 there was no reported change in the volume or unpleasantness of their tinnitus. Five of the 14 subjects considered that the treatment did have some effect, most notably, greater relaxation. No changes in tinnitus matching were noted.

TINNITUS QUESTIONNAIRE

This questionnaire asks numerous questions about your Tinnitus. We wish to gain information to increase our understanding of Tinnitus to assist us in the development of a management programme. Please answer the questions honestly. Your answers will be strictly confidential.

- Please answer all questions.
- Simply tick [✓] the appropriate box to answer questions.
- Write comments where applicable.

1 NAME:.....File No:.....
 2 ADDRESS:.....

 3 PHONE NUMBER:.....
 4 DATE OF BIRTH:..... AGE:..... YEARS
 5 SEX: [] MALE [] FEMALE
 6 CURRENT OR LAST REGULAR OCCUPATION:

7 How long have you been aware of your Tinnitus (Noise or sounds in your ears or head)? (please tick)

- [] 0 - 5 years
- [] 5 - 10 years
- [] 10 - 20 years
- [] more than 20 years

8 What do you think originally caused you Tinnitus? (please tick)

- [] accident (please specify).....
- [] alcohol
- [] drugs/medicine (please specify).....
- [] food (please specify)
- [] hearing loss
- [] illness (please specify).....
- [] noise (please specify)
- [] smoking
- [] surgery
- [] other (please specify)

9 Have you ever had a head injury? [] Yes [] No

If yes, in approximately what year? 19..
 Were you knocked unconscious? [] Yes [] No

10 Do you have any of the following (tick appropriate box)

- high blood pressure
- diabetes
- allergies
- other significant medical problem /s.

11 Are you taking any medications at the moment?

- yes No

If yes, please list all medications

Name and Dosage

- 1
- 2
- 3
- 4
- 5
- 6
- 7

12 Please indicate your daily intake of the following:

- 1 Coffee cups per day
- 2 Tea cups per day
- 3 Alcohol glasses per day
- 4 Cola glasses per day
- 5 Cigarettes per day: have smoked
for years
- 6 Aspirin per day

13 Do you have a hearing loss (eg deafness)?

- Yes
- No
- Don't know

If yes, in which ear?

- Left ear
- Right ear
- Both ears

14 Is the hearing Loss? (Please tick)

- Mild
- Moderate
- Severe

- 3 -

15 What is the cause of the loss? (if known)

16 Where is your Tinnitus located? (please tick)

- Left ear
 Right ear
 Both ears
 All over head

If in more than one location, where is it worst?
 (please specify).....

17 Has the location of your Tinnitus changed?

- Yes
 No

If yes, please explain.....

18 Since it started, has your Tinnitus: (please tick)

- become worse
 remained about the same
 improved

19 Does your Tinnitus usually sound similar to any of the following? (tick all that apply to your Tinnitus):

- ringing hissing sizzling clicking
 clear tone buzzing electric fan pulsating
 more than one tone hum cicadas ocean wav.
 whistle music bells pounding
 other (describe).....

.....

20 Has the sound of your Tinnitus changed?

- Yes
- No

If yes, please briefly describe how the sound has changed

.....

.....

.....

21 How loud is your Tinnitus? (Place an 'x' at any number along this scale)

1	2	3	4	5	6	7	8	9	10
whisper								jet aircraft	

22 Does the loudness of your Tinnitus vary?

- Yes
- No

If yes, please describe briefly

.....

.....

.....

.....

23 Is your Tinnitus constantly there?

- Yes
- No

If no, describe briefly how much of the time it is there?

- At least once a day
- At least once a week
- At least once a month
- Other (Please specify)

.....

24 Does it vary in severity during the day?

- Yes
- No, stays the same all day

If yes, is it

- worst in the morning
- worst in middle of day
- worst in evening

25 Overall, how severe (ie, disturbing) is your Tinnitus?
(Place an x at any number along this scale)

1	2	3	4	5
mild, not severe or disturbing	moderate	moderately severe	severe	extremely severe and disturbing

26 Does your Tinnitus interfere with any of the following activities? (Please tick)

- concentrating
- relaxing
- time with family
- time with others
- travelling
- working
- other (explain)
-
-
-
-

What situations make your Tinnitus worse? (Please tick)

- stress
- noise (indicate type)
- quiet surroundings
- when I am busy
- when I am relaxed
- when I am tired
- when I am lying in bed
- when I am tense/nervous
- when I am feeling depressed
- use of medication
- cigarettes, tobacco
- alcohol
- menstrual cycle
- other

.....

.....

.....

What treatment/situations relieve your Tinnitus, that is, makes it better?

- Hypnotherapy
- Biofeedback
- Surgery
- Wearing hearing aid
- Tinnitus masks
- Background noise (Fans etc)
- Being relaxed
- Being busy
- Taking medication
- Ignoring it
- Other (specify).....

.....

.....

.....

Please use the space below to make any other comments on your Tinnitus.

.....

.....

.....

.....

APPENDIX 3

CONSENT

TITLE OF RESEARCH PROJECT:

Psychological aspects of tinnitus and the role of psychological interventions in the management of tinnitus.

NAME OF CHIEF INVESTIGATOR:

Ms Jane L Henry.

GENERAL PURPOSES, METHODS AND DEMANDS:

This research aims to examine the psychological aspects of tinnitus, and the ways in which alternative methods of management and education may relieve the distress associated with tinnitus. Treatment will consist of 6 group sessions conducted over a 6 week period, with additional contact over a 12 month follow-up period after treatment. Assessment will involve audiological assessment, interviews and written questionnaires. All material will be treated with strict confidentiality.

POSSIBLE RISKS, INCONVENIENCE AND DISCOMFORTS :

There are no known risks involved in the study and any effects on you are expected to be beneficial.

.....

I have been asked to participate in the above research study and give my consent by signing this form on the understanding that:

1. The Research will be carried out in a manner conforming with the principles set out by the N.H. & M.R.C. which appear overleaf.
2. I comprehend the general purposes, methods, demands and possible risks, inconvenience or discomforts of the study.
3. If I do not volunteer to participate in the research study I can still receive appropriate treatment for my condition.
4. In giving my consent I acknowledge that my participation in this study is voluntary and that I may withdraw at any time.

.....

SIGNATURE (By subject, if over 18 years, otherwise by Guardian or Next Friend)

_____ Date : _____

WITNESSED BY :

_____ Date : _____

NOTICE TO PARTICIPANTS:

N.H. & M.R.C. "STATEMENT ON HUMAN EXPERIMENTATION".

The latest statement approved in 1985 is reproduced below. Copies of the N.H. & M.R.C. "Statement on Human Experimentation and Supplementary Notes, 1985" may be obtained from the Secretary, C.H. & M.R.C.

STATEMENT ON HUMAN EXPERIMENTATION
TO BE READ IN CONJUNCTION WITH THE SUPPLEMENTARY NOTES

The collection of data from planned experimentation on human beings is necessary for the improvement of human health. Experiments range from those undertaken as part of patient care to those undertaken either on patients or on healthy subjects for the purpose of contributing to knowledge, and include investigations on human behaviour. Investigators have ethical and legal responsibilities toward their subjects and should therefore observe the following principles:

1. The research must conform to generally accepted moral and scientific principles. To this end institutions in which human experimentation is undertaken should have a committee concerned with ethical aspects and all projects involving human experimentation should be submitted for approval by such a committee.
2. Protocols of proposed projects should contain a statement by the investigator of the ethical considerations involved.
3. The investigator after careful consideration and appropriate consultation must be satisfied that the possible advantage to be gained from the work justifies any discomfort or risks involved.
4. The research protocol should demonstrate knowledge of the relevant literature and wherever possible be based on prior laboratory and animal experiments.
5. In the conduct of the research, the investigator must at all times respect the personality, rights, wishes, beliefs, consent and freedom of the individual subject.
6. Research should be conducted only by suitably qualified persons with appropriate competence, having facilities for the proper conduct of the work; clinical research requires not only clinical competence but also facilities for dealing with any contingencies that may arise.
7. New therapeutic or experimental procedures which are at the stage of early evaluation and which may have long-term effects should not be undertaken unless appropriate provision has been made for long-term care, observation and maintenance of records.
8. Before research is undertaken the free consent of the subject should be obtained. To this end the investigator is responsible for providing the subject at his or her level of comprehension with sufficient information about the purpose, methods, demands,

risks, inconveniences and discomforts of the study. Consent should be obtained in writing unless there are good reasons to the contrary. If consent is not obtained in writing, the circumstances under which it is obtained should be recorded.

9. The subject must be free at any time to withdraw consent to further participation.
10. Special care must be taken in relation to consent, and to safeguarding individual rights and welfare where the research involves children, the mentally ill and those in dependant relationships or comparable situations.
11. The investigator must stop or modify the research program or experiment if it has become apparent during the course of it that continuation may be harmful.
12. Subject to maintenance of confidentiality in respect of individual patients, all members of research groups should be fully informed about projects on which they are working.
13. Volunteers may be paid for inconvenience and time spent, but such payment should not be so large as to be an inducement to participate.

TINNITUS COPING STRATEGIES PROGRAMME

LEARNING MORE ABOUT YOUR TINNITUS

Programme prepared by: Jane Henry, Clinical Psychologist.
Department of Psychology
Concord Hospital, Sydney
1989.

SESSION 1

- 1) Introduction to the Programme.
- 2) Coping with Tinnitus.
- 3) Improving your Ability to Cope with Tinnitus.

Education Segment

- 1) The Auditory System
- 2) Language and Speech
- 3) The Nature of Tinnitus.

**** PRACTICAL DEMONSTRATION ****

-Audio-tape of Tinnitus Sounds.

SESSION 2

- 1) Thought Management Skills.

Education Segment

- 1) Audiological Assessment
- 2) The Audiogram

**** PRACTICAL DEMONSTRATION ****

- Use of Otoscope to examine the ear.
- Explanation of Individual Audiogram.

SESSION 3

:

1) Attention Diversion Training

Education Segment

1) Causes of Tinnitus

**** PRACTICAL DEMONSTRATION ****

- Demonstration of Impedance and Acoustic Reflexes.
- Demonstration of Evoked Potentials and Nerve Pathways.

SESSION 4

1) Imagery Training.

Education Segment

- 1) Theories of Tinnitus
- 2) Treatments for Tinnitus
 - a) Medical treatments.

**** PRACTICAL DEMONSTRATION ****

- Seventh Nerve.

SESSION 5

- 1) Coping Strategies Using Both Attention Diversion and Imagery Training.

Education Segment

- 1) Treatments for Tinnitus.
 - b) Audiological Approaches.

**** PRACTICAL DEMONSTRATION ****

- Demonstration of Hearing Aid
- Demonstration of Masking Instrument.
- Demonstration of Tinnitus Instrument..

SESSION 6

1) Overview of The Programme

1) Thought Management Skills

2) Attention Diversion Training

3) Imagery Training

4) Coping Strategies Using Attention Diversion and
Imagery.

2) Conclusion To The Programme

Education Segment

1) History of Tinnitus

2) The Australian Tinnitus Association.

**** PRACTICAL DEMONSTRATION ****

- Demonstration of ENG.

SESSION 1

INTRODUCTION

This programme is designed to teach you numerous skills which you may use to improve your ability to cope with your tinnitus. The programme consists of six sessions which will be conducted over six consecutive weeks. Each session will be of 1 - 1 1/2 hours duration and input will be provided by a Psychologist and an Audiologist.

In addition to teaching you coping skills we will also provide you with information about tinnitus. We will explain to you various audiological and psychological aspects of tinnitus : what it is; what may cause tinnitus etc. Information about the auditory system, the ear, and hearing will be provided. This educational material will be provided in the form of written notes, group discussions and practical demonstrations.

We will not be encouraging you to deny the existence of the tinnitus you experience, nor the associated difficulties. Rather, we will be encouraging you to learn to approach the problem of your tinnitus in more adaptive and realistic ways.

By teaching you some practical coping skills, and by educating you about tinnitus and hopefully resolving any misconceptions you might have, we hope that the distress you experience as a result of suffering from tinnitus will be reduced and life may become more rewarding and enjoyable despite the tinnitus!

INTRODUCTION OF INDIVIDUAL GROUP MEMBERS

GROUND RULES FOR GROUP

- (1) It is important to use the Group as a means of learning skills and gaining knowledge about tinnitus.

The group setting should not be used as a sounding board for your problems.

- (2) Each group member should be allowed equal opportunity to share in discussions.
- (3) Information shared in the group setting must remain confidential and must not be discussed outside the group.

COPING WITH TINNITUS

Tinnitus is a fairly common disorder. It is experienced by most people at some time. For many people it may become a chronic disorder and persist as something they constantly experience.

Not all people are significantly distressed by the presence of tinnitus. Many people may learn to tolerate it and experience minimal distress. For others it is a distressing, annoying and disabling condition. In addition, it is striking that not all people with tinnitus complain about it for the same reason. Initially it was assumed that the loudness of the noises was the most annoying aspect of tinnitus. However, research suggests that there is little evidence to support this notion. It appears that other characteristics of the noise, or of the individual, or both, determine the level of distress or annoyance experienced.

Psychological factors may be involved in tinnitus in two ways.

Firstly, it is possible that stress may aggravate tinnitus. It is not clear whether the worsening of tinnitus when a person is under stress, is because the stress makes everything seem worse (including the tinnitus), or whether it is because the tinnitus really does become louder under stress.

A second way in which psychological aspects are involved in tinnitus relates to the distress caused by the tinnitus. Many tinnitus sufferers report depression, anxiety, irritability and tension. There may also be a feeling of helplessness due to the fact that the person can't do anything to stop the noise and if one expects it will continue unabated.

For some people, sleep is difficult. Others are bothered by the noise only during the day and sleep normally. Some people find that tinnitus interferes with their ability to hear what is being said at parties, or at meetings. For other people, the main concern is that the noises will affect their physical and mental health.

Research indicates that there are three main types of difficulty arising out of tinnitus (Jakes, Hallam, Chambers and Hinchcliffe 1985). These include:

- (1) Emotions such as irritability, helplessness and depression may result from the way the tinnitus sufferer thinks about the tinnitus. For example, they may regard it as a problem which will never go away and from which there is little relief.

Anxiety may arise from worries that there is something seriously wrong with the body - or that the noises will cause a nervous breakdown.

- (2) The effect of tinnitus on one's ability to listen to, or understand, meaningful sounds (over and above any hearing loss which may be present). This shows itself in difficulty in localising sounds, distortion of voices, hearing what's being said against a background noise, and concentrating on a mental activity. This difficulty is more like a handicap than a form of emotional distress.

(3) Difficulty getting to sleep and staying asleep.

Research also indicates that these three main types of difficulty may be quite independent - a person may experience one difficulty but not the others.

*** GROUP DISCUSSION ***

WHAT SORTS OF DIFFICULTIES DO YOU EXPERIENCE AS A RESULT OF YOUR TINNITUS?

- 1) emotional effects
 - 2) difficulty in listening/understanding other sounds and/or difficulty concentrating on own thoughts or other activity
 - 3) difficulty with sleep
 - 4) other problems - PLEASE DESCRIBE _____
-

IMPROVING YOUR ABILITY TO COPE WITH TINNITUS

Research suggests that many people can learn to tolerate tinnitus better, and cope with it quite adequately without any major disruption to their lifestyle, even though the loudness and quality of the noises remains unchanged.

Persistent distress from tinnitus is likely to be associated with styles of coping with both the tinnitus, and stress generally, with emotional state and moods, and with beliefs about the significance of the noises.

A person's response, or reaction to tinnitus, may be adaptive or maladaptive. They may respond to the noises in a tolerant manner with little disruption to their daily routine, or they may respond in a distressed and frustrated manner and experience much disruption in their daily lives.

It is likely that there are several components which may contribute to a person's response, or reaction, to tinnitus.

These include:

- (1) The amount of attention that is directed towards the noises.

Many people with tinnitus report that when their tinnitus is really bad they focus all of their attention on the noises and their attention cannot be directed toward anything else - they cannot focus on anything else but the noise. As with people with a chronic pain condition, research indicates focusing attention on the pain heightens the pain and associated distress. This is likely to be true with tinnitus.

- (2) The interpretation of the noises, or the train of thoughts and feelings associated with the noises.

People may think in very negative ways about their tinnitus and engage in negative self-talk. For example, people may say to themselves "the noise makes my life unbearable" "Why me, why do I have to suffer this horrible noise".

These thoughts become almost automatic - like habits ... bad habits! Such distressing self-talk may make the tinnitus appear worse and the person may end up feeling hopeless, and frustrated.

- (3) Lack of knowledge about tinnitus, or misconceptions, 'false ideas' about what tinnitus is and what it signifies - for example, 'this noise in my head must mean I'm going crazy'.

A person's ability to cope with tinnitus and to tolerate it may be improved by :

- 1 thorough knowledge about tinnitus and resolution of misconceptions.
- 2) learning to 'accept' the noises and not assigning any meaning to the noises. Changing one's attitudes to the noises.
- 3) learning self-help skills or adaptive coping strategies.
- 4) making alterations to one's lifestyle so as to restrict the intrusiveness of the noises on daily activities.

To achieve these goals and improve your ability to cope with tinnitus this programme will aim to :

- 1) educate you about tinnitus
- 2) teach you attention diversion skills
- 3) teach you imagery skills
- 4) teach you coping skills which incorporate attention diversion and imagery skills
- 5) teach you skills to manage your thoughts particularly in response to your tinnitus.

SESSION 2

THOUGHT MANAGEMENT

In this session we are going to deal with tinnitus- related thoughts and feelings.

It must be remembered that the distress associated with tinnitus depends not just on the actual noise and its loudness.

It also depends upon the amount of attention directed towards the noises and the person's interpretation, or appraisal, of the noises.

A person's interpretation of the noises depends on what you say or think to yourself about the noises. This may be referred to as self-talk - statements or things you say to yourself.

We all engage in self-talk almost constantly. It may be quite comforting but it may also be very distressing. Consider the following examples of self-talk :

"Why me; why do I have to suffer these noises"

"Damn it - here we go again"

"Oh no ! - I can't cope with these noises"

"This is not fair - the noise will drive me crazy"

A person who consistently engages in such distressing self-talk cannot be expected to deal very effectively with their tinnitus.

They will simply talk themselves into a more negative and distressed state!

Negative self talk can produce several things:

- 1) It will undoubtedly increase the distress associated with tinnitus.
- 2) It will produce feelings of frustration, hopelessness, tension, irritability and depression.
- 3) It will interfere with a person's ability to cope effectively with tinnitus.
- 4) It will make life miserable.

However, this does not have to be the case!

No one places such negative thoughts in your head - only you control what you think or say to yourself!

The destructive process which negative self-talk produces can be reversed by intentionally changing what you say to yourself.

To change your self-talk from distressing negative statements to positive, coping-oriented statements you must:

- 1) Become alert to the presence of distressing thoughts or feelings.
- 2) Use the presence of these distressing thoughts as signals to use positive coping - oriented statements.
- 3) Deliberately replace the distressing thoughts with positive coping statements.

POSITIVE COPING-ORIENTED SELF STATEMENTS:

Examples of positive coping-oriented self statements to be used in place of distressing self-statements are as follows:

"I can develop a plan to deal with the noises" (Prepare yourself by making a mental plan of how you will deal with the noises)

"I will think of the things that I can use to help cope" (Review all of the strategies that you have been taught and use them)

"I just won't worry - worrying does not help anything"

"Remember, I can shift my attention to anything I want to"

"I'll use some mental imagery and I'll see how vivid I can make the scenes"

"I'll just relax, breathe deeply, and use one of the coping strategies"

"I won't focus on the noises just on the task at hand"

"I won't let negative thoughts interfere with my plan for coping - just keep using one of the strategies"

"I can handle it - I'm doing pretty well"

"I just won't sit here focusing on the noise - I will go and do something like"

(Involve yourself in some activity like gardening, playing bowls, etc)

"I will just let the noise come and go, just let it 'be there' without focusing on it"

"The noise is not pleasant, but I can cope with it"

1. MANAGING THOUGHTS : DECREASING NEGATIVE THINKING

THOUGHT INTERRUPTION TECHNIQUES :

- a) "I am going to stop thinking about that now".

- b) Initially practice in private.
Yell the word "STOP"
Repeat actual yelling techniques for about 3 days,
then being reducing volume of the "yell" but
maintain the force behind it. Continue till you
can "yell" the word "STOP" mentally, feeling the
full force of the yell without making a sound.
Now you are ready to use the technique in
public.

- c) Wear heavy gauge rubber band around your wrist.
Whenever you notice a negative thought snap the
band around your wrist.

d) "WORRYING TIME"

Decide how much time per day you should spend on intrusive but necessary thoughts and schedule them into your day - "WORRYING TIME"

e) BLOW UP TECHNIQUE

Reduce impact of disturbing negative thought by exaggerating it beyond all proportion and thus make it so ridiculous that it ceases to be fearful.

2. MANAGING THOUGHTS : INCREASING POSITIVE THINKING

a) PRIMING

Put together a list of positive thoughts
(specifically about you)

Write them on cards, one per card.

At random intervals during day pull out a card,
read it and pay attention to it.

Include "wild cards".

b) USING CUES

Use regular, frequent behaviors as reminders to
think a positive thought.

c) NOTICING WHAT YOU ACCOMPLISH

Keep track of all the things you accomplish during
the day.

d) POSITIVE SELF REWARDING THOUGHTS

SESSION 3

ATTENTION DIVERSION TRAINING :

HUMAN ATTENTION :

The process of attention has several qualities that are significant for understanding its use in the management of tinnitus;

- 1) a person usually focuses on one thing at a time.
- 2) a person can influence what he/she wishes to attend to and also can redirect attention from one aspect of his/her environment (internal or external) to another aspect.
- 3) It is difficult, if not impossible, to stop paying attention to unpleasant sensations unless one refocuses on other things.

*** STRUCTURED EXERCISE FOR PRACTICE ***

ATTENTION DIVERSION EXERCISE :

Sit back in your chair and make yourself comfortable. Close your eyes. With your eyes closed take some time to pay attention to your awareness - to the thoughts running through your mind..... Where does your awareness go? Are you aware of things outside your body or sensations inside your skin?

Now direct your attention to whichever you are least aware of - internal or external, and focus your awareness on this

To the extent you are occupied with a thought or image, your awareness of inside and outside reality disappears.

Continue experimenting with your awareness and realize that it is like a searchlight. Whatever you focus your attention on is clear, while other objects and events tend to fade from awareness.

If attention is directed to external noises you can probably notice different sounds or noises - is there a fan in the room, a clock ticking, a pencil being tapped on a desk, the sound of birds outside, or people's voices, or a chair creaking.....?

Whilst you focus on these noises you are most unlikely to be aware of the sensations in your hands.....As attention shifts to your hands, awareness of external sounds fades.

Your awareness can shift from one thing to another quite rapidly, but you can only fully attend to whatever is in the focus of your awareness at the moment.....

Now notice whatever thoughts or images come into your mind this will interfere with your ability to focus on awareness of internal or external sensations.

Whenever you realize that your attention has wandered back to thoughts or images, refocus your awareness on the physical sensations of your breathing.... Do not struggle or battle ... just notice when you are preoccupied with words, images or thoughts, return your attention to your breathing....

A method of using the attentional exercise is to shift your attention from internal to external sources of stimulation. You can begin with the sensations in the soles of your feet pressing against the floor and moving slowly up the body. Experience fully the physical sensations of your body Now shift your attention to external stimulation, becoming aware of noises in the room, air currents, temperature, sensations on your skin..... Notice that you must focus your attention on one thing at a time. Play with your attention.... experiment with shifting your attention... refocus your attention. Move freely back and forth between internal and external stimulation. O.K., that's fine - just let it all fade away and open your eyes.

*** GROUP DISCUSSION ***

WERE YOU ABLE TO SHIFT ATTENTION FROM EXTERNAL TO INTERNAL
EVENTS?

*** HOME ASSIGNMENT ***

PRACTICE ATTENTION CONTROL EXERCISE DAILY FOR NEXT WEEK.

IDENTIFY SITUATIONS OF ATTENTION DIVERSION THAT ALREADY OCCUR IN YOUR DAILY LIFE.

ARE YOU LESS AWARE OF YOUR TINNITUS WHEN YOU ARE INVOLVED IN:

- Housecleaning _____
- Gardening _____
- Sports _____
- Watching t.v. _____
- Listening to radio _____
- Day dreaming _____
- Cleaning the car _____
- Shopping _____
- Working _____

LIST OTHER ACTIVITIES THAT MAKE YOU LESS AWARE OF YOUR
TINNITUS DURING THE NEXT WEEK

SESSION 4

IMAGERY TRAINING

This is a coping strategy that is very similar to the attention diversion exercise we practiced last week.

It is a coping strategy most people use at some time and it is very effective in transferring our thoughts and feelings from one thing to another.

For example, emergency room doctors are known to ask children to imagine they are viewing their favourite television programme when carrying out some medical procedure.

People may also use imagery to direct their attention from boring conversationalists.

We all often think about something else in order to remove or avoid an unwanted or unpleasant thought or feeling.

Thinking about something else is easier than not thinking about anything in order to prevent unpleasant thoughts.

*****STRUCTURED IMAGERY EXERCISES FOR PRACTICE***

EXERCISE 1

EXERCISE 2

IMAGERY EXERCISE

I am now going to ask you to imagine some scenes. This imagery exercise will be a bit like day dreaming, except that you will control it more. As you know some daydreams can be quite vivid. Sometimes you may feel like you are really there. Try to imagine the scenes as vividly as you can. Picture the scene in your mind as clearly as you can.

As I present the scene to you, try to visualise the scene with as much detail as you can include, just as if it were real. Try to involve yourself fully in the scene as an active participant. Do everything you can to make the scene real.

Now I will present the first scene. As I describe it, create it in your mind. Try involving yourself in the following image right now and see how vivid you can make it. Sit back close your eyes and relax in your chair and listen to this passage.

Scene 1 :

Imagine a pure white plate resting on top of a table. On the plate is a lemon. You can clearly see the glossy yellow of the lemon's skin against the whiteness of the plate..... You can see the texture of the lemon rind.

There is a knife on the table, next to the plate. Imagine that you are picking up the knife. Hold the lemon with one hand. With the other hand, using the knife, cut the lemon in two. As the keen edge slices easily into the lemon, the juice runs onto your fingers and the plate. Smell the juice, the strong citrus, lemony smell - it is sharp, clean, pungent and invigorating.

Now you pick up one half of the lemon - raise it to your mouth and touch your tongue against it gently. Every taste bud in your tongue is drenched with the tangy lemon juice as your mouth puckers instinctively. Taste the sharp lemon juice... A shiver goes up and down your spine... Fine, now spend a few moments sitting back, eyes remain closed and picture for a moment, the lemon, the cutting, the tasting. That's fine, now just let the scene fade away - let the image of the lemon fade away.

Scene 2 :

Once again, make sure that you are comfortable in your chair. Close your eyes, and listen quietly to the second scene. This scene will involve drinking a glass of water. As I present the scene to you, try to visualise the scene with as much detail as you can include, just as if it were real.

I want you to imagine you are walking into a square room. The walls and ceiling are painted a pale blue. The carpet is soft under your feet. There is nothing in the room except for a plain wooden table in the middle. On the table you can see a clear glass pitcher filled with water and a tall clear glass. You are thirsty, and you are glad to see the water. Your mouth is dry. You walk over to the table and pick up the pitcher in one hand and the glass in the other hand. You pour the water into the glass and fill it to the top. Your hand holding the glass feels cool as the glass fills with water. You set the pitcher back down on the table and move the glass to your lips. The water cools your whole mouth and refreshes your whole body as you take the first swallow. It tastes so good and refreshing and quenches your thirst. You drink the whole glass of water. That's fine, now just let the scene fade away - it fades away completely.

*** GROUP DISCUSSION OF EXERCISES***

HOMEWORK ASSIGNMENT

- 1) DURING THE NEXT WEEK PRACTICE THE IMAGERY EXERCISES DAILY.

- 2) DURING THE NEXT WEEK TRY TO IDENTIFY EXAMPLES OF IMAGERY THAT CAN BE USED TO HELP YOU COPE WITH YOUR TINNITUS.

PLEASE LIST THESE :

3) PRACTICE THE FOLLOWING SUGGESTED EXERCISES :

SOME SUGGESTIONS TO TRY :

Try to imagine that the sound of your tinnitus is not just a noise in your head but imagine it is actually what it sounds like:

- 1) If the noise of your tinnitus sounds like ocean waves crashing imagine that you are near the ocean and can hear the waves crashing! You can see the beach - see the golden sand - see the water - notice how green and clear the water looks - see the seagulls - smell the salt water - feel the warm sand - feel the cold water as you walk along the shore - smell the fish and chips - taste a cool, cold drink - hear the birds - watch the people surfing and maybe the boats bobbing in the distance.

- 2) If the noise of your tinnitus sounds like a hissing kettle imagine that this is what it actually is - you can see the kettle sitting on the stove - imagine you are making a cup of tea or coffee - imagine going through the process - you imagine yourself in the kitchen - you get the tea or coffee - you get the sugar and milk- you get a cup or a mug - maybe you can see yourself slicing a piece of cake or buttering some biscuits - imagine now you are placing these on a plate - think of how much you are looking forward to drinking your tea/coffee and eating your snack!
- 3) If the noise of your tinnitus sounds like cicada's - imagine that this is what it actually is - imagine it is a perfect summers day - you can see the blue sky - the sun is warm, but not too hot - you can hear the cicada's but what else can you hear - imagine you can hear birds whistling - you can see the tree's moving gently in the breeze - hear the soft rustle of the leaves - what else can you see? - what can you smell? - what sensations can you feel on your skin?.....

- 4) If the noise of your tinnitus sounds like an electric fan - imagine this is what it is - imagine you are sitting in a comfortable chair - it is a warm day - you can see the electric fan sitting in the corner - study its shape - notice how cool and pleasant you feel - the fan is blowing a cool breeze upon you - your forehead feels cool - imagine that you reach down and pick up a cool, cold drink - taste the drink - sit back comfortably and enjoy the cool air on your body!

- 5) Imagine your last holiday - or perhaps a holiday or trip you enjoyed some years ago - recapture all of the memories in your mind - imagine the sights you saw, the places you visited, the people you met, the meals you ate, funny things that happened, the stories you told when you got home!

- 6) If you enjoy fishing, imagine you are going fishing. Plan what you need to take - picture yourself on a beach, on rocks or on a boat - what can you see? - what can you smell? - what can you feel? - what are you touching? - Have you got a bite?

- 7) Imagine the sound of your tinnitus is some other sound - imagine it is a pleasant, soothing sound.

SESSION 5

COPING STRATEGIES USING BOTH ATTENTION DIVERSION AND IMAGERY

The following list of strategies may be used to cope with your tinnitus. They involve both attention diversion and the production of imagery in your mind. The strategies have been widely employed in the management of conditions such as chronic pain and headache, and have been found to be quite effective in the relief of distress.

It is important to practice all of the strategies in order to find out which strategies might best work for you.

1) Focus attention on various features of your environment

- count ceiling tiles
- study construction of objects present in the room
- compare colours and shades of surrounding objects
- study various shapes of clouds, trees, houses
- focus on external sounds - try to identify what each sound is - try to identify each bird by its whistle

What else could you do?

Please list: _____

2) Focus attention on various thoughts

- do mental arithmetic
- make a mental list of all the things you must do over the week-end, or during the next week
- think of the words of a song you know
- count backwards by 7's
- list all the parts of your body
- list all the people you know
- name the months of the year backwards
- recite the alphabet backwards
- recall a pleasant conversation - think of what you said - what the other person/s said.
- plan what you will have for dinner
- plan a shopping list
- plan your next holiday

What else could you do?

Please list:

3) Concentrate on a non-demanding task or activity

- focus your attention on some involving activity at home or at work.

examples; do some gardening

polish your silver or brass-ware

clean your car inside and out

sort out old clothes for charity

count up loose change to take to the bank

re-arrange your furniture

put loose photographs in an album

sort out old magazines

clean your sporting goods

What else could you do?

Please list: _____

4) Focus attention on bodily sensations or processes

Recognise that when your tinnitus is bad the noise is confined to your head - your whole body does not contain the noise.

Attention can be redirected from your ears and head to other body areas.

For example : Focus on your breathing

Focus on comfortable sensations in other body regions.

What else could you do?

Please list: _____

5) Imaginative Inattention

Use pleasant imagery to attend away from the Tinnitus.

For example : Imagine yourself taking a walk in the bush.
Imagine yourself at a party or family
gathering you enjoyed.

Recall in detail a movie, live show, sports
event or some other pleasant event you have
experienced recently.

Repetitive imagery may be useful especially when your
tinnitus is really bad.

Imagine yourself sitting on a seashore watching the waves
come in one after the other, or sitting by a waterfall
watching the water flowing by.

Imagine the wheel of a watermill slowly turning.

What else could you do?

Please list:

- 6) Imaginative transformation of the tinnitus noises

Interpret the noises as something else.

GROUP DISCUSSION

HOMEWORK ASSIGNMENT

- 1) PRACTICE ALL OF THE ABOVE COPING STRATEGIES IN ORDER TO DECIDE WHICH ONES WORK BEST FOR YOU.

WHICH OF THE COPING STRATEGIES DO YOU FIND HELPFUL?

Please list them:

A FINAL HINT:

IMPROVING YOUR SLEEP

For some people with tinnitus there is a difficulty in getting to sleep.

This was discussed in Session 1.

If you experience difficulty with sleep it is recommended that you use some of the coping strategies already discussed. In addition, it may help to follow these suggestions:

- 1) Maintain a regular daily schedule.
- 2) If you exercise, do it in the late afternoon, or early evening. Avoid exercise in the late evening because it will be too stimulating.
- 3) Set aside time in the evening for relaxation and thinking.
Avoid taking troubles of the day to bed with you.
- 4) During the time just prior to bed-time, try to do something enjoyable and relaxing.
- 5) Eat a light snack in the evening if you feel hungry.
Hunger may interfere with sleep.

- 6) Make your bed-room as quiet and comfortable as possible.
Whatever makes you comfortable is best.
- 7) Reserve your bed-room and bed only for sleeping and being physically close to another. Avoid activities such as studying, completing work-related projects etc.
- 8) Go to bed at the same time every night, and get out of bed at the same time every morning.
- 9) Avoid all caffeinated beverages prior to bed-time.
- 10) Avoid all alcoholic beverages prior to bed-time.
- 11) Avoid all sleeping medications.
- 12) Avoid all naps during the day or evening.

SESSION 6

OVERVIEW OF PROGRAMME

This programme has been designed to teach you numerous skills which help you deal more effectively with your tinnitus.

Tinnitus is a fairly common problem. It is experienced by most people at some time in their lives'. For many people it is a constant problem and it may be a source of considerable emotional distress.

In this programme we have endeavoured not to encourage you to deny the existence of your tinnitus. This would be unrealistic. Tinnitus is real.

Rather, we encourage you to learn to approach your tinnitus in adaptive and realistic ways.

Remember, a person's ability to cope with tinnitus may be improved by :

- 1) a thorough understanding of tinnitus and resolution of misconceptions.
- 2) learning to accept the noises, but not assigning any meanings to them.
- 3) learning self-help skills and coping strategies, and most importantly, using these skills.
- 4) making alterations to your lifestyle so as to restrict the intrusiveness of the noises on daily activities.

By following these 4 main steps, we hope that the distress you may experience as a result of having tinnitus is reduced. In turn, life may become more rewarding and enjoyable..... despite the tinnitus.

OVERVIEW OF COPING STRATEGIES

1) THOUGHT MANAGEMENT SKILLS

In session 2 we looked at thought management skills.

We all constantly engage in self-talk. Self-talk refers to the things you say to yourself; your thoughts; or self-statements which run through your mind.

Self-talk is constant; it is a never ending stream of ideas, or statements, which run through our mind; a non-stop conversation with ourselves.

Some self-talk is neutral. For example:

"There's not a cloud in the sky today ".

Some self-talk is comforting and positive. For example:

"I'm o.k.....things are going fine....the noise of my tinnitus is not pleasant, but it's o.k. I can cope with it....."

Some self-talk is distressing and negative. For example:

"Why me ? Why do I have to suffer these noises.....This is not fair, the noises will drive me crazy"

Distressing, negative self-talk produces several things.

- 1) It increases emotional distress.
- 2) It produces feelings of helplessness, frustration, tension, depression etc.
- 3) It interferes with a person's ability to effectively cope with tinnitus.
- 4) It makes life miserable.

This does not have to be the case !

ONLY YOU CONTROL WHAT YOU THINK, OR SAY, TO YOURSELF !

REMEMBER, YOU CONTROL YOUR THOUGHTS ! ----- YOU HAVE THE
ABILITY TO SWITCH YOUR THOUGHTS FROM DISTRESSING, NEGATIVE
----- TO NEUTRAL ----- TO POSITIVE COPING THOUGHTS !

Of course, if you have been prone to thinking negative,
distressing thoughts over a long period of time, you may
find it hard to switch your thoughts.

THROUGH REGULAR AND CONSISTENT PRACTICE YOU CAN IMPROVE YOUR
SKILL !

STEPS INVOLVED IN THOUGHT MANAGEMENT

- 1) Become alert; be aware of your thoughts --- watch what you say or think to yourself !
- 2) Identify thoughts ---- are they positive and comforting?; are they neutral?; are they negative and distressing ?
- 3) Use the presence of distressing, negative thoughts as a SIGNAL.

RED LIGHT - STOP THE NEGATIVE THOUGHTS (USE THOUGHT INTERRUPTION TECHNIQUES OUTLINED IN SESSION 2)

GREEN LIGHT - REPLACE THE NEGATIVE THOUGHTS WITH POSITIVE, COPING-ORIENTED THOUGHTS.

CONTINUE TO PRACTICE THE THOUGHT MANAGEMENT AND THOUGHT INTERRUPTION TECHNIQUES ON A REGULAR BASIS - REGULAR AND CONSISTENT PRACTICE WILL IMPROVE AND MAINTAIN YOUR SKILL.

2) ATTENTION DIVERSION TRAINING

In session 3 we practiced some attention diversion tasks.

There are three aspects of human attention which are relevant.

- 1) A person usually focuses on 1 thing at a time.
- 2) A person can control what he/she wishes to attend to, and can re-direct their attention from one thing to another.
- 3) It is difficult, if not impossible, to stop focusing attention on something unpleasant, unless one re-directs their attention.

The attention-diversion exercises are available on Side A of the audio-cassette tape supplied to you.

CONTINUE TO PRACTICE THE EXERCISES REGULARLY TO IMPROVE AND MAINTAIN YOUR SKILL IN ATTENTION DIVERSION.

During the session we also identified situations, or activities, which help to divert your attention away from your tinnitus.

GROUP DISCUSSION

What activities help you to divert your attention away from your tinnitus ?

CONTINUE TO PRACTICE ATTENTION DIVERSION - INVOLVE YOURSELF IN ACTIVITIES TO TAKE YOUR MIND OFF YOUR TINNITUS !

3) IMAGERY TRAINING

This is a coping strategy which is very similar to the attention diversion strategies. We looked at imagery strategies in Session 4.

Imagery training requires you to imagine some thing in your mind to divert your attention away from your tinnitus.

You may imagine all sorts of things. Some examples include:

- 1) a pleasant scene.
- 2) a pleasant past experience, a memory.
- 3) a future event which you are looking forward to.
- 4) that your tinnitus is not just a noise in your head but something external - it is actually what it sounds like.
- 5) that the sound of your tinnitus is some other sound - a pleasant soothing sound.

GROUP DISCUSSION

What other things might you imagine in order to keep your attention diverted away from your tinnitus?

CONTINUE TO PRACTICE THE IMAGERY SKILLS ON A REGULAR BASIS TO IMPROVE AND MAINTAIN YOUR SKILL.

4) COPING STRATEGIES USING ATTENTION DIVERSION AND IMAGERY

In Session 5 we looked at coping strategies which incorporate attention diversion and imagery.

The strategies included:

- 1) Focusing attention on various features of your environment.
- 2) Focusing attention on various thoughts or mental activities.
- 3) Concentrating on non-demanding tasks.
- 4) Focusing attention on bodily sensations or processes.
- 5) Imaginative Inattention.
- 6) Imaginative transformation of the noises.

GROUP DISCUSSION

CONTINUE TO PRACTICE ALL OF THESE SKILLS TO IMPROVE AND MAINTAIN YOUR SKILL.

5) STRATEGIES FOR IMPROVING SLEEP

If you experience difficulty with sleep, practice your coping strategies, particularly in the evening prior to bed-time. In addition, practice the recommended strategies outlined in Session 5.

CONCLUSION TO PROGRAMME

In this programme we attempted to train you in a number of coping strategies to use to help deal with your tinnitus.

It is important to remember that not all of the strategies may be appropriate for all people. You must practice each strategy to find out which ones are the most effective for you.

To gain maximum mastery of each coping strategy you must maintain regular and consistent practice.

When you have identified which strategies work best for you, write them down to form a personal repertoire of coping strategies ---- a personal coping programme for use in the management of your tinnitus.

Each month, read through your notes on coping strategies and the education material to refresh your memory.

Remember, tinnitus may be real, but you can learn to deal with it effectively.

You may have tinnitus but you may also continue to lead a rewarding, active and enjoyable lifestyle!

Thank you for participating in this programme !

("LEARNING MORE ABOUT YOUR TINNITUS" - "COPING STRATEGIES FOR USE WITH TINNITUS" Programme prepared by Jane Henry, Clinical Psychologist, RGH CONCORD, 1989)

TINNITUS EDUCATION PROGRAMME

"LEARNING MORE ABOUT YOUR TINNITUS"

Programme prepared by : Jane Henry, Clinical Psychologist
Mervyn Jones, Audiologist.
Concord Hospital, Sydney
1989.

CONTENTSSESSION 1

- 1) Introduction to the Programme
- 2) The Auditory System
- 3) Language and Speech
- 4) The Nature of Tinnitus
 - What is Tinnitus ?
 - What does the word "Tinnitus" mean ?
 - What are the commonest subjective descriptions of tinnitus ?
 - Where is tinnitus usually located ?
 - Is tinnitus constant or may it vary ?
 - Does tinnitus mean that one is going deaf ?
 - Is tinnitus associated with hearing loss ?
 - What is the incidence of tinnitus ?
 - What is the sex ratio of people with tinnitus ?
 - What is the usual age of onset ?

****** PRACTICAL DEMONSTRATION ******

- Audio-tape of Tinnitus Sounds.

SESSION 2

- 1) Audiological Assessment.
- 2) The Audiogram.

**** PRACTICAL DEMONSTRATION ****

- Use of otoscope to examine the ear.
- Explanation of Individual Audiogram.

SESSION 3

- 1) Causes of Tinnitus.
 - associated with advancing age.
 - noise-induced tinnitus.
 - pathological causes.
 - drug-induced tinnitus.
 - head-injuries.

**** PRACTICAL DEMONSTRATION ****

- Demonstration of Impedance and Acoustic Reflexes.
- Demonstration of Evoked Potentials and Nerve Pathways.

SESSION 4

1) Theories of Tinnitus.

**** PRACTICAL DEMONSTRATION ****

- Seventh Nerve.

SESSION 5

1) Treatments For Tinnitus.

- What should a person with Tinnitus do ?
- What treatments are available for tinnitus ?
- What medical approaches have been employed with tinnitus?
- What audiological approaches have been employed with tinnitus ?
 - a) Tinnitus Maskers.
 - b) Residual Inhibition.
 - c) Tinnitus Instruments.
 - d) Hearing Aids.

**** PRACTICAL DEMONSTRATION ****

- Demonstration of Masking Instrument.
- Demonstration of Hearing Aid.
- Demonstration of Tinnitus Instrument.

1) History of Tinnitus.

- in magic and superstition.
- in The Bible.
- in poetry, art and music.
- the experience of tinnitus in individuals such as
- Luther, Rousseau, Smetana, Toynbee, Beethoven.

2) The Australian Tinnitus Association

3) Overview of Programme.

4) Conclusion to Programme.

**** PRACTICAL DEMONSTRATION ****

- Demonstration of ENG.

SESSION 1

INTRODUCTION

The aim of this programme is to teach you about tinnitus.

Tinnitus is a fairly common problem. Most people will experience it at some time in their lives'. For many people it is a constant problem, and it may be a source of considerable emotional distress.

As with most chronic condition, it is often helpful to have a thorough understanding of the problem.

Many people with tinnitus may not have a thorough , nor correct, understanding of tinnitus. Lack of knowledge and misconceptions may, indeed, be a source of confusion and distress.

Many people with tinnitus worry about what is causing the noise. They may fear the sounds will drive them crazy, or that other people may not understand when they complain of the "noises" in their head. Many fear that it will cause them to become deaf, or are uncertain as to the effects of tinnitus on their hearing. Many people are confused about what can and cannot be done about tinnitus.

This programme is designed to educate you about tinnitus. We will aim to improve your knowledge and understanding about tinnitus.

We wish to set the record straight. We will tell you the facts; allay any fears or misconceptions you might have.

The programme will be conducted over 6 weeks, 1 session per week. The sessions will be conducted by a Clinical Psychologist and by an Audiologist. The education material will be provided in written format contained in this manual. There will be structured group discussions. Practical demonstrations will also be provided.

In this programme we will cover the following topics:

- The Auditory System
- Language and Speech
- The Nature of Tinnitus
- Audiological Assessment
- The Audiogram
- Causes of Tinnitus
- Theories of Tinnitus
- Treatments for Tinnitus
- The History of Tinnitus
- The Australian Tinnitus Association

GROUND RULES FOR GROUP

- 1) It is important to use the group as a means of learning more about tinnitus and gaining knowledge about tinnitus.
- 2) Each group member should be allowed equal opportunity to share in the structured discussions.
- 3) Information shared in the group setting must remain confidential and must not be discussed outside the group.

SESSION 1

2) THE AUDITORY SYSTEM

The auditory system responds to sound. Sound itself is in fact a pressure wave produced by the movement of matter.

The sound, or pressure wave, hits the ear drum and begins a chain of events, which results in the sensation of hearing.

From this point of view, the sense of hearing is an extension of the sense of touch, relying on pressure to the tissue of the eardrum.

The diagram overleaf, shows the basic peripheral parts of the auditory system. Beyond the cochlea, the message is transmitted via the eighth nerve to the brainstem and thence to the auditory cortex (brain).

The total process can be divided into:-

- (a) Mechanical events
- (b) Fluid mechanical events
- (c) Electro-chemical events

Mechanical events occur at the eardrum, which pushes the little bones in the middle-ear. These three little bones (malleus, incus, stapes) are virtually a "gear shift" which increases the sound message. The middle ear acts like a gear box of a car.

The stapes bone joins into a fluid-filled space (cochlea). When the stapes moves in and out, the fluid moves in waves. These waves of fluid disturb and move tiny little hair-cells, like seaweed in the ocean. As the "seaweed" moves, chemical exchanges of ions (mainly, K^+ and Na^+ : Ca^{2+} is also essential) occurs in the cochlea.

Finally, electrical potentials are changed as the message is carried along the nerves or neurons. The nerve carries the message up to the brain, where it is interpreted as sound.

To get an idea of the size of things, here is a temporal bone. (DISPLAY)

The cochlea is encased in this, the hardest bone of the human body.

You can see the semi-circular canals (DISPLAY) which are continuous with the cochlea. So, the hearing mechanism is very closely connected with the balance organ. The vestibular nerve and auditory nerve run together through a hole in the bone called the internal auditory meatus.

This is a stapes bone (DISPLAY). It is the smallest bone in the human body.

You can see the eustachian tube marked on the diagram (DISPLAY), which is a tube that directly links the ear to the nose and the throat.

So, the ear is intimately related to the nose and throat. Likewise, the inner ear connects with the organ of balance.

The auditory system copes with many sorts of sounds. Less meaningful sounds like traffic noise, to more meaningful sounds, like a car horn or siren, morse code or telephone, to a cat's purr or canary whistle, to spoken english or french or other languages, singing and orchestral music.

An intimate relationship exists between the receptive and expressive functions of language. That is, we know that severely hearing-impaired children have extreme difficulty in the production of normal spoken language. Likewise, it is not uncommon for the speech of adults who become significantly hearing-impaired to degenerate because of their hearing deficit. The ability to hear and the ability to speak are connected. In fact, some believe that we perceive what we hear by an imitation or articulation model of our own, matching the incoming message to a pattern we construct.

Predominantly, the hearing mechanism is used to sift meaning from spoken words. This not only involves events in the auditory system, but relies on higher order functions, such as linguistic ability, intelligence, motivation etc.

We all know how we can "switch off", or in contrast, "tune in" to a speaker. So, when somebody says that they have trouble hearing, the problem can range from a simple pathology like a perforated ear drum, to a complicated problem involving any combination of middle ear problems, cochlea or retro-cochlea problems or more central problems.

To sum up, the structure of the auditory system is complex, as is the function of the system.

Malfunction of receptive abilities can be reflected by many and varied combinations of pathologies of the structure of the auditory system.

Both Tinnitus and Vertigo may relate to the auditory/vestibular (organ of balance) system. Because the 3 semi-circular canals are contiguous with the cochlea, vertigo is a pathology at times intimately related to the ear. Likewise, Tinnitus may have its origin in damage to the auditory system. Tinnitus is quite often accompanied by some degree of hearing loss. It would be unreasonable to suggest no relationship between tinnitus and hearing loss. Yet, we know it is not a necessary relationship, because some people have tinnitus, but no hearing impairment.

The auditory system functions by the effect of both afferent and efferent nerve pathways. That is, the ear not only receives sound information passively (you can't switch your ears off!), but directions are given from higher levels to the lower levels, of the nervous system, to monitor some basic functions of the cochlea.

Just as pain is a reflection of some damage to tissue, tinnitus can be a reflection of some damage to hair-cells in the cochlea (tissue).

While tinnitus commonly is seen as an enigmatic, elusive entity, commonsense would demand as a minimum, that pathology of the ear be considered in seeking a plausible aetiology.

Research has shown that in many cases, the function of the auditory system alters in tinnitus patients. Spontaneous auditory neural activity together with changes in afferent and efferent activity may well be the cause of tinnitus in some patients. We know that the left and right cortex sensitivity differs, as well as differential sensitivity along the ascending auditory pathways.

In brief, because of the little understood, and complex cross-over relationship at many levels of the auditory pathway, there are no decisive, exact sites of lesions nominated for tinnitus.

Because tinnitus is interpreted as a noise, the assumption is made that the auditory system is involved somehow.

On occasion, external noise can smother tinnitus (e.g. a shower, music). This implies that afferent neural activity may override the phenomenon of tinnitus. But not necessarily.

Just as there is no cure for sensorineural deafness, there is no cure for tinnitus.

However, just as a hearing aid allows the hearing impaired to cope, so too, strategies exist to assist the tinnitus patient to cope.

Notes prepared by M. Jones

(Audiologist)

RGH Concord

3) LANGUAGE AND SPEECH

Possibly the highest order function of the auditory system is that of gleaning meaning from speech.

While the stimulus of speech is in fact sound, it is a complex sound, composed of elements of intensity and frequency varying in the temporal domain (time domain).

A person may well be able to respond accurately to pure tones as in air-conduction audiometry, but speech may be a problem for this person.

Not only must the sounds of speech properly traverse the normal segment of the auditory pathway, but at the cortex (brain), appropriate interconnections and associations must be made. Split-brain experiments shed a lot of information on the complex interconnections between different parts of the brain. We need more than "ears" to understand speech.

A person's linguistic experience, vocabulary, motivation, intelligence, etc. to some extent determines speech reception. The acoustic properties of the speech signal originate in the vocal tract. The vocal tract can be thought of as a tube, with one end closed (at the glottis). This tube resonates at a frequency with wavelength four times its length (closed tube length = $\lambda/4$).

The articulators (ie. lips, teeth, tongue etc.) modify the resonance patterns produced by the vibration of the vocal folds (larynx).

If you hold your fingers next to your "Adams Apple" (larynx) and hum, you feel the vibration of the vocal folds. The three dimensional geometry of the supra-glottal vocal tract changes the resonance of the sound. Hum "Dah" versus "Dee" while holding your fingers next to the larynx and you'll feel changes to the larynx position, the jaw, and the lip and tongue.

The speech signal, generally, is composed of sound energy in three predominant "lumps". One "lump" is a low-frequency chunk, that is easily identified in vowels particularly.

Consonants, compared with vowels, are characterised by much more high-frequency energy (compare "Ahhh" with "Shhh").

People who have a hearing loss, generally have a higher frequency loss and , thus, miss out on consonants.

For example, "You look a little glum" may be construed as "You look a little dumb".

A high-pitched hearing loss causes consonant confusion and substitution and mostly, embarrassment.

Succintly, for optimal speech reception, a person must be actively listening, be intelligent enough to sift the information, and have no severe pathology of the auditory pathway.

Tinnitus can be a distracting influence, detracting from the ability of a person to concentrate on the spoken word. It is quite conceivable, that the tinnitus in the head may not only cause severe distraction and lessen concentration, but, in fact , the subjective noise (the tinnitus) may alter the objective sound (speech) in some way.

In summary, the acoustic properties of speech determine the initial receptive acuity for a hearing-impaired person. Once the message has traversed the auditory pathway, other factors and interconnections assist the meaning of the signal in the brain. A symptom such as tinnitus can inhibit the ability of a person to accurately obtain meaning from the spoken word.

(Notes prepared by Mr. M.Jones, Audiologist,
RGH Concord, 1989)

4) THE NATURE OF TINNITUS :

WHAT IS TINNITUS?

Tinnitus is a subjective experience of hearing a sound, or a noise, when no such external physical sound is present. It is often referred to as a 'head noises' or 'ringing', or other similar things.

WHAT DOES THE WORD "TINNITUS" MEAN?

The word "tinnitus" is of Latin origin. It comes from the word "tinnire" and means "to tinkle or ring like a bell".

WHAT ARE THE COMMONEST SUBJECTIVE DESCRIPTIONS OF TINNITUS?

From the subjective point of view, tinnitus has been described in the following terms:

Tones	Hissing	Chirping
Buzzing	Chords	Steam jets
Ocean Waves	Cricket Beats	Splashing
Clanging	Ringing	Music
Bells	Clicking	Rushing
Roaring	Sizzling	Truck Motor
Whistling	Cicada's	Machinery
Static	Pounding	Wind
Pulsing	Whining	Leaves Rustling
Humming	Electric Fan	High tension Wire

|
|
| *PRACTICAL DEMONSTRATION* (AUDIO-TAPE OF TINNITUS SOUNDS) |
|

|
| ***GROUP DISCUSSION*** |
|

| WHAT TYPE OF NOISE DO YOU HEAR? |

| HOW WOULD YOU DESCRIBE THE NOISE? |
|

WHERE IS TINNITUS USUALLY LOCATED?

Tinnitus may occur as sound in one ear only.

It may also occur as the same sound in both ears, or
different sounds in each ear.

It may sound like it is at different locations inside the
head, or it may even sound like it is outside the head.

IS TINNITUS CONSTANT OR MAY IT VARY?

Tinnitus may be constant and never changing in its pattern. Alternatively, it may vary. It may become better or worse at different times during the day. It may change in intensity, or it may change periodically in pitch. It may even come and go at random.

In some people it is worse when they are tense or nervous.

In some people it is worse when they are relaxed.

For some, tinnitus may interfere with sleep.

Others report that sleep is the only relief they get from their tinnitus.

Generally, tinnitus, for most people is fairly constant in pitch and intensity, and it occurs in the same ear, or ears, all of the time.

GROUP DISCUSSION

WHERE IS YOUR TINNITUS LOCATED?

IS YOUR TINNITUS CONSTANT OR DOES IT VARY?

IF YOUR TINNITUS VARIES, HOW DOES IT CHANGE?

DOES TINNITUS MEAN THAT ONE IS GOING DEAF?

No, tinnitus is an indication that some kind of damaging agent has attacked the hearing mechanism, but its presence does not mean that the person will become deaf.

IS TINNITUS ASSOCIATED WITH HEARING LOSS?

In most cases, tinnitus is associated with some hearing loss. For example, those who have been exposed to excessively loud sounds will have a hearing loss for the high pitched tones. Usually their tinnitus will be located as a high pitched tone in the region of the hearing loss. In some cases, tinnitus is present where there is no hearing loss and for no discernible reason.

*** GROUP DISCUSSION ***

IS YOUR TINNITUS ASSOCIATED WITH HEARING LOSS?

WHAT IS THE INCIDENCE OF TINNITUS?

The estimated prevalence for tinnitus varies from 6 - 17% of the population

WHAT IS THE SEX RATIO OF PEOPLE WITH TINNITUS?

The sex distribution of tinnitus sufferers is approximately equal.

WHAT IS THE USUAL AGE OF ONSET?

The commonest age of onset is 50-60 years, and 80% of tinnitus sufferers fall within the age range of 41-70 years (Reed, 1960).

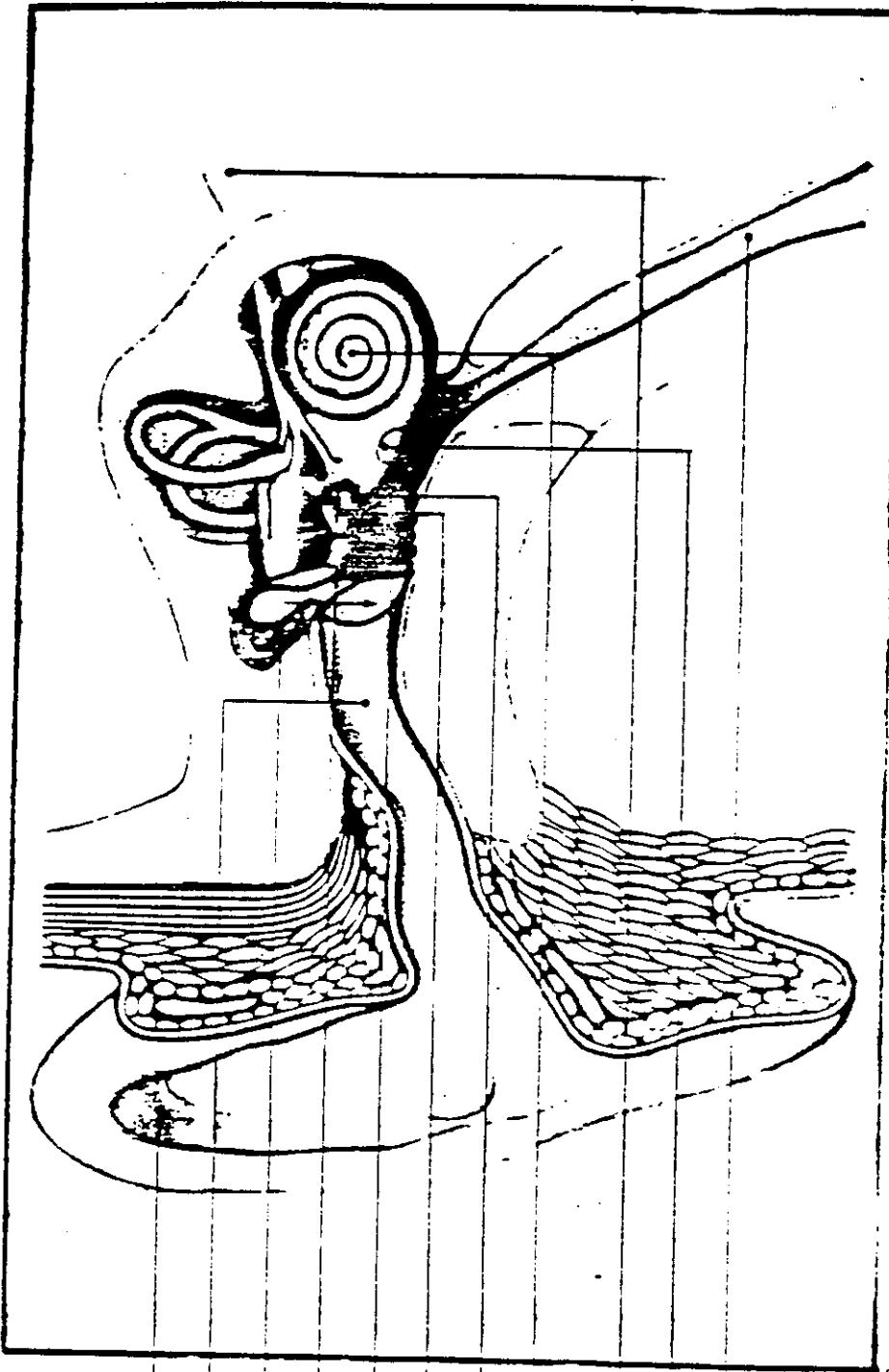
GROUP DISCUSSION

HOW OLD WERE YOU WHEN YOU FIRST NOTICED IT?

(Notes prepared by Jane Henry, Clinical Psychologist, RGH Concord, 1989)

THE EAR

- External ear •
- External auditory canal •
- Eardrum •
- Hammer (malleus) •
- Anvil (incus) •
- Stirrup (stapes) •
- Oval window •
- Cochlea •
- Acoustic nerve
(eighth cranial nerve) •
- Round window •
- Auditory (eustachian) tube •



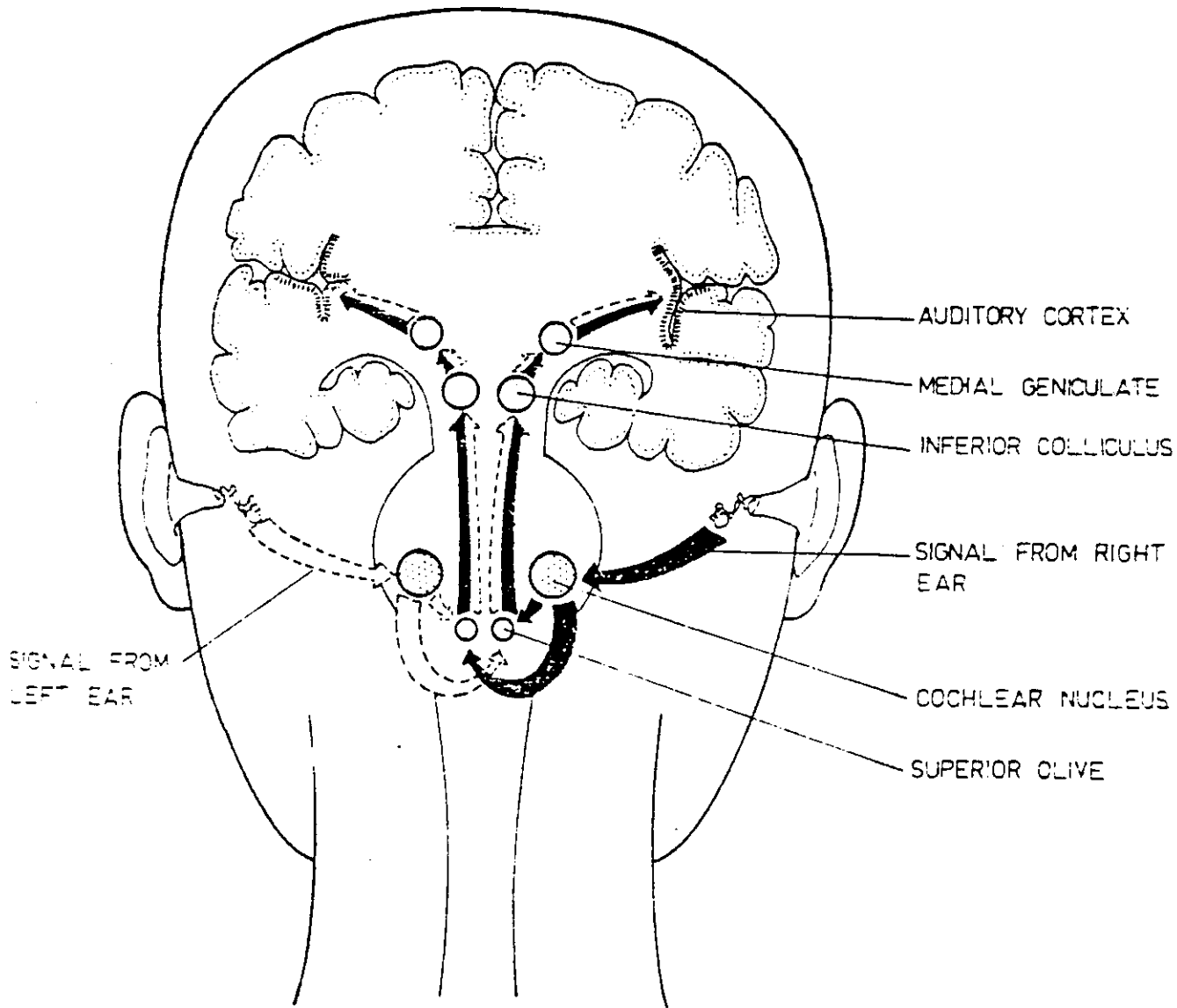
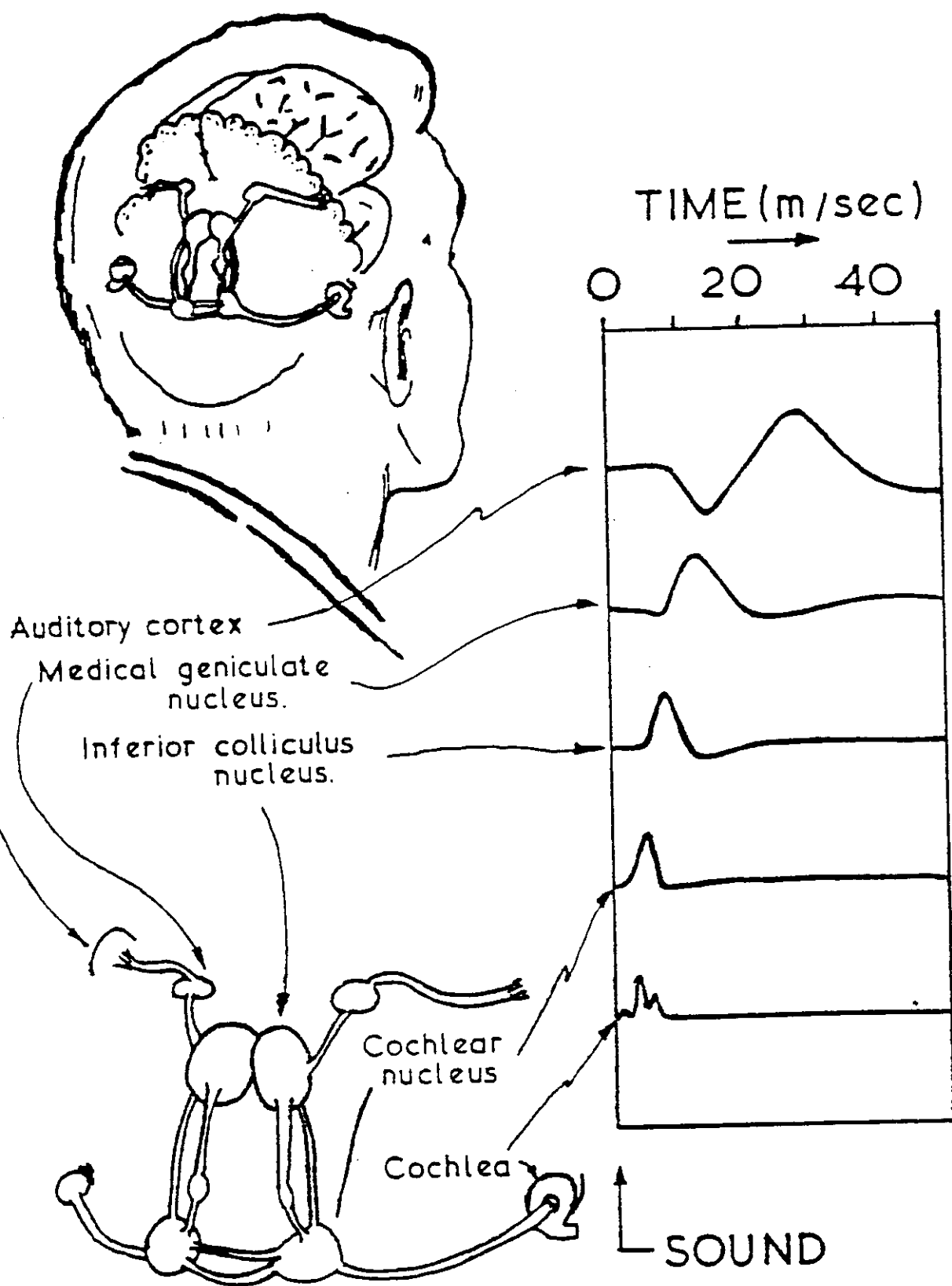


FIGURE 1: BACKVIEW OF BRAIN SHOWING AUDITORY PATHWAY FROM EAR TO CORTEX.
ADAPTED FROM LINDSAY & NORMAN, 1972.



Temporal course of electrical responses to sound in the auditory pathways. Adapted from Galambos (1975).

SESSION 2

1) AUDIOLOGICAL ASSESSMENT

The aim of audiological assessment is to specify a site of lesion and to implement appropriate practical procedures to assist the individual.

Audiological assessment begins with a history of the patient. The patient's work, leisure, medical, familial etc. details, can impinge on the aetiology of a problem.

Basic routine audiological investigation includes the following:

- Impedance and Acoustic Reflex Measures
- Air and Bone Conduction Audiometry
- Speech Test.

Other common symptoms like dizziness, vertigo, and tinnitus, require audiological evaluation.

Because the balance system involves the proprioceptive, optical and vestibular system, investigation of the auditory system is routine for the dizzy patient.

The cochlea fluid is contiguous with the fluid in the semi-circular canal and apart from routine audiology evaluation, an electronystagmography (ENG) investigation is essential. An ENG involves testing the normal reaction of the vestibular system.

Some patients with specific symptoms require further audiological investigation and two other common tests used are Electrocochleography (ECoG) and Evoked Potentials (ABR).

Both of these investigations are very important to exclude more sinister lesions. Cerebellopontine angle tumors and brainstem tumours (eg. gliomas) and other space occupying tumors may be identified.

For post-lingual, profoundly deaf patients, the ECoG is a pre-requisite, (as well as many other things) for obtaining a cochlear implant (bionic ear).

So, while most audiological investigation is at best innocuous and rehabilitative, one must be alert and diligent so as not to gloss over the patient's need for surgery or for further investigation.

(Notes Prepared by MR.M.Jones, Audiologist

RGH Concord, 1989)

2) THE AUDIOGRAM

An audiogram is a picture that explains a thousand words about your hearing. The two axes of the graph are to denote "loudness" (vertical axis) and "tune" (horizontal). The "loudness" of the note is measured in decibels (dB). The "tune" is measured in hertz (cycles per second).

[DISPLAY]

In the diagram (Figure 2) , the zeros (0) represent the right ear, the crosses (X), represent the left ear.

In the example here, the X's show that Mr Iva Loss, has a hearing level such that he hears low frequencies at low levels, but high frequencies only at high levels [DISPLAY].

Thus, he has a high-pitched loss in the left ear.

The story now becomes complicated.

The signs "∩ ,], [" on the graph tell us how healthy the actual hearing nerve is.

You see, for some people, the sound can be like a jet roar, yet they don't hear it (a sensorineural loss, perhaps).

Others, hear quite normally, as long as you make the noise loud enough (a conductive loss, perhaps).

A person may have a conductive, sensorineural, or a mixed loss, all of varying degrees.

So, the audiogram is meant to tell us :

- a) what sort of loss a person has
- b) how bad the loss is.

This is important because from these results a decision may be made either to prescribe medication, initiate operative procedures, prescribe instruments such as hearing aids or teach people tactics to improve communication.

An audiogram may be a legal document, being used in the court for evidence in cases of industrial/workers compensation, trauma cases or civil action. Thus, audiological results may be of physiological and financial significance.

The actual figures for an audiogram are used to prescribe a hearing aid, just as the figures an optometrist obtains, are used to prescribe spectacles. The difference in prescribing instruments, between these two professions, lies in the fact that the optometrist is correcting a lens, whereas the audiologist is generally attempting to compensate for neural damage. The results of neural damage include attenuation and distortion. Attenuation provides no inherent problem, however, distortion severely limits optimal results.

What we are trying to say here, is that the optometrists lens can correct your eye's faults, but a hearing aid cannot "correct" your hearing. There are limitations.

In summary, an audiogram explains succinctly how well you hear in either ear and what sort of loss you may have.

It is dependent on the loss as to which rehabilitative decision is made for the hearing impaired.

(Notes Prepared by Mr. M.Jones, Audiologist,
RGH Concord, 1989)

**** PRACTICAL DEMONSTRATION****

- Use of otoscope to examine the ear.
- Explanation of Individual Audiograms.

SESSION 3

1) THE CAUSES OF TINNITUS

What causes tinnitus ?

Many of the causes of tinnitus are not known or not fully understood. However, some causes are fairly well known.

- a) The tinnitus associated with the high frequency hearing loss of advancing age (presbycusis). Tinnitus is probably the most common complaint associated with hearing loss.

- b) Noise-induced tinnitus. The tinnitus can be associated with exposure to noise from chain saws, artillery, outboard motors, heavy machinery, jack hammers, canning machinery, pistol shooting, piston aircraft and other similar loud noises.

This is an important issue with regard to the tinnitus sufferer who works in a noisy environment. Loud noise will maintain tinnitus, or make it worse. Tinnitus is actually one of the body's warning signals for excessive noise exposure. Exposure to loud sounds, such as rock concerts or heavy handgun shooting without ear protection will usually cause temporary tinnitus. This is a warning of acoustic insult. It is essential that anyone working in a noisy environment have adequate ear protection.

Pathological causes

These include the following:-

- 1) Various vascular and arterial problems
- 2) Dental problems, such as improper bite.
- 3) Jaw muscle malfunction
- 4) Palate spasms
- 5) Meniere's syndrome
- 6) Hypertension
- 7) Hypotension
- 8) Anaemia
- 9) Edema
- 10) Eustacian tube malfunction
- 11) Migraine headache
- 12) Perforation of the Tympanic Membrane
- 13) Diabetes
- 14) Hyperthyroidism
- 15) Hyperlipidemia
- 16) Vitamin deficiency
- 17) Haemorrhage of the ear capillaries
- 18) Arteriosclerosis

- 19) Hepatitis
- 20) Labyrinthitis
- 21) Cerumen against tympanic membrane
- 22) Impaired renal function
- 23) Meningitis
- 24) Otosclerosis
- 25) Eighth nerve and other tumours
- 26) Pre-epileptic phases
- 27) Syphilis
- 28) Systemic infection
- 29) Serous Otitis media
- 30) Multiple sclerosis
- 31) Cardiovascular disease
- 32) Leukemia

Given that so many medical conditions may be associated with tinnitus it is important that tinnitus sufferers be examined by a medical practitioner, preferably one specialising in diseases of the ear, nose and throat. This will allow for identification of any factors which might indicate medical treatment and possibly relief of of the tinnitus.

d) Drug-induced tinnitus

Many drugs will produce tinnitus as an undesirable side-effect of their medicinal properties

Common tinnitus producing drugs include:-

- 1) Aspirin
- 2) Alcohol : this will aggravate tinnitus especially the next day after excessive use (hang over tinnitus); some individuals say it helps them tolerate the tinnitus and it probably does temporarily.
- 3) Nicotine : though apparently not directly related, it will aggravate tinnitus in some individuals.

- 4) Caffeine : Excessive use of any caffeine -
containing compound such as coffee, tea,
cocoa, cola soft drinks and bitter chocolate.

- 5) Excessive use of salt : tinnitus is probably
caused by the resulting
hypertension.

- 6) Some diuretics : Furosemide (Lasix), ethacrynic
acid

- 7) Some birth control pills

- 8) Some tranquilisers : Dilantin, Valium, though
these may be helpful in allowing
the individual to tolerate his/her
tinnitus even if it is aggravated.

- 9) Some quinine-containing drugs : Quinidine

- 10) Some antibiotics : Streptomycin, Kanamycin,
Neomycin; tinnitus is a warning
symptom of impending ototoxicity

- 11) Heavy metals : lead poisoning, gold
injections for rheumatoid
arthritis.

It must be remembered that drug therapy is a medical judgement and is based on many factors. The side-effect of tinnitus is usually only a minor consideration particularly when management of a more serious or life threatening disorder is the primary concern.

e) Head injuries :

Injury or trauma to the head may cause tinnitus. Blows to the head, such as auto accident injuries, whiplash injury or concussion can leave an individual suffering from permanent tinnitus. Tinnitus in head trauma cases does not usually show up right away, but will appear two or three days later. In cases of whiplash injury, it may be two or three weeks before the symptoms appear, and sometimes it takes six months or so for the tinnitus to build up to a stable level.

****PRACTICAL DEMONSTRATION****

- Demonstration of Impedence and Acoustic reflexes.
- Demonstration of Evoked Potentials and nerve pathways.

(Notes prepared by Jane Henry, Clinical Psychologist, RGH Concord, 1989).

SESSION 4

1) THEORIES OF TINNITUS

In the beginning, when men were men and giants strode the earth....., it was thought that "tinnitus" was a little animal (? an Irish leprechaun !) that inhabited the ear. When this little animal was excited, a noise occurred.

Indeed, there are numerous myths about tinnitus.

We are more enlightened now and have gleaned a little extra knowledge since then.

To identify tinnitus as essentially ideopathic is unwarranted. Many pathologies of the ear have concomitant tinnitus.

However, most often tinnitus exists in people who have sensorineural hearing loss of some type. Sensorineural loss implies damage to the sensory organ, the cochlea.

Because we know that efferent activity in the cochlea is reflected in basilar membrane distortion, one simple theory of tinnitus suggests that the imbalance between efferent and afferent activity is realised in tinnitus. However, this doesn't accommodate the tinnitus sufferer who has normal hearing and no sensory damage.

So, a plausible theory to explain tinnitus, ought to include the action of the whole auditory apparatus, not just peripheral events.

Contralateral innervation of neural interaction occurs in the auditory pathway at, and above, the superior olivary complex (the SOC). That is, the SOC is the most proximal site where contralateral innervation occurs. From this lowest site at the brainstem level, up to the auditory cortex, numerous contralateral pathways exist, such that information is shared from both sides. This fact, plus uneventful tinnitus relief from the severing of the eighth (VIII th) nerve, (curtailing afferent activity) suggests that the site and mechanism of tinnitus may be more rostral and unspecific .

[DISPLAY] [SEE DIAGRAM]

A most cogent argument exists for the superimposition, upon all and any physiological activities, of the person's reaction to these events.

For some, a trauma can be accommodated. For others, the same trauma causes distress. In both cases real, tangible reactions are evidenced. Overt reactions, or behaviour, is a measurable entity which cannot be dismissed.

Briefly then, theories for tinnitus must accommodate normal and abnormal physiological events, both peripheral and central. In addition, the reaction of the person to the physical event is an integral part of any theory.

(Notes prepared by Mr M.Jones, Audiologist, RGH Concord, 1989)

2) TREATMENTS FOR TINNITUS

(PART A: MEDICAL TREATMENTS)

WHAT SHOULD A PERSON WITH TINNITUS DO ?

The first and most important thing to do for every person with tinnitus is to be examined by an ear, nose and throat specialist (an otolaryngologist). This will help determine whether or not there is a medical condition for which treatment could relieve the tinnitus. This should be combined with an examination by an Audiologist.

WHAT TREATMENTS ARE AVAILABLE FOR TINNITUS ?

Presently there is no known cure for tinnitus. However, there are several forms of treatment currently available. These include medical and audiological approaches and some psychological interventions to assist people to cope with tinnitus.

WHAT MEDICAL APPROACHES HAVE BEEN EMPLOYED WITH TINNITUS ?

It must be emphasised again that there is no known medical cure for tinnitus. There have been many and varied attempts to cure tinnitus. However, in general, they have not been successful. There are occasionally positive reports in the literature, but no overall successful cure. Remembering that tinnitus can be created by problems anywhere from the external ear canal all the way up to the brain, it is likely that the positive cases reported, relieved the tinnitus occurring in specific locations along the auditory pathway. Some of the "cures" tried over the last 40 years or so are:

- a) Nicotinic acid and other vasodilators
(May increase cochlear blood flow)

- b) Local anaesthesia of the auditory system including injection of morphine into the tympanum.
(May be helpful in peripheral mechanism cases)

- c) Selective destruction of the cochlea.
(May be helpful in cochlear or peripherally caused tinnitus)

- d) Use of almost every vitamin
(May be helpful in vitamin deficiency tinnitus)

- e) Stellate ganglion block.

- f) Use of almost every drug one can think of including tranquilisers, anti-coagulants, anti-convulsants, and anti-hypertensives. (Some apparently do help in specific cases but there does not seem to be any overall pattern)

- g) Section cutting of the eighth nerve.
(May be helpful in peripheral mechanism tinnitus)

- h) Other surgical procedures such as labyrinthectomy, stapedectomy, fenestration.

At one time section of the eighth nerve was commonly used to try to stop the tinnitus. The success rate shown in the literature is in the order of 40-50%. This suggests that in many cases, tinnitus is a neurological problem, not a peripheral mechanism.

****PRACTICAL DEMONSTRATION****

- Seventh Nerve.

(Notes prepared by Jane Henry, Clinical Psychologist, RGH Concord, 1989)

SESSION 5

1) TREATMENTS FOR TINNITUS (Continued)

(PART B: AUDIOLOGICAL TREATMENT APPROACHES)

WHAT AUDIOLOGICAL APPROACHES HAVE BEEN EMPLOYED WITH
TINNITUS ?

1) TINNITUS MASKERS

Tinnitus maskers are receiving widespread interest as a tinnitus relief mechanism. Research into the use of maskers is currently continuing.

WHAT IS A TINNITUS MASKER ?

A masker is a small unit which generates a band of noise piped into the tinnitus sufferers ear. The principle here is that the masking sound is a substitute for the tinnitus sound. The masking sound is an external sound and as such can be much more easily ignored than the internal sound of tinnitus.

DO ALL PEOPLE WITH TINNITUS RESPOND TO MASKING ?

No. There are some people whose tinnitus is incapable of being masked; no matter what kind of masking sound is used, the tinnitus can still be heard.

FOR WHOM DOES MASKING WORK ?

It is not possible to predict whether or not masking is appropriate for a given person. It is necessary for each person with tinnitus to be tested for his/her tinnitus and then to actually attempt masking before any prediction can be made. It is also necessary for each person to have a trial period of approximately one month with a prescribed unit before it is purchased.

WILL MASKING DAMAGE HEARING ?

This is a frequent question which reflects a proper concern that most people with tinnitus have for their hearing. The use of masking is the deliverance of noise to the ears on a long term basis. Research to date indicates that masking will not damage hearing.

WHAT IS RESIDUAL INHIBITION ?

This is a term which applies to the masking effect after the the masking noise is removed. For some people with tinnitus removal of the masking sounds reveal a temporary period of complete silence; the tinnitus is totally gone. Then the tinnitus reappears and gradually grows back to its usual intensity. Usually the period of residual inhibition increases in duration as the time of masking increases. It is also the case that those who display residual inhibition usually respond well to masking.

IS THE PRODUCTION OF RESIDUAL INHIBITION THE PURPOSE OF MASKING ?

No. Masking must provide relief in and of itself in order to be an acceptable procedure. Remember that masking is merely an acceptable substitution for the tinnitus sound. If residual inhibition does occur that is to be regarded as an added bonus - a nice bonus - but nevertheless, just a bonus.

***** PRACTICAL DEMONSTRATION OF MASKERS *****

2) TINNITUS INSTRUMENTS

WHAT IS A TINNITUS INSTRUMENT ?

This is a combination hearing instrument and tinnitus masker. The tinnitus instrument consists of an amplifier and a masker housed in a hearing aid case with independently adjustable controls. The combination of amplification and masking seems to cover up the person's internal sound as well as improve the hearing. It has been found that often the tinnitus instrument is a more effective masking device than a 'masker' alone. This occurs because a certain amount of masking is usually accomplished with amplification thus requiring lower intensity levels of actual masking to cover up the tinnitus.

**** PRACTICAL DEMONSTRATION OF TINNITUS INSTRUMENT ***

**** GROUP DISCUSSION ****

3) HEARING AIDS

In many cases (figures reported vary but probably 50-60%) a hearing aid may provide adequate relief. The hearing aid amplifies background noise to the level that it may mask out the tinnitus.

(Notes prepared by Jane Henry, Clinical Psychologist, RGH Concord, 1989).

SESSION 6

THE HISTORY OF TINNITUS

(These notes on the History of Tinnitus have been adapted from a paper presented by H. Feldmann at the III Tinnitus Seminar in Munster, Germany in 1987.)

Tinnitus is a phenomenon well known since the dawn of mankind. It has been subject to various interpretations. It has played a role in magical rites, and superstition; it is mentioned in the Bible describing the state of being struck with horror. In poetry it has appeared as a symptom of passionate love and jealousy. In outstanding individuals such as Luther, Rousseau, and Beethoven it was a haunting symptom of organic disease. It has also been depicted in music and in the graphic arts.

Tinnitus has been present in common superstition from ancient times up to the present. We learn this from Pliny the Elder, who lived in the first century A.D. He died during the eruption of the Volcano Vesuvius in 79. Pliny had compiled the knowledge of his time in an enormous encyclopedia "Naturalis Historia", which comprises 37 volumes. In book 28 he discusses common superstitions.

"Why, he asks, on the first day of the year do we wish one another cheerfully a happy and prosperous New Year? Why do we say "Good health" to those who sneeze?"

And then he continues : "According to an accepted belief absent people can divine by the ringing of their ears that they are the object of talk".

It is amazing how long lived such superstitions are!

The supranatural character of tinnitus is also looming in a phrase used several times in the Bible by the prophets Jeremiah and Samuel, and in the second book of the Kings. Ringing in the ears here is used to described the state of being struck with horror.

To quote Jeremiah, Chapter 19, Verse 3:

"Thus saith the Lord of hosts, the God of Israel : Behold, I will bring evil upon this place, the which whosoever heareth, his ears shall tingle".

Martin Luther, the great religious reformer, was very much haunted by an intractable tinnitus. At the time, when he translated the book of Jeremiah into German, he was particularly plagued by the droning in his head. He says so in a letter of June 19, 1530 and concluded that it must be satan's work. The trouble had started 3 years earlier on July 6, 1527 in the late afternoon, when he was 43 years of age.

He had been uneasy all the day, but without any clear symptom of a disease. In the afternoon he withdrew from his company feeling a tinnitus in his left ear. Luther compared it to a roaring surf. Shortly afterwards it seemed to spread to the interior of the head, and was everywhere about him like a whirlwind. He felt sick and had to lie down and fell into a state which was described as a syncope (i.e. temporary loss of consciousness from fall in blood pressure). On the next day he was much better, only the tinnitus in his left ear persisted.

These attacks occurred at various intervals and in various degrees of severity during the following 19 years until his death in 1546 at the age of 62. The tinnitus became a permanent torment with Luther, and later was associated with deafness.

The medical science of his time did not offer an explanation for these dramatic afflictions, and it is understandable that Luther himself felt that it was no natural disease, but satan punishing his flesh. Today, it would appear that it was a classical case of Meniere's disease, 330 years before Prosper Meniere described it.

In the field of poetry, Sappho, a poetess born in 612 B.C. on the Greek isle, Lesbos, is the first to tell us about ringing in the ear. With Sappho, tinnitus is a symptom of highstrung emotion.

In a poem by an unknown author of the later classical antiquity, ringing of the ears is again referred to. The poem has the title, "De tinnitu auris". "About the ringing of the ear".

Here is a direct translation of the Latin text:

Like chattering through all the nights, my ears resound,
somebody, you may say, is thinking of me.

Who may that be, you ask? Through the nights my ears
resound, through all the nights resounding : Delia is
speaking of me.

No doubt, it's Delia speaking of me. Softly came the aura,
ringing with faint murmur.

Just like this, Delia will break the secret silence of the
night with lowered and whispering voice;

Just like this, her tender arms embracing my neck drawing my
ears near to her, she will utter words to be saved.

I know: an image of the real voice came to me, enticingly
the sound is ringing in my ear.

Do not stop chattering, I pray, you sweet murmurs! While
saying this, I deplore, already you have gone.

Happy he who, like the poet of this ode, can sublimate his
tinnitus, and turn it into something as pleasant as loving
whispers.

There was a man about 1000 years later, in the 18th century, who did not achieve this, although he was a poet, a writer, a philosopher, a composer, a great lover and many other things. At the age of 54 he was attacked by a disease, which we may interpret as a sudden hearing loss, associated with tormenting tinnitus, and this haunted him for the rest of his life, that is for 18 years. It was Jean Jacques Rousseau.

He tells his story in the 6th book of his autobiography "Les Confessions". Rousseau was staying in Cressier, a little place in Switzerland, where he tried to cure some ailment of his stomach with local mineral waters. He writes:

"One morning, when I did not feel any worse than usually, while I was dressing a small table on its foot, I felt a sudden and almost inconceivable revolution in the whole of my body. I can only compare it to a kind of storm, which arose in my blood and instantly seized all my limbs. My arteries seemed to hammer with such great force that I did not only feel their hammering, but even and above all, I heard that of the carotids. A great buzzing of the ears

joined this, and the noise was threefold or rather fourfold, namely: a deep hollow buzzing, a murmur, clearer than that of running water, high pitched ringing, and the hammering, of which I had just spoken, the strokes of which I could easily count without feeling my pulse or touching my body with my hands. This internal noise was so great that it robbed the acuity of my hearing, which I had previously, and made me not altogether deaf but hard of hearing, as I have been since that time ".

When Rousseau died in 1778, the great Spanish painter Francisco de Goya was approaching the climax of his celebrity. However, a few years later in 1792/93, at the age of 46, a mysterious disease befell him, and interrupted his career. He was paralysed on his right hand side, and suffered from disorders of vision and hearing. He complained of an incessant roaring in his head, he had severe disturbances of equilibrium, periods of coma, and finally he became totally deaf. This lasted for several months, but then most of the symptoms subsided, except the deafness and his tinnitus. His friend Sebastian Martinez, with whom Goya stayed with during this time, reports in a letter of March 29, 1793:

"The droning in his head and the deafness have not yet decreased, however, he looks much better now, and does not suffer from disturbances of equilibrium any more. He can already climb the stairs up and down, and he will do things which he was not able to do recently".

There have been a lot of conjectures and hypotheses about Goya's disease. The most likely diagnosis, put forward by William Niederland, seems to be lead poisoning. Goya lavishly used lead carbonate as white pigment, applying it with sponges, rags or other instruments to the canvas. It is not unreasonable to suppose that he absorbed a toxic dose of lead. This would explain all the symptoms and the reversibility of most of them.

This disease, which left him in the isolation of the deaf, haunted by an inescapable tinnitus, dramatically changed his life and his art. He turned to drawing dreadful fantasies, which he called "Los Caprichos" (See Figure 1).

Some of these fantasies seem to depict the state of being tormented by acoustic hallucinations, and one of them is occasionally referred to as demonstrating his tinnitus. However, such interpretations are not tenable. In Figure 1, the particular capricho bears the title "Soplones", which means "sycophants", and these according to the Oxford Dictionary, are persons trying to win favour by flattering rich and powerful people. Goya's own comment to this etching reads :

"The whispering witches are the most nauseating of the whole band of devils and the most stupid ones in their art. If they only knew anything, they would not resort to prompting".

Deafness and tinnitus can drive any human being to despair, particularly a sensitive artist; for a musician it must be the hardest blow once can imagine. There are two great composers who had to endure this fate : Ludwig van Beethoven and Bedrich Smetana.

Beethoven was 28 when he first noticed a hearing disorder. He reports to a friend, Franz Wegeler in a letter of June 29, 1801 that since 3 years his hearing had deteriorated, and then he continues:

".....my ears are buzzing and roaring throughout the day and night".

After a treatment with vesiculation on the arms a few months later he writes to Wegeler in November 1801:

".....it is true, I cannot deny it, the buzzing and roaring is a little weaker than usual, especially in the left ear, where actually my hearing disorder began, but my hearing acuity has not improved at all".

He considers trying galvanism, of which wondrous cures of deafness had been reported from Berlin, but he never realized this idea. These passages are about the complete evidence we have of Beethoven's tinnitus. It is not mentioned any more. Probably it ceased to be a serious problem, and it is certainly not reflected in any of his music. The nature of Beethoven's ear disease remains obscure. It certainly was a sensorineural disorder, but we have no means to make any further differential diagnosis.

Smetana, another great musician, was also struck by tinnitus. He was aged 50 years when the ear symptoms began. Shortly afterwards, Smetana was obliged to discontinue his activity as a conductor. In his letter to the Chairman of the Theatre Association he gave an outline of his tinnius. He states:

"During last July, just after the dress rehearsal, I noticed that I heard the notes of the higher octaves with each ear at different pitches, and that I sometimes had a buzzing and a tingling in my ears as if I was standing by a huge waterfall."

Finally, we may consider two stories concerning two men of science : Francis Bacon and Joseph Toynbee.

Francis Bacon, this brilliant figure of the Elizabethan period, a politician and a Philosopher, tried to lay a new foundation for all sciences based entirely on experience and the method of induction. Once he was afflicted with tinnitus for a short time, and he reported on it as a demonstration of the new kind of scientific observation. In his work "Sylva Sylvarum" discussing music and acoustics, he makes the point that violent noise can damage the hearing, he himself had had occasion to observe. Here is the literal translation of the passage:

"Violent sound, delivered from near distance, has deafened any people, who at the same moment felt something like rupturing of the membrane in their ears. I myself, too, when I was standing near someone playing a lyre sharply and at a high pitch, suddenly was affected by a damage, as though a rupture or a dislocation had occurred, and shortly afterwards there was a ringing tinnitus so that I feared deafness, but after a quarter of an hour it disappeared. This effect really can be referred to the sound".

This was an unintentional but harmless experiment, proving that intense sound can cause tinnitus. In the history of otology, however, there is one tragic example of a voluntary experiment testing a new treatment for tinnitus, which turned out to be fatal.

Joseph Toynbee, the father of otology in England, who lived from 1815 to 1866 was suffering from tinnitus. He had picked up a method of treatment for various ear diseases, introduced by Antoine Saissy in France, which consisted of pressing fumes and vapours onto the middle ear via the Eustachian tube, using the Valsalva manoeuvre.

On Saturday, July 7, 1866 at 4 o'clock in the afternoon, Toynbee had attended his last patient in his consulting room at 18 Savile Row, London. At 5 o'clock his butler found him dead, lying on his couch. There was a layer of cotton wool on his face; in front of him was his watch and some notes on the effect of chloroform on tinnitus, when pressed into the tympanum. Underneath the couch there was an empty bottle, which obviously had contained chloroform, beside him two more bottles, one still closed, containing ether, the other one half full of hydrocyanic acid.

The case was thoroughly investigated, and at the inquest the jury had no hesitation in returning a verdict of accidental death.

Tinnitus has played a role through the history of mankind in magic and superstition, religion, poetry, painting and music. Tinnitus is encountered in the biographies of outstanding individuals such as Martin Luther, Jean Jacques Rousseau, Bedrich Smetana, Ludwig van Beethoven, Francis Bacon and Joseph Toynbee. It is, indeed, a phenomenon which has endured a history for thousands of years up to the present time.

(Notes prepared by Jane Henry, Clinical Psychologist, RGH Concord, 1989. Adapted from paper by H. Feldmann, 1987)

OVERVIEW OF PROGRAMME

**** IMPORTANT FACTS TO REMEMBER ****

1) Tinnitus is real

Often the actual mechanism which produces tinnitus cannot be established. However, we do know it is something that has gone wrong in the auditory system. It is not in the person's imagination. It is real.

2) Tinnitus does not mean you are going crazy. Also it does not necessarily mean that you are going deaf.

3) Try to avoid things that will make your tinnitus worse.

AVOID:

- 1) loud noise
- 2) too much alcohol
- 3) too much nicotine/smoking
- 4) too much caffeine (tea, coffee, chocolate)
- 5) certain medications (eg. aspirin; SEE YOUR DOCTOR FOR ADVICE)

4) THINGS YOU SHOULD DO !

- 1) See your ENT Specialist and Audiologist if you have not already done so
- 2) Look for new interests
- 3) Meet with other tinnitus sufferers - Contact the Australian Deafness Association or the Australian Tinnitus Association for information
- 4) Seek assistance from a Clinical Psychologist for help in dealing with stress, improving your sleep, coping with your tinnitus or counselling about other problems.



Figure 1: Francisco de Goya, Los Caprichos, Plate 48 (1797-1798). Soplones (Sycophants)

MASKING OF TINNITUS - HISTORICAL REMARKS

(These notes have been adapted from a paper presented by H.Feldmann at the III Tinnitus Seminar, Munster, Germany in 1987.)

The discovery that subjective ear noises can be masked by external sounds goes back 2300 years to the ancient Greeks. It is mentioned in a famous collection of papers, called "Problemata physic" by Aristotle. (This is thought to date back to 3rd century B.C.)

Chapter 32 of this book is devoted to the ear. We find problems like :

Why does the tympanic membrane rupture in diving ? Why is it that men cough, when they pick their ears ?

Problem no.9 reads : Why is it that buzzing in the ears ceases, if one makes a sound ? Is it because a greater sound drives out the less ?

The idea to apply masking as a remedy for tinnitus goes back to Itard in Paris. In his book of 1821 ("Trait des maladies de l'oreille et de l'audition"), he presents a detailed description of this kind of treatment and an interesting case report. He first outlines the medical treatment of tinnitus and freely discusses how frustrating it often is. Then he continues:

"Then there is nothing else one can do but render it (the tinnitus) less unbearable by taking away the greatest of its annoyance, that of preventing sleep or nearly continually disturbing it. I have thought up a very simple expedient to that end, which rarely fails its effect. It is to cover up the internal noise, be it real or imaginary, by an analogous and equally continuous external noise. Thus noise produced by a rather brisk open fire considerably relieves the molestation by those dull noises which simulate the distant murmurs of winds and an overflowing river. The same remedy can be adapted to the ringing of the ear by feeding the fire with green or slightly wet wood. If the tinnitus imitates the sound of bells, one can easily cover it up, provided it is not very intense, by the resonance of a large copper basin, into which from above a small jet of water is falling, coming from a bowl of the same capacity, which has

a very small hole in its bottom. In those cases, finally, in which the ear is annoyed by a noise similar to a running wheelwork, one can put some noisy machine onto the headpiece of the bed, which is kept going by the slow distension of a spring, attached to an organ or a large pendulum clock, the rotation of which has been accelerated by removing the pendulum. It is worth remarking that these external noises, which necessarily must be more intense than the pathological sensation, instead of preventing the sleep as does the tinnitus, finally induce the sleep, and make it particularly profound".

Itard's case report is on a lady of 29, who was afflicted with a very annoying tinnitus. One night she had been roused up from sleep by a crackling noise, and she found the curtain in front of her baby's bed in flames. She could rescue the baby, but suffered a severe shock. From that time on she was harassed by a tinnitus, which exactly resembled the crackling fire. Itard advocated a regimen of masking procedures, including riding in a coach on bumpy pavement and listening to various musical instruments. He even advised her to move to a noisy district of the city. The lady realizing the effect of these procedures actually moved into a water mill. After a few months Itard received an enthusiastic letter from the lady telling him that she

had been definitely freed from her tinnitus.

Urbantschitsch in Vienna in 1883 referred to Itard's observations and anecdotally reported on a colleague of his, who suffering from tinnitus had found a remedy for himself. Whenever he was too much annoyed by his tinnitus he would hold his watch against his ear for a few seconds and this would suppress his tinnitus for a longer period.

Jones and Knudsen in Los Angeles in 1928 tried to treat tinnitus with acoustic stimuli. They constructed 2 types of instruments; one they called the "bombardment"; the other a masking device.

The aim of the bombardment was to desensitise the cochlea by applying sounds of the same pitch as tinnitus at a high intensity. The effect, however, was discouraging. The other devices were for temporary masking of tinnitus. One instrument produced pure tones, the other instrument a complex spectrum of tones. This latter provided a type of sound which was capable of masking any tone or noise characterising a tinnitus. The authors summarised their expectations with these instruments:

"Although , of course, such an instrument does not "cure" the tinnitus, yet we may find after suitable experience that relief may be provided for those, for example, who are unable to sleep because of their tinnitus. A patient is not distressed by sound which is produced outside of him".

Modern approaches to masking of tinnitus may be regarded as a rediscovery, in part, of facts which had fallen into oblivion.

(Prepared by Jane Henry, Clinical Psychologist, Concord Hospital, 1989; adapted from Feldmann, 1987)

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Australian Tinnitus Association Ltd.

A.T.A.L. is a non-profit company established December 1984. Our principal objectives, through the Board of Directors, are to:

1. Provide help and guidance to members and other Tinnitus sufferers.
2. Maintain support from the medical profession in an advisory role.
3. Obtain full Government support and recognition for

research into Tinnitus cause and cures.

4. To assist in any research and prevention programs.
5. Promote exchange of information with other world-wide Tinnitus associations.

Further information and membership application forms can be obtained through the Hon. Secretary.

A quarterly **NEWSLETTER** is published for members of the ATA that includes timely articles about tinnitus. Also, patients might have additional questions that have not been covered in this pamphlet. They should feel free to inquire of:

Australian Tinnitus Association Ltd.
288 Unwins Bridge Road
Sydenham NSW 2044
Phone (02) 516 3322

UNIVERSITY OF SYDNEY

644

TINNITUS REACTION QUESTIONNAIRE

This questionnaire is designed to find out what sort of effects tinnitus has on your lifestyle, general well-being etc. Some of the effects listed below may well apply to you, others may not. Please answer each question as you think it applies over the past week. Please ensure that you answer each question by circling the number which best reflects how your tinnitus has affected you over the past week.

	Not at all	A little of the time	Some of the time	A good deal of the time	Almost all the time
My tinnitus has made me feel unhappy	0	1	2	3	4
My tinnitus has made me feel tense	0	1	2	3	4
My tinnitus has made me feel irritable	0	1	2	3	4
My tinnitus has made me feel angry	0	1	2	3	4
My tinnitus has led me to cry	0	1	2	3	4
My tinnitus has led me to avoid quiet situations	0	1	2	3	4
My tinnitus has made me feel less interested in going out	0	1	2	3	4
My tinnitus has made me feel depressed	0	1	2	3	4
My tinnitus has made me feel annoyed	0	1	2	3	4
My tinnitus has made me feel confused	0	1	2	3	4
My tinnitus has "driven me crazy"	0	1	2	3	4
My tinnitus has interfered with my enjoyment of life	0	1	2	3	4
My tinnitus has made it hard for me to concentrate	0	1	2	3	4

	Not at all	A little of the time	Some of the time	A good deal of the time	Almost all the time
My tinnitus has made it hard for me to relax	0	1	2	3	4
My tinnitus has made me feel distressed	0	1	2	3	4
My tinnitus has made me feel helpless	0	1	2	3	4
My tinnitus has made me feel frustrated with things	0	1	2	3	4
My tinnitus has interfered with my ability to work	0	1	2	3	4
My tinnitus has led me to despair	0	1	2	3	4
My tinnitus has led me to avoid noisy situations	0	1	2	3	4
My tinnitus has led me to avoid social situations	0	1	2	3	4
My tinnitus has made me feel hopeless about the future	0	1	2	3	4
My tinnitus has interfered with my sleep	0	1	2	3	4
My tinnitus has led me to think about suicide	0	1	2	3	4
My tinnitus has made me feel panicky	0	1	2	3	4
My tinnitus has made me feel tormented	0	1	2	3	4

Is there any other way in which tinnitus has affected you?

Iowa Tinnitus Handicap Questionnaire (RST-4/21/87)

Date ___/___/___

Age _____ Sex M / F

Indicate to what degree you agree or disagree with the following statements, by writing in a number from '0' to '100'.

'0' indicates that you strongly disagree

'100' indicates that you strongly agree

Numbers between '0' and '100' should also be used to represent your level of agreement with each statement.

PLEASE ANSWER ALL THE QUESTIONS.

(0-100)

- 1. I do not enjoy life because of tinnitus. _____
- 2. My tinnitus has gotten worse over the years. _____
- 3. Tinnitus interferes with my ability to tell where sounds are coming from. _____
- 4. I am unable to follow a conversation during meetings because of tinnitus. _____
- 5. Tinnitus causes me to avoid noisy situations. _____
- 6. Tinnitus interferes with my speech understanding when talking with someone in a noisy room. _____
- 7. I feel uneasy in social situations because of tinnitus. _____
- 8. The general public does not know about the devastating nature of tinnitus. _____
- 9. I cannot concentrate because of tinnitus. _____
- 10. Tinnitus creates family problems. _____
- 11. Tinnitus causes me to feel depressed. _____
- 12. I find it difficult to explain what tinnitus is to others. _____
- 13. Tinnitus causes stress. _____

- 14. I am unable to relax because of tinnitus. _____
- 15. I complain more because of tinnitus. _____
- 16. I have trouble falling asleep at night because of tinnitus. _____
- 17. Tinnitus makes me feel tired. _____
- 18. Tinnitus makes me feel insecure. _____
- 19. Tinnitus contributes to a feeling of general ill health. _____
- 20. Tinnitus affects the quality of my relationships. _____
- 21. Tinnitus has caused a reduction in my speech understanding ability. _____
- 22. Tinnitus makes me feel annoyed. _____
- 23. Tinnitus interferes with my speech understanding when listening to the television. _____
- 24. Tinnitus makes me feel anxious. _____
- 25. Tinnitus makes me nervous. _____
- 26. I think I have a healthy outlook on tinnitus. _____
- 27. I have support from my friends regarding my tinnitus. _____
- 28. I feel frustrated frequently because of tinnitus. _____

T-E QUESTIONNAIRE

The purpose of this questionnaire is to find out whether the noises in your ears/head have had any effect on your mood, habits or attitudes. Circle the appropriate answer to each question.

- | | | | |
|-------------------------------------------------------------------------------------|------|-------------|----------|
| 1. I can sometimes ignore the noises even when they are there. | TRUE | PARTLY TRUE | NOT TRUE |
| 2. I am unable to enjoy listening to music because of the noises. | TRUE | PARTLY TRUE | NOT TRUE |
| 3. It's unfair that I have to suffer with my noises. | TRUE | PARTLY TRUE | NOT TRUE |
| 4. I wake up more in the night because of my noises. | TRUE | PARTLY TRUE | NOT TRUE |
| 5. I am aware of the noises from the moment I get up to the moment I sleep. | TRUE | PARTLY TRUE | NOT TRUE |
| 6. Your attitude to the noise makes no difference to how it affects you. | TRUE | PARTLY TRUE | NOT TRUE |
| 7. Most of the time the noises are fairly quiet. | TRUE | PARTLY TRUE | NOT TRUE |
| 8. I worry that the noises will give me a nervous breakdown. | TRUE | PARTLY TRUE | NOT TRUE |
| 9. Because of the noises I have difficulty in telling where sounds are coming from. | TRUE | PARTLY TRUE | NOT TRUE |
| 10. The way the noises sound is really unpleasant. | TRUE | PARTLY TRUE | NOT TRUE |
| 11. I feel I can never get away from the noises. | TRUE | PARTLY TRUE | NOT TRUE |
| 12. Because of the noises I wake up earlier in the morning. | TRUE | PARTLY TRUE | NOT TRUE |
| 13. I worry whether I will be able to put up with this problem for ever. | TRUE | PARTLY TRUE | NOT TRUE |
| 14. Because of the noises it is more difficult to listen to several people at once. | TRUE | PARTLY TRUE | NOT TRUE |
| 15. The noises are loud most of the time. | TRUE | PARTLY TRUE | NOT TRUE |

16. Because of the noises I worry that there is something seriously wrong with my body.	TRUE	PARTLY TRUE	NOT TRUE
17. If the noises continue my life will not be worth living.	TRUE	PARTLY TRUE	NOT TRUE
18. I have lost some of my confidence because of the noises.	TRUE	PARTLY TRUE	NOT TRUE
19. I wish someone understood what this problem is like.	TRUE	PARTLY TRUE	NOT TRUE
20. The noises distract me whatever I am doing.	TRUE	PARTLY TRUE	NOT TRUE
21. There is very little one can do to cope with the noises.	TRUE	PARTLY TRUE	NOT TRUE
22. The noises sometimes give me a pain in the ear or head.	TRUE	PARTLY TRUE	NOT TRUE
23. When I feel low and pessimistic the noise seems worse.	TRUE	PARTLY TRUE	NOT TRUE
24. I am more irritable with my family and friends because of the noises.	TRUE	PARTLY TRUE	NOT TRUE
25. Because of the noises I have tension in the muscles of my head and neck.	TRUE	PARTLY TRUE	NOT TRUE
26. Because of the noises other people's voices sound distorted to me.	TRUE	PARTLY TRUE	NOT TRUE
27. It will be dreadful if these noises never go away.	TRUE	PARTLY TRUE	NOT TRUE
28. I worry that the noises might damage my physical health.	TRUE	PARTLY TRUE	NOT TRUE
29. The noise seems to go right through my head.	TRUE	PARTLY TRUE	NOT TRUE

30. Almost all my problems are caused by these noises.	TRUE	PARTLY TRUE	NOT TRUE
31. Sleep is my main problem.	TRUE	PARTLY TRUE	NOT TRUE
32. It's the way you think about the noise - NOT the noise itself which makes you upset.	TRUE	PARTLY TRUE	NOT TRUE
33. I have more difficulty following a conversation because of the noises.	TRUE	PARTLY TRUE	NOT TRUE
34. I find it harder to relax because of the noises.	TRUE	PARTLY TRUE	NOT TRUE
35. My noises are often so bad that I cannot ignore them.	TRUE	PARTLY TRUE	NOT TRUE
36. It takes me longer to get to sleep because of the noises.	TRUE	PARTLY TRUE	NOT TRUE
37. I sometimes get very angry when I think about having the noises.	TRUE	PARTLY TRUE	NOT TRUE
38. I find it harder to use the telephone because of the noises.	TRUE	PARTLY TRUE	NOT TRUE
39. I am more liable to feel low because of the noises.	TRUE	PARTLY TRUE	NOT TRUE
40. I am able to forget about the noises when I am doing something interesting.	TRUE	PARTLY TRUE	NOT TRUE
41. Because of the noises life seems to be getting on top of me.	TRUE	PARTLY TRUE	NOT TRUE
42. I have always been sensitive about trouble with my ears.	TRUE	PARTLY TRUE	NOT TRUE
43. I often think about whether the noises will ever go away.	TRUE	PARTLY TRUE	NOT TRUE
44. I can imagine coping with the noises.	TRUE	PARTLY TRUE	NOT TRUE

- | | | |
|-------------------------------------------------------------------------|------|----------------|
| 45. The noises never 'let up'. | TRUE | PARTLY
TRUE |
| 46. A stronger person might be better at accepting this problem. | TRUE | PARTLY
TRUE |
| 47. I am a victim of my noises. | TRUE | PARTLY
TRUE |
| 48. The noises have affected my concentration. | TRUE | PARTLY
TRUE |
| 49. The noises are one of those problems in life you have to live with. | TRUE | PARTLY
TRUE |
| 50. Because of the noises I am unable to enjoy the radio or television. | TRUE | PARTLY
TRUE |
| 51. The noises sometimes produce a bad headache. | TRUE | PARTLY
TRUE |
| 52. I have always been a light sleeper. | TRUE | PARTLY
TRUE |

SCORING KEY FOR THE TINNITUS EFFECTS QUESTIONNAIRE (TEQ)
 (Personal communication , Hallam (1991))

	True	Partly True	Not True
<u>Emotional Distress Factor</u>			
7. Most of the time the noises are fairly quiet.	-2	-2	-1
11. I feel I can never get away from the noises.	2	2	1
24. I am more irritable with my family and friends because of the noises.	2	2	1
10. The way the noises sound is really unpleasant.	2	2	1
19. I wish someone understood what this problem is like.	2	2	1
15. The noises are loud most of the time.	2	2	1
13. I worry whether I will be able to put up with this problem forever.	2	1	1
37. I sometimes get very angry when I think about having the noises.	2	2	1
39. I am more liable to feel low because of the noises.	2	2	1
43. I often think about whether the noises will ever go away.	2	1	1
<u>Auditory Perceptual Difficulties</u>			
9. Because of the noises I have difficulty in telling where sounds are coming from.	2	2	1
26. Because of the noises other peoples voices sound distorted to me.	2	2	1
14. Because of the noises it is more difficult to listen to several people at once.	2	1	1
33. I have more difficulty following a conversation because of the noises.	2	2	1

	True	Partly True	Not True
<u>Auditory Perceptual Difficulties</u>			
38. I find it harder to use the telephone because of the noises.	2	2	1
<u>Irrational Beliefs</u>			
6. Your attitude to the noises makes no difference to how it affects you.	2	1	1
21. There is very little one can do to cope with the noises.	2	2	1
8. I worry that the noises will give me a nervous breakdown.	2	2	1
47. I am a victim of my noises.	2	2	1
32. Its the way you think about the noises - not the noise itself which makes you upset.	-2	-2	-1
16. Because of the noises I worry I may have a serious medical condition.	2	2	1
30. Almost all my problems are caused by noise.	2	2	1
49. T he noises are one of those problems in life you have to live with.	-2	-1	-1
3. Its unfair that I have to suffer with my noises.	2	2	1
17. If the noises continue my life will not be worth living.	2	1	1
46. A stronger person might be better at accepting this problem.	-2	-2	-1

	True	Partly True	Not True
<hr/>			
<u>Insomnia</u>			
4. I wake up more in the night because of my noises.	2	2	1
35. My noises are often so bad I can't ignore them.	2	1	1
12. Because of the noises I wake earlier in the morning.	2	1	1
31. Sleep is my main problem.	2	2	1
34. I find it harder to relax because of the noises.	2	1	1
36. It takes me longer to get to sleep because of the noises.	2	2	1

Tinnitus Cognitions Questionnaire - R

655

In this questionnaire we would like to know what kinds of thoughts come into your head when you notice your tinnitus. Some of the thoughts which you have might be rather negative and others might be more positive. You might not necessarily think all the thoughts listed below, but you may recognize some which apply to you. Please indicate how often you have been aware of thinking a particular thought on occasions when you have noticed the tinnitus. **Please make sure that you answer each question.**

The first ones are the more negative thoughts that you might have.

	Never	Rarely	Occasion- ally	Frequent ly	Very Frequently
1. I think "If only the noise would go away"	0	1	2	3	4
2. I think "Why me? Why do I have to suffer this horrible noise?"	0	1	2	3	4
3. I think "What did I do to deserve this?"	0	1	2	3	4
4. I think "The noise makes my life unbearable"	0	1	2	3	4
5. I think "Nobody understands how bad the noise is"	0	1	2	3	4
6. I think "If only I could get some peace and quiet"	0	1	2	3	4
7. I think "I can't enjoy what I'm doing because of the noise"	0	1	2	3	4
8. I think "How can I go on putting up with this noise"	0	1	2	3	4
9. I think "The noise will drive me crazy"	0	1	2	3	4
10. I think "Why can't anyone help me?"	0	1	2	3	4
11. I think "My tinnitus is never going to get better"	0	1	2	3	4
12. I think "The noise will overwhelm me"	0	1	2	3	4
13. I think "With this noise, life is not worth living"	0	1	2	3	4

Now, here are the more positive thoughts that you might have:

656

	Never	Rarely	Occasion- ally	Frequent ly	Very Frequently
14. I think "No matter how unpleasant the noise gets, I can cope"	0	1	2	3	4
15. I think "The noise might be unpleasant, but it won't drive me crazy"	0	1	2	3	4
16. I think "I'll be able to enjoy things more if I keep my attention off the noise"	0	1	2	3	4
17. I think "I'm not the only person with tinnitus"	0	1	2	3	4
18. I think "there are things in life worse than tinnitus"	0	1	2	3	4
19. I think "The noise will eventually get less annoying if I try to distract myself from it"	0	1	2	3	4
20. I think "I have coped with the noise before, so I can cope again this time"	0	1	2	3	4
21. I say to myself "It will help if I try to think of something pleasant"	0	1	2	3	4
22. I tell myself "I can learn to live with it"	0	1	2	3	4
23. I think "The noise might be there, but I can still enjoy things"	0	1	2	3	4
24. I tell myself "Think of something else other than the noise"	0	1	2	3	4
25. I tell myself "I won't think about the noise"	0	1	2	3	4
26. I think "The noise is a nuisance but I just won't let it bother me"	0	1	2	3	4

	How often do you do this when you are aware of your tinnitus ?					How helpful do you find it ?				
	0	1	2	3	4	0	1	2	3	4
5) I take time off work/ housework.	0	1	2	3	4	0	1	2	3	4
6) I try to think of the sounds as not in my head but as external sounds.	0	1	2	3	4	0	1	2	3	4
7) I do something I enjoy like read or play sport.	0	1	2	3	4	0	1	2	3	4
8) I avoid or minimize physical exertion/activity.	0	1	2	3	4	0	1	2	3	4
9) I involve myself in my work.	0	1	2	3	4	0	1	2	3	4
10) I talk to a professional person (eg. my doctor)	0	1	2	3	4	0	1	2	3	4
11) I try to be around other people.	0	1	2	3	4	0	1	2	3	4
12) I pray that the tinnitus will go away.	0	1	2	3	4	0	1	2	3	4
13) I seek out social situations.	0	1	2	3	4	0	1	2	3	4
14) I pretend the tinnitus is not there.	0	1	2	3	4	0	1	2	3	4
15) I imagine a pleasant scene in my mind.	0	1	2	3	4	0	1	2	3	4
16) I seek help from other people with tinnitus.	0	1	2	3	4	0	1	2	3	4
17) I avoid or reduce loud noise.	0	1	2	3	4	0	1	2	3	4
18) I do something active, like household chores, gardening, painting, washing the car etc.	0	1	2	3	4	0	1	2	3	4
19) I don't pay attention to my tinnitus, but I focus on some other bodily sensation (eg. my breathing)	0	1	2	3	4	0	1	2	3	4

	How often do you do this when you are aware of your tinnitus ?					How helpful do you find it ?				
	0	1	2	3	4	0	1	2	3	4
20) I seek out noisy environments.	0	1	2	3	4	0	1	2	3	4
21) I avoid certain medications and/or foods/drinks.	0	1	2	3	4	0	1	2	3	4
22) I focus on aspects of my environment (such as the colour or shape of objects).	0	1	2	3	4	0	1	2	3	4
23) I try to keep busy.	0	1	2	3	4	0	1	2	3	4
24) I lie down and rest or sleep.	0	1	2	3	4	0	1	2	3	4
25) I imagine the sound of my tinnitus is actually what it sounds like.	0	1	2	3	4	0	1	2	3	4
26) I complain about my tinnitus to those around me.	0	1	2	3	4	0	1	2	3	4
27) I listen to music/radio or watch t.v.	0	1	2	3	4	0	1	2	3	4
28) I seek comfort through my religious beliefs and by attending church.	0	1	2	3	4	0	1	2	3	4
29) I continue with my daily life as if the tinnitus is not there.	0	1	2	3	4	0	1	2	3	4
30) I count numbers in my head or run a song through my mind.	0	1	2	3	4	0	1	2	3	4
31) I focus all of my attention on my tinnitus and can think of nothing else.	0	1	2	3	4	0	1	2	3	4
32) I imagine the sound of my tinnitus is a different sound, a pleasant, soothing sound.	0	1	2	3	4	0	1	2	3	4
33) I stay at home and do nothing.	0	1	2	3	4	0	1	2	3	4

TINNITUS KNOWLEDGE QUESTIONNAIRE

THIS QUESTIONNAIRE ASKS YOU A NUMBER OF QUESTIONS ABOUT TINNITUS. FOR EACH QUESTION YOU ARE GIVEN A NUMBER OF POSSIBLE ANSWERS. THE LETTERS A, B, C, D, OR E, ARE WRITTEN IN FRONT OF EACH POSSIBLE ANSWER. THERE IS ONLY ONE CORRECT ANSWER FOR EACH QUESTION. PLEASE CHOOSE THE CORRECT ANSWER TO EACH QUESTION. INDICATE YOUR CHOICE BY CIRCLING THE APPROPRIATE LETTER A, B, C, D, OR E.

1) WHAT IS TINNITUS?

- A. AN EAR DISORDER PRODUCED BY EXPOSURE TO LOUD NOISE.
- B. AN AUDITORY SENSATION (IN THE EAR OR HEAD) WHICH IS NOT RELATED TO AN EXTERNAL SOUND.
- C. AN AUDITORY SENSATION (IN THE EAR OR HEAD) WHICH IS RELATED TO AN EXTERNAL SOUND.
- D. I DON'T KNOW.

2) WHAT DOES THE WORD "TINNITUS" MEAN?

- A. TO RING, OR TINKLE, LIKE A BELL.
- B. METALLIC, LIKE TIN.
- C. SLIGHT PRICKLING, OR STINGING SENSATION, IN EARS OR HANDS.
- D. I DON'T KNOW.

3) WHAT IS THE COMMONEST AGE OF ONSET OF TINNITUS?

- A. PEOPLE AGED 20-40 YEARS
- B. PEOPLE AGED 70-90 YEARS
- C. PEOPLE AGED 50-60 YEARS.
- D. I DON'T KNOW.

4) WHAT PERCENTAGE OF THE POPULATION IS TROUBLED BY CHRONIC TINNITUS?

- A. ESTIMATED PERCENTAGE VARIES FORM 6-17% OF POPULATION.
- B. ESTIMATED PERCENTAGE VARIES FROM 20-27% OF POPULATION.
- C. ESTIMATED PERCENTAGE VARIES FROM 1-2% OF POPULATION.
- D. I DON'T KNOW.

5) DOES THE PRESENCE OF TINNITUS NECESSARILY MEAN THAT A PERSON IS GOING DEAF?

- A. YES, ALL PEOPLE WITH TINNITUS WILL EVENTUALLY BECOME DEAF.
- B. ONLY PEOPLE WITH TINNITUS IN BOTH EARS WILL BECOME DEAF.
- C. NO, TINNITUS DOES NOT MEAN THAT THE PERSON WILL BECOME DEAF.
- D. I DON'T KNOW.

- 6) WHAT PROPORTION OF PEOPLE WITH TINNITUS ARE MALE AND FEMALE?
- A. THE MAJORITY OF PEOPLE WITH TINNITUS ARE MALE.
 - B. THE MAJORITY OF PEOPLE WITH TINNITUS ARE FEMALE.
 - C. THE NUMBER OF MALES AND FEMALES WITH TINNITUS IS APPROXIMATELY EQUAL.
 - D. I DON'T KNOW.
- 7) DO ALL PEOPLE WITH TINNITUS EXPERIENCE THE SAME SOUNDS?
- A. NO, THE SOUNDS THAT PEOPLE EXPERIENCE MAY DIFFER.
 - B. YES, THE SOUNDS THAT PEOPLE EXPERIENCE ARE IDENTICAL.
 - C. I DON'T KNOW.
- 8) WHAT IS A MASKING DEVICE?
- A. A DEVICE WHICH WHEN ATTACHED TO THE EARS PREVENTS ALL NOISE - ALSO KNOWN AS A SILENCER.
 - B. A DEVICE WHICH GENERATES NOISE/S INTO THE EAR/S.
 - C. A DEVICE WHICH COVERS AND PROTECTS THE EARS.
 - D. I DON'T KNOW.

- 9) DO ALL PEOPLE WITH TINNITUS RESPOND TO A MASKING DEVICE?
- A. YES, MASKING DEVICES GIVE ALL PEOPLE WITH TINNITUS RELIEF.
 - B. NO, MASKING DEVICES ARE ONLY APPROPRIATE WITH HEARING-IMPAIRED PEOPLE.
 - C. NO, MASKING DEVICES ARE ONLY APPROPRIATE IN APPROXIMATELY 10% OF CASES.
 - D. I DON'T KNOW.
- 10) WHAT IS RESIDUAL INHIBITION?
- A. A CONTINUED MASKING EFFECT AFTER THE MASKER IS REMOVED.
 - B. SOMETHING LEFT OVER WHICH INHIBITS ALL ACTIVITY.
 - C. PERMANENT RELIEF FROM TINNITUS.
 - D. I DON'T KNOW.
- 11) WILL MASKING DAMAGE A PERSON'S HEARING?
- A. YES, BUT IT WILL ONLY EVER EFFECT HEARING IN ONE EAR.
 - B. YES, IF USED FOR MORE THAN 8 HOURS A DAY.
 - C. NO, RESEARCH SUGGESTS IT WILL NOT AFFECT HEARING : IT IS UNLIKELY THAT PEOPLE WOULD TOLERATE IT AT LEVELS SEVERE ENOUGH TO CAUSE DAMAGE.
 - D. I DON'T KNOW.

12) DO WE KNOW WHAT CAUSES TINNITUS?

- A. YES, TINNITUS IS CAUSED ONLY THROUGH EXPOSURE TO LOUD NOISE.
- B. NO, THE SPECIFIC CAUSE IS UNKNOWN - THERE ARE MANY POSSIBLE CAUSES.
- C. YES, TINNITUS IS CAUSED SOLELY BY EUSTACHIAN TUBE MALFUNCTION.
- D. I DON'T KNOW.

13) IS THERE ANY MEDICINE WHICH WILL PERMANENTLY STOP TINNITUS?

- A. PANADOL PROVIDES PERMANENT RELIEF IF USED OVER A LONG TIME PERIOD.
- B. THE SAME MEDICINE AS THAT USED FOR VERTIGO (DIZZINESS) PROVIDES PERMANENT RELIEF FROM TINNITUS.
- C. SOME MEDICINES MAY PROVIDE PARTIAL BENEFICIAL EFFECTS, HOWEVER, AT PRESENT, THERE ARE NO PERMANENT EFFECTS FOR TINNITUS FROM ANY MEDICINE.
- D. I DON'T KNOW.

14) DOES WEARING A HEARING AID HELP ALL PEOPLE WITH TINNITUS?

- A. NO, IT DOES NOT HELP ALL PEOPLE WITH TINNITUS.
- B. YES, IT HELPS ALL PEOPLE WITH TINNITUS.
- C. YES, IT MAY BE HELPFUL, BUT ONLY FOR THOSE PEOPLE WITH TINNITUS IN ONE EAR ONLY.
- D. I DON'T KNOW.

15) ARE THERE GROUPS IN THE COMMUNITY TO ASSIST PEOPLE WITH TINNITUS?

- A. NO.
- B. YES.
- C. I DON'T KNOW.

16) MAY EXPOSURE TO LOUD NOISE MAKE TINNITUS WORSE?

- A. IT DEPENDS ON THE NOISE, THE SOUND OF LOUD JACK-HAMMERS WILL, BUT THE SOUND OF LOUD MUSIC WILL NOT.
- B. YES, PEOPLE WITH TINNITUS SHOULD AVOID LOUD NOISE.
- C. NO, IT MAKES NO DIFFERENCE AT ALL.
- D. I DON'T KNOW.

17) MAY EXCESSIVE USE OF ALCOHOL MAKE TINNITUS WORSE?

- A. YES, ALL TYPES OF ALCOHOL MAY WORSEN TINNITUS.
- B. NO. ALCOHOL MAKES NO DIFFERENCE.
- C. ONLY SPIRITS WILL WORSEN TINNITUS, BEER AND WINE HAS NO EFFECTS.
- D. I DON'T KNOW.

18) WHAT IS A TINNITUS INSTRUMENT?

- A. A DEVICE WHICH REDUCES THE LOUDNESS OF TINNITUS TO A MINIMUM.
- B. A DEVICE WHICH MEASURES THE LOUDNESS OF TINNITUS.
- C. A COMBINED HEARING AID AND MASKER.
- D. I DON'T KNOW.

19) WHAT RECENT OPERATION HAS BEEN SHOWN TO RELIEVE TINNITUS
IN ALL CASES?

- A. SEVERING THE EIGHTH NERVE.
- B. IMPLANTING A BIONIC EAR.
- C. DESTROYING THE VESTIBULAR SYSTEM.
- D. NONE OF THE ABOVE.
- E. I DON'T KNOW.

20) WHICH OF THE FOLLOWING SUBSTANCES HAS NO KNOWN NEGATIVE
EFFECT ON TINNITUS?

- A. CAFFEINE.
- B. NICOTINE.
- C. MONOSODIUM GLUTOMATE.
- D. QUININE.
- E. I DON'T KNOW.

21) WHICH OF THE FOLLOWING MEDICINES MAY BE USEFUL IN THE RELIEF OF TINNITUS?

- A. QUINIDINE (AN ANTI-MALARIAL)
- B. STREPTOMYCIN (AN ANTIBIOTIC)
- C. ASPIRIN (A PAIN-KILLER)
- D. TEGRETOL (AN ANTI-EPILEPTIC)
- E. I DON'T KNOW.

22) WHICH OF THE FOLLOWING FOODS HAS NO KNOWN NEGATIVE EFFECT ON TINNITUS?

- A. GARLIC.
- B. CHEESE.
- C. COCOA.
- D. EXCESSIVE USE OF SALT.
- E. I DON'T KNOW.

23) THE TECHNICAL NAME FOR THE EAR-DRUM IS?

- A. THE COCHLEA.
- B. THE TYMPANIC MEMBRANE.
- C. THE EUSTACHIAN TUBE.
- D. I DON'T KNOW.

24) THE TECHNICAL NAME FOR AN EAR, NOSE AND THROAT SPECIALIST IS?

- A. AN OTORADIOLOGIST.
- B. AN OTOLOGIST.
- C. AN OTOLARYNGOLOGIST.
- D. I DON'T KNOW.

25) XYLOCAINE IS?

- A. AN INSTRUMENT FOR ASSESSING TEMPOROMANDIBULAR JOINT DISEASE.
- B. A LOCAL ANAESTHETIC.
- C. A PORTION OF THE EUSTACHIAN TUBE.
- D. I DON'T KNOW.

26) WHICH OF THE FOLLOWING DOES NOT APPLY TO OBJECTIVE TINNITUS?

- A. IT IS ALSO TERMED VIBRATORY TINNITUS.
- B. IT IS ALSO TERMED A BRUIT.
- C. IT IS THE COMMONEST FORM OF TINNITUS.
- D. IN HYPERTENSIVE PEOPLE, THE TINNITUS MAY BE HEARD MORE ON ONE SIDE THAN THE OTHER.
- E. I DON'T KNOW.

27) WHICH OF THE FOLLOWING MEDICAL CONDITIONS IS NOT COMMONLY ASSOCIATED WITH TINNITUS?

- A. MENIERE'S DISEASE.
- B. HYPERTENSION.
- C. ALLERGIES.
- D. PEPTIC ULCER.
- E. I DON'T KNOW.

 BECK INVENTORY

Name _____ Date _____

On this questionnaire are groups of statements. Please read each group of statements carefully. Then pick out the one statement in each group which best describes the way you have been feeling the PAST WEEK, INCLUDING TODAY! Circle the number beside the statement you picked. If several statements in the group seem to apply equally well, circle each one. Be sure to read all the statements in each group before making your choice.

1. 0 I do not feel sad.
 1 I feel sad.
 2 I am sad all the time and I can't snap out of it.
 3 I am so sad or unhappy that I can't stand it.
2. 0 I am not particularly discouraged about the future.
 1 I feel discouraged about the future.
 2 I feel I have nothing to look forward to.
 3 I feel that the future is hopeless and that things cannot improve.
3. 0 I do not feel like a failure.
 1 I feel I have failed more than the average person.
 2 As I look back on my life, all I can see is a lot of failures.
 3 I feel I am a complete failure as a person.
4. 0 I get as much satisfaction out of things as I used to.
 1 I don't enjoy things the way I used to.
 2 I don't get real satisfaction out of anything anymore.
 3 I am dissatisfied or bored with everything.
5. 0 I don't feel particularly guilty.
 1 I feel guilty a good part of the time.
 2 I feel quite guilty most of the time.
 3 I feel guilty all of the time.
6. 0 I don't feel I am being punished.
 1 I feel I may be punished.
 2 I expect to be punished.
 3 I feel I am being punished.
7. 0 I don't feel disappointed in myself.
 1 I am disappointed in myself.
 2 I am disgusted with myself.
 3 I hate myself.
8. 0 I don't feel I am any worse than anybody else.
 1 I am critical of myself for my weaknesses or mistakes.
 2 I blame myself all the time for my faults.
 3 I blame myself for everything bad that happens.

9. 0 I don't have any thoughts of killing myself.
 1 I have thoughts of killing myself, but I would not carry them out.
 2 I would like to kill myself.
 3 I would kill myself if I had the chance.
10. 0 I don't cry any more than usual.
 1 I cry more now than I used to.
 2 I cry all the time now.
 3 I used to be able to cry, but now I can't cry even though I want to.
11. 0 I am no more irritated now than I ever am.
 1 I get annoyed or irritated more easily than I used to.
 2 I feel irritated all the time now.
 3 I don't get irritated at all by the things that used to irritate me.
12. 0 I have not lost interest in other people.
 1 I am less interested in other people than I used to be.
 2 I have lost most of my interest in other people.
 3 I have lost all my interest in other people.
13. 0 I make decisions about as well as I ever could.
 1 I put off making decisions more than I used to.
 2 I have greater difficulty in making decisions than before
 3 I can't make decisions at all anymore.
14. 0 I don't feel I look any worse than I used to.
 1 I am worried that I am looking old or unattractive.
 2 I feel that there are permanent changes in my appearance that make me look unattractive.
 3 I believe that I look ugly.
15. 0 I can work about as well as before.
 1 I takes an extra effort to get started at doing something
 2 I have to push myself very hard to do anything.
 3 I can't do any work at all.
16. 0 I can sleep as well as usual.
 1 I don't sleep as well as I used to.
 2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
 3 I wake up several hours earlier than I used to and cannot get back to sleep.
17. 0 I don't get more tired than usual.
 1 I get tired more easily than I used to.
 2 I get tired from doing almost anything.
 3 I am too tired to do anything.
18. 0 My appetite is no worse than usual.
 1 My appetite is not as good as it used to be.
 2 My appetite is much worse now.
 3 I have no appetite at all anymore.

19. 0 I haven't lost much weight, if any, lately. 672
1 I have lost more than 5 pounds.
2 I have lost more than 10 pounds.
3 I have lost more than 15 pounds.
I am purposely trying to lose weight by eating
less. YES _____ NO _____
20. 0 I am no more worried about my health than usual.
1 I am worried about physical problems such as aches and
pains: or upset stomach: or constipation.
2 I am very worried about physical problems and it's hard
to think of much else.
3 I am so worried about my physical problems that I cannot
think about anything else.
21. 0 I have not noticed any recent change in my interest in
sex.
1 I am less interested in sex than I used to be.
2 I am much less interested in sex now.
3 I have lost interest in sex completely.

LOCUS OF PERSONAL CONTROL SCALE

Below are a number of statements about how various topics affect your personal beliefs. There are no right or wrong answers. For every item there are a large number of people who agree and disagree. Could you please circle the appropriate phrase under each statement to indicate how much you believe it to be true. Please answer all 17 questions.

1. I can anticipate difficulties and take action to avoid them.

Strongly Disagree	Generally Disagree	Somewhat Disagree	Somewhat Agree	Generally Agree	Strongly Agree	<input type="checkbox"/>
----------------------	-----------------------	----------------------	-------------------	--------------------	-------------------	--------------------------

2. A great deal of what happens to me is probably just a matter of chance.

Strongly Disagree	Generally Disagree	Somewhat Disagree	Somewhat Agree	Generally Agree	Strongly Agree	<input type="checkbox"/>
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3. Everyone knows that luck or chance determines one's future.

Strongly Disagree	Generally Disagree	Somewhat Disagree	Somewhat Agree	Generally Agree	Strongly Agree	<input type="checkbox"/>
----------------------	-----------------------	----------------------	-------------------	--------------------	-------------------	--------------------------

4. I can control my problem(s) only if I have outside support.

Strongly Disagree	Generally Disagree	Somewhat Disagree	Somewhat Agree	Generally Agree	Strongly Agree	<input type="checkbox"/>
----------------------	-----------------------	----------------------	-------------------	--------------------	-------------------	--------------------------

5. When I make plans, I am almost certain that I can make them work.

Strongly Disagree	Generally Disagree	Somewhat Disagree	Somewhat Agree	Generally Agree	Strongly Agree	<input type="checkbox"/>
----------------------	-----------------------	----------------------	-------------------	--------------------	-------------------	--------------------------

6. My problem(s) will dominate me all my life.

Strongly Disagree	Generally Disagree	Somewhat Disagree	Somewhat Agree	Generally Agree	Strongly Agree	<input type="checkbox"/>
----------------------	-----------------------	----------------------	-------------------	--------------------	-------------------	--------------------------

7. My mistakes and problems are my responsibility to deal with.

Strongly Disagree	Generally Disagree	Somewhat Disagree	Somewhat Agree	Generally Agree	Strongly Agree	<input type="checkbox"/>
----------------------	-----------------------	----------------------	-------------------	--------------------	-------------------	--------------------------

8. Becoming a success is a matter of hard work, luck has little or nothing to do with it.

Strongly Disagree	Generally Disagree	Somewhat Disagree	Somewhat Agree	Generally Agree	Strongly Agree	<input type="checkbox"/>
----------------------	-----------------------	----------------------	-------------------	--------------------	-------------------	--------------------------

9. My life is controlled by outside actions and events.

Strongly Disagree	Generally Disagree	Somewhat Disagree	Somewhat Agree	Generally Agree	Strongly Agree	<input type="checkbox"/>
----------------------	-----------------------	----------------------	-------------------	--------------------	-------------------	--------------------------

10. People are victims of circumstance beyond their control.

Strongly Disagree	Generally Disagree	Somewhat Disagree	Somewhat Agree	Generally Agree	Strongly Agree	<input type="checkbox"/>
----------------------	-----------------------	----------------------	-------------------	--------------------	-------------------	--------------------------

11. To continually manage my problem(s) I need professional help.

Strongly Disagree	Generally Disagree	Somewhat Disagree	Somewhat Agree	Generally Agree	Strongly Agree	<input type="checkbox"/>
----------------------	-----------------------	----------------------	-------------------	--------------------	-------------------	--------------------------

12. When I am under stress, the tightness in my muscles is due to things outside my control.

Strongly Disagree	Generally Disagree	Somewhat Disagree	Somewhat Agree	Generally Agree	Strongly Agree	<input type="checkbox"/>
----------------------	-----------------------	----------------------	-------------------	--------------------	-------------------	--------------------------

13. I believe a person can really be the master of his fate.

Strongly Disagree	Generally Disagree	Somewhat Disagree	Somewhat Agree	Generally Agree	Strongly Agree	<input type="checkbox"/>
----------------------	-----------------------	----------------------	-------------------	--------------------	-------------------	--------------------------

14. It is impossible to control my irregular and fast breathing when I am having difficulties.

Strongly Disagree	Generally Disagree	Somewhat Disagree	Somewhat Agree	Generally Agree	Strongly Agree	<input type="checkbox"/>
----------------------	-----------------------	----------------------	-------------------	--------------------	-------------------	--------------------------

15. I understand why my problem(s) varies so much from one occasion to the next.

Strongly Disagree	Generally Disagree	Somewhat Disagree	Somewhat Agree	Generally Agree	Strongly Agree	<input type="checkbox"/>
----------------------	-----------------------	----------------------	-------------------	--------------------	-------------------	--------------------------

16. I am confident of being able to deal successfully with future problems.

Strongly Disagree	Generally Disagree	Somewhat Disagree	Somewhat Agree	Generally Agree	Strongly Agree	<input type="checkbox"/>
----------------------	-----------------------	----------------------	-------------------	--------------------	-------------------	--------------------------

17. In my case maintaining control over my problem(s) is due mostly to luck.

Strongly Disagree	Generally Disagree	Somewhat Disagree	Somewhat Agree	Generally Agree	Strongly Agree	<input type="checkbox"/>
----------------------	-----------------------	----------------------	-------------------	--------------------	-------------------	--------------------------

NAME:-

DATE:-

1. Today, I noticed my tinnitus:-

Circle one:-	Not at all	A little of the time	Some of the time	A good deal of the time
	Almost all the time			

2. Today, the loudest my tinnitus got was:-

Circle one:-	No tinnitus	Very faint	Moderately loud	Very loud	Extremely loud
--------------	-------------	------------	-----------------	-----------	----------------

3. Was there any situation or time when your tinnitus was very noticeable? If so, please give details _____

4. Today, my tinnitus bothered me:-

Circle one:-	Not at all	A little	Moderately	Very much	Extremely
--------------	------------	----------	------------	-----------	-----------

NAME:-

DATE:-

1. Today, I noticed my tinnitus:-

Circle one:-	Not at all	A little of the time	Some of the time	A good deal of the time
	Almost all the time			

2. Today, the loudest my tinnitus got was:-

Circle one:-	No tinnitus	Very faint	Moderately loud	Very loud	Extremely loud
--------------	-------------	------------	-----------------	-----------	----------------

3. Was there any situation or time when your tinnitus was very noticeable? If so, please give details _____

4. Today, my tinnitus bothered me:-

Circle one:-	Not at all	A little	Moderately	Very much	Extremely
--------------	------------	----------	------------	-----------	-----------

APPENDIX 16SUMMARY OF ANOVAs OF PRE-TREATMENT DEPENDENT VARIABLES :TREATMENT OUTCOME STUDY 1.

<u>VARIABLE</u>	Treatment v Waiting List	Combined Cognitive & Education v Education Only
	F-Ratio	F-Ratio
TRQ	0.33	0.06
BDI	0.17	1.38
LCB	2.17	0.23
THQ	0.59	0.27
TCQ	7.74 *	0.02
TCSQ-F	0.21	0.01
TCSQ-B	0.13	0.64
TKQ	1.16	1.34
TEQ (Total)	0.07	0.11
TEQ (ED Factor)	2.49	0.34
TEQ (IB Factor)	1.96	2.65
Noticeability	0.41	0.97
Bothersomeness	0.47	1.76
Subjective Loudness	0.36	0.94

* (Univariate) $p < 0.01$.

APPENDIX 17TEQ INSOMNIA AND AUDITORY PERCEPTUAL DIFFICULTIES FACTOR SCORES
FOR TREATMENT OUTCOME STUDY 1: SUMMARY OF RESULTS OF STATISTICAL
ANALYSIS.

- (i) Group Means And Standard Deviations For TEQ Insomnia and Auditory Perceptual Difficulties Factor Scores.
- (ii) Summary of Results of Repeated Measures ANOVAs For Mean TEQ Insomnia Factor Scores From Pre-Treatment to Post-Treatment.
- (iii) Summary of Results of Repeated Measures ANOVAs For Mean TEQ Auditory Perceptual Difficulties Factor Scores From Pre-Treatment to Post-Treatment.
- (iv) Summary of Results of Repeated Measures ANOVAs For Mean TEQ Insomnia Factor Scores From Pre-Treatment to 12-Month Follow-up.
- (v) Summary of Results of Repeated Measures ANOVAs For Mean TEQ Auditory Perceptual Difficulties Factor Scores From Pre-Treatment to 12-Month Follow-up.
- (vi) Summary of Results of Trend Analysis For Mean TEQ Insomnia Factor Scores.
- (vii) Summary of Results of Trend Analysis For Mean TEQ Auditory Perceptual Factor Scores.

Treatment Outcome Study 1 : Group Means, Standard Deviations For TEQ
Insomnia and Auditory Perceptual Difficulties Factor Scores.

<u>MEASURE</u>	<u>OCCASION</u>	CCS+ED	<u>CONDITION</u>	WLC
			ED	
TEQ INSOMNIA	Pre M	7.00	7.50	7.70
	SD	1.65	1.43	1.18
	n	(20)	(20)	(20)
	Post M	6.80	7.20	7.10
	SD	1.64	1.36	1.65
	n	(20)	(20)	(20)
	4 Mth M	6.88	7.86	7.43
	SD	1.46	1.66	1.99
	n	(16)	(14)	(14)
	8 Mth M	6.50	8.00	7.86
	SD	1.37	1.36	1.83
	n	(16)	(14)	(14)
	12 Mth M	7.63	7.77	8.29
	SD	1.82	1.56	2.05
	n	(16)	(14)	(14)
TEQ AUDITORY PERCEPTUAL DIFFICULTIES	Pre M	6.85	6.55	8.05
	SD	2.13	1.76	1.93
	n	(20)	(20)	(20)
	Post M	6.40	7.05	7.80
	SD	1.54	1.96	2.26
	n	(20)	(20)	(20)
	4 Mth M	7.00	7.00	7.93
	SD	2.00	2.22	2.27
	n	(16)	(14)	(14)
	8 Mth M	6.43	7.00	8.14
	SD	1.79	2.35	2.21
	n	(16)	(14)	(14)
	12 Mth M	6.88	7.41	8.07
	SD	2.09	2.12	2.43
	n	(16)	(17)	(14)

Summary Of Repeated Measures ANOVA of Mean TEQ Insomnia Factor Scores
From Pre-treatment to Post-treatment (Treatment Outcome Study 1) .

SOURCE	SS	DF	MS	F
BETWEEN				
Within Cells	246.30	57	4.32	
Constant	6249.63	1	6249.63	1446.32
TMT v WL	2.02	1	2.02	0.47
CCS+ED v ED	4.05	1	4.05	0.94
WITHIN				
Within Cells	41.10	57	0.72	
Time	4.03	1	4.03	5.59*
TMT v WL x Time	0.82	1	0.82	1.13
CCS+ED v ED x Time	0.05	1	0.05	0.07

* (Univariate) $p < 0.05$

With the Bonferroni correction none of the group by time interactions proved to be significant. However, with the univariate decision-wise error rate, there was a significant overall pre-treatment to post-treatment improvement in TEQ Insomnia Factor scores.

Summary of Repeated Measures ANOVA of Mean TEQ Auditory Perceptual Difficulties Factor Scores from Pre-treatment to Post-treatment (Treatment Outcome Study 1).

SOURCE	SS	DF	MS	F
BETWEEN				
Within Cells	327.55	57	6.54	
Constant	6077.63	1	6077.63	929.88
TMT v WL	39.20	1	39.20	6.00
CCS+ED v ED	0.61	1	0.61	0.09
WITHIN				
Within Cells	58.85	57	1.03	
Time	0.13	1	0.13	0.13
TMT v WL x Time	0.50	1	0.50	0.49
CCS+ED v ED x Time	4.51	1	4.51	4.37 *

* (Univariate) $p < 0.05$

With the Bonferroni correction none of the group by time interactions were significant. With the univariate decision wise error rate, there is a significant improvement in mean AP Factor scores for the combined cognitive education group compared with education alone ($F(1,57)=4.37, p<0.05$).

Summary of Repeated Measures ANOVA of Mean TEQ Insomnia Factor Scores
From Pre-treatment to 12 Month Follow-up.

SOURCE	SS	DF	MS	F
BETWEEN				
Within Cells	206.07	44	4.68	
Constant	5537.91	1	5537.91	1182.46
TMT v WL	8.64	1	8.64	1.85
CCS+ED v ED	1.85	1	1.85	0.39
WITHIN				
Within Cells	53.83	44	1.22	
Time	3.41	1	3.41	2.78
TMT v WL x Time	0.10	1	0.10	0.08
CCS+ED v ED x Time	0.63	1	0.63	0.51

Repeated measures ANOVA revealed no significant pre-treatment to 12 month follow-up improvements (within subjects) in TEQ Insomnia Factor scores. There were no significant differences in improvement between the two treatment conditions compared with the control conditions, and no significant differences between the combined cognitive/education and education only conditions.

APPENDIX 17 (v)Summary of Repeated Measures ANOVA of Mean TEQ Auditory Perceptual Difficulties Factor Scores From Pre-treatment to 12 Month Follow-up.

SOURCE	SS	DF	MS	F
BETWEEN				
Within Cells	341.92	44	7.77	
Constant	5035.79	1	5035.79	648.03
TMT v WL	21.20	1	21.20	2.73
CCS+ED v ED	0.55	1	0.55	0.07
WITHIN				
Within Cells	40.87	44	0.93	
Time	1.12	1	1.12	1.20
TMT v WL x Time	0.24	1	0.24	0.26
CCS+ED v ED x Time	2.07	1	2.07	2.23

Repeated measures ANOVA revealed no significant overall improvement from pre-treatment to 12 month follow-up in TEQ Auditory Perceptual Difficulties Factor Scores. None of the group by time interactions were significant.

Trend Analysis: Pre-treatment, Post-treatment, 4 Month, 8 Month
12 Month Follow-up for Mean TEQ Insomnia Factor Scores.

EFFECT	VARIABLE	HYPOTH. SS	ERROR SS	HYPOTH. MS	ERROR MS	F
Time	Linear	4.75	61.12	4.75	1.49	3.19
	Quadratic	6.66	54.33	6.66	1.33	5.02*
	Cubic	1.40	31.63	1.40	0.77	1.82
	Quartic	2.01	39.48	2.01	0.96	2.09

* (Univariate) $p < 0.05$

TMT v WL	Linear	0.02	61.12	0.02	1.49	0.01
	Quadratic	1.90	54.33	1.90	1.33	1.43
	Cubic	0.18	31.63	0.18	0.77	0.24
	Quartic	0.69	39.48	0.69	0.96	0.72
CCS+ED v ED	Linear	0.05	61.12	0.05	1.49	0.04
	Quadratic	4.63	54.33	4.63	1.33	3.49
	Cubic	5.01	31.63	5.01	0.77	6.49*
	Quartic	0.29	39.48	0.29	0.96	0.31

* (Univariate) $p < 0.05$

Trend Analysis : Pre-treatment, Post-treatment, 4 Month, 8 Month,
12 Month Follow-up For Mean TEQ Auditory Perceptual Difficulties
Factor Scores.

EFFECT	VARIABLE	HYPOTH.	ERROR	HYPOTH.	ERROR	F
		SS	SS	MS	MS	
Time	Linear	0.59	38.99	0.59	0.95	0.62
	Quadratic	0.16	22.67	0.16	0.55	0.30
	Cubic	0.24	45.13	0.24	1.10	0.22
	Quartic	0.46	38.86	0.46	0.95	0.48
TMT v WL	Linear	0.11	38.99	0.11	0.95	0.11
	Quadratic	0.08	22.67	0.08	0.55	0.15
	Cubic	0.06	45.13	0.06	1.10	0.05
	Quartic	1.70	38.86	1.70	0.95	1.79
CCS+ED v ED	Linear	1.32	38.99	1.32	0.95	1.39
	Quadratic	0.25	22.67	0.25	0.55	0.46
	Cubic	0.19	45.13	0.19	1.10	0.18
	Quartic	1.76	38.86	1.76	0.95	1.86

APPENDIX 18AUDIOLOGICAL MEASURES FOR TREATMENT OUTCOME STUDY 1 : SUMMARY OF RESULTS OF STATISTICAL ANALYSIS.

- (i) Group Means and Standard Deviations For Audiological Measures.
- (ii) Summary of Results of Repeated Measures ANOVAs For Mean Loudness Match From Pre-Treatment to Post-Treatment.
- (iii) Summary of Results of Repeated Measures ANOVAs For Mean Pitch Values From Pre-Treatment to Post-Treatment.
- (iv) Summary of Results of Repeated Measures ANOVAs For Mean MML Values From Pre-Treatment to Post-Treatment.

APPENDIX 18 (i)Treatment Outcome Study 1 : Group Means and Standard Deviations For
Audiological Measures

<u>MEASURE</u>	<u>OCCASION</u>	<u>CONDITION</u>		
		<u>CCS+ED</u>	<u>ED</u>	<u>WLC</u>
<u>Loudness Match</u>	Pre Mean	56.05	61.57	57.36
	SD	20.73	14.07	20.02
	(n)	(19)	(19)	(19)
	Post Mean	56.68	58.31	56.42
	SD	16.01	14.54	19.46
	(n)	(19)	(19)	(19)
<u>Pitch</u>	Pre Mean	2994.68	3917.10	4012.10
	SD	1601.59	2237.09	2096.63
	(n)	(19)	(19)	(20)
	Post Mean	2807.84	3976.52	3760.60
	SD	1412.84	2274.21	1898.99
	(n)	(19)	(19)	(20)
<u>Minimum Masking Level</u>	Pre Mean	58.18	54.62	66.25
	SD	15.37	17.96	11.18
	(n)	(11)	(8)	(16)
	Post Mean	55.45	53.50	65.31
	SD	16.85	18.06	11.89
	(n)	(11)	(8)	(16)

Audiological Measures: Treatment Outcome Study 1Summary of Repeated Measures ANOVA For Mean Loudness Match From Pre-treatment To Post-treatment

SOURCE	SS	DF	MS	F
BETWEEN				
Within Cells	32323.32	54	598.58	
Constant	380023.89	1	380023.89	634.88
TMT v WLC	40.42	1	40.42	0.07
CCS+ED v ED	243.37	1	243.37	0.41
WITHIN				
Within Cells	1443.53	54	26.73	
Time	40.56	1	40.56	1.52
TMT v WLC	0.86	1	0.86	0.03
CCS+ED v ED	72.05	1	72.05	2.70

Repeated measures ANOVA revealed no significant overall pre-treatment to post-treatment changes for loudness match. There were no significant effects for any of the planned Group by Time interactions.

Summary of Repeated Measures ANOVA For Mean Pitch Values From
Pre-treatment to Post-treatment

SOURCE	SS	DF	MS	F
BETWEEN				
Within Cells	403779888.70	55	7341452.50	
Constant	148429242.80	1	148429242.80	202.18
TMT v WLC	5601226.80	1	5601226.80	0.76
CCS+ED v ED	20770425.80	1	20770425.80	2.83
WITHIN				
Within Cells	13531439.08	55	246026.17	
Time	462380.02	1	462380.02	1.88
TMT v WLC	231045.81	1	231045.81	0.94
CCS+ED v ED	288066.33	1	288066.33	1.17

Repeated measures ANOVA revealed no significant overall change for pre-treatment to post-treatment mean pitch values. None of the Group by time interactions were significant.

APPENDIX 18 (iv)Summary of Repeated Measures ANOVA For Mean MML Values From
Pre-treatment to Post-treatment

SOURCE	SS	DF	MS	F
BETWEEN				
Within Cells	13408.68	32	419.02	
Constant	224198.41	1	224198.41	535.05
TMT v WLC	1836.14	1	1836.14	4.38
CCS+ED v ED	70.34	1	70.34	0.17
WITHIN				
Within Cells	336.00	32	10.50	
Time	41.20	1	41.20	3.92
TMT v WLC	4.20	1	4.20	0.40
CCS+ED v ED	5.95	1	5.95	0.57

Repeated measures ANOVA revealed no significant overall pre-treatment to post-treatment changes in MML measures. None of the group by time interactions were significant.

APPENDIX 19SUMMARY OF THE RESULTS OF TREND ANALYSIS: TREATMENT OUTCOME STUDY 1.

- (i) Tinnitus Reaction Questionnaire.
- (ii) Tinnitus Handicaps Questionnaire.
- (iii) Tinnitus Effects Questionnaire - Emotional Distress Factor.
- (iv) Tinnitus Effects Questionnaire - Irrational Beliefs Factor.
- (v) Tinnitus Cognitions Questionnaire.
- (vi) Tinnitus Coping Strategies Questionnaire - Frequency Scale.
- (vii) Tinnitus Coping Strategies Questionnaire - Benefits Scale.
- (viii) Beck Depression Inventory.
- (ix) Locus of Control of Behaviour Scale.
- (x) Rating of Subjective Loudness of Tinnitus.
- (xi) Rating of Noticeability of Tinnitus.
- (xii) Rating of Botheromeness of Tinnitus.

APPENDIX 19 (i)Trend Analysis: Pre-treatment, Post-treatment, 4 Month, 8 Month,
12 Month Follow-up For Mean TRQ Scores.

EFFECT	VARIABLE	HYPOTH.	ERROR	HYPOTH.	ERROR	F
		SS	SS	MS	MS	
Time	Linear	621.33	7381.95	621.33	180.05	3.45
	Quadratic	1.12	1078.36	1.12	26.30	0.04
	Cubic	39.28	1689.09	39.28	41.20	0.95
	Quartic	429.89	2174.49	429.89	53.04	8.10*

* (Univariate) $p < 0.01$

TMT v WL	Linear	207.04	7381.95	207.04	180.05	1.14
	Quadratic	161.84	1078.36	161.84	26.30	6.15*
	Cubic	78.72	1689.09	78.72	41.20	1.91
	Quartic	0.51	2174.49	0.51	53.04	0.00

* (Univariate) $p < 0.05$

CCS+ED v ED	Linear	1139.13	7381.95	1139.13	180.05	6.33*
	Quadratic	744.88	1078.36	744.88	26.30	28.32**
	Cubic	75.44	1689.09	75.44	41.20	1.83
	Quartic	79.32	2174.49	79.32	53.04	1.50

* (Univariate) $p < 0.05$ **(Bonferroni) $p < 0.01$

APPENDIX 19 (ii)Trend Analysis: Pre-treatment, Post-treatment, 4 Month, 8 Month,
12 Month Follow-up For Mean THQ Scores.

EFFECT	VARIABLE	HYPOTH.	ERROR	HYPOTH.	ERROR	F
		SS	SS	MS	MS	
Time	Linear	685.43	4535.13	685.43	110.61	6.20*
	Quadratic	122.34	2123.42	122.34	51.79	2.36
	Cubic	0.11	2677.44	0.11	65.30	0.00
	Quartic	0.85	1343.12	0.85	32.76	0.03
* (Univariate) p < 0.05						
TMT v WL	Linear	264.98	4535.13	264.98	110.61	2.40
	Quadratic	0.07	2123.42	0.07	51.79	0.00
	Cubic	316.07	2677.44	316.07	65.30	4.84*
	Quartic	229.05	1343.12	229.05	32.76	6.99*
* (Univariate) p < 0.05						
* (Univariate) p < 0.05						
CCS+ED v ED	Linear	25.91	4535.13	25.91	110.61	0.23
	Quadratic	317.82	2123.42	317.82	51.79	6.14*
	Cubic	41.85	2677.44	41.85	65.30	0.64
	Quartic	386.21	1343.12	386.21	32.76	11.79* *
* (Univariate) p < 0.05						
**(Bonferroni) p < 0.05						

Trend Analysis: Pre-treatment, Post-treatment, 4 Month, 8 Month,
12 Month Follow-up For Mean (TEQ) Emotional Distress Factor Scores.

EFFECT	VARIABLE	HYPOTH. SS	ERROR SS	HYPOTH. MS	ERROR MS	F
Time	Linear	34.67	134.87	34.67	3.29	10.54**
	Quadratic	11.61	63.24	11.61	1.54	7.53*
	Cubic	1.55	43.98	1.55	1.07	1.45
	Quartic	2.02	23.91	2.02	0.58	3.47

** (Bonferroni) $p < 0.05$

* (Univariate) $p < 0.01$

TMT v WL	Linear	53.04	134.87	53.04	3.29	16.13**
	Quadratic	3.14	63.24	3.14	1.54	2.04
	Cubic	9.63	43.98	9.63	1.07	8.98**
	Quartic	14.06	23.91	14.06	0.58	24.11**

** (Bonferroni) $p < 0.01$

** (Bonferroni) $p < 0.05$

** (Bonferroni) $p < 0.01$

CCS+ED v ED	Linear	13.32	134.87	13.32	3.29	4.05
	Quadratic	17.36	63.24	17.36	1.54	11.26**
	Cubic	7.04	43.98	7.04	1.07	6.57*
	Quartic	0.19	23.91	0.19	0.58	0.32

** (Bonferroni) $p < 0.05$

* (Univariate) $p < 0.05$

APPENDIX 19 (iv)Trend Analysis: Pre-treatment, Post-treatment, 4 Month, 8 Month,
12 Month Follow-up For Mean (TEQ) Irrational Belief Factor Scores.

EFFECT	VARIABLE	HYPOTH. SS	ERROR SS	HYPOTH. MS	ERROR MS	F
Time	Linear	6.78	95.63	6.78	2.33	2.91
	Quadratic	8.15	58.90	8.15	1.44	5.67 *
	Cubic	0.22	50.56	0.22	1.23	0.18
	Quartic	22.58	42.67	22.58	1.04	21.70 **
* (Univariate) $p < 0.05$						
**(Bonferroni) $p < 0.01$						
TMT v WL	Linear	13.09	95.63	13.09	2.33	5.61 *
	Quadratic	0.56	58.90	0.58	1.44	0.40
	Cubic	28.76	50.56	28.28	1.23	22.93 **
	Quartic	4.89	42.67	4.89	1.04	4.70 *
* (Univariate) $p < 0.05$						
**(Bonferroni) $p < 0.01$						
* (Univariate) $p < 0.05$						
CCS+ED v ED	Linear	3.84	95.63	3.84	2.33	1.64
	Quadratic	0.09	58.90	0.09	1.44	0.06
	Cubic	1.30	50.56	1.30	1.23	1.06
	Quartic	2.39	42.67	2.39	1.04	2.30

APPENDIX 19 (v)

Trend Analysis: Pre-treatment, Post-treatment, 4 Month, 8 Month,
12 Month Follow-up For Mean TCQ Scores.

EFFECT	VARIABLE	HYPOTH.	ERROR	HYPOTH.	ERROR	F
		SS	SS	MS	MS	
Time	Linear	1650.75	8809.17	1650.75	214.86	7.68*
	Quadratic	1387.97	2751.40	1387.97	67.11	20.68**
	Cubic	48.00	1785.81	48.00	43.56	1.10
	Quartic	38.65	1680.98	38.65	40.99	0.94
*(Univariate) $p < 0.01$						
**(Bonferroni) $p < 0.01$						
TMT v WL	Linear	10.04	8809.17	10.04	214.86	0.05
	Quadratic	347.28	2751.40	347.28	67.11	5.18*
	Cubic	30.35	1785.81	30.35	43.56	0.70
	Quartic	65.69	1680.98	65.69	40.99	1.60
*(Univariate) $p < 0.05$						
CCS+ED v ED	Linear	368.76	8809.17	368.76	214.86	1.72
	Quadratic	38.13	2751.40	38.13	67.11	0.57
	Cubic	424.87	1785.81	424.98	43.56	9.76**
	Quartic	24.23	1680.98	24.23	40.99	0.60
** (Bonferroni) $p < 0.05$						

APPENDIX 19 (vi)Trend Analysis: Pre-treatment, Post-treatment, 4 Month, 8 Month,
12 Month Follow-up For Mean TCSQ- Frequency Scores.

EFFECT	VARIABLE	HYPOTH.	ERROR	HYPOTH.	ERROR	F
		SS	SS	MS	MS	
Time	Linear	130.15	7306.38	130.15	178.20	0.73
	Quadratic	44.79	1299.03	44.79	31.68	1.41
	Cubic	17.32	2209.79	17.32	53.90	0.32
	Quartic	43.85	1190.80	43.85	29.04	1.51
TMT v WL	Linear	472.08	7306.38	427.08	178.20	2.64
	Quadratic	0.63	1299.03	0.63	31.68	0.12
	Cubic	173.26	2209.79	173.26	53.90	3.21
	Quartic	334.86	1190.80	334.86	29.04	11.53**
**(Bonferroni) $p < 0.05$						
CCS+ED v ED	Linear	192.64	7306.38	192.64	178.20	1.08
	Quadratic	171.26	1299.03	171.26	31.68	5.41*
	Cubic	53.49	2209.79	53.49	53.90	0.99
	Quartic	0.85	1109.80	0.85	29.04	0.03
* (Univariate) $p < 0.05$						

APPENDIX 19 (vii)Trend Analysis : Pre-treatment, Post-treatment, 4 Month, 8 Month,
12 Month Follow-up For Mean TCSQ- Benefits Scores.

EFFECT	VARIABLE	HYPOTH.	ERROR	HYPOTH.	ERROR	F
		SS	SS	MS	MS	
Time	Linear	762.18	7872.73	762.18	192.02	3.97
	Quadratic	65.85	3980.88	65.85	97.09	0.68
	Cubic	148.83	4353.85	148.83	106.19	1.40
	Quartic	18.86	1731.96	18.86	42.24	0.45
TMT v WL	Linear	1667.52	7872.73	1667.52	192.02	8.68*
	Quadratic	65.02	3980.88	65.02	97.09	0.67
	Cubic	235.11	4353.85	235.11	106.19	2.21
	Quartic	391.06	1731.96	391.06	42.24	9.26**
* (Univariate) $p < 0.01$						
**(Bonferroni) $p < 0.05$						
CCS+ED	Linear	0.10	7872.73	0.10	192.02	0.00
v ED	Quadratic	408.85	3980.88	408.85	97.09	4.21*
	Cubic	0.57	4353.85	0.57	106.19	0.01
	Quartic	16.01	1731.96	16.01	42.24	0.38
* (Univariate) $p < 0.05$						

Trend Analysis: Pre-treatment, Post-treatment, 4 Month, 8 Month,
12 Month Follow-up For Mean BDI Scores.

EFFECT	VARIABLE	HYPOTH.	ERROR	HYPOTH.	ERROR	F
		SS	SS	MS	MS	
Time	Linear	12.30	1961.51	12.30	47.84	0.26
	Quadratic	18.42	1223.70	18.42	29.85	0.62
	Cubic	6.39	3336.07	6.39	81.37	0.08
	Quartic	34.88	1939.33	34.88	47.30	0.74
TMT v WL	Linear	89.70	1961.51	89.70	47.84	1.87
	Quadratic	47.50	1223.70	47.50	29.85	1.59
	Cubic	233.51	3336.07	233.51	81.37	2.87
	Quartic	143.04	1939.33	143.04	47.30	3.02
CCS+ED v ED	Linear	39.34	1961.51	39.34	47.84	0.82
	Quadratic	0.05	1223.70	0.05	29.85	0.00
	Cubic	233.51	3336.07	3.84	81.37	0.05
	Quartic	143.04	1939.33	3.61	47.30	0.08

APPENDIX 19 (ix)Trend Analysis: Pre-treatment, Post-treatment, 4 Month, 8 Month,
12 Month Follow-up For Mean LCB Scores.

EFFECT	VARIABLE	HYPOTH. SS	ERROR SS	HYPOTH. MS	ERROR- MS	F
Time	Linear	403.75	1070.18	403.75	26.10	15.47**
	Quadratic	20.84	861.57	20.84	21.01	0.99
	Cubic	2.73	655.51	2.73	15.99	0.17
	Quartic	122.97	798.08	122.87	19.47	6.31*
** (Bonferroni) $p < 0.01$						
* (Univariate) $p < 0.05$						
TMT v WL	Linear	81.64	1070.18	81.64	26.10	3.13
	Quadratic	16.63	861.57	16.63	21.01	0.79
	Cubic	42.12	655.51	42.12	15.99	2.63
	Quartic	22.84	798.08	22.84	19.47	1.17
CCS+ED v ED	Linear	98.59	1070.18	98.59	26.10	3.78
	Quadratic	7.82	861.57	7.82	21.01	0.38
	Cubic	2.60	655.51	2.60	15.99	0.62
	Quartic	2.93	798.08	2.93	19.47	0.15

Trend Analysis: Pre-treatment, Post-treatment, 4 Month, 8 Month,
12 Month Follow-up For Mean Ratings of Subjective Loudness of Tinnitus.

EFFECT	VARIABLE	HYPOTH. SS	ERROR SS	HYPOTH. MS	ERROR MS	F
Time	Linear	0.72	13.63	0.72	0.33	2.18
	Quadratic	0.07	8.55	0.07	0.21	0.34
	Cubic	0.51	5.97	0.51	0.15	3.51
	Quartic	0.00	4.38	0.00	0.11	0.00
TMT v WL	Linear	0.05	13.63	0.05	0.33	0.14
	Quadratic	0.00	8.55	0.00	0.21	0.01
	Cubic	0.13	5.97	0.13	0.15	0.88
	Quartic	0.07	4.38	0.07	0.11	0.62
CCS+ED v ED	Linear	0.66	13.63	0.66	0.33	1.97
	Quadratic	0.05	8.55	0.05	0.21	0.22
	Cubic	0.25	5.97	0.25	0.15	1.70
	Quartic	0.33	4.38	0.33	0.11	3.12

Trend Analysis: Pre-treatment, Post-treatment, 4 Month, 8 Month,
12 Month Follow-up For Mean Ratings of Noticeability of Tinnitus.

EFFECT	VARIABLE	HYPOTH.	ERROR	HYPOTH.	ERROR	F
		SS	SS	MS	MS	
Time	Linear	1.05	14.73	1.05	0.36	2.92
	Quadratic	0.34	9.99	0.34	0.24	1.39
	Cubic	0.35	6.22	0.35	0.15	2.30
	Quartic	0.13	4.10	0.13	0.10	1.26
TMT v WL	Linear	0.11	14.73	0.11	0.36	0.30
	Quadratic	0.30	9.99	0.30	0.24	1.23
	Cubic	0.39	6.22	0.39	0.15	2.56
	Quartic	0.20	4.10	0.20	0.10	2.00
CCS+ED v ED	Linear	0.38	14.73	0.38	0.36	1.05
	Quadratic	0.04	9.99	0.04	0.24	0.18
	Cubic	0.09	6.22	0.09	0.15	0.61
	Quartic	0.05	4.10	0.05	0.10	0.45

Trend Analysis: Pre-treatment, Post-treatment, 4 Month, 8 Month,
12 Month Follow-up For Mean Ratings of the Bothersomeness of Tinnitus.

EFFECT	VARIABLE	HYPOTH.	ERROR	HYPOTH.	ERROR	F
		SS	SS	MS	MS	
Time	Linear	2.43	18.86	2.46	0.46	5.27*
	Quadratic	0.05	15.64	0.05	0.38	0.14
	Cubic	0.05	10.74	0.05	0.26	0.21
	Quartic	0.01	7.86	0.01	0.19	0.06
* (Univariate) $p < 0.05$						
TMT v WL	Linear	2.30	18.86	2.30	0.46	4.99*
	Quadratic	0.02	15.64	0.02	0.38	0.06
	Cubic	1.95	10.74	1.95	0.26	7.46*
	Quartic	0.85	7.86	0.85	0.19	4.45*
* (Univariate) $p < 0.05$						
* (Univariate) $p < 0.01$						
* (Univariate) $p < 0.05$						
CCS+ED v ED	Linear	1.07	18.86	1.07	0.46	2.32
	Quadratic	0.23	15.64	0.23	0.38	0.60
	Cubic	0.02	10.74	0.02	0.26	0.08
	Quartic	0.06	7.86	0.06	0.19	0.30

COPY OF NEWSPAPER ADVERTISEMENT TO RECRUIT POTENTIAL SUBJECTS
FOR TREATMENT OUTCOME STUDY 2.

Sounding off deaf message

LIVING in a muffled or silent world can be lonely, frustrating ... and permanent, despite advances in hearing technology. More than a million Australians have this difficulty and 63,000 are totally deaf.

Deafness Awareness Week begins today with the National Acoustic Laboratory warning that many deaf and hearing-impaired people will never experience sounds in the same way as the rest of the population.

"Even with patients who are suitable for cochlea implants (artificial ears), they don't hear sounds the same way we do," said hearing services manager, Greg Birties.

"There will always be a need for community support because it doesn't look as though we will ever

be able to completely cure deafness."

Sydney University research has shown about six per cent of people have the exact opposite problem - "hearing things" that aren't there.

Collectively called tinnitus, the various "sounds" range from a ringing in the ears to rhythmic thumping or rumbling.

Dr Peter Wilson, of the university's Psychology Department, said there was no cure but his team had spent seven years developing ways to cope.

"In the next few months, we plan to present the tinnitus management program to as many people as possible and to evaluate the results.

"We thought it appropriate to launch the therapy at the start of Deafness Awareness Week," he said.

Sunday Telegraph

August 26, 1990.

Tinnitus troubles under scrutiny

PSYCHOLOGISTS at the University of Sydney are inviting tinnitus sufferers to join a free program they are running over the next four months.

For seven years they have been developing methods to help people cope with the problem and they now wish to evaluate the techniques on as many sufferers as possible.

It is estimated that 6 per cent of the population suffers from tinnitus, which is the perception of sound in the absence of an external acoustic stimulus.

Interested people can contact Dr Peter Wilson on 692 2667.

Sunday Telegraph

September 2, 1990.

APPENDIX 21

COPY OF LETTER FORWARDED TO POTENTIAL SUBJECTS DESCRIBING THE
RESEARCH PROGRAMME (TREATMENT OUTCOME STUDY 2).



Tinnitus Management Project
Department of Psychology, A16
Phone - 02 692 2667

Dear

Thank you for your enquiry regarding our Tinnitus Management Project. As you may have gathered, we have been swamped with requests for assistance with tinnitus, and we have had some difficulty in responding quickly to all the telephone enquiries. However, the large response does confirm our view that tinnitus is a problem which is much in need of services. At this stage, we are sending you an initial questionnaire about tinnitus.

During the last 6 years, we have been developing methods to help people learn ways of coping and living with tinnitus. The aim is not to "cure" the tinnitus, but to help people control the negative feelings, tension, and other difficulties, such as sleep problems, which often result from having tinnitus. The program is generally run in small groups of about 6 -7 people. Sessions are held weekly for a maximum of 2 months.

We would be grateful if you could complete the questionnaire and return it to us in the enclosed self-addressed envelope as soon as possible. This information is very important since it will allow us to make an informed decision as to how best we can be of help to you.

Following our receipt of the information which you provide in the questionnaire, one of us will contact you by phone (or mail) to inform you about the next step which, in most cases, will be to arrange an assessment interview.

At the assessment interview, we will obtain further information about your tinnitus, how it affects your life, and how well or what methods you already use to cope with the tinnitus; in addition, you will be asked to complete some more questionnaires.

At the conclusion of the assessment interview, you will be given an opportunity to further participate in the treatment/research program, and you will either be given a starting date for treatment or an indication about when you can expect to hear from us regarding that starting date for treatment.

The treatment and research program is conducted in the Department of Psychology (Badham Building) at the University of Sydney. However, some of the assessments and treatment will be conducted at the Prince of Wales Hospital. Participation in the treatment and research programme is free of charge.

Yours sincerely,

Peter Wilson
Jane Henry
Pasco Farag
Maitland Bowen

13th. September, 1990

APPENDIX 22

Details Of Audiological and ENT Investigations

1. Have you been to visit a Ear, Nose and Throat (ENT) Specialist for your tinnitus, or other hearing problems ?
Yes _____ No _____

2. If yes, when was your last visit ? _____

3. Have you been to visit an Audiologist for your tinnitus, or other hearing problems ?
Yes _____ No _____

4. If yes, when was your last visit ? _____

5. Are you aware of any diagnosed problem concerning your ear/s, hearing, or balance ?
Yes _____ No _____

6. If yes, please provide some details ?

THE UNIVERSITY OF SYDNEY
DEPARTMENT OF PSYCHOLOGY
CONSENT FOR RESEARCH

TITLE : Psychological Management of Tinnitus

INVESTIGATOR : Jane Henry

DESCRIPTION: This research examines the ways in which psychological treatments can be used to help people learn to live with tinnitus. The aim is not to cure the tinnitus, but to help you learn ways of coping with it so that it is less annoying and distressing to you. Treatments will consist of 8 weekly 1.5 hour sessions conducted in small groups by a qualified psychologist. You will be asked to fill in questionnaires before and after the treatment, and on 1 later occasion (6 months after the end of treatment). All material will be treated with the strictest confidentiality. There are no known risks involved in participation in the study.

I have been asked to participate in the above research study, and give my consent by signing this form on the understanding that:

1. The research will be carried out in a manner conforming with the principles set out by the National Health and Medical Research Council which appears overleaf.

2. I understand the general purpose, methods, demands and possible risks, inconvenience or discomforts of the study.

3. If I do not volunteer to participate in the research study, I can still receive appropriate treatment for my condition.

4. In giving my consent, I acknowledge that my participation in this research study is voluntary and I recognise that I may withdraw at any time.

Signature _____ Date _____

Witnessed by _____

of _____

APPENDIX 24

TINNITUS MANAGEMENT PROGRAMME

A SELF-MANAGEMENT PROGRAMME FOR COPING WITH CHRONIC TINNITUS:
A COGNITIVE THERAPY APPROACH

Programme Developed By:

Jane Henry,
Clinical Psychologist
The Prince of Wales Hospital
September, 1990

SESSION 1: General Introduction

Outline of Programme

Pre-Assessment

SESSION 2: Coping with Chronic Tinnitus

Rationale for Using a Cognitive Therapy Approach

Education about Tinnitus (Abbreviated Tinnitus Education Manual).

SESSION 3: The Relationship between Our Thoughts, Feelings
and Behaviour

Identifying Positive, Negative and Neutral Thoughts

A-B-C Model.

SESSION 4: Controlling Negative Thoughts and Increasing Positive
Thoughts.

SESSION 5: Challenging Negative and Irrational Thinking.

SESSION 6: Identifying Common Styles of Negative Thinking.

SESSION 7: Using Self-Instructional Statements.

SESSION 8: Overview of all the Cognitive Techniques.

Maintaining Progress.

Conclusion to Programme.

Post-Assessment.

SESSION 1

GENERAL INTRODUCTION AND PRE-ASSESSMENT

INTRODUCTION

This programme is designed to teach you numerous skills which you may use to improve your ability to cope with your tinnitus. The programme consists of eight sessions which will be conducted over eight consecutive weeks. Each session will be of 1 - 1 1/2 hours duration. All sessions will be conducted by a Clinical Psychologist, and you will be provided with written notes for each session.

This programme will not be encouraging you to deny the existence of tinnitus you experience, nor the associated difficulties. Rather, it will be encouraging you to learn to approach the problem of your tinnitus in more adaptive and realistic ways.

During this Programme you will be taught a variety of practical coping techniques. These techniques are skills which may be used to help you deal with you tinnitus. Because they are skills you must practice them and use them constantly and regularly in order to become better at applying them. The reason for this is that just like any skill such as learning to drive a car; ride a bicycle; learning to play golf, bowls or a musical instrument, your skill and expertise is only achieved through regular and consistent practice and use.

Regular and consistent use of the coping skills is expected to lead to positive and beneficial consequences, that is, the distress you experience as a result of suffering from tinnitus will be reduced and life may become more rewarding and enjoyable.....despite the tinnitus!

INTRODUCTION OF INDIVIDUAL GROUP MEMBERS

GROUND RULES FOR GROUP:

- (1) It is important to use the Group as a means of learning skills and gaining knowledge about how to cope with tinnitus.

The group setting should not be used as a sounding board for your problems.

- (2) Each group member should be allowed equal opportunity to share in discussions.
- (3) Information shared in the group setting must remain confidential and must not be discussed outside the group.

GROUP DISCUSSION:

Subjective Description of Tinnitus by Each Group Member:

What does your tinnitus sound like? How would you describe it?

Where is your tinnitus located?

In one ear only? Left or Right? _____

In both ears? _____

All over the head? _____

At the back, side or from of head? _____

Outside of the head? _____

Other locations? _____

When did you first notice your tinnitus?

Is your tinnitus constant or does it vary?

Does anything make your tinnitus better?

Does anything make your tinnitus worse?

Do you know what caused your tinnitus?

Do you have a hearing loss?

PRACTICAL DEMONSTRATION:

Audio-cassette tape of simulated tinnitus sounds compiled by British Tinnitus Association.

GENERAL DISCUSSION:

OUTLINE OF THE PROGRAMME

Week 1: GENERAL INTRODUCTORY SESSION AND PRE-ASSESSMENT

- a) Outline of the Programme.
- b) Current status of research in this area.
- c) Pre-assessment - completion of questionnaire.
- d) Homework assignment.

Week 2: COPING WITH CHRONIC TINNITUS

- a) Rationale for using a cognitive therapy approach.
- b) Aims of the Programme.
- c) Education about tinnitus.
- d) Homework assignment.

Week 3: THE RELATIONSHIP BETWEEN OUR THOUGHTS, FEELINGS AND BEHAVIOUR

- a) Identifying positive, negative and neutral thoughts.
- b) The A-B-C model.
 - b i) General examples.
 - bii) Tinnitus related examples.
- c) How to think in a positive, rational and logical manner.
- d) Homework assignment.

Week 4: CONTROLLING NEGATIVE THOUGHTS

- a) Thought interruption techniques.
- b) Techniques for increasing positive thoughts.
- c) Tinnitus-related examples of applying the techniques.
- d) Homework assignment.

Week 5: CHALLENGING NEGATIVE AND IRRATIONAL THOUGHTS

- a) Guide-lines for challenging thoughts.
- b) General example of the process.
- c) Examples of 10 GENERAL negative thoughts and 10 positive counter thoughts.
- d) Examples of 10 tinnitus related negative thoughts ad 10 positive counter thoughts.
- e) Homework assignment.

Week 6: IDENTIFYING STYLES OF NEGATIVE AND IRRATIONAL THINKING

- a) Common styles of negative thinking.
 - (1)Over-generalisation.
 - (2)All-or-none thinking.
 - (3)Selective - abstraction or filtering.
 - (4)Mind-reading/jumping to conclusions.
 - (5)Magnification/catastrophising
 - (6)Minimisation.
 - (7)Personalisation.
 - (8)Arbitrary inference.
 - (9)Emotional reasoning
 - (10) "Should" statements.
 - (11) Labelling.
 - (12) Blaming.
- b) Four case examples.
- c) Homework assignment.

Week 7: USING SELF-INSTRUCTIONAL STATEMENTS

- a) How to use self-instructional statements.
- b) Two GENERAL examples for coping with anxiety and anger using self-instructions.
- c) Self-instructional statements for coping with tinnitus.
- d) Two case examples.
- e) Homework assignments.

Week 8: OVERVIEW OF PROGRAMME AND POST-ASSESSMENT

- a) Summary of all cognitive techniques.
- b) Maintaining your progress.
- c) Conclusion to the Programme
- d) Post-assessment
 - Completion of all questionnaires
 - Collect 7 day diaries for tinnitus and sleep.

FOLLOW UP: A six month follow up will be conducted and all participants will be notified in advance.

PRE-ASSESSMENT

In order to evaluate this programme we invite you to complete a number of questionnaires.

Your responses to the questionnaire will be strictly confidential.

QUESTIONNAIRES TO BE ADMINISTERED:

Tinnitus Reaction Questionnaire

Tinnitus Coping Strategies Questionnaire

Tinnitus Cognitions Questionnaire

Tinnitus Effects Questionnaire

Tinnitus Handicaps Questionnaire

Automatic Thoughts Questionnaire

Back Depression Inventory

HOMEWORK ASSIGNMENT

All group members will be provided with a Tinnitus Daily Recording Sheet for 7 days and a Sleep Daily Recording Sheet for 7 days.

These are to be completed over the next week and returned at the next session.

SESSION 2

COPING WITH TINNITUS

Tinnitus is a fairly common disorder. It is experienced by most people at some time. For many people it may become a chronic disorder and persist as something they constantly experience.

Not all people are significantly distressed by the presence of tinnitus. Many people may learn to tolerate it and experience minimal distress. For others it is a distressing, annoying and disabling condition. In addition, it is striking that not all people with tinnitus complain about it for the same reason. Initially, it was assumed that the loudness of the noises was the most annoying aspect of tinnitus. However, research suggests that there is little evidence to support this notion. It appears that other characteristics of the noise, or of the individual, or both, determine the level of distress or annoyance experienced.

Psychological factors may be involved in tinnitus in two ways. Firstly, it is possible that stress may aggravate tinnitus. It is not clear whether the worsening of tinnitus when a person is under stress, is because the stress makes everything seem worse (including the tinnitus), or whether it is because the tinnitus really does become louder under stress.

A second way in which psychological aspects are involved in tinnitus relates to the distress caused by the tinnitus. Many tinnitus sufferers report depression, anxiety, irritability and tension. There may also be a feeling of helplessness due to the fact that the person can't do anything to stop the noise and if one expects it will continue unabated.

For some people, sleep is difficult. Others are bothered by the noise only during the day and sleep normally. Some people find that tinnitus interferes with their ability to hear what is being said at parties, or at meetings. For other people, the main concern is that the noises will affect their physical and mental health.

Research indicates that there are three main types of difficulty arising out of tinnitus (Jakes, Hallam, Chambers and Hinchcliffe 1985). These include:

(1) Emotional difficulties such as irritability, helplessness and depression may result from the way the tinnitus sufferer thinks about the tinnitus. For example, they may regard it as a problem which will never go away and from which there is little relief. This may result in feelings of hopelessness and helplessness, and diminished ability to enjoy daily activities.

Anxiety may arise from worries that there is something seriously wrong with the body - or that the noises will cause a nervous breakdown.

(2) The effect of tinnitus on one's ability to listen to, or understand, meaningful sounds (over and above any hearing loss which may be present),. This shows itself in difficulty in localising sounds, distortion of voices, hearing what's being said against a background noise, and concentrating on a mental activity. This difficulty is more like a handicap than a form of emotional distress.

- (3) Difficulty getting to sleep and staying asleep.

Research also indicates that these three main types of difficulty may be quite independent. a person may experience one difficulty but not the others.

*** GROUP DISCUSSION ***

What sorts of difficulties do you experience as a result of your tinnitus?

- 1) emotional effects
- 2) difficulty in listening/understanding other sounds and/or difficulty concentrating on own thoughts or other activity
- 3) difficulty with sleep
- 4) other problems - PLEASE DESCRIBE _____

RATIONALE FOR USING A COGNITIVE THERAPY APPROACH:

REACTIONS TO TINNITUS

Many people who experience tinnitus may find that at times it may overwhelm them. It may tend to dictate their lives and disrupt their daily lifestyles or routine. This may happen particularly when a person is under some sort of stress; is worrying about something; or when they feel depressed or just down. At such times, the tinnitus may become more noticeable and more bothersome or distressing. In turn, people may find that they think in a more negative and distressing way about the tinnitus. For example, during such times, a person might think to themselves,

"How can I possibly live with this? - It's getting worse, No one can help me; No one understands!"

Such thoughts are very negative and distressing and can result in the person feeling more negative and miserable - this in turn, may make the tinnitus seem even more unbearable and as a consequence the person may feel increasingly miserable and distressed. As this vicious circle continues the person may feel more and more helpless and have a greater sense of loss of control over the tinnitus, their emotions and thoughts and their daily routine. As they feel more overwhelmed they may tend to take a passive or inactive approach to their tinnitus. The person may cancel or avoid social activities or other commitments. This will only result in the person feeling like a slave to their tinnitus - they are unable to do things; concentrate on things; or enjoy things because of their tinnitus. In addition, of a person

cancel or avoids usual activities as a result of tinnitus, it is likely that they will have more time to focus on the tinnitus - this may result in more negative thinking; greater emotional distress - and the vicious circle will continue!! Adopting a passive, non-coping and negative approach to tinnitus will only promote a sense of hopelessness, helplessness and distress and allows little room for distraction from the tinnitus.

Of course, the above scenario, will not always be the case for all people with tinnitus and not for the great majority of time. Some people tolerate tinnitus quite well and experience little distress at all, or disruption to their routines. Some people cope quite well generally, but on some occasions (particularly if they are under some other stress) will experience some distress and inability to cope. This may only last for a short period of time, such as a few days. Let's face it! - even the "best copers in the world" have their bad days - days when they don't feel like getting up; going out; seeing people - they feel "yuk"; feel hopeless and unattractive. Such "bad" days will make a person more vulnerable to the effects of stress generally - for example, if they dislike traffic jams and get caught in one, they are likely to be more aggravated than usual; if they dislike interruptions at work and experience many on a "bad" day they are likely to be more irritated than usual, if they have a bad back (or some other chronic pain) they may be more irritated by this or if they have tinnitus than on a "bad" day they might notice that it is more bothersome and more of a burden to deal with: all stressors which may usually be dealt with adequately will require more energy on such "bad" days. Of course, for a proportion of people with tinnitus they find that for the greater portion of their time, tinnitus is an upsetting, distressing and interfering condition to live with.

Therefore, it appears that for some, tinnitus is a condition which generally disrupts their lifestyles and produces great stress, tension, anxiety and depression. For others, tinnitus may not generally lead to overall disruption to lifestyle or overall distress but may produce significant disruption and distress in specific instances, or situations (eg. getting to sleep; socialising; working; relaxing; quiet times; noisy environments and so on).

WHAT FACTORS MAY BE INVOLVED IN COPING WITH TINNITUS?

So far we have discussed the main kinds of difficulties that people who have tinnitus might experience. These include, emotional upset or distress (including anxiety, depression, irritability, tension, helplessness); effects on ability to communicate; listen to and/or understand sound or speech and sleep difficulties. In addition, we have looked at the ways that tinnitus might tend to dictate or disrupt daily lifestyle in terms of how the person reacts to the tinnitus either on a general basis, or in specific situations, or under certain circumstances (other stress).

Research suggests that many people can learn to tolerate tinnitus better, and cope with it quite adequately without any major disruption to their lifestyle, even though the loudness and quality of the noises remain unchanged.

Persistent distress from tinnitus is likely to be associated with styles of coping with both the tinnitus, and stress generally, with emotional state and mood and with beliefs about the significance of the noises.

A person's response, or reaction to tinnitus, may be adaptive or maladaptive. They may respond to the noises in a tolerant manner with little disruption to their daily routine; or they may respond in a distressed and frustrated manner and experience much disruption in their daily lives. It is likely that there are several factors which may contribute to a person's response, or reaction to tinnitus.

One important factor is the person's interpretation of the noises; or the train of thoughts and feelings associated with the noises. People may think in very negative ways about their tinnitus, and, therefore, engage in negative self-talk. For example, people may say to themselves "the noise makes my life unbearable"; "Why me, why do I have to suffer this horrible noise"; "If only I could get some peace and quiet"; "What did I do to deserve this"; "This bloody noise will drive me crazy"; "Nobody understands"; "How can I go on putting up with this noise"; "If only the noise would go away"; "Nothing makes me feel any better".

These thoughts become almost automatic – like habits bad habits! Such distressing self-talk may make the tinnitus appear worse and the person may end up feeling hopeless and frustrated.

WHAT ARE SOME OF THE EFFECTS OF NEGATIVE STYLES OF THINKING?

- 1) Negative thinking has effects on your mood, emotions and feelings – such thinking can make you feel down, depressed, anxious, upset, helpless, hopeless, frustrated, irritable and so on.

- 2) Negative thinking can lead to you being absorbed with the problem of having tinnitus. The more you think about the tinnitus and the more you focus your attention on it, the more negative a person may become. A vicious circle begins; a person thinks negatively in reaction to their tinnitus; they focus on the tinnitus; they experience negative effect on their mood and emotions; they think more negatively; focus more attention on their tinnitus; feel more negative and so on and so on. This is a common experience and many people with tinnitus report that when their tinnitus is really bad they focus all of their attention on the noises and their attention cannot be directed toward anything else – they cannot focus on anything else but the noise. As with people with a chronic pain condition, research indicates focusing attention on the pain heightens the pain and associated distress. This is likely to be true with tinnitus.

- 3) Negative thinking can lead a person to avoid, or cancel, social and work commitments, and other activities, which might usually provide them with a sense of fulfilment; achievement and enjoyment. This results in disruptions to daily routine and lifestyle. It also allows for little opportunity to be distracted from their tinnitus, or other concerns.

HOW CAN A PERSON OVERCOME THE NEGATIVE CONSEQUENCES OF TINNITUS AND IMPROVE THEIR ABILITY TO COPE WITH IT?

Tinnitus is the subjective sensation of hearing a sound in the ear/s and/or head when no such external sound is present. As such, it represents a condition which produces effects on the sufferer which may range from a mild nuisance to a substantial source of bother, annoyance and distress. For those who regard it as a source of negative consequences either for the majority of time or when in certain circumstances of situations there are practical and positive actions which can be undertaken to promote coping or tolerance of the condition.

A person's ability to cope with or tolerate their tinnitus in a positive and adaptive fashion can be achieved by several methods. These include the following:

- 1) Learning to adapt to the tinnitus; take an active position in response to the tinnitus and to cultivate the attitude that they will not give in to the problem. This will allow for a greater sense of control and hope, and not allow the tinnitus to dictate or disrupt usual lifestyles.
- 2) Learning to deal with the tinnitus in an adaptive and positive - coping orientated manner.

- 3) Learning to think about the tinnitus in a coping orientated fashion and reduce or eliminate negative thinking styles.
- 4) Learning to be aware of stressful circumstances when one's vulnerability to stress generally will be increased.
- 5) Learning to reduce the emotional effects of having tinnitus by thinking in a rational, constructive fashion and to reduce the impact of tinnitus on lifestyle and activities by taking an active role and seeking out activities for distraction and enjoyment purposes.

By learning to take an active role; being alert and aware of circumstances which might aggravate tinnitus; and recognising the potential negative consequences of tinnitus on thoughts; emotional and behavioural responses, one may be able to learn to cope effectively with tinnitus and put it in its place!

AIMS OF THE PROGRAMME:

This Programme aims to improve your ability to cope with your tinnitus. To achieve this goal, you will be taught a variety of techniques and skills. These will include:

- 1) Education about the importance and relevance of how we think and what we say to ourselves in relation to how we feel (our emotions and mood) and how we behave.
- 2) Instruction in how to identify styles of thinking in terms of positive, negative and neutral thoughts; and to distinguish between rational, logical and constructive and irrational, illogical and non-constructive thinking styles.
- 3) Instruction in a variety of techniques to help you to manage and control negative styles of thinking.
- 4) Instruction in methods to examine the validity of your thoughts; to challenge illogical, irrational and negative thoughts; and to substitute more positive, realistic and rational thoughts.
- 5) Instruction in how to anticipate specific situations or circumstances when the tinnitus is particularly noticeable and a source of increased annoyance. You will be trained in skills to anticipate difficult situations; to prepare yourself for confronting the situation, and to deal with the situation in a coping-orientated manner.

EDUCATION ABOUT TINNITUS

It is important that you have correct understanding of the nature of tinnitus - its characteristics, possible causes, and medical and audiological treatments.

The educational material is contained in the abbreviated Tinnitus Education Programme Manual.

HOMEWORK ASSIGNMENT

All group members will be provided with the Tinnitus Knowledge Questionnaire.

This is to be completed over the next week and discussed at the beginning of the next session.

SESSION 3

THE EFFECT OF OUR THOUGHTS ON OUR FEELINGS AND BEHAVIOUR

Every waking moment of our lives we think about things. Our minds are never truly blank. There is always a constant stream of thoughts and images going through our minds. Often this may be like having a constant conversation with ourselves. Our thoughts can be considered as "self-talk" - we talk to ourselves about things we see and experience.

Let's Consider Some Examples:

You might notice that you are hungry and think "Gee, I'm hungry - what will I have to eat - a sandwich or a hamburger?" You might even notice that you have a mental image of a thick inviting sandwich or a hamburger?

You might be sitting and watching television when an advertisement comes on and think - "I hate these advertisements - should just let the movie run on uninterrupted!"

You might be sitting in a car stuck in a traffic jam and think "Come on traffic - get moving".

You might be lying in bed and hear a noise somewhere in the house and think - "What was that?"

You might be in a shop waiting to be served and think - "Where is someone who can serve me?"

You might be in a book-shop and trying to decide which paperback to buy and think - "Oh, which one will I buy - this one - or this one?"

You might be sitting in an office waiting for an appointment and start to study the decor and think - "This office really needs a fresh coat of paint - and why would you pick a brown lounge to go with a purple carpet?"

What we think and the kinds of thoughts we have about situations, or events, which we might observe or experience, may have profound effects on our emotions, mood, feelings and behaviour.

Thoughts can be considered as falling into three main categories; neutral, positive and negative.

Let's Consider Some Examples:

- 1) "What shall I have to eat?"
"There is a table-cloth on the table"
"Should I watch this T.V. programme, or that one?"
"Which book should I buy?"

These may be regarded as Examples of neutral thoughts. They are unlikely to have any significant effect on your emotions, feelings or behaviour.

- 2) "I know I won't cope very well"
"I look really unattractive"
"I just couldn't do it - what if I made a mess of things"
"I can't stand all of this traffic - I knew today wasn't going to be good"

These may be regarded as examples of negative thoughts. They are likely to have negative, pessimistic or distressing effects on your emotions, feelings and behaviour. Such thoughts can make you feel anxious, uncertain, inadequate, frustrated and miserable, amongst other things.

- 3) "I know I can do it"
"I feel great"
"I'm sure I'll cope O.K."
"No point getting upset about the traffic - there's nothing to be done".

These may be regarded as examples of positive thoughts. They are likely to have a positive, optimistic or comforting effect on your emotions, feelings and behaviour. Such thoughts can make you feel happy, confident, capable, self-assured, in control and so on.

WHAT WE THINK AND THE WAY WE FEEL AND BEHAVE

Our thoughts about ourselves and the situations and events we experience, are powerful determinants of how we feel and how we behave.

Many people consider that we become emotionally upset as a result of situations we experience, or other people's reactions to us.

That is, A - the situation or event we experience
 is presumed to lead to
 C - our emotions, feelings and behaviour.

However, this model which holds that A ----> C does not take into account our thoughts (including beliefs, perceptions and expectations) in reaction to the situations, or events, which we experience. Our thoughts intervene between points A and C.

A - the situation or event we experience
 leads to
B - our thoughts, beliefs, perceptions and expectations about the situation or event.
 and produces
C - our emotions, feelings and behaviours.

The emotions and feelings we experience in response to a situation or event may differ according to what we think or say to ourselves, in reaction to that situation or event. This is true not only for general life events but also holds true with regard to a person's reactions to the tinnitus. Let's consider some general examples and tinnitus related examples.

A-B-C MODEL

GENERAL EXAMPLE

EXAMPLE 1

A - THE SITUATION OR EVENT	B - THOUGHTS BELIEFS EXPECTATIONS	C - EMOTIONAL CONSEQUENCES & BEHAVIOUR
Business executive has a good job but is made redundant.	I was happy with the job I had; it had good prospects. I did not wish to lose the job - the loss is terrible and disadvantageous. I'll never find another suitable job - it's the end of my career.	Feels depressed & angry. Becomes withdrawn & apathetic.
Business executive has a good job but is made redundant.	It's not of major importance whether I keep the job or not - there will always be something else.	Indifference.
Business executive has a good job but is made redundant.	It would be preferable if I had this job but if I am redundant well it would be unfortunate but it's hardly the end of the world.	Disappointment & regret on loss of the job.

In the above example it is important to note that the situation or event is identical in all three cases. What changes, however, are the thoughts and beliefs about the situation. As the thoughts change a different emotional consequence is produced.

A-B-C MODEL

GENERAL EXAMPLE

EXAMPLE 2

A - THE SITUATION
OR EVENT

B - THOUGHTS
BELIEFS
EXPECTATIONS

C - EMOTIONAL
CONSEQUENCES
& BEHAVIOUR

Business executive is giving a presentation at a conference. Some members of the audience leave their seats and walk out.

"Oh no! They're leaving the hall. My paper must be dreadful! It must be so boring - I knew I was a lousy speaker.

Anxiety, panic & low self-esteem

Business executive is giving a presentation at a conference. Some members of the audience leave their seats and walk out.

"Oh well, it is getting close to lunch and I guess they wish to have a drink before eating. It has been a heavy morning of talks but what a pity, they're going to miss a good presentation!

Some disappointment but no significant effect on self-worth.

Again the situation remained identical, but depending on what the executive says to himself about the situation, a different emotional consequence is produced.

A-B-C MODEL

TINNITUS RELATED EXAMPLE

EXAMPLE 1

A - THE SITUATION
OR EVENT

B - THOUGHTS
BELIEFS
EXPECTATIONS

C - EMOTIONAL
CONSEQUENCES
& BEHAVIOUR

The experience of having tinnitus.

"Why me? Why do I have to suffer these noises."

Frustration, despair, hopelessness etc.

The experience of having tinnitus.

"This is not fair - the noise will drive me crazy".

Helplessness, irritation depression etc.

The experience of having tinnitus.

"I just can't cope with this terrible noise".

Loss of control anxiety, misery, etc.

The experience of having tinnitus.

"The noise is not pleasant but I can cope with it".

Hopefulness, acceptance, tolerance/coping, etc.

The experience of having tinnitus.

"The noises might be a nuisance but there are so many good things in life which I enjoy".

Optimism, comfort, etc.

A-B-C MODEL

TINNITUS RELATED EXAMPLE

EXAMPLE 2:

<u>A - THE SITUATION OR EVENT</u>	<u>B - THOUGHTS BELIEFS EXPECTATIONS</u>	<u>C - EMOTIONAL CONSEQUENCES & BEHAVIOUR</u>
Person who has tinnitus wakes up one morning and finds their tinnitus is really bad.	"The tinnitus keeps on getting worse - it will cause me to go deaf - I just can't stand it".	Utter despair fear, depression, etc.
Person who has tinnitus wakes up one morning and finds their tinnitus is really bad.	"O.k. - the tinnitus is really bad today - no point complaining about it - I'll just think of something I like to do - I'll play bowls that'll make me feel better."	Acceptance Sense of control Optimistic, etc.
Person who has tinnitus wakes up one morning and finds their tinnitus is really bad.	"Damn this noise! It will drive me around the bend - it'll ruin my whole day".	Frustration Pessimism Hopelessness, etc.
Person who has tinnitus wakes up one morning and finds their tinnitus is really bad.	"Oh no - just listen to it - this is the worst it's ever been - it's getting worse by the minute".	Anxiety Misery Depression etc.
Person who has tinnitus wakes up one morning and finds their tinnitus is really bad.	"O.k. my tinnitus is bad this morning but I'm glad it didn't interrupt my sleep - this means I'm nice and fresh and I'll be better able to cope.	Optimistic Positive Sense of coping etc.
Person who has tinnitus wakes up one morning and finds their tinnitus is really bad.	"The tinnitus might be loud but what luck that I'm playing golf today - that'll take my mind off the noises.	Acceptance Comfort Problem-solving

A-B-C MODEL

TINNITUS RELATED EXAMPLE

EXAMPLE 3:

A - THE SITUATION OR EVENT	B - THOUGHTS BELIEFS EXPECTATIONS	C - EMOTIONAL CONSEQUENCES & BEHAVIOUR
Person who has tinnitus is invited to a social function	"How can I go - It'll only make my tinnitus worse when I get home"	Despair Hopelessness Irritation.
Person who has tinnitus is invited to a social function	"I couldn't possibly go - all the noise and fuss will make me feel worse and irritable".	Frustration Agitation Pessimistic etc.
Person who has tinnitus is invited to a social function	"I'll have to make up some excuse - I can never hear what's being said at such functions - I just end up making a fool of myself."	Annoyance Hopelessness Isolation
Person who has tinnitus is invited to a social function	"I know being in a noisy environment makes my tinnitus a bit louder - but that's only temporary and it'll settle.	Acceptance Positive Tolerant etc.
Person who has tinnitus is invited to a social function	"Oh good! When I'm out socially there are always too many interesting things to focus on to be bothered with the tinnitus".	Comfort Excitement Hopefulness etc.
Person who has tinnitus is invited to a social function.	"Being out socially can be a bit of a bother when you have tinnitus but I know I can cope with it".	Positive Tolerance Optimistic etc.

From the examples we can see that it is not the situations, or events that we experience, that lead to how we feel and behave. It is what we think, or say to ourselves that has a powerful influence on our feelings and emotions.

It is important to learn to think positively, rationally and logically. We need to avoid thinking negative, irrational and illogical thoughts. Such thoughts have negative and detrimental effects on our feelings, emotions and behaviour. This is particularly important with regard to how you think in reaction to your tinnitus. Let's consider the following set of negative thoughts in response to tinnitus:

"Why me? Why do I have to suffer these noises?"

"Oh no! I just can't cope with the noises"

"The noise ruins everything for me"

"This is not fair - the noise will drive me around the bend"

"Before I had tinnitus everything was good - now things are terrible!"

A person who consistently engages in such distressing self-talk cannot be expected to deal very effectively with their tinnitus.

They will just talk themselves into a more negative and distressed state!

Negative thinking and self-talk can produce several things:

- 1) It will undoubtedly increase the distress associated with tinnitus.
- 2) It will produce feelings of distress, frustration, hopelessness, tension, irritability, depression etc.
- 3) It will interfere with a person's ability to cope effectively with tinnitus.
- 4) It will make life miserable!

However, this does not have to be the case!

No one places such negative thoughts in your head - only you control what you say or think to yourself! The destructive process which negative self-talk produces can be reversed by intentionally changing what you say, or think to yourself.

HOW TO THINK IN A POSITIVE, RATIONAL AND LOGICAL MANNER :

To learn to think in a positive, rational and logical manner there are several steps which need to be followed:

- 1) Acknowledge the impact of your thoughts about yourself and the situations or events that you experience, on your feelings, emotions, and behaviour.
- 2) Deliberately tune in and listen to what you are saying or thinking to yourself.
- 3) Identify positive, rational and logical; or neutral thoughts. These are "safe" thoughts - they will have positive or neutral effects on your thoughts and feelings.

Identify negative, irrational and illogical thoughts - these will have negative effects on your feelings and emotions. These represent "dangerous" thoughts. Attach a "green flashing light" to positive and neutral thoughts and a "red flashing light" to negative thoughts.

- 4) Interrupt and stop negative thoughts. By doing this we can avoid allowing our thoughts to operate like a broken record continuing on and on.
- 5) Challenge the truth and validity of our thoughts - do not blindly accept negative, irrational and illogical thoughts as true.
- 6) Substitute positive, rational and logical thoughts for every identified (and challenged) negative, irrational and illogical thought.

Throughout this Programme you will be instructed in a variety of techniques which will enable you to follow all of the above steps to ensure your thinking, and what you say to yourself, is positive, rational and logical. By altering the way you think about your tinnitus you will find that you will improve your ability to cope it.

- 2) A further homework assignment is to complete two examples of the A-B-C model from your daily experience.

Please complete the following two recording sheets and give details of:

- A - the situation or event you experienced.
- B - your thoughts, beliefs about the situation.
- C - your emotional response; feelings.

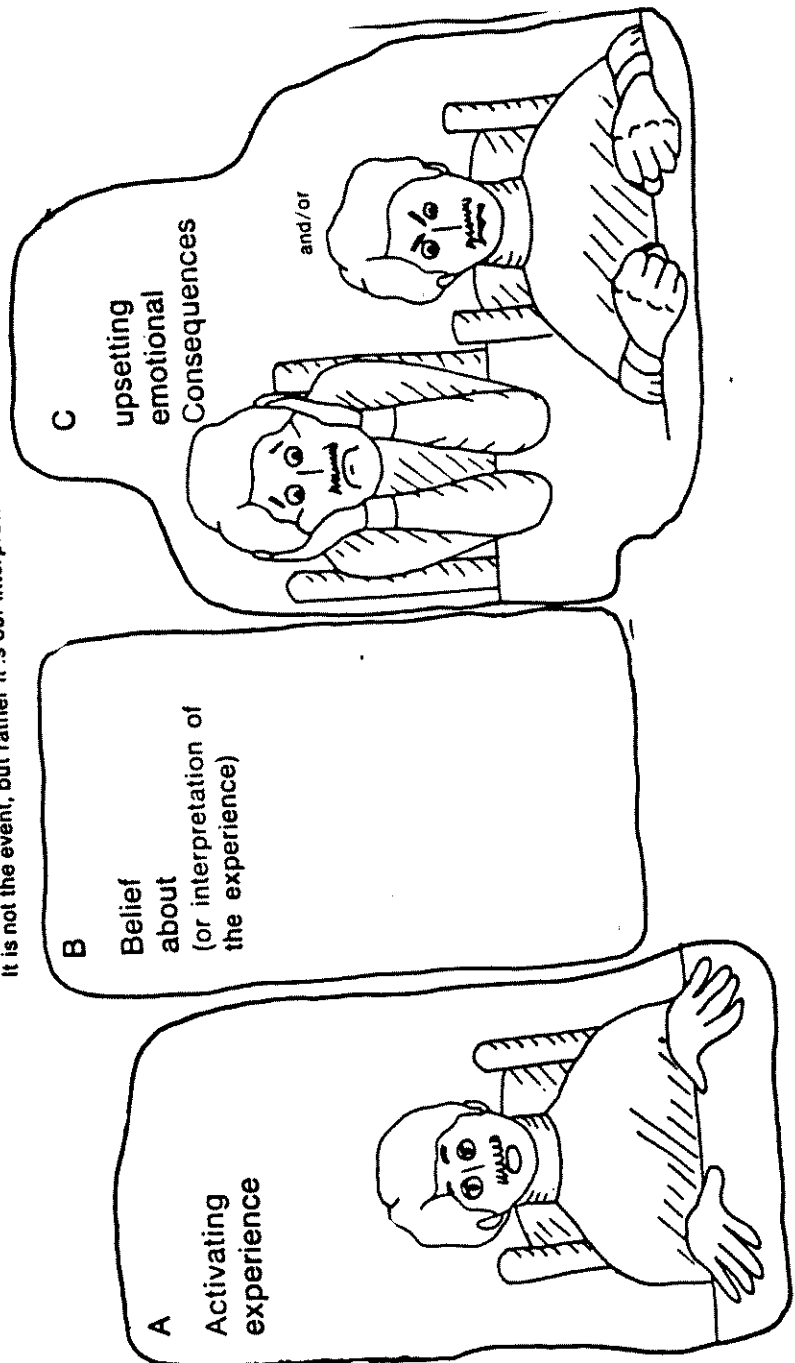
Try to describe two tinnitus related examples or if this is difficult include one general example.

Homework will be discussed at the beginning of the next session.

Rational-Emotive Therapy's A-B-C Theory of Emotional Disturbance

"Men are disturbed not by things, but by the views which they take of them."
— Epictetus, 1st century A.D.

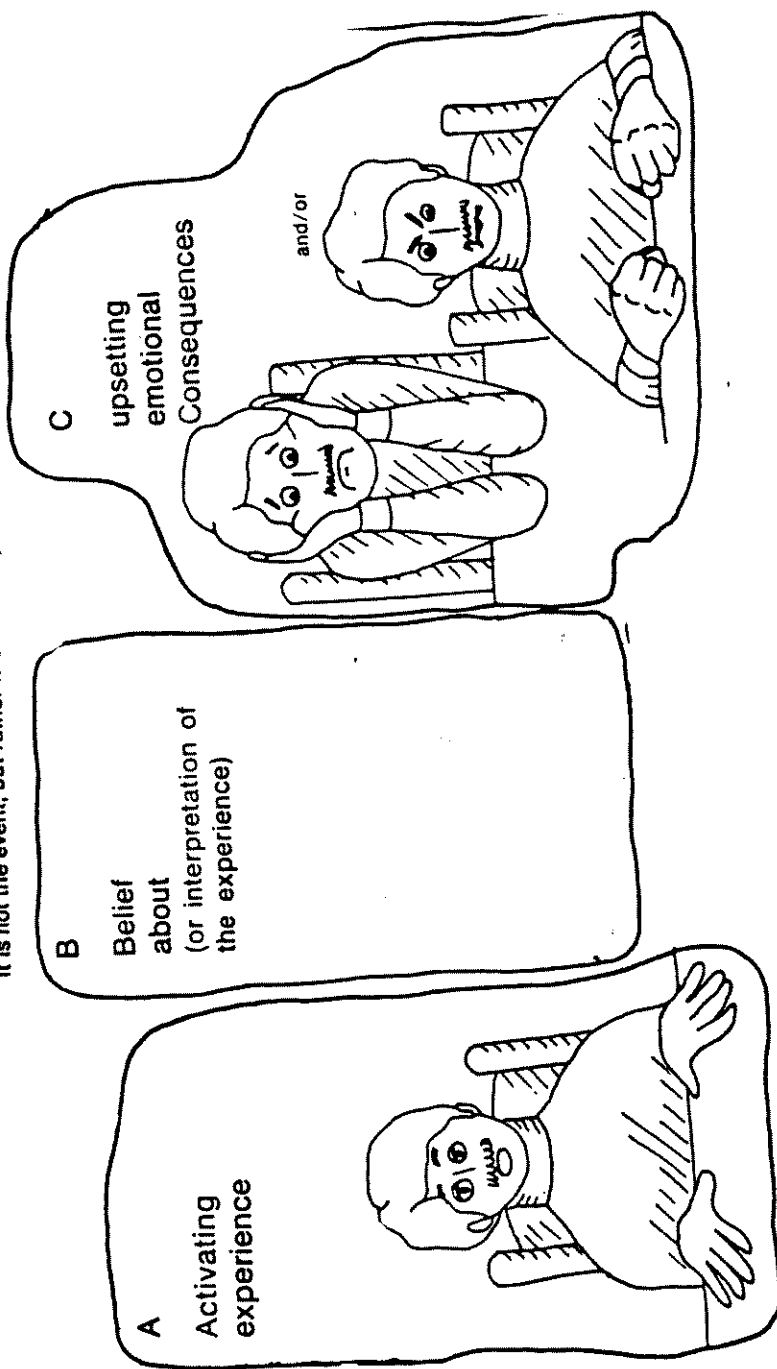
It is not the event, but rather it is our interpretation of it, that causes our emotional reaction.



Rational-Emotive Therapy's A-B-C Theory of Emotional Disturbance

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It is not the event, but rather it is our interpretation of it, that causes our emotional reaction.



SESSION 4CONTROLLING NEGATIVE THOUGHTS

So far we have looked at the powerful influence that our thoughts and self-talk can have on how we feel and behave. We have also spent some time looking at how we can classify our thoughts as positive, rational and logical; as neutral; and as negative, irrational and illogical. We know that thoughts can be automatic and that one thought can trigger off another similar thought. Our thoughts and self-talk can become just like a "broken record"; going on, and on. This is a particularly dangerous situation where negative thoughts are concerned. One negative thought can lead to another, and so on. One important skill in learning to think in a clear, positive and rational manner, is to learn to interrupt, and stop, negative thoughts as soon as we are aware of them. This gives us an opportunity to pause - look at what we are saying - and alter our thinking. It is also helpful to think of this in terms of a cassette player in our minds! Imagine the machine is on - our thoughts are going constantly - then you are aware of a negative thought in your head. Instead of allowing this to trigger another similar negative thought, we can learn to press the "pause" button. This gives us time to pause, reflect, and stop a destructive stream of negative thoughts from arising.

A number of techniques or strategies, have been found to be very helpful in learning to interrupt, and control negative thoughts. It is advisable to take each technique and practice it for a reasonable period of time - such as, each day for a week or two. This daily practice will help you determine which of the techniques work best for you. Consistent and regular use of the techniques will strengthen your skill in using them to control negative thoughts.

(1) THOUGHT INTERRUPTION TECHNIQUES

- a) Immediately upon noticing that you are producing a negative thought, interrupt it and go back to whatever non-negative thoughts you were having.

To interrupt the thought, instruct yourself as follows:

"I am going to stop thinking about that now!"

Then without letting yourself get upset, let your attention flow back on to non-negative ideas. Some suggestions are planning what you will have for dinner; thinking about a recent social situation you enjoyed; thinking about your next holiday; thinking of the golf game you won; planning a shopping list etc.

- b) Immediately upon noticing that you are producing a negative thought, interrupt it and go back to thinking some other non-negative, or neutral thoughts. To interrupt the thought, follow these instructions:

Imagine as vividly as possible a large red flashing STOP sign.

Capture this image in your mind.

Follow its warning just as you might if you saw it in real life.. STOP thinking the negative thought - switch your thoughts to something pleasant or neutral.

- c) This technique involves a stronger interruption. You should begin to practice this method in private (for example, when you are at home alone; or driving by yourself).

When you are ready to begin, start thinking a negative thought - try a negative thought about your tinnitus; or some other general life circumstance. As soon as you notice the thought clearly in your mind, yell the word "STOP" as loudly as you can.

You'll notice that the negative thought will be pushed aside for a few seconds by the very force of the act of yelling. You should then go on to think about something pleasant or neutral. Some examples are; think of a movie you enjoyed; plan your next dinner party; plan your next sporting event - golf; bowls; fishing; football; tennis etc; plan a shopping list; plan dinner for the next week; think of your next holiday; think of what you would do if you won lotto; think of a video you would like to watch; count backwards from 100 by 7's; run through the words of your favourite song.

Repeat the process of thinking of a negative thought and yelling the word "STOP" as loudly as you can for about three days. Then, begin reducing the volume of the yelling, while at the same time, maintaining the force behind it. Continue this process until you can "yell" the word "STOP" mentally without making a sound but feeling the force of the "yell". Obviously, now you are ready to use this technique in public.

- d) This technique originates from the notion that an act which is punished consistently will show a reduction its frequency. In this case the act is thinking a negative thought - either a negative thought about a general life event, or about your tinnitus! The punishment for this act of thinking a negative thought is a "SLAP ON THE WRIST" with a "THICK RUBBER BAND". Specifically, begin to wear a heavy-gauge rubber band around your wrist. As soon as you notice a negative thought, you snap the band against your wrist. If you do this consistently, you will begin to notice negative thoughts more quickly, as soon as they arise, and the frequency of such thoughts will decrease.

For example, if you find yourself brooding about having tinnitus, SNAP THE RUBBER BAND AGAINST YOUR WRIST!

Some people who have tried this technique find that it also works just like the old-fashioned technique of tying a piece of string around your index finger if you particularly need to remember something! Just seeing the rubber band around your wrist indicates to you to avoid thinking a negative thought about tinnitus, or whatever else!

- e) As soon as you notice that you are thinking a negative thought, interrupt it by following this process:
Take a deep breath and relax - let all the tension in your muscles flow away - imagine your body is like a floppy rag doll. Sit in a comfortable chair - let your body sink into the chair - your body is totally supported. Think to yourself the words "ONE", "RELAX", "ONE", "RELAX", "ONE", "RELAX"; continue this process, repeating the two words ten times. Now think of something pleasant or neutral.

There are several other techniques you can try to help control negative thoughts. One involves actually scheduling a time into your day to think about any general worries and concerns, or thinking about tinnitus-specific concerns. By doing this you give worries and concerns a time and place - you avoid allowing them to filter into the rest of your day!

2) SCHEDULING WORRY TIME

Often people find it difficult to keep negative thoughts out of their minds. There may be particularly bothersome ideas or concerns, that keep intruding into your train of thoughts again, and again. If you feel the need to spend some time mulling over these thoughts, then schedule them into your day. Schedule some "WORRYING TIME" into your day - just like you schedule time for activities such as work, eating, relaxing, exercising, sleeping, and so on.

To schedule this time, decide how long you should spend on these intrusive but necessary thoughts. Do not allow these thoughts to interfere with your mood, work, play or sleep at any other time. If you feel that it is hard for you to set aside a thought completely when it occurs, for fear you may not remember to think about it during your "WORRYING TIME", then write it down to remind you of important thoughts.

The point of this technique is not to avoid thinking about unpleasant subjects, such as general worries or tinnitus related concerns. Rather, it is to let you decide WHEN is the best time to devote to what you consider necessary thinking; to free you from having to carry your mental burdens everywhere, or allow them to interfere with your every waking hour!

Half an hour of "WORRYING TIME" a day should prove sufficient for most people.

Remember, the technique works best if you refrain from doing anything else except thinking during your "WORRYING TIME" - consider how worrying interfered with other activities such as sleeping, socialising, working - it works the other way as well!

You can take this technique even further and just not give your "WORRYING TIME" a time, but also a place, pick a special chair, in a particular room just for the purpose of your "WORRYING TIME".

Remember, you must not spend any other time during the day worrying - only your scheduled "WORRYING TIME". If you notice any worrying thoughts at other times you must deliberately put them out of your mind - Instruct yourself: "I must not think about my worries now - I shall leave it till my "WORRYING TIME".

As soon as your worrying time is scheduled to end, you must leave the particular chair and place designated, stop thinking about any worries. You could use one of the THOUGHT INTERRUPTION TECHNIQUES to help you. Then go and do some other activity and switch your thoughts to something pleasant and neutral.

COMPLETE THIS:

I WILL SCHEDULE SOME TIME AND A SPECIFIC PLACE, FOR THE SOLE PURPOSE OF ATTENDING TO ANY WORRIES AND CONCERNS.

MY WORRYING TIME WILL START AT _____ O'CLOCK EACH DAY AND WILL LAST FOR _____ MINUTES. THIS WORRYING TIME WILL OCCUR IN _____ PLACE.

Another way of helping you to control negative thinking is to start to employ techniques which will increase the number of positive thoughts that you engage in. Here are some suggestions to try:

3) **INCREASING POSITIVE THOUGHTS**

a) **PRIMING**

Priming is a technique designed to increase positive thoughts. Its name comes from the phrase "priming the pump" - this originally referred to placing water in the barrel of a dry pump to begin the pumping action that would start the desired flow of water. In this case, we will be using the word to refer to placing positive thoughts in your mind systematically to break the pattern of negative thoughts and to prompt the flow of positive thoughts.

First, you need to put together a list of positive thoughts. Think especially about thoughts that refer to yourself. If necessary, ask people you can trust to tell you what they consider to be your good points. Write these thoughts on small sheets of paper, one thought per page. Carry these sheets of paper with you and pull out one sheet at random intervals throughout the day - read it and pay serious attention to it:

Add new thoughts to your list as they occur to you. Also, begin placing "wild cards" amongst them. When you pull out this "wild card" - a blank piece of paper - you are to generate a positive thought about yourself on the spot.

b) USING CUES

Use frequent behaviours as reminders to yourself to think a positive thought. You can increase the frequency of positive thoughts by pairing them with things you do frequently. For example, remind yourself to have a positive thought each time you eat, brush your teeth, talk on the phone, read something, get in your car, or on a bus etc.

c) NOTICE WHAT YOU ACCOMPLISH

Often we may tend to focus on the negative things in our lives - what is not right; and ignore the things which we do well, enjoy or are going the way we want. You may feel your tinnitus detracts from your daily activities. To see if this is true in your case begin to keep a daily record of things you accomplish or enjoy throughout each day. This will help you to notice the things which are positive in your daily routine - the things you might otherwise ignore, or dismiss, or simply forget if you tend to focus on negatives. You will also probably notice there is much more which makes up your day than just your tinnitus.

d) POSITIVE SELF-REWARDING THOUGHTS

Hearing someone telling us they appreciate what we have done usually makes us feel good. This may be because our contribution is noticed, our efforts are considered worthwhile, and our value is acknowledged. These 3 elements can also be present in our thoughts. Others telling us we have done a good job will increase our desire to continue to do well. You can produce a similar effect by telling yourself, or praising yourself, if something you do is good. The trick is to give yourself a "pat on the back" if you do something well.

In this session we have looked at techniques to interrupt or control negative thinking, as well as ways of increasing positive thoughts. Practice each technique for a period of time to ascertain which techniques work best for you. Use the techniques to control any negative thoughts you have about your tinnitus

(Some of these techniques have been adapted from Lewinsohn et al. 1978).

SUMMARY OF THOUGHT INTERRUPTION TECHNIQUES

Remember, it is useful to regard our thoughts and self-talk as a constant, never ending process - imagine it is just like a cassette-tape playing in a cassette player. When we listen to a cassette tape playing it is within our control to interrupt the tape by pressing the pause button or by pressing the stop button, we can choose to cease to listen to the tape by pressing the stop button and changing the tape. We can also do the same thing with our thoughts. No-one controls our thoughts but ourselves!

We can learn to acknowledge "dangerous" thoughts - thoughts which will have a negative impact on our emotions, mood, behaviour and well-being. Once we are aware of them we can learn to press the "PAUSE" button and STOP NEGATIVE THOUGHTS from continuing. In order to do this, we must learn to use THOUGHT INTERRUPTION TECHNIQUES.

Here is a summary of the techniques - Remember the process involves:

- a) Acknowledging the presence of negative and destructive thoughts
- being aware!

- b) Hitting the pause button - use a thought interruption technique.

SO WHENEVER YOU NOTICE A NEGATIVE THOUGHT TRY THE FOLLOWING:

- 1) Instruct yourself to stop the thought by saying: "I am going to stop thinking about that now"
Redirect your thoughts to something pleasant or neutral.

- 2) Imagine a large red flashing stop sign - follow its signal and stop thinking the negative thought.

Redirect your thoughts to something pleasant or neutral.

- 3) Mentally "yell" the word "stop" without making a sound, but feeling the full force of the "yell"

Redirect your thoughts to something pleasant or neutral.

- 4) Wearing a thick heavy-gauge rubber band around your wrist - snap the rubber band against your wrist.

Redirect your thoughts to something pleasant or neutral.

- 5) Mentally say the words "one", "relax", "one", "relax", "one", "relax" - repeat the words ten times. Relax all of your muscles at the same time redirect your thoughts to something pleasant or neutral.

As well as learning thought interruption techniques there are several other strategies which you can use to manage your thoughts. These involve giving negative thoughts and worries a time and a place - and increasing the number of positive thoughts.

HERE IS A SUMMARY:

- 1) Decide how long you should spend each day on intrusive and worrying thoughts. Choose a particular chair or a room for the purpose of attending to your worries.

COMPLETE THIS:

My worrying time will commence at _____ o'clock and will last for _____ minutes.
This worrying time will occur in _____ place.

- 2) Put together a list of positive thoughts about yourself. Write them on small single sheets of paper - one thought per page.

Pull out one sheet at random intervals throughout the day - read it, attend to it! Whenever you pull out the wild card - make up a positive thought about yourself on the spot.

Continue to add to your list.

- 3) Use frequent, regular behaviours to think a positive thought - such behaviours could include; brushing your teeth; eating a meal; getting into the car; putting out the garbage; getting dressed; talking on the phone; walking out/in your front door etc.
- 4) Keep a daily record of all the things you enjoy or accomplish throughout the day - no matter how trivial!
- 5) Notice your efforts, achievement and "jobs well done" by patting yourself on the back" - praise yourself if something you do is done well etc.

HERE ARE SOME EXAMPLES OF HOW THE ABOVE TECHNIQUES MAY BE USED:

CASE 1: John has tinnitus. He is going to a social gathering tonight and notices that he is thinking about how he will cope with it - he is tending to think in a very negative fashion - he interrupts his thoughts by saying: "I am going to stop thinking about that now". He then redirects his thoughts to something pleasant - he thinks about the golf game he played this morning.

CASE 2: Jean has tinnitus - she is going to a concert tonight but finds herself thinking very negative thoughts about how this will certainly make her tinnitus worse later on - she interrupts her thoughts by immediately imagining a large red flashing stop sign - she then redirects her thoughts to something pleasant; she thinks about planning the menu for Christmas dinner.

CASE 3: Graham has tinnitus - he gets up one morning and notices his tinnitus is particularly irritating - he finds himself thinking very negative thoughts about his tinnitus and how his whole day will be ruined - Graham interrupts his thoughts by mentally "yelling" the word "stop" - whilst he says nothing out loud - he feels the full force of the "yell" - he then redirects his thoughts to something pleasant - he plans to fill his day with things he finds pleasant and which usually distract him from his tinnitus.

CASE 4: Betty has tinnitus - she finds that every now and then throughout the day, particularly when she is under stress, she has negative thoughts about her tinnitus - Betty finds that wearing a heavy - gauge rubber band helps to remind her not to engage in such thoughts - whenever she notices such a thought she snaps the band against her wrist - she then makes sure that she busies herself with some other pleasant activity such as gardening or chatting with a neighbour etc.

CASE 5: George has tinnitus - he finds that whenever he sits down just to relax, he becomes preoccupied with his tinnitus - to interrupt this, George sits in a comfortable chair - lets all of his muscles relax and mentally says to himself the words "one", "relax", "one", "relax", "one", "relax" and so on - he then redirects his attention to something pleasant.

CASE 6: Brian has tinnitus - he finds that he often worries about his tinnitus and other concerns throughout the day - he finds it useful to schedule a specific time and place into his day for these worries - he spends 15 minutes from 7.00 to 7.15pm to think about any worries - he does not allow any other time throughout the day to be allocated to any worries - if worries arise he says to himself - "I won't think about that now - I'll think about that in my "worry time". At the end of the worrying time he redirects his attention to something pleasant.

CASE 7: Margaret finds that she will often focus on negative things such as her tinnitus and other personal things - she finds it helpful to keep a list of positive characteristics - each day at random intervals she will read an item from her list and make up new ones - this helps increase her number of positive thoughts and decreases her focus on negative thoughts.

CASE 8: Robert has tinnitus and will often find himself pondering on it when he is doing something mundane and routine. He decides to use a series of regular behaviours as cues to think about something pleasant - he chooses brushing his teeth; eating; getting into his car; looking at his watch; talking on the phone as cues to think something positive - this helps him to increase the number of positive and pleasant thoughts he has throughout the day.

CASE 9: Don finds that he tends to focus on things that go wrong - things he doesn't achieve and upsets which occur during the day. Often he will also blame problems on the fact that he has tinnitus. Don finds that it helps if he keeps a daily record of all the things he enjoys and accomplishes throughout the day no matter how small and insignificant they might seem. Such things might include parking the car in a "tight" spot when he didn't think he would be able to; having an enjoyable conversation with a colleague; helping a family member with a problem; having a joke with the teller in the bank; being complimented for completing a job at work etc. Don also finds it useful to give himself a "pat on the back" to acknowledge and recognise his efforts throughout the day. He finds these strategies help him to focus on positive aspects of his daily routine - not solely attending to all the negatives. This way he begins to acknowledge that there are a number of enjoyable and positive aspects to his daily routine and he begins to consider that there is more to life than just tinnitus!

HOMWORK ASSIGNMENT

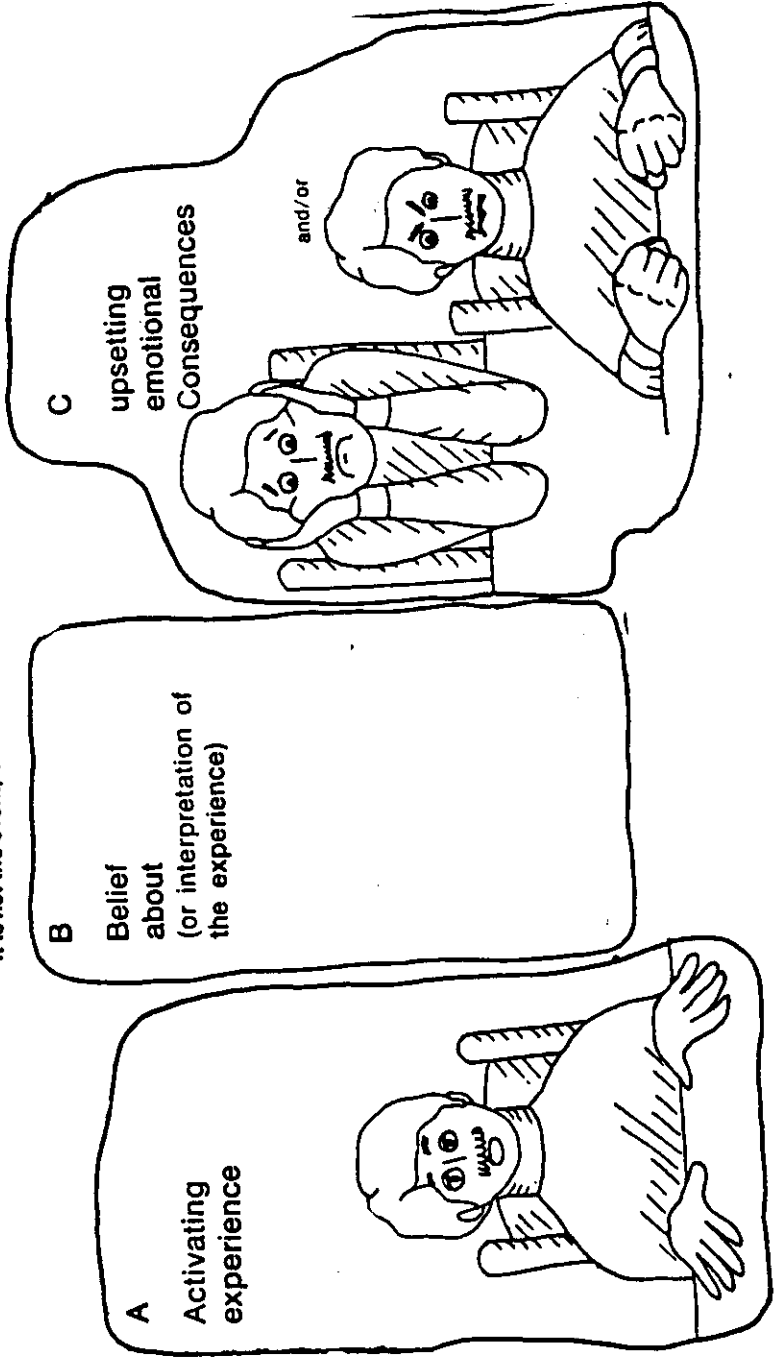
- A) Practice Thought Interruption Techniques and Strategies for increasing positive thoughts
- B) Complete 2 examples of A-B-C Model.

Homework will be discussed at the beginning of the next session.

Rational-Emotive Therapy's A-B-C Theory of Emotional Disturbance

"Men are disturbed not by things, but by the views which they take of them."
— Epictetus, 1st century A.D.

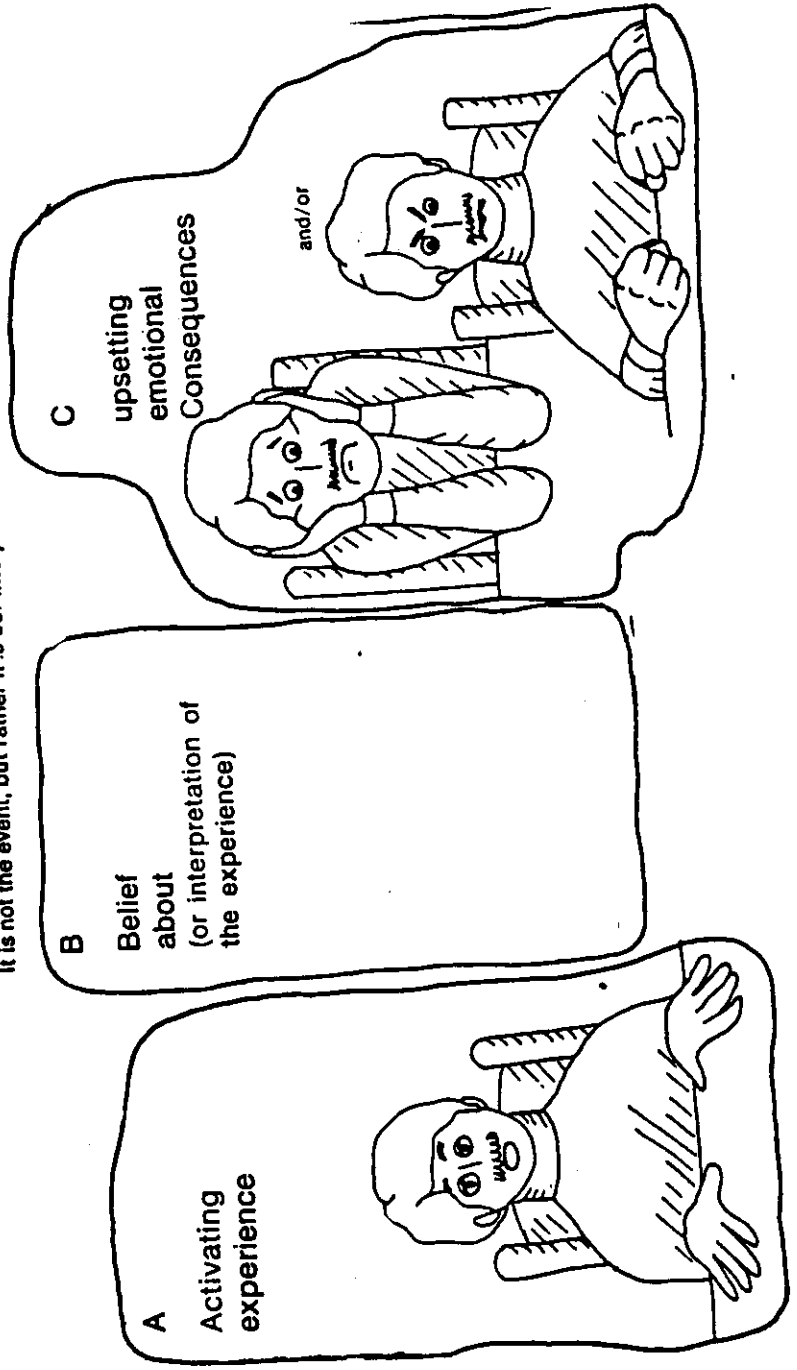
It is not the event, but rather it is our interpretation of it, that causes our emotional reaction.



Rational-Emotive Therapy's A-B-C Theory of Emotional Disturbance

"Men are disturbed not by things, but by the views which they take of them."
— Epictetus, 1st century A.D.

It is not the event, but rather it is our interpretation of it, that causes our emotional reaction.



SESSION 5

CHALLENGING OUR THOUGHTS, BELIEFS AND EXPECTATIONS

As we have already discovered our thoughts, beliefs and expectations play a crucial role in determining the emotional consequences we experience in response to the situations, or events, we are exposed to.

A - The situation or event

DOES NOT LEAD TO

C - The emotional consequence

OUR THOUGHTS, BELIEFS AND EXPECTATIONS INTERVENE BETWEEN A AND C

A - The situation or event

LEADS TO

B - Our thoughts, beliefs and expectations about the situation

PRODUCES

C - Our emotions, feelings and behaviour.

We must acknowledge four important characteristics of thoughts.

- 1) Our thoughts may have a substantial impact on our emotions, feelings and behaviour in response to situations, or events, we experience.
- 2) Thoughts can be automatic - often we are unaware of the content of our thoughts unless we make a deliberate effort to tune in and listen to what we are saying to ourselves.
- 3) Our thoughts can become like a broken record. One thought can trigger off another thought of the same type, and we can keep thinking and repeating the same sequence, on and on.

- 4) We can believe our thoughts; we can blindly accept them as true and correct, without ever questioning their basis or validity.

So far in this programme we have learnt how to:

- 1) Acknowledge the impact of our thoughts on how we feel and behave in response to situations, or events we experience.
- 2) To deliberately tune in and listen to what we are saying or thinking, to ourselves.
- 3) To avoid allowing our thoughts to operate like a broken record and to be able to interrupt and stop our thoughts by using the thought control techniques.

In this session we will learn how to not blindly accept our thoughts as true and correct. Rather, we will be looking at ways of questioning and challenging our thoughts.

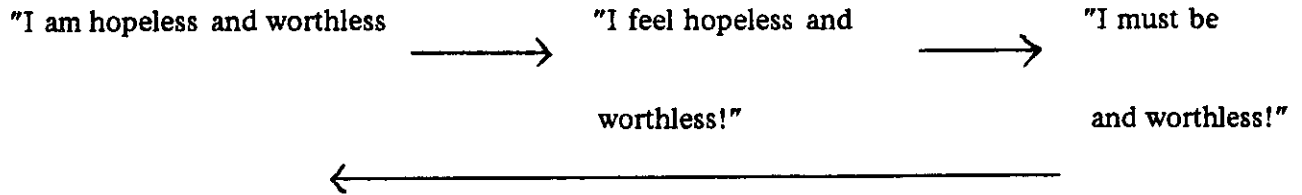
Let us imagine the case of Harry. Harry has a work-mate called Bill. No matter what Harry does he finds that Bill's "famous last words" are: "Harry you're hopeless!". Day in day out, Bill says to Harry, "Harry, you're hopeless!". This constant 'put down' begins to really bother Harry. He begins to think "Why does Bill always tell me I'm hopeless: I know I'm not an all-round great; but I don't know that I'm all-round hopeless!" Finally, Harry becomes so bothered by Bill that Harry decides to challenge Bill. Harry asks Bill: "Bill, why do you always tell me I'm hopeless? - I want you to give me reasons - some concrete proof of why you think I'm hopeless - I'm sick and tired of being called hopeless with no good reasons - I want proof".

Rather than accepting Bill's view blindly, Harry has challenged him and sought some evidence to support Bill's statement "Harry is hopeless".

Of course, most of us would probably not tolerate being constantly told we were hopeless from some other person. But, just consider how many times we tend to put ourselves down without questioning. Just think of the times you may say to yourself: "Gee, you're hopeless - you can't do a think right - you mess up everything - you're just hopeless".

The danger of blindly accepting such negative, irrational thoughts as serious and believable is that we may place a high degree of certainty in our thoughts. This may lead to more negative thoughts. They may become automatic, familiar and believable. As a consequence we may experience negative feelings and emotions. If you think to yourself: "You're hopeless and

worthless" you are unlikely to feel good about yourself! You will probably begin to feel hopeless and worthless. We may then take these feelings as confirmation and evidence that our thoughts are true. This sets up a vicious circle and a pattern of circular reasoning.



We all must learn to challenge our own thinking. We must not accept what we think or say to ourselves as true and valid. We must seek concrete evidence to prove our thinking is correct.

It may be useful to think of this procedure of seeking concrete evidence as similar to setting up a court of law in your own head. We should not accept anything we say to ourselves as true and correct unless we have gathered sufficient concrete evidence to prove what we are thinking is REAL, VALID, CORRECT AND IN PERSPECTIVE - otherwise, we will toss it out of court - out of our heads.

To challenge our thinking, we must question our thoughts; seek concrete evidence to support, or disprove it. We must consider all alternatives. If when we challenge our thoughts, we find them to be incorrect, faulty, unrealistic and out of perspective, we must substitute other more correct, reasonable, realistic thoughts.

GUIDE-LINES FOR CHALLENGING YOUR THOUGHTS

In order to challenge our thoughts we must ask a series of questions, and consider all other alternatives. To do this systematically here are some guide-lines to use when challenging your thoughts.

1) Determine if your thinking is valid and truly based in reality.

By asking the following questions you can "reality test" your thoughts.

- a) What is actually true about this situation?
- b) What is the evidence that my thinking is true and correct?
- c) What facts am I forgetting, or ignoring?
- d) What distortions, or mistakes am I making in my thinking?
- e) What is not true about this situation?
- f) What are the facts and what am I making up or exaggerating?

2) Determine if you are considering all possible alternatives to your thinking
By asking the following questions you can generate some potential alternative explanations.

- a) What are some alternative ways of thinking about this situation?
- b) Have I considered all other feasible thoughts and explanations?
- c) Is there a more positive way of looking at this situation?
- d) Is there anything good about this situation?
- e) What other practical things could I do to deal with this situation?
- f) In what other ways could I behave in this situation?

3) Determine if your thinking is truly in perspective

By asking the following questions you can clarify whether your thinking is truly in perspective and not prone to faulty thinking such as catastrophising.

- a) Is the situation as bad as I am making it out to be?
- b) What is the worst thing that could happen?
- c) How likely is it that the worst thing will happen?
- d) How awful is the worst thing should it happen?
- e) What is probably, or most likely, to happen?

CHALLENGING THOUGHTS: A GENERAL EXAMPLE

John has organised a special dinner for his wife Mary to celebrate her birthday. Mary has to attend a training workshop during the day but says she will be home at 5.30pm, if not earlier.

John spends all day preparing for the evening. He goes out shopping for a present and flowers and picks up some food and wine for dinner. He then comes home and prepares a special three course dinner. By 5.30 he prepares them both a drink and is eagerly awaiting Mary's arrival home.

Mary does not arrive home at 5.30 nor is she home at 6.30 or 7.00. John, at first, is disappointed - then he becomes worried that something has happened to Mary - he then becomes angry and annoyed. At 7.30 when Mary finally arrives home, John does not wait for an explanation but immediately snaps at Mary for being so thoughtless - she snaps back at him. Following a brief yelling match both retreat to opposite ends of the house. A much awaited special evening has turned into a disaster.

Let us look at some of John's self-talk:

What a nuisance? Mary said she would be home at 5.30pm. She is ruining everything?

She obviously doesn't care for me any more. She would rather be with her work-mates than here with me.

Maybe something has happened to her and here I am getting mad.

The whole evening is ruined. When she walks in that door, she is going to get a piece of my mind.

This negative self-talk has lead John to experience a strong emotional response to Mary's lateness - he is angry, hurt, annoyed and ready to explode - he is also assuming that Mary no longer cares for him.

Indeed, the reason why Mary was so late was that whilst driving the 40km distance home Mary got a flat tyre. A passer-by offered to phone the N.R.M.A. at the next available telephone and Mary had to wait an hour for assistance with no way of being able to warn John that she would be home late.

When Mary walked in and met with a fuming and extremely irate John she was equally angry particularly as there was no opportunity to provide an explanation.

It is important to acknowledge that many of John's concerns were "possible", and if true would be quite serious. However, John was considering some of the worst scenarios. Given that he did not have all the facts he was being very premature in considering the worst possible scenario had occurred (such as, Mary preferred to be with workmates and no longer cared for John). However, by "toning" down his thoughts and thinking rationally about all of the possible explanations, John may feel concerned, irritated, sad or anxious rather than extremely angry, excessively anxious or severely depressed.

By "toning down" his thoughts and self talk, John can also "tone down" his emotional response to the situation.

Let us now look at how John could challenge his negative thinking and substitute more logical counter thoughts.

NEGATIVE THOUGHTS

What a nuisance? Mary said she would be home at 5.30. She is ruining everything!

She obviously doesn't care for me any more. She would rather be with her work-mates than here with me.

Maybe something has happened to her and here I am getting mad.

The whole evening is ruined. When she walks in that door, she is going to get a piece of my mind.

John has challenged his thinking and changed it in several ways:

- he has "toned" it down
- he has stopped pre-judging and blaming Mary for her apparent irresponsibility.
- he is not jumping to conclusions about the possible meanings of her lateness.

The process of challenging negative and irrational thoughts can also be applied to the kinds of negative, distressing thoughts that a person may think in response to having tinnitus. By "toning" down one's negative thoughts about tinnitus, one may "tone" down their emotional reaction to it and therefore experience less distress.

LOGICAL COUNTER THOUGHTS

"O.k. Mary did say she would be home at 5.30 and its well past that now. I'm disappointed but I don't have to get myself so worked up. If she is being thoughtless I can find that out and let her know I'm angry without exploding!"

It is possible that she prefers to be with them than with me. But I don't know this for a fact - no point getting upset about that now - I can talk with Mary. She may be being thoughtless but there are a lot of signs that she still cares for me".

It is possible that something has happened. It makes sense to be concerned but I don't need to to upset myself about that possibility. It is also o.k. for me to be feeling disappointed and annoyed.

Mary may have been thoughtless but I don't know that for a fact just now. If it turns out that she was I can be angry but I must wait for the facts. I'm very disappointed the evening has not worked out the way I planned but things do not have to always go my way. I'm very disappointed but its not the end of the world.

Let us now look at some examples of ten general negative thoughts and possible counter thoughts and then consider examples of ten tinnitus-specific negative thoughts and counter thoughts.

EXAMPLES OF TEN GENERAL NEGATIVE THOUGHTS AND POSITIVE COUNTER THOUGHTS

NEGATIVE THOUGHTS

POSITIVE THOUGHTS

"I'M HOPELESS - NO GOOD AT ANYTHING"

"THERE ARE SOME THINGS I AM GOOD AT - NO-ONE CAN BE TOTALLY HOPELESS"

"IT WAS A FLUKE THAT I MANAGED THAT JOB"

I USED MY KNOWLEDGE AND SKILLS TO DO THE JOB - SKILL DID THE JOB, IT WAS NO FLUKE"

"IF I DON'T DO IT PERFECTLY -100% - I'M A FAILURE"

"NO-ONE IS PERFECT - 100% - I WILL DO IT AS WELL AS I CAN AND BE SATISFIED"

"I COULD NEVER GET UP AND GIVE A SPEECH IN FRONT OF A GROUP OF PEOPLE - I WOULD MAKE A FOOL OF MYSELF"

"I MIGHT NOT REALLY ENJOY GIVING A SPEECH BUT I'M SURE I COULD COPE WITH IT"

"WHY DO SO MANY BAD THINGS HAPPEN TO ME"

"IT WAS UNFORTUNATE IT HAPPENED TO ME - BUT THINGS ARE NOT ALL BAD - SOME GOOD THINGS HAVE HAPPENED TO ME"

"I'M NO GOOD FOR ANYONE"

"THERE ARE LOTS OF PEOPLE I AM BOTH GOOD FOR, AND TO - TAKE MY FRIENDS"

"I RUINED LAST NIGHT SO NOW EVERYONE WILL HATE ME"

"LAST NIGHT DIDN'T GO ACCORDING TO PLAN - THERE WERE SOME GOOD THINGS ABOUT IT - SOME OF THE PEOPLE MIGHT BE A BIT DISAPPOINTED BUT THEY WON'T HATE ME"

I MADE A MISTAKE - I'M AN ALL ROUND LOSER"

"SO WHAT THAT I MADE A MISTAKE - NO-ONE'S PERFECT - ONE MISTAKE IS NO PROOF THAT I'M A LOSER"

"IT WAS ALL MY FAULT"

"HOW CAN IT BE ALL MY FAULT - THERE ARE LOTS OF PEOPLE INVOLVED AND WE SHARE THE RESPONSIBILITY"

"NOTHING I DO IS DONE REALLY WELL"

"I CAN COOK WELL, AND MAKE GOOD CONVERSATION, SO I DO SOME THINGS WELL"

EXAMPLES OF TEN TINNITUS-RELATED NEGATIVE THOUGHTS AND POSITIVE COUNTER THOUGHTS

NEGATIVE THOUGHTS

NOBODY UNDERSTANDS WHAT THE NOISE IS LIKE - NO-ONE AT ALL.

MY TINNITUS IS INTOLERABLE & IT SEEMS LIKE MY WHOLE WORLD IS FULL OF IT - THERE IS NOTHING ELSE.

MY TINNITUS STOPS ME FROM ENJOYING EVERYTHING.

HOW CAN I ACCEPT THIS SOCIAL INVITATION - WHAT IF MY TINNITUS IS REALLY BAD.

POSITIVE THOUGHTS

THERE ARE LOTS OF UNPLEASANT THINGS I DON'T EXPERIENCE BUT I CAN STILL BE SYMPATHETIC AND PROVIDE COMFORT - SO OTHERS CAN DO THAT FOR ME EVEN IF THEY DON'T HAVE TINNITUS.

NO, I MIGHT HAVE TINNITUS BUT I WILL NOT ALLOW IT TO FILL MY WORLD - THERE ARE LOTS OF OTHER PLEASANT THINGS TO MY WORLD.

MY TINNITUS IS A NUISANCE BUT LOTS OF OTHER THINGS STILL GIVE ME ENJOYMENT.

GOING OUT SOCIALLY ALWAYS OFFERS SOME OPPORTUNITY FOR DISTRACTION FROM MY TINNITUS. IF MY TINNITUS IS PLAYING UP I'LL DO SOMETHING TO COPE WITH IT, AND ANYWAY WHO IS TO SAY IT WILL BE BAD!

WHY ME? WHY DO I HAVE
TO SUFFER THIS TERRIBLE
NOISE?

IF I ASK THAT DO I REALLY
EXPECT AN ANSWER? - LOTS OF
PEOPLE HAVE UNPLEASANT THINGS TO
DEAL WITH - NO POINT ASKING WHY
- MIGHT AS WELL JUST GET IN AND
START DEALING WITH IT!

MY TINNITUS KEEPS ON
GETTING WORSE SOON IT
WILL BE SO LOUD I WON'T
BE ABLE TO COPE - I
WON'T BE ABLE TO DO
ANYTHING.

THERE'S NO EVIDENCE THAT IT WILL
BECOME INCREASINGLY LOUD - I
WILL BE ABLE TO COPE IF I JUST
KEEP DOING THINGS I KNOW MAKE ME
FEEL GOOD - THERE WILL ALWAYS BE
THINGS I CAN DO - JUST THINK OF
ALTERNATIVES.

THE NOISE WILL DRIVE ME
CRAZY!

THE NOISE IS A NUISANCE AND A
BOTHER BUT IT WILL NOT DRIVE ME
CRAZY!

WITH THIS NOISE LIFE IS
HOPELESS - THERE IS NOTHING
BUT THIS TERRIBLE NOISE!

THIS NOISE MIGHT BE CONSTANT &
ALWAYS PRESENT BUT THERE ARE
LOTS OF OTHER THINGS WHICH MAKE
UP MY LIFE AND THOSE THINGS MAKE
IT WORTHWHILE.

THE NOISE WILL OVERWHELM
ME!

IF I TAKE AN ACTIVE ROLE IN
DEALING WITH MY TINNITUS AND
LEARN TO PUT IT IN ITS PLACE
IT WILL NOT OVERWHELM ME.

WHY CAN'T ANYONE HELP ME?

LOTS OF PEOPLE CAN HELP ME IF I
LET THEM - LIKE MY FAMILY AND
FRIENDS - BUT MOST IMPORTANTLY,
I MUST LEARN TO HELP MYSELF.

HOMEWORK ASSIGNMENT:

The homework assignment for the next week is to begin to practice challenging any negative or irrational thoughts that you may experience, and substituting rational counter thoughts.

On the following pages are some recording sheets. Remember the A-B-C model where
A = the activating event
B = your self-talk, thoughts or beliefs about A
C = emotional consequences.

We have now introduced two further steps:

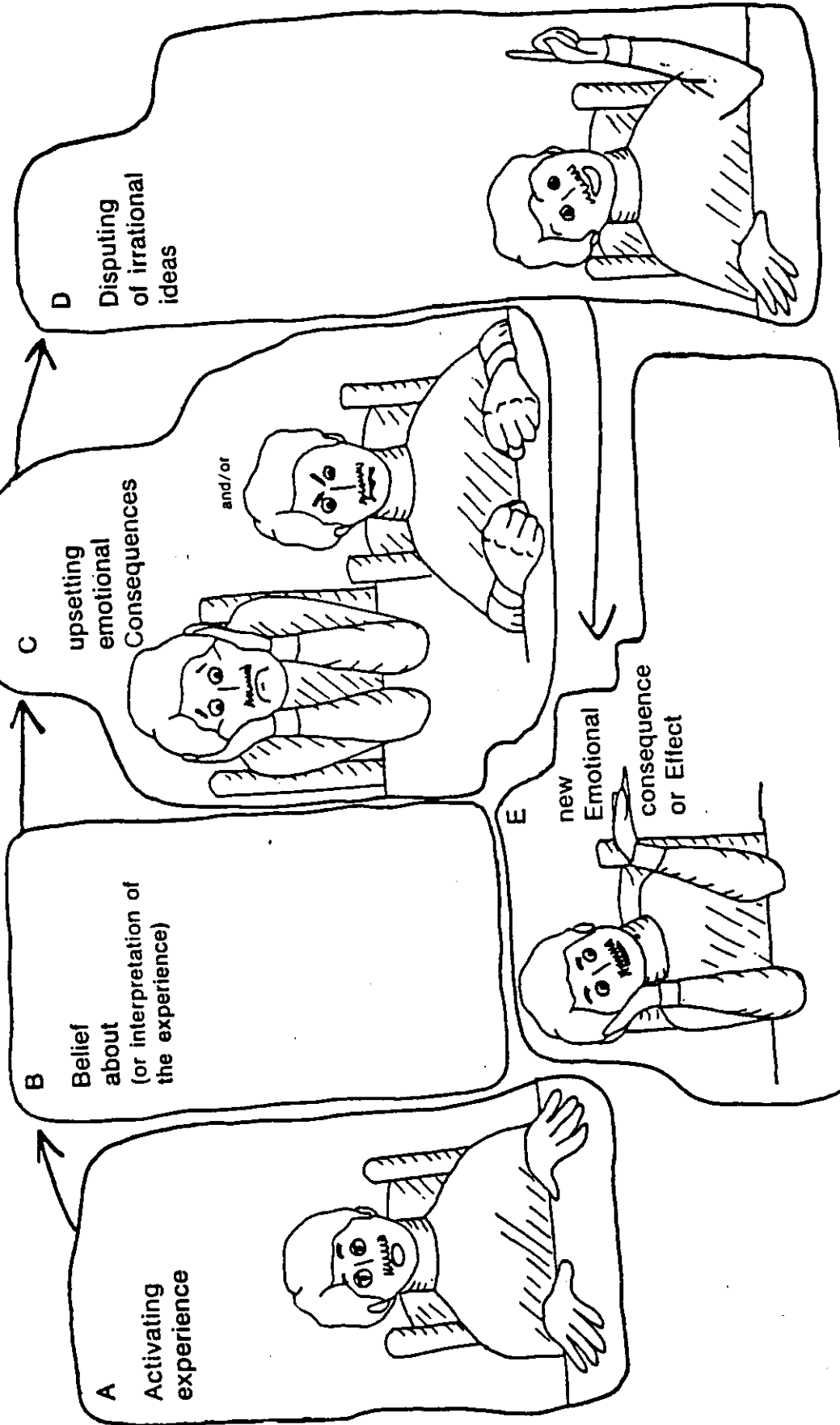
D = disputing or challenging the negative, irrational thoughts, self-talk or beliefs (contained in B)
and E = new emotional consequences.

Use the recording sheets as a guide to challenging any negative or irrational thoughts you experience. Try to complete four examples of challenging a negative thought. Two may be general examples and try to challenge two tinnitus - related negative thoughts that you may experience.

Rational-Emotive Therapy's A-B-C Theory of Emotional Disturbance

"Men are disturbed not by things, but by the views which they take of them."
— Epictetus, 1st century A.D.

It is not the event, but rather it is our interpretation of it, that causes our emotional reaction.



IDENTIFYING STYLES OF NEGATIVE OR DISTORTED THINKING

This programme has so far emphasised the impact of our thoughts, beliefs and expectations about situations, or events we experience, on our feelings, emotions and behaviour. Our thoughts may be positive, negative or neutral. Positive thoughts will have the effect of making us feel good and optimistic. Neutral thoughts usually have no significant effect on our feelings or emotions. Negative thoughts, of course, make us feel negative, low, pessimistic, and will generally have some detrimental effect on our feelings, mood and emotions.

So far you have learnt to :

- 1) Acknowledge the effect of your thoughts on your emotions, mood, feelings and behaviour.
- 2) Deliberately tune in to your thoughts and identify positive, negative and neutral thoughts.
- 3) Use thought control techniques to break a stream of negative thoughts – to pause, interrupt and stop such a sequence of thoughts.
- 4) Challenge your thoughts and not blindly accept your thoughts as true and valid.

A fifth important step is to learn to identify certain styles of negative or distorted thinking. There are a number of patterns, or styles which have been identified with regard to negative thinking. It is often useful when looking at negative thoughts to try to classify the thoughts in terms of their particular underlying style.

In this session we will look at how to identify particular styles of negative and distorted thinking. A set of the most common styles of negative thinking will be described. We will then consider such styles of thinking in both a general sense, and also specifically in relation to tinnitus.

12 COMMON STYLES OF DISTORTED THINKING

OVERGENERALISATION

You come to a general conclusion on the basis of a single incident, or single piece of evidence. If something bad happened once, you expect it to happen over and over again.

General Example

"I failed to score a goal -
I'm a hopeless
sportsman/sportswoman

Tinnitus Example

"My tinnitus kept me awake
last night - all my nights
will be plagued forever!"

ALL-OR-NONE THINKING

You see things in black or white categories. Things are good or bad - perfect or a failure. This is nothing in-between; no shades of grey; no middle ground.

General Example

"I've lost my job - I'm a
failure; I have nothing"

Tinnitus Example

"My life used to be perfect
- now I have tinnitus, my
life is a disaster"

SELECTIVE ABSTRACTION OR FILTERING

You tend to select a single negative event and dwell on it exclusively. You ignore the broader context and filter out all positive aspects of the event.

General Example

"Hardly anyone finished the
dessert - the dinner party was
a flop - it doesn't matter
the rest of the food was
enjoyed - the dessert ruined the
whole evening - what a disaster!"

Tinnitus Example

"I knew my tinnitus would
be worse when I got home
from the party - the food
and company was good - but
my tinnitus ruined
everything - nothing else
matters".

MIND-READING OR JUMPING TO CONCLUSIONS

You know what people are feeling and why they act the way they do. even without them saying so, or without asking them. You form negative interpretations without sufficient evidence - you are able to divine how people are feeling toward you.

General Example

"I know that my family think I'm really stupid and not reliable because I forgot to make a reservation at the restaurant - I bet they are all really angry with me"

Tinnitus Example

"Because of my tinnitus I have to sometimes ask people to repeat themselves so I can hear what they are saying - I know they think I'm just some silly fool- they think I'm a goat and I bet they won't get too close to me in future".

MAGNIFICATION OR CATASTROPHISING

You exaggerate the importance of errors or problems. You make mountains out of molehills. You expect the worst, a disaster.

General Example

"What if I make a mistake - I'll never be able to show my face in public"
"What if the party is a flop I'll never be invited anywhere again"

Tinnitus Example

"What if my tinnitus gets so loud it causes me to become deaf"
"My tinnitus will surely make me deaf"

MINIMISATION

You tend to belittle the importance of the significance of an event, or even your own strengths or assets.

General Example

"So what that I can cook well
- that doesn't mean anything at
all"

Tinnitus

"So what that I enjoyed the
game and I play good bowls,
I still get annoyed with
the tinnitus"

PERSONALISATION

You tend to blame yourself inappropriately as the cause of a negative event. Often there is absolutely no rational reason for this judgement.

General Example

"We lost the game because I
was playing"

Tinnitus Example

"My tinnitus ruins
everything for me - If I
go to the function I'll
ruin it for everyone else"

ARBITRARY INFERENCE

You tend to draw a conclusion when the evidence is lacking or actually supports the contrary conclusion.

General Example

"I know I haven't performed well
- event though the boss says so
and the figures show it - I just
haven't been up to scratch"

Tinnitus Example

"I know my hearing is
reasonably o.k. now - but
I know my tinnitus will
destroy my ability to hear"

EMOTIONAL REASONING

You believe that what you feel must be true - automatically. You assume that one's negative emotions necessarily reflect the way things really are.

General Example

"I feel stupid and boring - if
that's the case I must be stupid
and boring"

Tinnitus Example

"I feel I am bad company
due to my tinnitus - if I
feel that way, others must
feel it - then I must be bad company"

SHOULD STATEMENTS

You have an iron clad list of rules about how you and others should behave - People who break these rules anger you and you feel guilty if you break the rules.

General Example

"I should be tolerant and accepting of everything."

Tinnitus Example

"I should never let my tinnitus interfere with anything at all"

LABELLING

You tend to generalise one or two qualities into a negative global judgement. (This is an extreme form of overgeneralisation).

General Example

"I made a mistake -I'm a total loser - an all-round total loser"

Tinnitus Example

"I have tinnitus - I am totally disabled"

BLAMING

You hold other people responsible for all your pain and troubles, or you take the other tack, and blame yourself for everyone else's troubles.

General Example

"If it hadn't been for my family pushing me I would have done o.k."
If it hadn't been for me,
my family would have done o.k."

Tinnitus Example

"I wouldn't have so much suffering with my tinnitus if my family understood"
"My family would not have as many problem if I didn't have tinnitus."

Let us now look at some examples of negative thinking and try to determine styles, or patterns, of negative or distorted thinking. We will look at examples of cases who do not have tinnitus and cases who do have tinnitus.

CASE 1

Betty is planning to hold a dinner party for Jim for his birthday. This is what she is thinking to herself.

"I know I should hold a dinner for Jim - if I don't it would be really lousy. But I don't know if I can do it - it would have to be perfect! I'll have to try and cook something wonderful - anything less would be a disaster. What if the dinner is a flop! - I'd make a fool of myself - we'd never be invited anywhere! Ill have to do all of the preparations - if I don't people will think I'm not capable - Oh, if Jim wasn't this popular I wouldn't have all of this worry. I know I can cook well but that doesn't mean anything - I'll have to be the most charming, cool, capable and entertaining hostess to make it a successful evening! If I'm not people will think I'm a dill!!!

Let's look at the above case and try to determine what styles of thinking Betty is engaging in.

Now try to come up with some positive counter thoughts which could be substituted:

CASE 2

JIM HAS TINNITUS AND HAS BEEN INVITED TO ATTEND A CHRISTMAS CELEBRATION AT A LOCAL CLUB. THIS IS WHAT HE IS THINKING TO HIMSELF AS HE CONTEMPLATES WHETHER TO ACCEPT THE INVITATION.

"How can I possibly go and enjoy myself socially when I have this tinnitus? I'll be able to think of nothing else but the tinnitus. My friends won't understand what it is like - they'll just think I'm irritable and bad company. No one understands what tinnitus is like, only those who have it! My tinnitus ruins everything for me - and if I go to the the function I'll just ruin it for everyone else! What if I cannot hear other people's conversations properly because of the tinnitus? I couldn't ask people to repeat themselves, they would get annoyed and think I'm stupid! If I go I know I won't enjoy myself because I'll know that when I get home my ears will be ringing especially loud! If it wasn't for me and my tinnitus my family would have no worries. How can I go - just thinking about going to the Christmas party is making my tinnitus worse!!!

Let's look at the above case and try to determine what styles of negative thinking Jim is engaging in.

Now try to come up with some positive counter statements which could be substituted.

CASE 3: BILL IS SELECTED TO PLAY IN A BOWLS TOURNAMENT .

This is what he is thinking to himself:

"It was only a fluke that I got selected! I bet all of the better players were unavailable - What if I let the side down, or make a fool of myself? Everyone will hate me - I know I'll just blow the whole game! - What a pressure - I'll have to be 100% on the day - I'll have to play just perfectly! I just haven't got the skill - I have the odd good game but that's just luck! If we lose the tournament it'll be because I'm playing! I feel so hopeless and inadequate - I guess if that's the way I feel, I must really be hopeless - If it hadn't been for my family pushing me into playing bowls to get me out of the house I wouldn't be going through all of this stress!"

Let's look at the above case and try to determine the styles of negative thinking Bill is engaging.

Now try to come up with some positive counter statements which could be substituted.

CASE 4: JEAN HAS BEEN UNABLE TO SLEEP FOR THE PAST THREE NIGHTS .

This is what she is thinking to herself:

"I've had three bad nights! I just know it's my tinnitus which is ruining my sleep. The tinnitus is ruining my life! Not only do I have to put up with it all day, but now I can't even get any sleep - there is absolutely no peace! My whole world is full of tinnitus - there is nothing else! I bet I won't be able to sleep tonight - I'll probably never have another nights sleep! - What makes it worse is that no-one understands! My husband just says "let your mind go blank" - he

thinks it's all so simple - I just know he thinks I'm putting it all on for show - he probably thinks I'm a hypochondriac! If I don't sleep tonight all of my nights will be ruined forever - I wouldn't be suffering so much if my family understood!

Let's look at the above case and try to determine the styles of negative thinking that Jean is engaging in:

Now try to come up with some positive counter statements which could be substituted.

Below are some examples of some positive counter thoughts which could be substituted:

CASE 1: Betty

"There is no absolute reason for holding a dinner party for Jim - it would be nice if I did but there is no iron-clad rule that says I must or should. If I plan the menu carefully it will be fine - it doesn't have to be really fancy and if I buy some of the things from David Jones Food Hall I'll know they'll be nice and tasty and it will mean that I won't have to do everything - that will give me extra time when the guests arrive so that I can enjoy the evening too, and not be caught up in the kitchen - Jim will be really pleased and I am looking forward to it - it will be just fine!"

CASE 2: Jim

"I may have tinnitus but it doesn't have to control and dictate my life. If I go to the Christmas function there will be lots of things I will enjoy, like the food and the company - that'll help me take my mind off the tinnitus. Of course, when you have tinnitus it can make it difficult to hear conversations at noisy social functions - however, I'm sure I can deal with it just fine! A lot

has to do with how I think about things - no point focusing on the worst - who is to know that the worst will happen - I do know I have tinnitus but it is certainly not the only thing in my life - there are lots of good things - things I enjoy and get pleasure from - Even if the function does affect my tinnitus I know that this is only temporary and it will settle back down - I'm really looking forward to the function and I know I can cope just fine".

CASE 3: Bill

"I am so pleased that I got selected to play in the bowls tournament. All of the practice is paying off - I have really improved my skill - now, this is a real honour - the whole Club is getting excited, we'll have to use all of our skill and try to be the better players on the day - I must work out a routine so I can have a practice each day - it will be so exciting - if I prepare myself I'll be able to put my best foot forward - that's the best I can do - I'll give it my best shot!

CASE 4: Jean

"O.k. so I haven't' been able to sleep for three nights - I feel really tired so I should take it easy and not expect too much of myself - just take it easy - don't catastrophise - I must develop a plan to help me relax - forget about the tinnitus - focus on something pleasant - focusing on the tinnitus only make matters worse p Just because I haven't slept well doesn't mean my sleep will always be poor - I've just got myself in a bad cycle - now lets plan something nice and soothing to do".

HOMEWORK ASSIGNMENT

The homework assignment for the next week is to practice identifying specific and common style of negative, irrational thinking and substituting rational counter thoughts.

Two tinnitus-related cases are described - John and Gillian. For these two cases try to determine the styles of negative and irrational thinking. Ten, try to determine some positive, more rational, and productive counter statements which could be substituted.

CASE 5:

JOHN HAS TINNITUS. HE WAKES UP THIS MORNING AND IS IMMEDIATELY AWARE OF HIS TINNITUS. IT APPEARS LOUDER THAN EVER. THIS IS WHAT JOHN IS THINKING TO HIMSELF ON AWAKENING:

"Oh here we go! This tinnitus is such a nuisance - its roaring so much - it means I'm going to have a rotten day - a truly hopeless one! That's it! - I'll have to cancel all of my plans for the day. There is no pint doing anything because I won't enjoy myself! Anyway, since I got

this tinnitus I have become cranky and irritable -I'm always unpleasant to be around - no one enjoys my company - now I have tinnitus I am totally disabled! This noise will surely deafen me - Oh, I feel so hopeless, I must be hopeless!"

Look at the above case example. Try to determine what styles of negative thinking John is engaging in and list them below:

Now, try to write down some positive or rational counter thoughts which John could substitute - What could he say, or think to himself, which would be more productive - How could he prevent allowing his tinnitus from determining how his day will be - List these counter thoughts below:

CASE 6

GILLIAN HAS TINNITUS. THE MAIN DIFFICULTY SHE EXPERIENCES IS WHEN SHE IS AT WORK TRYING TO CONCENTRATE. THIS IS WHAT SHE IS THINKING TO HERSELF:

"I have great difficulty trying to concentrate on my work - the tinnitus just gets in the way. Now I have tinnitus my professional life is ruined! I'm a failure at work. I know the boss thinks I'm stupid, but then no-one understands! I should not let my tinnitus interfere with anything, but with this tinnitus I have nothing - I know it will get worse - all my days will be ruined. There is nothing I can do!"

Look at the above case. Try to determine what styles of negative thinking Gillian is engaging in. List them below:

Now, try to list some positive and rational counter thoughts which Gillian could substitute. What could she say to herself, and what actions could she take to try to diminish the effect of her tinnitus on concentration at work. List these below:

SESSION 7

HOW TO USE SELF-INSTRUCTIONAL STATEMENTS

In this session we will look at how to use self-instructional statements. Self-instructions may be regarded as a coping method which involves internally giving yourself instructional statements that will enable you to cope with upsetting feelings as they occur. You can use self-instructions in combination with the other skills you have already learnt.

By using self-instructions you can constructively cope with emotions and feelings during particularly stressful situations. By combining all of the coping skills - identifying, controlling, analysing, and altering negative, irrational thoughts; substituting positive thoughts and using coping self-instructions - you will find them to be a powerful weapon for dealing with emotions and feelings prior to, during, and after stressful situations where your tinnitus is anticipated to be a particular problem.

Using self-instructions involves verbalising to yourself effective action strategies. You can be your own coach - whenever you are anticipating a situation which you may find to be difficult because of your tinnitus, you can coach yourself about how you wish to deal with the situation. Appraise the requirements of the situation or task; use self-instruction to guide your performance, or how you want to behave; use self-instructions that emphasise personal adequacy and your ability to cope; use self-instructions which counteract worry about failure, or inability to cope; use self-instructions to reinforce, or reward yourself, for success.

IMPORTANT THINGS TO REMEMBER WHEN USING SELF-INSTRUCTIONAL STATEMENTS:

- 1) You must have a cue to remind yourself to use, or SWITCH ON, your self-instructional statements. You could use your thoughts now that you have become more aware of their content.

You could use the presence of negative or irrational thoughts as a cue to SWITCH ON your self-instructional statements.

Let's consider some examples:

GENERAL EXAMPLE

NEGATIVE THOUGHTS

Bill is going in to talk to his boss about the possibility of a raise.

- "What if the boss gets mad?
- What if I can't say anything when I walk into his office?
- What if I just freeze?

"SWITCH ON SELF-INSTRUCTIONS"

"STOP"

"These thoughts are just getting me scared- Take a breath - Think of what you're going to say -

"I want to talk to you about getting a raise" -

Good, that's what I'll say".

TINNITUS EXAMPLE

NEGATIVE THOUGHTS

Bill suffers from tinnitus and is attending a social function at a local busy restaurant.

- "How can I enjoy myself at this dinner? What if my tinnitus is especially loud when I get home?"

"SWITCH ON SELF-INSTRUCTIONS"

"STOP"

"These thoughts are just getting me upset - I haven't even eaten my meal yet - Who's to say my tinnitus will be loud when I get home - Just focus on the present

- forget the tinnitus - I just want to enjoy this dinner"

- 2) Develop a set of self-instructions that can be used to cope with upsetting feelings and thoughts. The same set of instructions will not be equally helpful for all people. It is best to determine a set of SELF-INSTRUCTIONS tailor made to suit you.

Try to choose self-instructions which are brief; easily remembered; believable; genuine; and personally relevant.

You may also use self-instructional statements to help you analyse and alter negative thoughts.

For example: When you notice that you are thinking in a negative, or faulty fashion you could use the following SELF-INSTRUCTIONS:

"Slow down, stop jumping to conclusions - check out all of the possibilities - think of alternatives - what's really true here?"

Some people find that self-instructional statements work best if they address themselves by their own name when using them - "hold on Jane - just slow down - what's really true here? You're jumping the gun, Jane - take a breath - use some rational self-instructions"

- 3) It is important to use self-instructional statements throughout all stages of dealing or coping with a difficult situation or event.

The stages should cover:

- a) In anticipation, or preparation of the event, or task at hand
- b) When actually handling the situation, or event.
- c) When feelings, or emotions start to increase during the situation, or event.
- d) When the task is dealt with, or situation is over.

The final phase is particularly important.

You must acknowledge your success in coping with a situation. Even if the situation did not go as you might have liked it, you can praise yourself for trying, and plan how your efforts could be improved next time.

Remember:

1. Self instructions help you to:

- * Remind yourself to do what you had planned.
- * Keep your task in focus.
- * Motivate yourself in tough situations.
- * Maintain some beneficial psychological distance.

2. To learn to use self-instructions:

- * Understand *what* you want to do.
- * Understand *how* you want to do it.
- * Write down your instructions word by word.
- * Practice by doing it, by imagining yourself doing it, or by imagining a "model" doing it.
- * Modify your instructions as needed.
- * Build them into your daily routine.
- * Reward yourself for using them.

SELF INSTRUCTIONAL STATEMENTS FOR COPING WITH TINNITUS

1. Noticing the Tinnitus:

- "What is it I have to do?"

View the tinnitus as a problem that you can do something about.

- "I can develop a plan to deal with it."

Prepare yourself by making a plan or mental outline of how you will deal with the sensations when they arise.

- "Just think about what I have to do."

Focus on what the situation requires - focus on the present.

- "Think of the things that I can use to help cope."

Review all of the strategies that you know and that may be helpful.

- "Don't worry; worry won't help anything."

Use any anxiety or worry as a cue to remind yourself to focus on what you have to do.

- "Remember, I can shift my attention to anything I want to - my attention does not have to be "stuck on the tinnitus - let's shift the focus to something else."

Remind and reassure yourself that you are able to use various coping strategies. Remember your thoughts and attention are under your control.

2. **Confronting the Tinnitus:**

- "I can deal with the tinnitus as a challenge – I can challenge it and not just let it overwhelm me."

View the tinnitus as a challenge – do not view it as a disaster.

- "One step at a time, I can handle the tinnitus; it is not pleasant but I can handle it."
Don't do everything at once – don't be overwhelmed – rather develop a logical plan – use each of the coping skills you have learned.
- "Take a deep breath in, let it out and relax – Just pause for a moment."
- "I won't think about the tinnitus – I'll just focus on what I have to do – focus on the task at hand – focus on what I can do right now to help me cope."

3. **Coping With Thoughts And Feelings At Critical Moments:**

(This refers to times when you notice that the intensity of the tinnitus seems to be increasing, or you think that you can't go on anymore).

- "When I notice the tinnitus, I just pause and keep focusing on what I have to do." Keep in mind the task at hand – focus on what you have to do.
- "Be realistic, you are not trying to eliminate the tinnitus – the tinnitus may be present but I can keep it at a manageable level – don't overreact, that will make things worse – just try to keep your focus of attention on the task at hand – that way, the tinnitus may merge into the background."
- "Don't magnify the intensity of the sensations – don't catastrophise – that will only make things worse."
- "Remember, there are lots of things I can do; I can keep things under control."
- "Just pause, don't make things worse – I can review my plan of strategies – what can I switch to – what else can I do to make myself feel better."

4. Self-Reflection And Positive Self-Statements.

Throughout the three phases outlined above, it may be useful to evaluate your performance. For example you could use self-instructions, or self-statements such as:

- "How am I doing?"
- "That worked pretty well!"

Remember, people frequently criticize themselves, but rarely praise their behaviour. Throughout a stressful situation, evaluate how you are doing. This will help you keep on task - should you feel you should be doing better, you can use this as a cue to try different strategies.

If you are doing well, you may give yourself a "pat on the back"

- "I'm doing pretty well, it's not as hard as I thought!"
- "I'm doing better all the time!"
- "I won't let negative thoughts interfere with my plan."
- "I knew I could handle it - I'm doing pretty well!"
- "Each time I practice the coping strategies I get better at using them."

CASE EXAMPLES OF USING SELF-INSTRUCTIONS

CASE 1

Jim has tinnitus and is attending a Christmas celebration at a local club or restaurant.

Preparing For the Situation:

O.K, I know I get a bit concerned about going to social functions now that I have tinnitus - but I can develop a plan to deal with this. No negative self-statements or thoughts; just think clearly and rationally. It'll be good to get out and celebrate. I can spend the next hour or so before I go just doing something pleasant - Don't think about the tinnitus.

Confronting and Dealing with the Situation:

One step at a time - don't think about the tinnitus or whether it'll be loud when I get home - no-need to think about that - that'll surely just make it worse. Just focus on the here and now.

Dealing with the Situation if Feelings Increase:

It's quite noisy here and a bit difficult to hear what people are saying. But it's O.K. the food and company is good - If you don't quite understand what someone is saying - just ask them to repeat themselves. No point in thinking about how my tinnitus will be later - even if it does seem louder when I get home that's O.K. - that will only be temporary and it'll settle back down - One good thing now is that because of all the background noise it's rather difficult to hear my tinnitus - Now let's get my attention off the tinnitus - get attention back to the celebrations.

Reinforcing Self-Statements when Situation is Over:

It worked - I was able to keep my emotions and feelings under control. Even though social situations are not that easy now that I have the tinnitus, I didn't let it spoil the evening. My negative thoughts are a large part of the problem. If I think I won't cope or won't enjoy something - or it will affect my tinnitus, it usually does. This time I just let the tinnitus be there without focusing on it - I kept my attention on the celebrations - the food, company etc., This experience will help me practice the self instructions again in the future- that was a job well done !!

CASE 2

Jean has been having difficulty sleeping because of her tinnitus. She has had several sleepless nights - she is now engaging in a lot of catastrophic thoughts about this but decides to draw up some plan to improve her sleep.

Preparing for the Situation:

O.K. now - calm down and stop catastrophising about this - that will only make things worse. Relax - take a deep breath - now what am I planning to do to deal with this. Now let me get my list of things to improve my sleeping. (See end of case for hints on improving your sleep).

Coping when Feelings Start to Build:

Oh dear, I hope this works - I hope I have a good night's sleep. No, stop thinking about that - that will only make you uptight - now work out a plan - I could go for a walk at about 5.00pm that should use up some energy and tire me out a bit; then I could have a nice warm bath and listen to some relaxing music - I'll have a hot chocolate and then get into bed and read.

Coping when Feelings Start to Overwhelm:

Oh dear what if this doesn't work. What if I don't get off to sleep. Calm down - if I don't fall asleep within 1/2 hour, I won't lie there just tossing and turning, I'll get up, forget about what might happen and just focus on the here and now - just stick to drawing up a plan of action to deal with this. What things can I do and what can I stop doing - a practical approach is much better than just moaning. O.K. I've got my plan together.

Coping When it is Over:

O.K. that was good! I avoided catastrophising and have kept myself from getting too uptight - I've developed a practical plan to follow - that's good. Now I must put it into action - I'll start by going for that walk.

TIPS FOR IMPROVING YOUR SLEEP:

- 1) Maintain a regular daily schedule.
- 2) If you exercise, do it in the late afternoon, or early evening. Avoid exercise in the late evening because it will be too stimulating.
- 3) Set aside time in the evening for relaxation and thinking.
Avoid taking troubles of the day to bed with you.
- 4) During the time just prior to bed-time, try to do something enjoyable and relaxing. Have a warm bath; drink a mug of warm milk or hot chocolate, listen to music, read something relaxing etc.
- 5) Eat a light snack in the evening if you feel hungry.
Hunger may interfere with sleep.
- 6) Make your bed-room as quiet and comfortable as possible.
Whatever makes you comfortable is best.
- 7) Reserve your bed-room and bed only for sleeping and being physically close to another.
Avoid activities such as studying, completing work-related projects etc.
- 8) Go to bed at the same time every night, and get out of bed at the same time every morning.
- 9) Avoid all caffeinated beverages prior to bed-time.
- 10) Avoid all alcoholic beverages prior to bed-time.
- 11) Avoid all sleeping medications.
- 12) Avoid all naps during the day or evening.

HOMEWORK ASSIGNMENT:

The homework assignment for the next week is to practice using self-instructional statements in order to cope with emotions during particularly stressful situations.

To begin this practice please identify one specific stressful situation and draw up a personal list of self-instructional statements tailor made to assist you in dealing with this particular situation. Please complete the following:

1) **IDENTIFY A SPECIFIC STRESSFUL SITUATION**

Examples of this may include getting off to sleep; going to a social engagement; concentrating on some task or activity; trying to relax; being in a quiet environment; being in a noisy environment; having a conversation in a noisy situation; concentrating on reading or watching the television; having dinner at a restaurant; or having a conversation on the telephone.

1. One specific stressful situation for me is:

2. List some self-instructional statements you could use when preparing for the situation:

3. List some self-instructional statements you could use for coping when feelings start to build:

4. List some self-instructional statements you could use for coping when feelings start to overwhelm:

5. List some self-instructional statements you could use for coping when the situation is over.

Tinnitus Daily Recording sheets for seven days and Sleep Daily Recording Sheets for seven days will be provided to all group members.

Remember, please complete the seven day diary to record your tinnitus and sleep and return these next session.

SESSION 8
OVERVIEW OF PROGRAMME

This programme has been designed to teach you numerous skills which may help you deal more effectively with your tinnitus. The programme has endeavoured not to encourage you to deny the existence of your tinnitus. This would be unrealistic. Tinnitus is real. Rather, it encourages you to learn to approach your tinnitus in adaptive and realistic ways.

Remember, a person's ability to cope with tinnitus may be improved by:

- 1) A thorough understanding of tinnitus and resolution of misconceptions.
- 2) Learning to accept the noised but not assigning any meanings to them.
- 3) Learning self-help skills and cognitive strategies and most importantly, using these skills.
- 4) Making alterations to your lifestyle so as to restrict the intrusiveness of the noises on daily activities.

By following these four main steps, the distress you experience as a result of having tinnitus may be reduced. In turn, life may become more rewarding and enjoyabledespite the tinnitus.

OVERVIEW OF ALL THE COPING TECHNIQUES

1) The relationship between our thoughts, expectations and beliefs on our emotions, feelings and behaviour.

Remember, A = the situations or event.

 B = our thoughts, expectations, beliefs about A.

 C = our feelings, emotions and behaviour.

A (the situation or event) does not lead to C (our feelings and behaviour).

Rather, it is B (our thoughts, expectations, beliefs about situations or events we experience [A]) which produces C (our feelings, emotions and behaviour).

In order to be able to better control and manage our feelings and behaviour in response to the various situations or events we experience, we must learn to identify and challenge negative and irrational styles of thinking.

By altering the way you think about your tinnitus, you may find this assists you to cope with it in a more adaptive manner.

HOW TO THINK IN A RATIONAL AND LOGICAL MANNER:

To learn to think in a rational and logical manner there are several steps which need to be followed:

- 1) Acknowledge the impact of your thoughts about yourself, and the situations, or events, that you experience, on your feelings, emotions and behaviour.
- 2) Deliberately tune in and listen to what you are saying or thinking to yourself.
- 3) Identify positive, rational and logical; or neutral thoughts. These are 'safe' thoughts - they will have positive or neutral effects on your thoughts and feelings.

Identify negative, irrational and illogical thoughts - these will have negative effects on your feelings and emotions. These represent 'dangerous' thoughts. Attach a 'green flashing light' to positive and neutral thoughts and a 'red flashing light' to negative thoughts.

- 4) Interrupt and stop negative thoughts. By doing this we can avoid allowing our thoughts to operate like a broken record continuing on and on.

You can stop the flow of negative thoughts by using one of the *thought interruption techniques*

- 4.a) Instruct yourself to stop thinking the thoughts:
"I am going to stop thinking about that now".
- 4.b) Vividly imagine a large RED FLASHING STOP SIGN.
- 4.c) Mentally "yell" the word STOP - do not make a sound but feel the force of the "yell".
- 4.d) Wear a heavy gauge rubber band around your wrist - 'snap' the band against your wrist whenever you notice a negative thought.
- 4.e) Take a deep breath in, let it out and think to yourself the words "one", "relax", "one", "relax", "one", "relax" etc.
- 5) Challenge the truth and validity of your thoughts - do not blindly accept negative, irrational and illogical thoughts as true - SEEK FACTUAL EVIDENCE.
- 6) Substitute positive, rational and logical thoughts for every identified and challenged negative, irrational and illogical thought.
- 7) Use self-instructional statements - verbalise to yourself effective coping strategies to use whenever you are anticipating a situation which you may consider difficult because of your tinnitus - use coping self instructions prior to, during and after stressful situations.

MAINTAINING YOUR PROGRESS:

THE IMPORTANCE OF REGULAR PRACTICE OF THE COPING SKILLS.

This Programme has endeavoured to train you in a number of self-control, or coping strategies, for use in the management of your tinnitus.

It is important that you regularly, deliberately and consistently apply all of the techniques and that you incorporate them into your daily routine as a means of managing your tinnitus; restricting the intrusiveness of your tinnitus and improving your tolerance.

Your skill in applying the techniques and receiving benefit from them can only be strengthened and maintained through regular, deliberate and consistent application and practice. This is similar to the skill involved in learning to play a musical instrument, or learning to drive. Consider the skill involved in driving a car. It takes regular practice to learn to drive a car. Even after obtaining the drivers' licence one is still not a very skilled driver. It is necessary to continue to drive a car to experience different traffic conditions, and to learn to handle these effectively, progressively refining and improving one's skill. If, on the other hand, one never, or very seldom drives a car after obtaining the licence, the skill gradually deteriorates. In a few months time one can become 'rusty', and indeed, may become a worse driver than at the time of obtaining the licence. If one were then unexpectedly called upon to drive, one's capability in managing difficult traffic situations would be low.

REMEMBER, THROUGH REGULAR, DELIBERATE AND CONSISTENT PRACTICE OF THE COPING STRATEGIES YOU CAN INCREASE YOUR SKILL AND ABILITY TO COPE WITH YOUR TINNITUS.

CONCLUSIONS TO PROGRAMME

This programme has attempted to train you in a number of coping strategies to use to help deal with your tinnitus.

It is important to remember that not all of the strategies may be appropriate for all people. You must practice each strategy to find out which ones are the most effective for you.

To gain maximum mastery of each coping strategy you must maintain regular and consistent practice.

When you have identified which strategies work best for you, write them down to form a personal repertoire of coping strategies --- a personal coping programme for use in the management of your tinnitus.

Each month, read through your notes on coping strategies and the education material to refresh your memory. Remember, tinnitus may be real, but you can learn to deal with it effectively.

You may have tinnitus but you may also continue to lead a rewarding, active and enjoyable lifestyle!

Thank you for participating in this programme!

APPENDIX 25REVISED TINNITUS EDUCATION PROGRAMMECONTENT

- 1) Introduction
- 2) The Nature of Tinnitus
SEE SESSION 1 NOTES FOR ORIGINAL MANUAL (P.564 to 567)
and (P.579 to 586)
- 3) Causes of Tinnitus
SEE SESSION 3 NOTES FOR ORIGINAL MANUAL (P. 597 to 604)
- 4) Treatments for Tinnitus
SEE SESSION 4 and 5 NOTES (P. 608 to 617)
- 5) The Australian Tinnitus Association
SEE SESSION NOTES FOR ORIGINAL MANUAL (P.641 to 643)

APPENDIX 26TINNITUS MANAGEMENT PROGRAMME

A SELF-MANAGEMENT PROGRAMME FOR COPING WITH CHRONIC
TINNITUS : A COGNITIVE COPING SKILLS APPROACH- Revised.

Programme developed and revised by : Jane Henry

Clinical Psychologist.

September, 1990.

CONTENT OF THE PROGRAMMESESSION 1General IntroductionPre-Assessment SessionSESSION 2Rationale For Using Cognitive Coping Skills in The Management of Chronic Tinnitus.Education about TinnitusSESSION 3Identifying Positive/ Negative/ Neutral Thoughts.SESSION 4Managing Negative Thoughts.SESSION 5Attention Diversion Training.SESSION 6Imagery Training.SESSION 7Combined Techniques For Attention Diversion and Imagery.SESSION 8Overview of All Cognitive Coping Skills.Maintaining Progress.Conclusion.Post-Assessment Session

SESSION 1GENERAL INTRODUCTION AND PRE-ASSESSMENTINTRODUCTION

This programme is designed to teach you numerous skills which you may use to improve your ability to cope with your tinnitus. The programme consists of six sessions which will be conducted over six consecutive weeks. Each session will be of 1 - 1 1/2 hours duration and input will be provided by a Psychologist.

In addition to teaching you coping skills we will also provide you with information about tinnitus. We will explain to you various audiological and psychological aspects of tinnitus : what it is; what may cause tinnitus etc. Information about the auditory system, the ear, and hearing will be provided. This educational material will be provided in the form of written notes, group discussions and practical demonstrations.

We will not be encouraging you to deny the existence of the tinnitus you experience, nor the associated difficulties. Rather, we will be encouraging you to learn to approach the problem of your tinnitus in more adaptive and realistic ways.

By teaching you some practical coping skills, and by educating you about tinnitus and hopefully resolving any misconceptions you might have, we hope that the distress you experience as a result of suffering from tinnitus will be reduced and life may become more rewarding and enjoyable despite the tinnitus!

INTRODUCTION OF INDIVIDUAL GROUP MEMBERS

GROUND RULES FOR GROUP

- (1) It is important to use the Group as a means of learning skills and gaining knowledge about tinnitus.

The group setting should not be used as a sounding board for your problems.

- (2) Each group member should be allowed equal opportunity to share in discussions.
- (3) Information shared in the group setting must remain confidential and must not be discussed outside the group.

GROUP DISCUSSION:Subjective Description of Tinnitus by each Group Member:

What does your tinnitus sound like ?

How would you describe it ?

Where is your tinnitus located ?

In one ear only ? Left or Right ? _____

In both ears ? _____

All over the head ? _____

At the back, side or front of head ? _____

Outside of the head ? _____

Other locations ? _____

When did you first notice your tinnitus ? _____

Is your tinnitus constant or does it vary ? _____

Does anything make your tinnitus better ? _____

Does anything make your tinnitus worse ? _____

Do you know what caused your tinnitus ? _____

Do you have a hearing loss ? _____

PRACTICAL DEMONSTRATION

Audio-cassette tape of simulated tinnitus sounds compiled by the British Tinnitus Association.

GENERAL DISCUSSION

PRE-ASSESSMENT

In order to evaluate this programme it would be appreciated if you would complete a number of questionnaires.

Your responses to the questionnaires will be strictly confidential.

QUESTIONNAIRES TO BE ADMINISTERED:

Tinnitus Reaction Questionnaire

Tinnitus Handicaps Questionnaire

Tinnitus Effects Questionnaire

Tinnitus Cognitions Questionnaire

Tinnitus Coping Strategies Questionnaire

Automatic Thoughts Questionnaire

Beck Depression Inventory

HOMEWORK ASSIGNMENT

All group members will be provided with a Tinnitus Daily Recording Diary and Sleep Daily Recording Diary.

Both of these are to be completed over the next 7 days and returned at the next session.

SESSION 2RATIONALE FOR USING COGNITIVE COPING SKILLS

Tinnitus is a fairly common disorder. It is experienced by most people at some time. For many people it may become a chronic disorder and persist as something they constantly experience.

Not all people are significantly distressed by the presence of tinnitus. Many people may learn to tolerate it and experience minimal distress. For others it is a distressing, annoying and disabling condition. In addition, it is striking that not all people with tinnitus complain about it for the same reason. Initially it was assumed that the loudness of the noises was the most annoying aspect of tinnitus. However, research suggests that there is little evidence to support this notion. It appears that other characteristics of the noise, or of the individual, or both, determine the level of distress or annoyance experienced.

Psychological factors may be involved in tinnitus in two ways.

Firstly, it is possible that stress may aggravate tinnitus. It is not clear whether the worsening of tinnitus when a person is under stress, is because the stress makes everything seem worse (including the tinnitus), or whether it is because the tinnitus really does become louder under stress.

A second way in which psychological aspects are involved in tinnitus relates to the distress caused by the tinnitus. Many tinnitus sufferers report depression, anxiety, irritability and tension. There may also be a feeling of helplessness due to the fact that the person can't do anything to stop the noise and if one expects it will continue unabated.

For some people, sleep is difficult. Others are bothered by the noise only during the day and sleep normally. Some people find that tinnitus interferes with their ability to hear what is being said at parties, or at meetings. For other people, the main concern is that the noises will affect their physical and mental health.

Research indicates that there are three main types of difficulty arising out of tinnitus (Jakes, Hallam, Chambers and Hinchcliffe 1985). These include:

- (1) Emotions such as irritability, helplessness and depression may result from the way the tinnitus sufferer thinks about the tinnitus. For example, they may regard it as a problem which will never go away and from which there is little relief.

Anxiety may arise from worries that there is something seriously wrong with the body - or that the noises will cause a nervous breakdown.

- (2) The effect of tinnitus on one's ability to listen to, or understand, meaningful sounds (over and above any hearing loss which may be present). This shows itself in difficulty in localising sounds, distortion of voices, hearing what's being said against a background noise, and concentrating on a mental activity. This difficulty is more like a handicap than a form of emotional distress.

(3) Difficulty getting to sleep and staying asleep.

Research also indicates that these three main types of difficulty may be quite independent - a person may experience one difficulty but not the others.

*** GROUP DISCUSSION ***

WHAT SORTS OF DIFFICULTIES DO YOU EXPERIENCE AS A RESULT
OF YOUR TINNITUS?

- 1) emotional effects
 - 2) difficulty in listening/understanding other sounds
and/or difficulty concentrating on own thoughts or
other activity
 - 3) difficulty with sleep
 - 4) other problems - PLEASE DESCRIBE _____
-

IMPROVING YOUR ABILITY TO COPE WITH TINNITUS

Research suggests that many people can learn to tolerate tinnitus better, and cope with it quite adequately without any major disruption to their lifestyle, even though the loudness and quality of the noises remains unchanged.

Persistent distress from tinnitus is likely to be associated with styles of coping with both the tinnitus, and stress generally, with emotional state and moods, and with beliefs about the significance of the noises.

A person's response, or reaction to tinnitus, may be adaptive or maladaptive. They may respond to the noises in a tolerant manner with little disruption to their daily routine, or they may respond in a distressed and frustrated manner and experience much disruption in their daily lives.

It is likely that there are several components which may contribute to a person's response, or reaction, to tinnitus.

These include:

- (1) The amount of attention that is directed towards the noises.

Many people with tinnitus report that when their tinnitus is really bad they focus all of their attention on the noises and their attention cannot be directed toward anything else - they cannot focus on anything else but the noise. As with people with a chronic pain condition, research indicates focusing attention on the pain heightens the pain and associated distress. This is likely to be true with tinnitus.

- (2) The interpretation of the noises, or the train of thoughts and feelings associated with the noises.

People may think in very negative ways about their tinnitus and engage in negative self-talk. For example, people may say to themselves "the noise makes my life unbearable" "Why me, why do I have to suffer this horrible noise".

These thoughts become almost automatic - like habits ... bad habits! Such distressing self-talk may make the tinnitus appear worse and the person may end up feeling hopeless, and frustrated.

- (3) Lack of knowledge about tinnitus, or misconceptions, 'false ideas' about what tinnitus is and what it signifies - for example, 'this noise in my head must mean I'm going crazy'.

A person's ability to cope with tinnitus and to tolerate it may be improved by :

- 1 thorough knowledge about tinnitus and resolution of misconceptions.
- 2) learning to 'accept' the noises and not assigning any meaning to the noises. Changing one's attitudes to the noises.
- 3) learning self-help skills or adaptive coping strategies.
- 4) making alterations to one's lifestyle so as to restrict the intrusiveness of the noises on daily activities.

To achieve these goals and improve your ability to cope with tinnitus this programme will aim to :

- 1) educate you about tinnitus
- 2) teach you attention diversion skills
- 3) teach you imagery skills
- 4) teach you coping skills which incorporate attention diversion and imagery skills
- 5) teach you skills to manage your thoughts particularly in response to your tinnitus.

EDUCATION ABOUT TINNITUS

It is important that you have a correct understanding of the nature of tinnitus - its characteristics, possible causes, and medical and audiological treatments.

The educational material is contained in the Tinnitus Education Programme Manual (Revised).

HOMEWORK ASSIGNMENT

All group members will be provided with a copy of the Tinnitus Knowledge Questionnaire.

This is to be completed over the next week and discussed at the beginning of the next session.

SESSION 3IDENTIFYING POSITIVE, NEGATIVE AND NEUTRAL THOUGHTS

In this session we are going to deal with tinnitus- related thoughts and feelings.

It must be remembered that the distress associated with tinnitus depends not just on the actual noise and its loudness.

It also depends upon the amount of attention directed towards the noises and the person's interpretation, or appraisal, of the noises.

A person's interpretation of the noises depends on what you say or think to yourself about the noises. This may be referred to as self-talk - statements or things you say to yourself.

We all engage in self-talk almost constantly. It may be quite comforting but it may also be very distressing. Consider the following examples of self-talk :

"Why me; why do I have to suffer these noises"

"Damn it - here we go again"

"Oh no ! - I can't cope with these noises"

"This is not fair - the noise will drive me crazy"

A person who consistently engages in such distressing self-talk cannot be expected to deal very effectively with their tinnitus.

They will simply talk themselves into a more negative and distressed state!

Negative self talk can produce several things:

- 1) It will undoubtedly increase the distress associated with tinnitus.
- 2) It will produce feelings of frustration, hopelessness, tension, irritability and depression.
- 3) It will interfere with a person's ability to cope effectively with tinnitus.
- 4) It will make life miserable.

However, this does not have to be the case!

No one places such negative thoughts in your head - only you control what you think or say to yourself!

The destructive process which negative self-talk produces can be reversed by intentionally changing what you say to yourself.

To change your self-talk from distressing negative statements to positive, coping-oriented statements you must:

- 1) Become alert to the presence of distressing thoughts or feelings.
- 2) Use the presence of these distressing thoughts as signals to use positive coping - oriented statements.
- 3) Deliberately replace the distressing thoughts with positive coping statements.

What we think and the kinds of thoughts we have about situations, or events, which we might observe or experience, may have profound effects on our emotions, mood, feelings and behaviour.

Thoughts can be considered as falling into three main categories ; neutral, positive and negative.

Let's consider some examples :

1) "What shall I have to eat ?"

"There is a tablecloth on the table "

"Should I watch this t.v. programme, or that one ?"

"Which book should I buy ?"

These may be regarded as examples of neutral thoughts. They are unlikely to have any significant effect on your emotions, feelings or behaviour .

2) "I know I won't cope very well "

"I look really unattractive "

"I just couldn't do it - what if I made a mess of things "

"I can't stand all of this traffic - I knew today wasn't going to be good "

These may be regarded as examples of negative thoughts. They are likely to have negative, pessimistic or distressing effects on your emotions, feelings and behaviour. Such thoughts can make you feel anxious, uncertain, inadequate, frustrated and miserable, among other things.

3) "I know I can do it "

"I feel great "

"I'm sure I'll cope o.k"

"No point getting upset about the traffic - there's nothing to be done"

These may be regarded as examples of positive thoughts. They are likely to have a positive, optimistic, or comforting effect on your emotions, feelings and behaviour. Such thoughts can make you feel happy, confident, capable, self-assured, in control, and so on.

THE EFFECT OF OUR THOUGHTS ON OUR FEELINGS AND BEHAVIOUR

Every waking moment of our lives we think about things. Our minds are never truly blank. There is always a constant stream of thoughts and images going through our minds. Often this may be like having a constant conversation with ourselves. Our thoughts can be considered as 'self-talk' - we talk to ourselves about things we see and experience.

Let's consider some examples :

You might notice that you are hungry and think "Gee, I'm hungry - what will I have to eat - a sandwich or a hamburger ?" You might even notice that you have a mental image of a thick inviting sandwich or a hamburger !

You might be sitting and watching television when an advertisement comes on and think - "I hate these advertisements - should just let the movie run on uninterrupted !"

You might be sitting in a car stuck in a traffic jam and think " Come on traffic - get moving "

You might be lying in bed and hear a noise somewhere in the house and think "What was that ?"

You might be in a shop waiting to be served and think - "Where is someone who can serve me ?"

You might be in a book-shop and trying to decide which paperback to buy and think - "Oh, which one will I buy - this one - or this one ?"

You might be sitting in an office waiting for an appointment and start to study the decor and think - "This office really needs a fresh coat of paint and why would you pick a brown lounge to go with purple carpet ?"

HOMEWORK ASSIGNMENT

COMPLETE THE INVENTORY OF THOUGHTS

The first step in learning to manage your thoughts involves beginning to deliberately 'tune' into what you are saying to yourself - What are your thoughts or self-talk ? Begin to listen to your thoughts and identify negative, neutral and positive thoughts. List them below:

.....

INVENTORY OF THOUGHTS

<u>NEGATIVE</u>	<u>NEUTRAL</u>	<u>POSITIVE</u>
-----------------	----------------	-----------------

SESSION 4

SEE SESSION 4 NOTES FOR THE COGNITIVE THERAPY TREATMENT
MANUAL (APPENDIX 24 P.747 to 757)

ATTENTION DIVERSION TRAINING:

HUMAN ATTENTION:

The process of attention has several qualities that are significant for understanding its use in the management of tinnitus;

- 1) a person usually focuses on one thing at a time.
- 2) a person can influence what he/she wishes to attend to and also can redirect attention from one aspect of his/her environment (internal or external) to another aspect.
- 3) It is difficult, if not impossible, to stop paying attention to unpleasant sensations unless one refocusses on other things.

EXERCISES IN ATTENTION DIVERSION:

Attention diversion is the ability to divert attention from one stimulus to another by self-control.

We can only generally focus TOTALLY on ONE THING AT A TIME.

Various internal and external stimuli compete for our attention all the time, but we do have some control over the extent to which we allow our minds to stay focused on each stimulus. Examples of internal stimuli may include our thoughts, bodily sensations, pain and tinnitus. Examples of external stimuli may include outside noises, light, temperature, smells and aromas and objects.

Let's try some exercises.

EXERCISE 1:

Sit back in your chair, close your eyes and make yourself comfortable - just focus on your breathing - breathe in and out gently and rhythmically - easily in and out. Become aware of the breathing process - the in phase and the out phase - the in phase and the out phase. Try to focus your attention on this process and tune in to the very point in time when the process reverses -

where your breathing changes direction from in to out, to in to out. Imagine this is just like the flow of the waves on the beach - coming in and receding out. Just keep focusing on your breathing, gently in and out.

As your focus of attention is on your breathing, you probably haven't been aware of the sensations in your hands - just try to be aware of the sensations in your hands, even the tips of your fingers - shift your attention and awareness to your hands - try to mentally identify each finger without moving them - become aware of each of your ten fingers - just quietly focus on them - identify them

Now as you have been focusing all of your attention on your fingers you probably have not been aware of your breathing - it probably just receded into the background - now just gently re-focus your attention on your breathing - like the flow of the waves at the beach - your breathing gently proceeds from in to out; to in to out, and so on - just quietly focus on your breathing - such a soothing process as your breathing changes rhythmically from in to out.

And now as your attention focuses on the gentle cycle of your breathing you probably have not been aware of the sensations in your toes and feet - just shift your attention to the extreme end of your body - be aware of the sensations in your toes - identify each toe individually - quietly concentrate on them - picture them - each one

And once again, as you focus on your toes and feet, your breathing recedes into the background - be aware of your breathing - in and out.

Now notice how your awareness and attention is just like a searchlight - you can direct it on to whatever you choose to focus upon - just see how the searchlight can be directed on to your breathing - to your hands - to your breathing - to your feet and toes - your awareness and attention can be re-located throughout your body - from the gentle rise and fall of your diaphragm as you breathe, to your hands, and then to the extreme length of your body - your feet and toes - now just breathe gently in and out; in and out, and now open your eyes.

GROUP DISCUSSION!

General discussion of the Attention Diversion Exercise 1

Did you notice how when you are paying attention to some specific part of the body, other parts of the body will merge into the background. In other words, sensations can either be brought into the foreground, or allowed to remain in the background.

Part of the problem caused by tinnitus is the extent to which it grabs the attention of the person. However, if you can control this attention focus, the tinnitus might be less distressing on some occasions.

This might be a very useful technique particularly for dealing with sleep difficulties, or dealing with other "quiet" times of the day - times when there is little occurring around you to serve as distraction from the tinnitus.

It is important to acknowledge that the idea is not so much to stop thinking about the tinnitus, but to learn to direct attention both to, and from the tinnitus. Remember, you control your attention and awareness. Use it just like a searchlight - direct it and focus it on whatever you choose. Learn to be confident that it is under your control.

EXERCISE 2:

Close your eyes and make yourself comfortable - focus on your breathing - just breathe gently in and out - and in and out - so peaceful and restful - in and out.

Now let's learn to play around with your awareness and attention - learn to control it and direct it - just like a searchlight - you can direct the focus of your awareness and attention - divert it and focus on one thing, then another - where is your awareness now? - on internal sensations inside your body, or on external sensations arising from inside the room - or maybe you are aware

of sensations outside the room - allow your awareness to focus on internal sensations - focus on your body - be aware of the air temperature on your skin - is it warm or cool? Notice the sensations on your arms and hands - notice sensations, movements or sounds within your body - be aware - also notice that whatever thoughts or images come into your mind - these interfere with your awareness and attention..... Now refocus the searchlight - focus on the sounds and sensations within this room - what can you hear? - What noises are in the room? Maybe you are aware of someone breathing - a chair creaking - a clock or watch ticking - a fly buzzing - an electric fan; heater - what noises can you hear in the room? - mentally identify them - now refocus the searchlight - focus on the sounds and sensations outside this room - maybe in the hallway, or the next room - or outside in the open - listen for voices; laughter; birds; the wind in the trees; cars; machinery; footsteps etc. Now focus on the sensations in your feet - identify your toes - each toe individually - see how your awareness and attention can shift and re-focus from internal body sensations - to your immediate external environment - the immediate location or room where you are - to the further external environment - the sounds you can hear outside the wall, doors or window - also notice that whatever thoughts or images come into your mind these interfere or interrupt your awareness and attention. But you have control of the searchlight - shift it to

whatever you choose - direct it - refocus and control the searchlight - now focus on your breathing - breathe in and out; gently and rhythmically - in and out - now, let all the images fade, and open your eyes.

GROUP DISCUSSION:

General Discussion of the Attention Diversion Exercise 2.

EXERCISE 3:

Close your eyes and make yourself comfortable. Just focus on your breathing - breathe in and out, smoothly and rhythmically; gently in and out. Just focus on your breathing - a restful, soothing process.

Now let's take control of your awareness or attention-control it like a searchlight - redirect and re-focus it to whatever you choose - play around - move from internal sensations to immediate external sensations in this room or to more removed external sensations - outside the room. Spend a few quiet moments shifting and re-focusing your awareness and attention - play with it - you have control of the searchlight. Let it go when you choose - if interrupted, re-focus your awareness.

Now focus your awareness on the noises in your head - tune into the noises - now be aware of the sensations in your hands - identify each finger Now move further down your body - focus on your feet - be aware of your right foot and your left foot - identify your toes - each one individually Now focus on your breathing - in and out - notice the point where your breathing changes from in to out - to in to out, just like the waves rolling in and out on the sand at the beach - in and out. Now what sounds can you hear in this room? - identify them mentally - if mental images or thoughts interfere, then take control - identify the sensations in the room - notice the air temperature, feel the sensations on your skin - you can only truly focus on one thing at a time - control your attention and awareness - focus now on the noises in your head - for a few moments focus on them - now shift the focus to the outside environment - what sounds can you hear outside? - the wind; voices; laughter; a car; machinery; footsteps; a radio-switch back now to your breathing - you can control the searchlight - focus on your breathing - in and out - so peaceful and rhythmic - gently in and out - now let all the images fade from your mind, and open your eyes.

GROUP DISCUSSION:

General discussion of Attention Diversion Exercise 3.

HOMEWORK ASSIGNMENT:

Practice the Attention Diversion Exercises daily using the Audio-cassette which has been provided to assist home practice - Use the exercises during your daily routine.

ARE YOU LESS AWARE OF YOUR TINNITUS WHEN YOU ARE INVOLVED
IN:

- Housecleaning _____
- Gardening _____
- Sports _____
- Watching T.V. _____
- Listening to radio _____
- Day dreaming _____
- Cleaning the car _____
- Shopping _____
- Working _____

LIST OTHER ACTIVITIES THAT MAKE YOU LESS AWARE OF YOUR
TINNITUS DURING THE NEXT WEEK.

IMAGERY TRAINING

This is a coping strategy that is very similar to the attention diversion exercise we practiced last week.

It is a coping strategy most people use at some time and it is very effective in transferring our thoughts and feelings from one thing to another.

For example, emergency room medical staff are known to ask children to imagine they are viewing their favourite television programme when carrying out some medical procedure. People may also use imagery to direct their attention from boring conversationalists.

We all often think about something else in order to remove or avoid an unwanted or unpleasant thought or feeling.

Thinking about something else is easier than not thinking about anything in order to prevent unpleasant thoughts.

USING IMAGERY TECHNIQUES

Remember, the main aim of using imagery techniques is to develop the ability to focus attention on sensory experiences in the mind. This may be especially useful as a means of diverting your attention away from your tinnitus. By using imagery techniques we can visualise places, events, experiences. When using imagery techniques you may find it useful to focus on all of the sensory modalities – use the senses of sight, hearing, touch, smell and taste. That is, when you use imagery not only visualise the scene, also focus on what you can hear (eg. birds; machinery; people talking; waves crashing; wind in the trees; crackling fire; music etc) – what you can touch or body sensations (eg. warmth of sun, or fire, on your skin; cool wind or breeze on your face; sensation of sand under your feet; sensation of water on your skin etc.) – what you can smell (eg. salt water; burning embers of log fire; smell of grass; fragrance of flowers; smell of fish/chips at beachside) – what you can taste (eg. refreshing taste of cold drink of water or wine etc; taste of warm drink on cold night etc). By focusing on all of your senses you may enrich your use of imagery.

Imagery techniques may be essentially used as a means of attention diversion. They can be used in many different situations such as:

- a) trying to fall asleep
- b) waiting for a bus
- c) waiting in a queue
- d) in a traffic jam
- e) waiting for appointment (eg. medical officer/dentist)
- f) undergoing some unpleasant procedure such as dental work; receiving an injection etc.
- g) when you notice your tinnitus, or are particularly aware of it, or bothered by it.

Essentially, imagery techniques provide you with a means of focussing on something pleasant, or neutral – rather than focussing on whatever might be unpleasant in any given situation (eg. worrying about the pain at the dentist; trying to fall asleep and worrying that you won't etc.).

For some people, imagery techniques are easy to use as they are able to visualise things quite clearly. However, some people find it difficult to visualise images or scenes. Keep in mind this issue of individual differences in the extent to which people can use mental imagery. Should you find it difficult, try to practice regularly as this may help strengthen your ability.

IMAGERY EXERCISE - 1:

I am now going to ask you to imagine some scenes. This imagery exercise will be a bit like day dreaming, except that you will control it more. As you know some daydreams can be quite vivid. Sometimes you may feel like you are really there. Try to imagine the scenes as vividly as you can. Picture the scene in your mind as clearly as you can.

As I present the scene to you, try to visualise the scene with as much detail as you can include, just as if it were real. Try to involve yourself fully in the scene as an active participant. Do everything you can to make the scene real.

Now I will present the first scene. As I describe it, create it in your mind. Try involving yourself in the following image right now and see how vivid you can make it. Sit back, close your eyes, and relax in your chair, and listen to this passage.

Scene 1

Imagine a pure white plate resting on top of a table. On the plate is a lemon. You can clearly see the glossy yellow of the lemon's skin against the whiteness of the plate You can see the texture of the lemon rind.

There is a knife on the table, next to the plate. Imagine that you are picking up the knife. Hold the lemon with one hand. With the other hand, using the knife, cut the lemon in two. As the keen edge slices easily into the lemon, the juice runs onto your fingers and the plate. Smell the juice, the strong citrus, lemony smell - it is sharp, clean, pungent and invigorating.

Now you pick up one half of the lemon – raise it to your mouth and touch your tongue against it gently. Every taste bud in your tongue is drenched with the tangy lemon juice as your mouth puckers instinctively. Taste the sharp lemon juice A shiver goes up and down your spine..... Fine, now spend a few moments sitting back, eyes remain closed and picture for a moment, the lemon, the cutting, the tasting. That's fine, now just let the scene fade away – let the image of the lemon fade away.

Imagery Exercise 2:

Scene 2

Once again, make sure that you are comfortable in your chair. Close your eyes, and listen quietly to the second scene. This scene will involve drinking a glass of water. As I present the scene to you try to visualise the scene with as much detail as you can include, just as if it were real.

I want you to imagine you are walking into a square room. The walls and ceiling are painted a pale blue. The carpet is soft under your feet. There is nothing in the room except for a plain wooden table in the middle. On the table you can see a clear glass jug filled with water and a tall clear glass. You are thirsty, and you are glad to see the water. Your mouth is dry. You walk over to the table and pick up the jug in one hand and the glass in the other hand. You pour the water into the glass and fill it to the top. Your hand holding the glass feels cool as the glass fills with water. You set the jug back down on the table and move the glass to your lips. The water cools your whole mouth and refreshes your whole body as you take the first swallow. It tastes so good and refreshing and quenches your thirst. You drink the whole glass of water. That's fine, now just let the scene fade away – it fades away completely.

IMAGERY EXERCISE 3:

Scene 3

"Sit back in your chair and make yourself comfortable. Close your eyes and spend a few moments focusing on your breathing – breathe in and out, smoothly and rhythmically. Try to focus on the point where the direction of your breathing changes from in to out – to in to out and so on. As you focus on this try to imagine this is like the ebb and flow of the tide as it moves in and out. Try to imagine that you are at the beach. It is early morning. Try to visualise the sand, the beach

and the sea. There is a wide sweep of fine, cool sand - there is a pale sky and the sun is just beginning to rise. Visualise the sea - notice how the waves form - they roll quietly in - curl over and then break. Each wave washes up the sand - notice the curves of soft creamy foam wash up the sand and then recede again. Keep visualising the waves forming, rolling quietly in, curling, breaking and washing up the beach in curves of soft creamy foam - they form, roll, curl, and break, and wash up the beach - O.K. that's fine, focus back on your breathing - breathe in and out gently and rhythmically. Let all the images fade from your mind - open your eyes.

IMAGERY EXERCISE 4:

Scene 4

"Sit back in your chair and make yourself comfortable. Close your eyes and spend a few moments focusing on your breathing - breathe in and out, smoothly and rhythmically. Try to focus on the point where your breathing changes direction - from in to out, to in to out, to in to out. Imagine that you are in the bush, out in the country. You are sitting in the shade on a grassy bank overlooking a cool stream. You can see the stream full of clear water. The water is so clear that you can see the pebbles on the bottom - you can see the movement of the water in the stream as it runs over the pebbles. Try to visualise the scene - imagine you are sitting there - see the tall trees around you - the branches of the trees all join above you - like a ceiling of leaves - this shades you but you can still see the sun - speckles of sunlight through the branches. Imagine the coolness, visualise the stream - clear, cool water running over water-worn pebbles. Watch the pattern of the running water. Now visualise that you pick up a fallen leaf on the grass beside you and drop it into the water - the leaf hits the water and begins to bob, and float down stream. Watch the leaf float down stream and out of view - imagine you pick up another leaf and drop it into the stream - watch it bob up and down, and float away down stream and out of view. Just for a few quiet moments imagine sitting on the grassy bank and continue to pick up leaves, one by one, and drop them into the stream - watch them bob and float away down stream and out of view that's fine, now let it all fade away, focus on your breathing, in and out - let all the images fade away and open your eyes.

(Note: Scenes 1 and 2 are adapted from Bakal, 1982).

*** GROUP DISCUSSION OF EXERCISES ***

*** HOMEWORK ASSIGNMENT ***

- 1) DURING THE NEXT WEEK PRACTICE THE IMAGERY EXERCISES DAILY. USE THE AUDIO-CASSETTE PROVIDED.

- 2) DURING THE NEXT WEEK TRY TO IDENTIFY EXAMPLES OF IMAGERY THAT CAN BE USED TO HELP YOU COPE WITH YOUR TINNITUS.

PLEASE LIST THESE:

- 3) PRACTICE THE FOLLOWING SUGGESTED EXERCISES:

SOME SUGGESTIONS TO TRY:

Try to imagine that the sound of your tinnitus is not just a noise in your head but imagine it is actually what it sounds like:

- 1) If the noise of your tinnitus sounds like ocean waves crashing imagine that you are near the ocean and can hear the waves crashing! You can see the beach - see the golden sand - see the water - notice how green and clear the water looks - see the seagulls - smell the salt water - feel the warm sand - feel the cold water as you walk along the shore - smell the fish and chips - taste a cool, cold drink - hear the birds - watch the people surfing and maybe the boats bobbing in the distance.

- 2) If the noise of your tinnitus sounds like a hissing kettle imagine that this is what it actually is - you can see the kettle sitting on the stove - imagine you are making a cup of tea or coffee - imagine going through the process - you imagine yourself in the kitchen - you get the tea or coffee - you get the sugar and milk - you get a cup or a mug - maybe you can see yourself slicing a piece of cake or buttering some biscuits - imagine now you are placing these on a plate - think of how much you are looking forward to drinking your tea/coffee and eating your snack!

- 3) If the noise of your tinnitus sounds like cicadas - imagine that this is what it actually is - imagine it is a perfect summers day - you and see the blue sky - the sun is warm, but not too hot - you can hear the cicadas but what else can you hear - imagine you can hear birds whistling - you can see the trees moving gently in the breeze - hear the soft rustle of the leaves - what else can you see? - what can you smell? - what sensations can you feel on your skin?.....

- 4) If the noise of your tinnitus sounds like and electric fan - imagine this is what it is - imagine you are sitting in a comfortable chair - it is a warm day - you can see the electric fan sitting in the corner - study its shape - notice how cool and pleasant you feel - the fan is blowing a cool breeze upon you - your forehead feels cool - imagine that you reach down and pick up a cool, cold drink - taste the drink - sit back comfortably and enjoy the cool air on your body!

- 5) Imagine your last holiday - or perhaps a holiday or trip you enjoyed some years ago - recapture all of the memories in your mind - imagine the sights you saw, the places you visited, the people you met, the meals you ate, funny things that happened, the stories you told when you got home!

- 6) If you enjoy fishing, imagine you are going fishing. Plan what you need to take - picture yourself on a beach, on rocks or on a boat - what you can see? - what can you can smell? - what can you feel? - what are you touching? - Have you got a bite?.....

- 7) Imagine the sound of your tinnitus is some other sound - imagine it is a pleasant, soothing sound.

SESSION 7

SEE SESSION 5 NOTES FOR ORIGINAL COGNITIVE COPING
STRATEGIES TREATMENT MANUAL (APPENDIX 4 P. 535 to 544)

SESSION 8

SEE SESSION 6 NOTES FOR ORIGINAL COGNITIVE COPING
STRATEGIES TREATMENT MANUAL (APPENDIX 4 P. 545 to 558)

ATQ

836

INSTRUCTIONS: Listed below are a variety of thoughts that pop into people's heads. Please read each thought and indicate how frequently, if at all, the thought occurred to you over the last week. Please read each item carefully and circle the appropriate number alongside the thought in the following fashion.

1 = not at all; 2 = sometimes; 3 = moderately often; 4 = often;
5 = all the time.

- | | | | | | |
|----------------------------------------------|---|---|---|---|---|
| 1. I feel like I'm up against the world. | 1 | 2 | 3 | 4 | 5 |
| 2. I'm no good. | 1 | 2 | 3 | 4 | 5 |
| 3. Why can't I ever succeed? | 1 | 2 | 3 | 4 | 5 |
| 4. No one understands me. | 1 | 2 | 3 | 4 | 5 |
| 5. I've let people down. | 1 | 2 | 3 | 4 | 5 |
| 6. I don't think I can go on. | 1 | 2 | 3 | 4 | 5 |
| 7. I wish I were a better person. | 1 | 2 | 3 | 4 | 5 |
| 8. I'm so weak. | 1 | 2 | 3 | 4 | 5 |
| 9. My life's not going the way I want it to. | 1 | 2 | 3 | 4 | 5 |
| 10. I'm so disappointed in myself. | 1 | 2 | 3 | 4 | 5 |
| 11. Nothing feels good anymore. | 1 | 2 | 3 | 4 | 5 |
| 12. I can't stand this anymore. | 1 | 2 | 3 | 4 | 5 |
| 13. I can't get started. | 1 | 2 | 3 | 4 | 5 |
| 14. What's wrong with me? | 1 | 2 | 3 | 4 | 5 |
| 15. I wish I were somewhere else. | 1 | 2 | 3 | 4 | 5 |
| 16. I can't get things together. | 1 | 2 | 3 | 4 | 5 |
| 17. I hate myself. | 1 | 2 | 3 | 4 | 5 |
| 18. I'm worthless. | 1 | 2 | 3 | 4 | 5 |
| 19. I wish I could just disappear. | 1 | 2 | 3 | 4 | 5 |
| 20. What's the matter with me? | 1 | 2 | 3 | 4 | 5 |
| 21. I'm a loser. | 1 | 2 | 3 | 4 | 5 |
| 22. My life is a mess. | 1 | 2 | 3 | 4 | 5 |
| 23. I'm a failure. | 1 | 2 | 3 | 4 | 5 |
| 24. I'll never make it. | 1 | 2 | 3 | 4 | 5 |
| 25. I feel so helpless. | 1 | 2 | 3 | 4 | 5 |
| 26. Something has to change. | 1 | 2 | 3 | 4 | 5 |
| 27. There must be something wrong with me. | 1 | 2 | 3 | 4 | 5 |
| 28. My future is bleak. | 1 | 2 | 3 | 4 | 5 |
| 29. It's just not worth it. | 1 | 2 | 3 | 4 | 5 |
| 30. I can't finish anything. | 1 | 2 | 3 | 4 | 5 |

APPENDIX 28

TINNITUS DAILY RECORDING SHEET

DAY: _____ DATE: _____

TODAY, AT ITS LOUDEST, MY TINNITUS WAS:

(CIRCLE ONE)

NO TINNITUS	VERY FAINT	MODERATELY LOUD	VERY LOUD	EXTREMELY LOUD
-------------	------------	--------------------	--------------	-------------------

.....

TODAY, MY TINNITUS (CIRCLE ONE STATEMENT IN EACH LINE)

<u>BOTHERED ME</u>	NOT AT ALL	A LITTLE	MODERATELY	VERY MUCH	EXTREMELY
--------------------	------------	----------	------------	--------------	-----------

.....

<u>MADE ME FEEL DEPRESSED</u>	NOT AT ALL	A LITTLE	MODERATELY	VERY MUCH	EXTREMELY
-----------------------------------	------------	----------	------------	--------------	-----------

.....

<u>MADE ME FEEL TENSE</u>	NOT AT ALL	A LITTLE	MODERATELY	VERY MUCH	EXTREMELY
-------------------------------	------------	----------	------------	--------------	-----------

.....

<u>MADE ME FEEL IRRITABLE</u>	NOT AT ALL	A LITTLE	MODERATELY	VERY MUCH	EXTREMELY
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.....

APPENDIX 29

SLEEP DAILY RECORDING SHEET

DAY : _____ DATE : _____

HOW DIFFICULT WAS IT FOR YOU TO GET TO SLEEP LAST NIGHT ?

_____ NOT AT _____ A LITTLE _____ FAIRLY _____ QUITE _____ VERY
ALL DIFFICULT DIFFICULT DIFFICULT DIFFICULT

.....

IF YOU HAD ANY DIFFICULTY GETTING TO SLEEP LAST NIGHT, WAS IT :

_____ MAINLY BECAUSE _____ PARTLY DUE _____ SOME OTHER
OF TINNITUS TO TINNITUS REASON

.....

HOW RESTLESS WAS YOUR SLEEP ?

_____ NOT AT _____ A LITTLE _____ FAIRLY _____ QUITE _____ VERY
ALL RESTLESS RESTLESS RESTLESS RESTLESS

.....

IF YOUR SLEEP WAS RESTLESS, WAS IT :

_____ MAINLY BECAUSE _____ PARTLY DUE _____ SOME OTHER
OF TINNITUS TO TINNITUS REASON

.....

APPENDIX 30SUMMARY OF ANOVAs OF PRE-TREATMENT DEPENDENT VARIABLES :TREATMENT OUTCOME STUDY 2.

<u>VARIABLE</u>	<u>CONTRAST</u>		
	<u>Treatment v WL</u>	<u>CT v CCS v CT+CCS</u>	<u>CT v CT+CCS</u>
	F-Ratio	F-Ratio	F-Ratio
TRQ	0.00	0.02	0.00
BDI	1.24	0.43	0.11
THQ	0.07	0.00	0.13
TCQ	0.23	1.00	0.53
TCSQ-F	1.23	2.80	0.15
TCSQ-B	0.58	0.90	1.49
TEQ (Total)	0.00	0.00	0.02
TEQ (ED Factor)	0.62	0.00	0.03
TEQ (IB Factor)	1.90	1.48	12.86 *
ATQ	0.43	0.76	0.13
Subjective Loudness	1.62	0.32	0.11
Emotional Disturbance	3.05	0.60	1.66
Sleep Disturbance	0.71	1.34	0.94

* (Univariate) $p < 0.01$

APPENDIX 31TEQ INSOMNIA AND AUDITORY PERCEPTUAL DIFFICULTIES FACTOR SCORES
FOR TREATMENT OUTCOME STUDY 2 : SUMMARY OF RESULTS OF STATISTICAL
ANALYSIS.

- (i) Group Means and Standard Deviations For TEQ Insomnia and Auditory Perceptual Difficulties Factor Scores.
- (ii) Summary of Results of Repeated Measures ANOVAs For Mean TEQ Insomnia Factor Scores From Pre-Treatment to Post-Treatment.
- (iii) Summary of Results of Repeated Measures ANOVAs For Mean TEQ Auditory Perceptual Difficulties Factor Scores From Pre-Treatment to Post-Treatment.
- (iv) Summary of Results of Repeated Measures ANOVAs For Mean TEQ Insomnia Factor Scores From Pre-Treatment to 6 Month Follow-up.
- (v) Summary of Results of Repeated Measures ANOVAs For Mean TEQ Auditory Perceptual Difficulties Factor Scores From Pre-Treatment to 6 Month Follow-up.

APPENDIX 31 (i)

Treatment Outcome Study 2 : Group Means, Standard Deviations For TEQ
Insomnia and Auditory Perceptual Difficulties Factor Scores.

<u>MEASURE</u>	<u>OCCASION</u>	<u>CONDITION</u>			
		WLC	CT	CCS	CT+CCS
TEQ INSOMNIA	Pre M	7.67	7.17	7.50	7.57
	SD	1.44	1.59	1.93	1.79
	n	(12)	(12)	(12)	(14)
	Post M	7.33	6.67	7.33	7.29
	SD	1.56	1.30	1.56	1.49
	n	(12)	(12)	(12)	(14)
	6 Mth M	-	7.20	7.64	7.20
	SD	-	1.69	1.96	1.69
	n	-	(10)	(10)	(10)
TEQ AUDITORY PERCEPTUAL DIFFICULTIES	Pre M	7.50	7.17	7.83	7.21
	SD	2.36	2.08	2.41	1.89
	n	(12)	(12)	(12)	(14)
	Post M	7.67	7.25	7.58	7.14
	SD	2.02	2.30	2.39	2.21
	n	(12)	(12)	(12)	(14)
	6 Mth M	-	7.30	8.09	7.00
	SD	-	2.16	2.34	1.89
	n	-	(10)	(11)	(10)

APPENDIX 31 (ii)Summary of Repeated Measures ANOVA of Mean TEQ Insomnia Factor Scores From Pre-treatment to Post-treatment.

SOURCE	SS	DF	MS	F
BETWEEN				
Within Cells	208.52	46	4.53	
Constant	5327.83	1	5327.83	1175.31
TMT v WL	1.10	1	1.10	0.24
CT v CCS v CT+CCS	1.21	1	1.21	0.27
CT v CT+CCS	3.00	1	3.00	0.66
WITHIN				
Within Cells	25.10	46	0.55	
Time	2.57	1	2.57	4.71 *
TMT v WL	0.00	1	0.00	0.00
CT v CCS v CT+CCS	0.01	1	0.01	0.02
CT v CT+CCS	0.33	1	0.33	0.61

* (Univariate) $p < 0.05$

With the Bonferroni correction none of the planned group by time contrasts proved to be significant. With a univariate decision wise error rate there is a significant overall pre-treatment to post-treatment improvement in TEQ Insomnia factor scores ($F(1,46) = 4.71, p < 0.05$).

APPENDIX 31 (iii)Summary of Repeated Measures ANOVA Of Mean TEQ Auditory Perceptual Difficulties Factor Scores From Pre-treatment to Post-treatment.

SOURCE	SS	DF	MS	F
BETWEEN				
Within Cells	418.36	46	9.09	
Constant	5480.64	1	5480.64	602.62
TMT v WL	0.87	1	0.87	0.10
CT v CCS v CT+CCS	1.38	1	1.38	0.15
CT v CT+CCS	3.00	1	3.00	0.33
WITHIN				
Within Cells	29.88	46	0.65	
Time	0.01	1	0.01	0.01
TMT v WL	0.28	1	0.28	0.42
CT v CCS v CT+CCS	0.00	1	0.00	0.00
CT v CT+CCS	0.33	1	0.33	0.51

None of the planned group by time interactions proved to be significant.

APPENDIX 31 (iv)Summary of Repeated Measures ANOVA of Mean TEQ Insomnia Factor Scores From Pre-treatment to 6 Month Follow-up.

SOURCE	SS	DF	MS	F
BETWEEN				
Within Cells	123.25	28	4.40	
Constant	3221.11	1	3221.11	731.75
CT v CCS v CT+CCS	1.41	1	1.41	0.32
CT v CT+CCS	2.08	1	2.08	0.47
WITHIN				
Within Cells	18.82	28	0.67	
Time	1.05	1	1.05	1.56
CT v CCS v CT+CCS	0.15	1	0.15	0.22
CT v CT+CCS	0.00	1	0.00	0.00

None of the planned group by time interactions were significant.

APPENDIX 31 (v)Summary of Repeated Measures ANOVA of Mean TEQ Auditory Perceptual Difficulties Factor Scores From Pre-treatment to 6 Month Follow-up.

SOURCE	SS	DF	MS	F
BETWEEN				
Within Cells	252.90	28	9.03	
Constant	3479.06	1	3479.06	385.18
CT v CCS v CT+CCS	1.88	1	1.88	0.21
CT v CT+CCS	7.49	1	7.49	0.83
WITHIN				
Within Cells	19.50	28	0.70	
Time	0.08	1	0.08	0.11
CT v CCS v CT+CCS	1.41	1	1.41	2.02
CT v CT+CCS	0.03	1	0.03	0.04

None of the planned group by time interactions proved to be significant.

APPENDIX 32PREDICTORS OF OUTCOME

- (i) Results of Multiple Regression Analysis.
- (ii) Correlations Between Predictor Variables.
- (iii) Summary of Results of Analysis of Variance of Predictor Variables.

APPENDIX 32 (i)

Results of Stepwise Multiple Regression Analysis

Order of Entry/ Variable	Multiple R	R ²	Adjusted R ²	SE	DF	F	Sig
Step 1: Study	0.11	0.13	-0.00	8.57	1,56	0.76	0.38

Variables in Equation	B	SE B	Beta	T	Sig.
Study	2.06	2.36	0.11	0.87	0.38
(Constant)	6.73	4.08		1.64	0.10

Variables Not
in Equation

Variable	Beta In	Partial	Min. Toler.	T	Sig.
Age	-0.08	-0.07	0.91	-0.58	0.55
Sex	0.02	0.01	0.93	0.14	0.88
Retirement Status	0.03	0.03	0.74	0.24	0.80
Duration	0.12	0.12	0.96	0.89	0.37
Noise Exposure	0.04	0.04	0.91	0.31	0.75
Location					
Unilateral/ Non-Unilateral	-0.09	-0.09	0.99	-0.73	0.46
Bilateral/ All Over Head	0.18	0.17	0.80	1.28	0.20

APPENDIX 32 (ii)Correlations Between Predictor Variables:Correlation Matrix

	Study	TRQ	Age	Sex	Retired	Duration	Noise	Location	
								1	2
Study	1.00								
TRQ Diff	0.11	1.00							
Age	-0.28	-0.10	1.00						
Sex	0.26	0.04	0.11	1.00					
Retired	-0.50	-0.03	0.70	0.03	1.00				
Duration	-0.19	0.09	0.40	0.13	0.42	1.00			
Noise	-0.28	0.00	0.02	-0.36	0.03	0.09	1.00		
Location 1	0.01	-0.09	0.01	0.11	-0.14	-0.10	-0.11	1.00	
Location 2	-0.43	0.10	-0.02	-0.12	0.12	0.06	0.07	-0.08	1.00

Pearson product moment correlations were computed between the variables study (study1 or study2), change in TRQ scores, age, sex, retirement status, duration of tinnitus, history of noise exposure, and location of tinnitus (unilateral versus non-unilateral; bilateral versus all over the head). The obtained correlations are presented above. Only intercorrelations of $r > 0.40$ (explaining approximately 20% of the variance) were considered to be significant. Generally, the obtained correlations were small and non-significant. Significant positive correlations were found between the variables age and retirement status ($r=0.70$), age and duration of tinnitus ($r=0.40$), and retirement status and duration of tinnitus ($r=0.42$). Significant negative correlations were found between study and retirement status ($r=-0.50$), and study and location of tinnitus (bilateral versus all over the head) ($r=-0.43$).

APPENDIX 32 (iii)Analysis of Variance Of Predictor Variables

Oneway Analysis of Variance were performed on each of the predictor variables (pre-treatment TRQ score, pre- to post-treatment TRQ difference score, age, sex, retirement status, duration of tinnitus, history of noise exposure, location of tinnitus (unilateral versus non-unilateral; bilateral versus all over the head). This analysis was conducted to determine if there were any statistically significant differences between the subjects in the active treatment conditions in study 1 compared to those in study 2.

The results of these ANOVAs are presented in the following table.

Summary of Means, Standard Deviations and ANOVA F-ratios For Treated Subjects In Study 1 and Study 2 For each Predictor Variable.

Variable	Study			ANOVA Results				
	M	SD	(n)	M	SD	(n)	F-Ratio	(df)
Pre TRQ score	43.15	21.25	(20)	31.76	13.59	(38)	6.17	(1,56)
Pre- to Post-Treatment TRQ Difference score	8.80	9.49	(20)	10.86	8.07	(38)	0.76	(1,56)
Age	62.20	10.01	(20)	55.47	11.39	(38)	4.95	(1,56)
Sex	0.10	0.30	(20)	0.34	0.48	(38)	4.15	(1,56)
Retirement Status	0.85	0.36	(20)	0.31	0.47	(38)	19.46 **	(1,56)
Duration	1.50	1.19	(20)	1.02	1.17	(38)	2.11	(1,56)
Noise Exposure	0.55	0.51	(20)	0.26	0.44	(38)	4.90	(1,56)
Location: Unilateral/Non-Unilateral	-0.10	1.41	(20)	-0.05	1.41	(38)	0.01	(1,56)
Bilateral/All over the head	0.60	0.59	(20)	-0.15	0.82	(38)	13.23 **	(1,56)

The results of the comparison revealed a significant difference between the two samples in terms of retirement status and location of tinnitus (bilateral versus all over the head).

APPENDIX 33TINNITUS COGNITIONS QUESTIONNAIRE : FREQUENCY DISTRIBUTION

C1

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	2	.6	1.0	1.0
	1	15	6.4	7.6	8.6
	2	68	28.8	34.5	43.1
	3	54	22.9	27.4	70.6
	4	58	24.6	29.4	100.0
	.	39	16.5	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	2.766	STD ERR	.071	MEDIAN	3.000
MODE	2.000	STD DEV	.993	VARIANCE	.986
KURTOSIS	-.768	S E KURT	.345	SKEWNESS	-.243
S E SKEW	.173	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	545.000		
VALID CASES	197	MISSING CASES	39		

C2

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	49	20.8	24.9	24.9
	1	46	19.5	23.4	48.2
	2	50	21.2	25.4	73.6
	3	33	14.0	16.8	90.4
	4	19	8.1	9.6	100.0
	.	39	16.5	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.629	STD ERR	.092	MEDIAN	2.000
MODE	2.000	STD DEV	1.286	VARIANCE	1.653
KURTOSIS	-.986	S E KURT	.345	SKEWNESS	.284
S E SKEW	.173	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	321.000		
VALID CASES	197	MISSING CASES	39		
109 Dec 91	SPSS-X Release 3.0 for VAX/UNIX				
00:12:49	Department of Psychology		VAX-3500		Ulrix V2.2

C3

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	82	34.7	41.6	41.6
	1	46	19.5	23.4	65.0
	2	37	15.7	18.8	83.8
	3	22	9.3	11.2	94.9
	4	10	4.2	5.1	100.0
	.	39	16.5	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.147	STD ERR	.087	MEDIAN	1.000
MODE	.000	STD DEV	1.222	VARIANCE	1.494
KURTOSIS	-.492	S E KURT	.345	SKEWNESS	.766
S E SKEW	.173	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	226.000		
VALID CASES	197	MISSING CASES	39		

C4

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	68	28.8	34.7	34.7
	1	46	19.5	23.5	58.2
	2	45	19.1	23.0	81.1
	3	26	11.0	13.3	94.4
	4	11	4.7	5.6	100.0
	.	40	16.9	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.316	STD ERR	.088	MEDIAN	1.000
MODE	.000	STD DEV	1.233	VARIANCE	1.520
KURTOSIS	-.771	S E KURT	.346	SKEWNESS	.538
S E SKEW	.174	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	258.000		
VALID CASES	196	MISSING CASES	40		
109 Dec 91	SPSS-X Release 3.0 for VAX/UNIX				
00:12:50	Department of Psychology		VAX-3500	Ultrix V2.2	

C5

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	28	11.9	14.2	14.2
	1	35	14.8	17.8	32.0
	2	67	28.4	34.0	66.0
	3	32	13.6	16.2	82.2
	4	35	14.8	17.8	100.0
	.	39	16.5	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	2.056	STD ERR	.091	MEDIAN	2.000
MODE	2.000	STD DEV	1.275	VARIANCE	1.624
KURTOSIS	-.915	S E KURT	.345	SKEWNESS	-.001
S E SKEW	.173	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	405.000		
VALID CASES	197	MISSING CASES	39		

C6

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	19	8.1	9.6	9.6
	1	29	12.3	14.7	24.4
	2	57	24.2	28.9	53.3
	3	47	19.9	23.9	77.2
	4	45	19.1	22.8	100.0
	.	39	16.5	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	2.355	STD ERR	.089	MEDIAN	2.000
MODE	2.000	STD DEV	1.252	VARIANCE	1.567
KURTOSIS	-.859	S E KURT	.345	SKEWNESS	-.290
S E SKEW	.173	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	464.000		
VALID CASES	197	MISSING CASES	39		

109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
 00:12:50 Department of Psychology VAX-3500

Ultrix V2.2

C7

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	31	13.1	15.9	15.9
	1	46	19.5	23.6	39.5
	2	72	30.5	36.9	76.4
	3	29	12.3	14.9	91.3
	4	17	7.2	8.7	100.0
	.	41	17.4	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.769	STD ERR	.082	MEDIAN	2.000
MODE	2.000	STD DEV	1.150	VARIANCE	1.323
KURTOSIS	-.593	S E KURT	.346	SKEWNESS	.175
S E SKEW	.174	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	345.000		

VALID CASES 195 MISSING CASES 41

C8

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	46	19.5	23.4	23.4
	1	50	21.2	25.4	48.7
	2	50	21.2	25.4	74.1
	3	36	15.3	18.3	92.4
	4	15	6.4	7.6	100.0
	.	39	16.5	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.614	STD ERR	.088	MEDIAN	2.000
MODE	1.000	STD DEV	1.239	VARIANCE	1.534
KURTOSIS	-.947	S E KURT	.345	SKEWNESS	.264
S E SKEW	.173	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	318.000		

VALID CASES 197 MISSING CASES 39
 109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
 00:12:50 Department of Psychology VAX-3500 Ultrix V2.2

C9

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	68	28.8	34.7	34.7
	1	46	19.5	23.5	58.2
	2	38	16.1	19.4	77.6
	3	28	11.9	14.3	91.8
	4	16	6.8	8.2	100.0
	.	40	16.9	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.378	STD ERR	.093	MEDIAN	1.000
MODE	.000	STD DEV	1.309	VARIANCE	1.713
KURTOSIS	-.000	S E KURT	.346	SKEWNESS	.548
S E SKEW	.174	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	270.000		
VALID CASES	196	MISSING CASES	40		

C10

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	60	25.4	30.5	30.5
	1	29	12.3	14.7	45.2
	2	57	24.2	28.9	74.1
	3	26	11.0	13.2	87.3
	4	25	10.6	12.7	100.0
	.	39	16.5	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.629	STD ERR	.098	MEDIAN	2.000
MODE	.000	STD DEV	1.370	VARIANCE	1.877
KURTOSIS	-1.091	S E KURT	.345	SKEWNESS	.273
S E SKEW	.173	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	321.000		
VALID CASES	197	MISSING CASES	39		
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00:12:50	Department of Psychology		VAX-3500	Ulrix V2.2	

C11

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	17	7.2	8.6	8.6
	1	27	11.4	13.7	22.3
	2	52	22.0	26.4	48.7
	3	47	19.9	23.9	72.6
	4	54	22.9	27.4	100.0
	.	39	16.5	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	2.477	STD ERR	.090	MEDIAN	3.000
MODE	4.000	STD DEV	1.264	VARIANCE	1.598
KURTOSIS	-.851	S E KURT	.345	SKEWNESS	-.392
S E SKEW	.173	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	488.000		
VALID CASES	197	MISSING CASES	39		

C12

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	78	33.1	39.6	39.6
	1	42	17.8	21.3	60.9
	2	44	18.6	22.3	83.2
	3	24	10.2	12.2	95.4
	4	9	3.8	4.6	100.0
	.	39	16.5	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.208	STD ERR	.087	MEDIAN	1.000
MODE	.000	STD DEV	1.217	VARIANCE	1.482
KURTOSIS	-.704	S E KURT	.345	SKEWNESS	.622
S E SKEW	.173	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	238.000		

VALID CASES 197 MISSING CASES 39

109 Dec 91
00:12:50SPSS-X Release 3.0 for VAX/UNIX
Department of Psychology

VAX-3500

Ulrix V2.2

C13

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	126	53.4	64.0	64.0
	1	29	12.3	14.7	78.7
	2	24	10.2	12.2	90.9
	3	10	4.2	5.1	95.9
	4	8	3.4	4.1	100.0
	.	39	16.5	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.706	STD ERR	.080	MEDIAN	.000
MODE	.000	STD DEV	1.118	VARIANCE	1.250
KURTOSIS	1.395	S E KURT	.345	SKEWNESS	1.533
S E SKEW	.173	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	139.000		
VALID CASES	197	MISSING CASES	39		

C14

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	25	10.6	12.7	12.7
	1	68	28.8	34.5	47.2
	2	49	20.8	24.9	72.1
	3	32	13.6	16.2	88.3
	4	23	9.7	11.7	100.0
	.	39	16.5	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.797	STD ERR	.086	MEDIAN	2.000
MODE	1.000	STD DEV	1.203	VARIANCE	1.448
KURTOSIS	-.797	S E KURT	.345	SKEWNESS	.362
S E SKEW	.173	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	354.000		
VALID CASES	197	MISSING CASES	39		

109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
00:12:50 Department of Psychology VAX-3500 Ultrix V2.2

C15

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	31	13.1	15.7	15.7
	1	51	21.6	25.9	41.6
	2	50	21.2	25.4	67.0
	3	35	14.8	17.8	84.8
	4	30	12.7	15.2	100.0
	.	39	16.5	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.909	STD ERR	.092	MEDIAN	2.000
MODE	1.000	STD DEV	1.294	VARIANCE	1.675
KURTOSIS	-1.041	S E KURT	.345	SKEWNESS	.157
S E SKEW	.173	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	376.000		
VALID CASES	197	MISSING CASES	39		

C16

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	36	15.3	18.3	18.3
	1	57	24.2	28.9	47.2
	2	35	14.8	17.8	65.0
	3	38	16.1	19.3	84.3
	4	31	13.1	15.7	100.0
	.	39	16.5	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.853	STD ERR	.096	MEDIAN	2.000
MODE	1.000	STD DEV	1.353	VARIANCE	1.830
KURTOSIS	-1.195	S E KURT	.345	SKEWNESS*	.208
S E SKEW	.173	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	365.000		
VALID CASES	197	MISSING CASES	39		

109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
 00:12:51 Department of Psychology VAX-3500

Ultrix V2.2

C17

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	45	19.1	22.8	22.9
	1	38	16.1	19.3	42.1
	2	43	18.2	21.9	64.0
	3	34	14.4	17.3	81.2
	4	37	15.7	18.8	100.0
	.	39	16.5	MISSING	
	TOTAL	236	100.0	100.0	

MEAN	1.898	STD ERR	.102	MEDIAN	2.000
MODE	.000	STD DEV	1.425	VARIANCE	2.030
KURTOSIS	-1.284	S E KURT	.345	SKEWNESS	.095
S E SKEW	.173	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	374.000		

VALID CASES	197	MISSING CASES	39
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C18

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	52	22.0	26.4	26.4
	1	50	21.2	25.4	51.8
	2	36	15.3	18.3	70.1
	3	24	10.2	12.2	82.2
	4	35	14.8	17.8	100.0
	.	39	16.5	MISSING	
	TOTAL	236	100.0	100.0	

MEAN	1.695	STD ERR	.102	MEDIAN	1.000
MODE	.000	STD DEV	1.435	VARIANCE	2.060
KURTOSIS	-1.189	S E KURT	.345	SKEWNESS	.370
S E SKEW	.173	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	334.000		

VALID CASES	197	MISSING CASES	39
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109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
00:12:51 Department of Psychology VAX-3500 Ultrix V2.2

C19

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	38	16.1	19.4	19.4
	1	61	25.8	31.1	50.5
	2	41	17.4	20.9	71.4
	3	35	14.8	17.9	89.3
	4	21	8.9	10.7	100.0
	.	40	16.9	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.694	STD ERR	.091	MEDIAN	1.000
MODE	1.000	STD DEV	1.268	VARIANCE	1.608
KURTOSIS	-.955	S E KURT	.346	SKEWNESS	.334
S E SKEW	.174	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	332.000		
VALID CASES	196	MISSING CASES	40		

C20

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	38	16.1	19.3	19.3
	1	59	25.0	29.9	49.2
	2	45	19.1	22.8	72.1
	3	24	10.2	12.2	84.3
	4	31	13.1	15.7	100.0
	.	39	16.5	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.751	STD ERR	.095	MEDIAN	2.000
MODE	1.000	STD DEV	1.330	VARIANCE	1.769
KURTOSIS	-.984	S E KURT	.345	SKEWNESS	.374
S E SKEW	.173	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	345.000		
VALID CASES	197	MISSING CASES	39		

109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
 00:12:51 Department of Psychology VAX-3500 Ultrix V2.2

C21

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	25	10.6	12.7	12.7
	1	45	19.1	22.8	35.5
	2	55	23.3	27.9	63.5
	3	34	14.4	17.3	80.7
	4	38	16.1	19.3	100.0
	.	39	16.5	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	2.076	STD ERR	.092	MEDIAN	2.000
MODE	2.000	STD DEV	1.297	VARIANCE	1.683
KURTOSIS	-1.059	S E KURT	.345	SKEWNESS	.041
S E SKEW	.173	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	409.000		
VALID CASES	197	MISSING CASES	39		

C22

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	30	12.7	15.2	15.2
	1	62	26.3	31.5	46.7
	2	51	21.6	25.9	72.6
	3	33	14.0	16.8	89.3
	4	21	8.9	10.7	100.0
	.	39	16.5	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.761	STD ERR	.086	MEDIAN	2.000
MODE	1.000	STD DEV	1.212	VARIANCE	1.468
KURTOSIS	-.814	S E KURT	.345	SKEWNESS	.312
S E SKEW	.173	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	347.000		
VALID CASES	197	MISSING CASES	39		
109 Dec 91	SPSS-X Release 3.0 for VAX/UNIX				
00:12:51	Department of Psychology		VAX-3500		Ulrix V2.2

C23

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	33	14.0	16.8	16.8
	1	64	27.1	32.5	49.2
	2	54	22.9	27.4	76.6
	3	25	10.6	12.7	89.3
	4	21	8.9	10.7	100.0
	.	39	16.5	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.690	STD ERR	.086	MEDIAN	2.000
MODE	1.000	STD DEV	1.206	VARIANCE	1.453
KURTOSIS	-.652	S E KURT	.345	SKEWNESS	.426
S E SKEW	.173	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	331.000		
VALID CASES	197	MISSING CASES	39		

C24

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	33	14.0	16.8	16.8
	1	57	24.2	28.9	45.7
	2	45	19.1	22.8	68.5
	3	33	14.0	16.8	85.3
	4	29	12.3	14.7	100.0
	.	39	16.5	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.938	STD ERR	.093	MEDIAN	2.000
MODE	1.000	STD DEV	1.303	VARIANCE	1.698
KURTOSIS	-1.042	S E KURT	.345	SKEWNESS	.249
S E SKEW	.173	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	362.000		
VALID CASES	197	MISSING CASES	39		
109 Dec 91	SPSS-X Release 3.0 for VAX/UNIX				
00:12:51	Department of Psychology	VAX-3500		Ulrix V2.2	

C25

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	31	13.1	15.7	15.7
	1	51	21.6	25.9	41.6
	2	52	22.0	26.4	68.0
	3	36	15.3	18.3	86.3
	4	27	11.4	13.7	100.0
	.	39	16.5	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.883	STD ERR	.091	MEDIAN	2.000
MODE	2.000	STD DEV	1.270	VARIANCE	1.614
KURTOSIS	-.988	S E KURT	.345	SKEWNESS	.161
S E SKEW	.173	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	371.000		
VALID CASES	197	MISSING CASES	39		

C26

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	31	13.1	15.7	15.7
	1	68	28.8	34.5	50.3
	2	50	21.2	25.4	75.6
	3	32	13.6	16.2	91.9
	4	16	6.8	8.1	100.0
	.	39	16.5	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.665	STD ERR	.083	MEDIAN	1.000
MODE	1.000	STD DEV	1.165	VARIANCE	1.357
KURTOSIS	-.675	S E KURT	.345	SKEWNESS	.387
S E SKEW	.173	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	328.000		
VALID CASES	197	MISSING CASES	39		

APPENDIX 34 (i)Four Factor Solution For The Tinnitus Cognitions Questionnaire (TCQ):
Eigenvalues, Percentage of Variance Accounted For and Cumulative
Percentages.

FACTOR	EIGENVALUE	PERCENTAGE OF VARIANCE	CUMULATIVE PERCENTAGE
1	7.68	29.5	29.5
2	7.45	28.6	58.2
3	1.29	5.0	63.2
4	1.13	4.3	67.5

Two Factor Solution For The Tinnitus Cognitions Questionnaire (TCQ):
Eigenvalues, Percentage Of Variance Accounted For and Cumulative
Percentage.

FACTOR	EIGENVALUE	PERCENTAGE OF VARIANCE	CUMULATIVE PERCENTAGE
1	7.68	29.5	29.5
2	7.45	28.6	58.2

APPENDIX 34 (ii)

FOUR FACTOR SOLUTION FOR THE TCQ

ROTATED FACTOR MATRIX:

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
C1	.00561	.35927	.62887	-.13352
C2	-.05247	.31100	.82996	.17800
C3	-.10071	.32453	.70928	.28330
C4	.00425	.86347	.25139	.11150
C5	.03456	.42671	.64906	-.16225
C6	.03185	.56998	.45838	-.26200
C7	-.01853	.71759	.28257	-.02182
C8	-.02983	.79387	.37721	.04815
C9	.06397	.78121	.33524	-.05673
C10	-.03844	.40665	.73170	.06984
C11	.01044	.35890	.50332	-.24361
C12	-.03800	.85882	.24883	.02558
C13	.03808	.77245	.19046	.13398
C14	.50967	.03025	.06323	.66285
C15	.57795	.04940	-.05603	.58353
C16	.78245	-.04300	.06662	.07408
C17	.68427	-.00781	.01319	.36465
C18	.72086	.10450	.04077	.35952

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02:08:28 Department of Psychology VAX-3500 Ultrix V2.2

----- FACTOR ANALYSIS

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
C19	.85790	.00351	.03811	-.00957
C20	.79709	-.00710	-.04395	.19739
C21	.74307	-.20263	.05950	-.16755
C22	.75957	.04789	-.03871	.21747
C23	.79006	.12616	-.06981	.20680
C24	.87714	-.03861	-.05273	-.11692
C25	.80169	-.09548	-.08593	-.16804
C26	.77104	.13526	-.06459	.09574

APPENDIX 34 (iii)TWO FACTOR SOLUTION FOR THE TCQ

ROTATED FACTOR MATRIX:

	FACTOR 1	FACTOR 2
C1	-.02780	.66577
C2	-.02082	.76126
C3	-.04186	.70146
C4	.04611	.83817
C5	-.00459	.73008
C6	-.02156	.72290
C7	-.01003	.73664
C8	-.00557	.85933
C9	.06322	.81915
C10	-.02668	.77287
C11	-.04482	.58504
C12	-.01413	.83106
C13	.08295	.72915
C14	.64278	.07452
C15	.69479	.01301
C16	.77650	-.00215
C17	.74708	.00258
C18	.78397	.10736

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02:06:56 Department of Psychology VAX-3500 Ultrix V2.2

----- FACTOR ANALYSIS

	FACTOR 1	FACTOR 2
C19	.83336	.01345
C20	.82128	-.03847
C21	.68068	-.13876
C22	.79048	.00921
C23	.82053	.05102
C24	.82917	-.07898
C25	.74354	-.14459
C26	.77757	.05845

APPENDIX 35 (i)

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CF1

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	107	45.3	45.3	45.3
	1	50	21.2	21.2	66.5
	2	34	14.4	14.4	80.9
	3	27	11.4	11.4	92.4
	4	18	7.6	7.6	100.0
	TOTAL	236	100.0	100.0	
MEAN	1.148	STD ERR	.086	MEDIAN	1.000
MODE	.000	STD DEV	1.314	VARIANCE	1.727
KURTOSIS	-.533	S E KURT	.316	SKEWNESS	.847
S E SKEW	.158	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	271.000		
VALID CASES	236	MISSING CASES	0		

CF2

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	154	65.3	65.3	65.3
	1	26	11.0	11.1	76.9
	2	22	9.3	9.4	86.3
	3	21	8.9	9.0	95.3
	4	11	4.7	4.7	100.0
	.	2	.8	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.756	STD ERR	.080	MEDIAN	.000
MODE	.000	STD DEV	1.217	VARIANCE	1.481
KURTOSIS	.680	S E KURT	.317	SKEWNESS	1.413
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	177.000		
VALID CASES	234	MISSING CASES	2		
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CF3

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	140	59.3	59.8	59.8
	1	37	15.7	15.8	75.6
	2	25	10.6	10.7	86.3
	3	21	8.9	9.0	95.3
	4	11	4.7	4.7	100.0
	.	2	.8	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.829	STD ERR	.079	MEDIAN	.000
MODE	.000	STD DEV	1.210	VARIANCE	1.464
KURTOSIS	.436	S E KURT	.317	SKEWNESS	1.285
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	194.000		
VALID CASES	234	MISSING CASES	2		

CF4

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	91	39.6	39.4	39.4
	1	33	14.0	14.3	53.7
	2	40	16.9	17.3	71.0
	3	46	19.5	19.9	90.9
	4	21	8.9	9.1	100.0
	.	5	2.1	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.450	STD ERR	.093	MEDIAN	1.000
MODE	.000	STD DEV	1.410	VARIANCE	1.988
KURTOSIS	-1.277	S E KURT	.319	SKEWNESS	.334
S E SKEW	.160	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	335.000		
VALID CASES	231	MISSING CASES	5		
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CF5

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	155	65.7	66.0	66.0
	1	39	16.5	16.6	82.6
	2	16	6.8	6.8	89.4
	3	14	5.9	6.0	95.3
	4	11	4.7	4.7	100.0
	.	1	.4	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.668	STD ERR	.074	MEDIAN	.000
MODE	.000	STD DEV	1.132	VARIANCE	1.283
KURTOSIS	1.896	S E KURT	.316	SKEWNESS	1.714
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	157.000		
VALID CASES	235	MISSING CASES	1		

CF6

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	107	58.1	58.5	58.5
	1	32	13.6	13.7	72.2
	2	32	13.6	13.7	85.9
	3	19	8.1	8.1	94.0
	4	14	5.9	6.0	100.0
	.	2	.8	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.893	STD ERR	.082	MEDIAN	.000
MODE	.000	STD DEV	1.257	VARIANCE	1.581
KURTOSIS	.158	S E KURT	.317	SKEWNESS	1.183
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	209.000		
VALID CASES	234	MISSING CASES	2		
109 Dec 91	SPSS-X Release 3.0 for VAX/UNIX				
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CF7

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	63	26.7	26.7	26.7
	1	46	19.5	19.5	46.2
	2	58	24.6	24.6	70.8
	3	44	18.6	18.6	89.4
	4	25	10.6	10.6	100.0
	TOTAL	236	100.0	100.0	
MEAN	1.669	STD ERR	.087	MEDIAN	2.000
MODE	.000	STD DEV	1.331	VARIANCE	1.771
KURTOSIS	-1.126	S E KURT	.316	SKEWNESS	.210
S E SKEW	.158	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	394.000		
VALID CASES	236	MISSING CASES	0		

CF8

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	118	50.0	50.0	50.0
	1	36	15.3	15.3	65.3
	2	40	16.9	16.9	82.2
	3	30	12.7	12.7	94.9
	4	12	5.1	5.1	100.0
	TOTAL	236	100.0	100.0	
MEAN	1.076	STD ERR	.083	MEDIAN	.500
MODE	.000	STD DEV	1.279	VARIANCE	1.637
KURTOSIS	-.635	S E KURT	.316	SKEWNESS	.816
S E SKEW	.158	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	254.000		
VALID CASES	236	MISSING CASES	0		

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CF9

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	106	44.9	45.1	45.1
	1	23	9.7	9.8	54.9
	2	34	14.4	14.5	69.4
	3	39	16.5	16.6	86.0
	4	33	14.0	14.0	100.0
	.	1	.4	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.447	STD ERR	.100	MEDIAN	1.000
MODE	.000	STD DEV	1.528	VARIANCE	2.334
KURTOSIS	-1.350	S E KURT	.316	SKEWNESS	.457
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	340.000		
VALID CASES	235	MISSING CASES	1		

CF10

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	149	63.1	63.9	63.9
	1	44	18.6	18.9	82.8
	2	18	7.6	7.7	90.6
	3	16	6.8	6.9	97.4
	4	6	2.5	2.6	100.0
	.	3	1.3	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.652	STD ERR	.069	MEDIAN	.000
MODE	.000	STD DEV	1.052	VARIANCE	1.107
KURTOSIS	1.748	S E KURT	.318	SKEWNESS	1.630
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	152.000		

VALID CASES 233 MISSING CASES 3
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CF11

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	123	52.1	52.6	52.6
	1	44	18.6	18.8	71.4
	2	28	11.9	12.0	83.3
	3	24	10.2	10.3	93.6
	4	15	6.4	6.4	100.0
	.	2	.8	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.991	STD ERR	.084	MEDIAN	.000
MODE	.000	STD DEV	1.280	VARIANCE	1.639
KURTOSIS	-.143	S E KURT	.317	SKEWNESS	1.055
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	232.000		
VALID CASES	234	MISSING CASES	2		

CF12

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	126	53.4	53.8	53.8
	1	35	14.8	15.0	68.8
	2	25	10.6	10.7	79.5
	3	16	6.8	6.8	86.3
	4	32	13.6	13.7	100.0
	.	2	.8	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.115	STD ERR	.096	MEDIAN	.000
MODE	.000	STD DEV	1.465	VARIANCE	2.145
KURTOSIS	-.525	S E KURT	.317	SKEWNESS	.989
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	261.000		
VALID CASES	234	MISSING CASES	2		

109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
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CF13

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	96	40.7	40.9	40.9
	1	43	18.2	18.3	59.1
	2	43	18.2	18.3	77.4
	3	37	15.7	15.7	93.2
	4	16	6.8	6.8	100.0
	.	1	.4	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.294	STD ERR	.086	MEDIAN	1.000
MODE	.000	STD DEV	1.325	VARIANCE	1.755
KURTOSIS	-.973	S E KURT	.316	SKEWNESS	.569
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	304.000		
VALID CASES	235	MISSING CASES	1		

CF14

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	92	39.0	39.5	39.5
	1	37	15.7	15.9	55.4
	2	34	14.4	14.6	70.0
	3	41	17.4	17.6	87.6
	4	29	12.3	12.4	100.0
	.	3	1.3	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.476	STD ERR	.096	MEDIAN	1.000
MODE	.000	STD DEV	1.465	VARIANCE	2.147
KURTOSIS	-1.275	S E KURT	.318	SKEWNESS	.437
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	344.000		

VALID CASES 233 MISSING CASES 3

109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX

00:30:52 Department of Psychology VAX-3500

Ultrix V2.2

CF15

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	146	61.7	62.4	62.4
	1	41	17.4	17.5	79.9
	2	21	8.9	9.0	88.9
	3	16	6.8	6.8	95.7
	4	10	4.2	4.3	100.0
	.	2	.8	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.731	STD ERR	.075	MEDIAN	.000
MODE	.000	STD DEV	1.142	VARIANCE	1.305
KURTOSIS	1.262	S E KURT	.317	SKEWNESS	1.519
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	171.000		
VALID CASES	234	MISSING CASES	2		

CF16

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	174	73.7	75.3	75.3
	1	27	11.4	11.7	87.0
	2	10	4.2	4.3	91.3
	3	10	4.2	4.3	95.7
	4	10	4.2	4.3	100.0
	.	5	2.1	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.506	STD ERR	.070	MEDIAN	.000
MODE	.000	STD DEV	1.059	VARIANCE	1.121
KURTOSIS	3.851	S E KURT	.319	SKEWNESS	2.201
S E SKEW	.160	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	117.000		
VALID CASES	231	MISSING CASES	5		
109 Dec 91	SPSS-X Release 3.0 for VAX/UNIX				
00:30:53	Department of Psychology		VAX-3500		Ultrix V2.2

CF17

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	58	24.6	24.9	24.9
	1	23	9.7	9.9	34.8
	2	32	13.6	13.7	48.5
	3	62	26.3	26.6	75.1
	4	58	24.6	24.9	100.0
	.	3	1.3	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	2.167	STD ERR	.100	MEDIAN	3.000
MODE	3.000	STD DEV	1.529	VARIANCE	2.338
KURTOSIS	-1.416	S E KURT	.318	SKEWNESS	-.285
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	505.000		

VALID CASES 233 MISSING CASES 3

CF18

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	54	22.9	20.3	23.3
	1	28	11.9	12.1	35.3
	2	33	14.0	14.2	49.6
	3	72	30.5	31.0	80.6
	4	45	19.1	19.4	100.0
	.	4	1.7	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	2.112	STD ERR	.096	MEDIAN	3.000
MODE	3.000	STD DEV	1.461	VARIANCE	2.135
KURTOSIS	-1.349	S E KURT	.318	SKEWNESS	-.272
S E SKEW	.160	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	490.000		

VALID CASES 232 MISSING CASES 4
 109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
 00:30:53 Department of Psychology VAX-3500

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CF19

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	127	53.8	54.5	54.5
	1	54	22.9	23.2	77.7
	2	32	13.6	13.7	91.4
	3	13	5.5	5.6	97.0
	4	7	3.0	3.0	100.0
	.	3	1.3	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.794	STD ERR	.070	MEDIAN	.000
MODE	.000	STD DEV	1.067	VARIANCE	1.138
KURTOSIS	.939	S E KURT	.318	SKEWNESS	1.300
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	185.000		
VALID CASES	233	MISSING CASES	3		

CF20

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	165	69.9	70.8	70.3
	1	31	13.1	13.3	84.1
	2	13	5.5	5.6	89.7
	3	16	6.8	6.9	96.6
	4	8	3.4	3.4	100.0
	.	3	1.3	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.588	STD ERR	.071	MEDIAN	.000
MODE	.000	STD DEV	1.088	VARIANCE	1.183
KURTOSIS	2.328	S E KURT	.318	SKEWNESS	1.850
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	137.000		
VALID CASES	233	MISSING CASES	3		
109 Dec 91	SPSS-X Release 3.0 for VAX/UNIX				
00:30:53	Department of Psychology	VAX-3500		Ultrix V2.2	

CF21

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	139	58.9	60.2	60.2
	1	26	11.0	11.3	71.4
	2	21	8.9	9.1	80.5
	3	22	9.3	9.5	90.0
	4	23	9.7	10.0	100.0
	.	5	2.1	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.978	STD ERR	.093	MEDIAN	.000
MODE	.000	STD DEV	1.406	VARIANCE	1.978
KURTOSIS	-.261	S E KURT	.319	SKEWNESS	1.117
S E SKEW	.160	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	226.000		
VALID CASES	231	MISSING CASES	5		

CF22

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	145	61.4	63.6	63.6
	1	20	8.5	8.8	72.4
	2	23	9.7	10.1	82.5
	3	25	10.6	11.0	93.4
	4	15	6.4	6.6	100.0
	.	8	3.4	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.882	STD ERR	.088	MEDIAN	.000
MODE	.000	STD DEV	1.327	VARIANCE	1.761
KURTOSIS	-.057	S E KURT	.321	SKEWNESS	1.189
S E SKEW	.161	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	201.000		

VALID CASES 228 MISSING CASES 8
 109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
 00:30:53 Department of Psychology VAX-3500

Ulrix V2.2

CF23

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	75	31.8	31.9	31.9
	1	32	13.6	13.6	45.5
	2	34	14.4	14.5	60.0
	3	44	18.6	18.7	78.7
	4	50	21.2	21.3	100.0
	.	1	.4	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.839	STD ERR	.102	MEDIAN	2.000
MODE	.000	STD DEV	1.561	VARIANCE	2.435
KURTOSIS	-1.528	S E KURT	.316	SKEWNESS	.101
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	432.000		
VALID CASES	235	MISSING CASES	1		

CF24

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	145	61.4	62.0	62.0
	1	45	19.1	19.2	81.2
	2	22	9.3	9.4	90.6
	3	13	5.5	5.6	96.2
	4	9	3.8	3.8	100.0
	.	2	.8	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.701	STD ERR	.072	MEDIAN	.000
MODE	.000	STD DEV	1.094	VARIANCE	1.198
KURTOSIS	1.650	S E KURT	.317	SKEWNESS	1.598
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	164.000		
VALID CASES	234	MISSING CASES	2		

109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
00:30:53 Department of Psychology VAX-3500 Ultrix V2.2

CF25

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	123	52.1	53.0	53.0
	1	46	19.5	19.8	72.8
	2	23	9.7	9.9	82.8
	3	23	9.7	9.9	92.7
	4	17	7.2	7.3	100.0
	.	4	1.7	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.987	STD ERR	.085	MEDIAN	.000
MODE	.000	STD DEV	1.301	VARIANCE	1.692
KURTOSIS	-.062	S E KURT	.318	SKEWNESS	1.107
S E SKEW	.160	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	229.000		
VALID CASES	232	MISSING CASES	4		

CF26

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	120	50.8	51.9	51.9
	1	51	21.6	22.1	74.0
	2	21	8.9	9.1	83.1
	3	25	10.6	10.8	93.9
	4	14	5.9	6.1	100.0
	.	5	2.1	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.970	STD ERR	.083	MEDIAN	.000
MODE	.000	STD DEV	1.263	VARIANCE	1.595
KURTOSIS	.005	S E KURT	.319	SKEWNESS	1.116
S E SKEW	.160	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	224.000		
VALID CASES	231	MISSING CASES	5		
109 Dec 91	SPSS-X Release 3.0 for VAX/UNIX				
00:30:54	Department of Psychology	VAX-3500		Ultrix V2.2	

CF27

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	64	27.1	27.4	27.4
	1	52	22.0	22.2	49.6
	2	41	17.4	17.5	67.1
	3	39	16.5	16.7	83.8
	4	38	16.1	16.2	100.0
	.	2	.8	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.722	STD ERR	.094	MEDIAN	2.000
MODE	.000	STD DEV	1.437	VARIANCE	2.064
KURTOSIS	-1.277	S E KURT	.317	SKEWNESS	.270
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	403.000		
VALID CASES	234	MISSING CASES	2		

CF28

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	135	57.2	57.9	57.9
	1	31	13.1	13.3	71.2
	2	27	11.4	11.6	82.8
	3	26	11.0	11.2	94.0
	4	14	5.9	6.0	100.0
	.	3	1.3	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.940	STD ERR	.085	MEDIAN	.000
MODE	.000	STD DEV	1.298	VARIANCE	1.686
KURTOSIS	-.183	S E KURT	.318	SKEWNESS	1.089
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	219.000		
VALID CASES	233	MISSING CASES	3		
109 Dec 91	SPSS-X Release 3.0 for VAX/UNIX				
00:30:54	Department of Psychology		VAX-3500	Ulrix V2.2	

CF29

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	61	25.8	26.5	26.5
	1	33	14.0	14.3	40.9
	2	30	12.7	13.0	53.9
	3	48	20.3	20.9	74.8
	4	58	24.6	25.2	100.0
	.	6	2.5	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	2.039	STD ERR	.103	MEDIAN	2.000
MODE	.000	STD DEV	1.559	VARIANCE	2.431
KURTOSIS	-1.529	S E KURT	.320	SKEWNESS	-.086
S E SKEW	.160	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	469.000		
VALID CASES	230	MISSING CASES	6		

CF30

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	147	62.3	64.2	64.2
	1	33	14.0	14.4	78.6
	2	21	8.9	9.2	87.8
	3	18	7.6	7.9	95.6
	4	10	4.2	4.4	100.0
	.	7	3.0	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.738	STD ERR	.078	MEDIAN	.000
MODE	.000	STD DEV	1.174	VARIANCE	1.378
KURTOSIS	.990	S E KURT	.320	SKEWNESS	1.474
S E SKEW	.161	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	169.000		
VALID CASES	229	MISSING CASES	7		

109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
00:30:54 Department of Psychology VAX-3500 Ultrix V2.2

CF31

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	173	73.3	73.9	73.9
	1	32	13.6	13.7	87.6
	2	22	9.3	9.4	97.0
	3	5	2.1	2.1	99.1
	4	2	.8	.9	100.0
	.	2	.8	MISSING	
TOTAL		236	100.0	100.0	
MEAN	.423	STD ERR	.053	MEDIAN	.000
MODE	.000	STD DEV	.816	VARIANCE	.666
KURTOSIS	3.847	S E KURT	.317	SKEWNESS	2.043
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	99.000		
VALID CASES	234	MISSING CASES	2		

CF32

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	190	80.5	81.9	81.9
	1	17	7.2	7.3	89.2
	2	9	3.8	3.9	93.1
	3	11	4.7	4.7	97.8
	4	5	2.1	2.2	100.0
	.	4	1.7	MISSING	
TOTAL		236	100.0	100.0	
MEAN	.379	STD ERR	.061	MEDIAN	.000
MODE	.000	STD DEV	.927	VARIANCE	.860
KURTOSIS	5.655	S E KURT	.318	SKEWNESS	2.559
S E SKEW	.160	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	88.000		
VALID CASES	232	MISSING CASES	4		

109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
 00:30:54 Department of Psychology VAX-3500 Ultrix V2.2

CF33

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	130	55.1	55.6	55.6
	1	30	12.7	12.8	68.4
	2	20	8.5	8.5	76.9
	3	30	12.7	12.8	89.7
	4	24	10.2	10.3	100.0
	.	2	.8	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.094	STD ERR	.094	MEDIAN	.000
MODE	.000	STD DEV	1.441	VARIANCE	2.077
KURTOSIS	-.684	S E KURT	.317	SKEWNESS	.927
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	256.000		
VALID CASES	234	MISSING CASES	2		

APPENDIX 35 (ii)TINNITUS COPING STRATEGIES QUESTIONNAIRE - BENEFITS SCALEFREQUENCY DISTRIBUTION

CB1

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	83	35.2	35.6	35.6
	1	28	11.9	12.0	47.6
	2	41	17.4	17.6	65.2
	3	52	22.0	22.3	87.6
	4	29	12.3	12.4	100.0
	.	3	1.3	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.639	STD ERR	.096	MEDIAN	2.000
MODE	.000	STD DEV	1.465	VARIANCE	2.145
KURTOSIS	-1.421	S E KURT	.318	SKEWNESS	.195
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	382.000		
VALID CASES	233	MISSING CASES	3		

CB2

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	134	56.8	57.5	57.5
	1	23	9.7	9.9	67.4
	2	26	11.0	11.2	78.5
	3	33	14.0	14.2	92.7
	4	17	7.2	7.3	100.0
	.	3	1.3	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.039	STD ERR	.091	MEDIAN	.000
MODE	.000	STD DEV	1.364	VARIANCE	1.917
KURTOSIS	-.662	S E KURT	.318	SKEWNESS	.923
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	242.000		
VALID CASES	233	MISSING CASES	3		

CB3

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	104	44.1	44.6	44.6
	1	24	10.2	10.3	54.9
	2	28	11.9	12.0	67.0
	3	39	16.5	16.7	83.7
	4	38	16.1	16.3	100.0
	.	3	1.3	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.498	STD ERR	.103	MEDIAN	1.000
MODE	.000	STD DEV	1.571	VARIANCE	2.467
KURTOSIS	-1.429	S E KURT	.318	SKEWNESS	.425
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	349.000		
VALID CASES	233	MISSING CASES	3		

CB4

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	86	36.4	36.6	36.6
	1	49	20.8	20.9	57.4
	2	48	20.3	20.4	77.9
	3	36	15.3	15.3	93.2
	4	16	6.8	6.8	100.0
	.	1	.4	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.349	STD ERR	.085	MEDIAN	1.000
MODE	.000	STD DEV	1.297	VARIANCE	1.681
KURTOSIS	-.942	S E KURT	.316	SKEWNESS	.515
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	317.000		

VALID CASES 235 MISSING CASES 1
 109 Dec 91 SPCS-X Release 3.0 for VAX/UNIX
 00:36:36 Department of Psychology VAX-3500 Ultrix V2.2

CB5

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	145	61.4	62.0	62.0
	1	24	10.2	10.3	72.2
	2	30	12.7	12.8	85.0
	3	24	10.2	10.3	95.3
	4	11	4.7	4.7	100.0
	.	2	.8	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.855	STD ERR	.082	MEDIAN	.000
MODE	.000	STD DEV	1.252	VARIANCE	1.567
KURTOSIS	.036	S E KURT	.317	SKEWNESS	1.178
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	200.000		

VALID CASES 234 MISSING CASES 2

CB6

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	164	69.5	70.1	70.1
	1	30	12.7	12.8	82.9
	2	23	9.7	9.8	92.7
	3	12	5.1	5.1	97.9
	4	5	2.1	2.1	100.0
	.	2	.8	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.564	STD ERR	.066	MEDIAN	.000
MODE	.000	STD DEV	1.005	VARIANCE	1.011
KURTOSIS	2.282	S E KURT	.317	SKEWNESS	1.778
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	132.000		

VALID CASES 234 MISSING CASES 2
 109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
 00:36:36 Department of Psychology VAX-3500 Ultrix V2.2

CB7

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	97	41.1	41.5	41.5
	1	31	13.1	13.2	54.7
	2	42	17.8	17.9	72.6
	3	42	17.8	17.9	90.6
	4	22	9.3	9.4	100.0
	.	2	.8	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.406	STD ERR	.092	MEDIAN	1.000
MODE	.000	STD DEV	1.415	VARIANCE	2.002
KURTOSIS	-1.223	S E KURT	.317	SKEWNESS	.445
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	329.000		

VALID CASES 234 MISSING CASES 2

CB8

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	144	61.0	61.8	61.8
	1	30	12.7	12.9	74.7
	2	15	6.4	6.4	81.1
	3	28	11.9	12.0	93.1
	4	16	6.8	6.9	100.0
	.	3	1.3	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.893	STD ERR	.087	MEDIAN	.000
MODE	.000	STD DEV	1.333	VARIANCE	1.777
KURTOSIS	-.017	S E KURT	.318	SKEWNESS	1.211
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	208.000		

VALID CASES 233 MISSING CASES 3
 109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
 00:36:37 Department of Psychology VAX-3500

Ultrix V2.2

CB9

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	85	36.0	36.5	36.5
	1	30	12.7	12.9	49.4
	2	39	16.5	16.7	66.1
	3	47	19.9	20.2	86.3
	4	32	13.6	13.7	100.0
	.	3	1.3	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.618	STD ERR	.097	MEDIAN	2.000
MODE	.000	STD DEV	1.484	VARIANCE	2.203
KURTOSIS	-1.408	S E KURT	.318	SKEWNESS	.255
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	377.000		

VALID CASES 233 MISSING CASES 3

CB10

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	157	66.5	67.4	67.4
	1	40	16.9	17.2	84.5
	2	18	7.6	7.7	92.3
	3	14	5.9	6.0	98.3
	4	4	1.7	1.7	100.0
	.	3	1.3	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.575	STD ERR	.065	MEDIAN	.000
MODE	.000	STD DEV	.985	VARIANCE	.970
KURTOSIS	2.264	S E KURT	.318	SKEWNESS	1.756
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	134.000		

VALID CASES 233 MISSING CASES 3
 109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
 00:36:37 Department of Psychology VAX-3500 Ultrix V2.2

CB11

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	133	56.4	56.8	56.8
	1	23	9.7	9.8	66.7
	2	33	14.0	14.1	80.8
	3	28	11.9	12.0	92.7
	4	17	7.2	7.3	100.0
	.	2	.8	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.030	STD ERR	.089	MEDIAN	.000
MODE	.000	STD DEV	1.360	VARIANCE	1.849
KURTOSIS	-.561	S E KURT	.317	SKEWNESS	.937
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	241.000		

VALID CASES 234 MISSING CASES 2

CB12

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	108	45.8	46.8	46.8
	1	26	11.0	11.3	58.0
	2	27	12.3	12.6	70.6
	3	35	14.8	15.2	85.7
	4	33	14.0	14.3	100.0
	.	5	2.1	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.390	STD ERR	.101	MEDIAN	1.000
MODE	.000	STD DEV	1.531	VARIANCE	2.343
KURTOSIS	-1.272	S E KURT	.319	SKEWNESS	.548
S E SKEW	.160	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	321.000		

VALID CASES 231 MISSING CASES 5
 109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
 00:36:37 Department of Psychology VAX-3500 Ultrix V2.2

CB13

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	88	37.3	38.1	38.1
	1	26	11.0	11.3	49.4
	2	31	13.1	13.4	62.8
	3	48	20.3	20.8	83.5
	4	38	16.1	16.5	100.0
	.	5	2.1	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.662	STD ERR	.102	MEDIAN	2.000
MODE	.000	STD DEV	1.549	VARIANCE	2.399
KURTOSIS	-1.515	S E KURT	.319	SKEWNESS	.224
S E SKEW	.160	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	384.000		

VALID CASES 231 MISSING CASES 5

CB14

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	138	58.5	59.0	59.0
	1	42	17.8	17.9	76.9
	2	29	12.3	12.4	89.3
	3	19	8.1	8.1	97.4
	4	6	2.5	2.6	100.0
	.	2	.8	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.774	STD ERR	.072	MEDIAN	.000
MODE	.000	STD DEV	1.106	VARIANCE	1.223
KURTOSIS	.588	S E KURT	.317	SKEWNESS	1.294
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	181.000		

VALID CASES 234 MISSING CASES 2
 109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
 00:36:38 Department of Psychology VAX-3500 Ultrix V2.2

CB15

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	132	55.9	56.4	56.4
	1	43	18.2	18.4	74.8
	2	28	11.9	12.0	86.8
	3	23	9.7	9.8	96.6
	4	8	3.4	3.4	100.0
	.	2	.8	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.855	STD ERR	.076	MEDIAN	.000
MODE	.000	STD DEV	1.170	VARIANCE	1.369
KURTOSIS	.223	S E KURT	.317	SKEWNESS	1.177
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	200.000		

VALID CASES 234 MISSING CASES 2

CB16

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	163	69.1	70.3	70.3
	1	28	11.9	12.1	82.3
	2	18	7.6	7.8	90.1
	3	10	4.2	4.3	94.4
	4	13	5.5	5.6	100.0
	.	4	1.7	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.629	STD ERR	.076	MEDIAN	.000
MODE	.000	STD DEV	1.151	VARIANCE	1.325
KURTOSIS	2.232	S E KURT	.318	SKEWNESS	1.827
S E SKEW	.160	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	146.000		

VALID CASES 232 MISSING CASES 4
 109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
 00:36:38 Department of Psychology VAX-3500

Ulrix V2.2

CB17

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	102	43.2	43.8	43.8
	1	35	14.8	15.0	58.8
	2	34	14.4	14.6	73.4
	3	27	11.4	11.6	85.0
	4	35	14.8	15.0	100.0
	.	3	1.3	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.391	STD ERR	.098	MEDIAN	1.000
MODE	.000	STD DEV	1.502	VARIANCE	2.256
KURTOSIS	-1.136	S E KURT	.318	SKEWNESS	.598
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	324.000		

VALID CASES 233 MISSING CASES 3

CB18

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	92	39.0	39.5	39.5
	1	44	18.6	18.9	58.4
	2	32	13.6	13.7	72.1
	3	34	14.4	14.6	86.7
	4	31	13.1	13.3	100.0
	.	3	1.3	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.433	STD ERR	.096	MEDIAN	1.000
MODE	.000	STD DEV	1.461	VARIANCE	2.135
KURTOSIS	-1.153	S E KURT	.318	SKEWNESS	.538
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	334.000		

VALID CASES 233 MISSING CASES 3
 109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
 00:36:38 Department of Psychology VAX-3500 Ultrix V2.2

CB19

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	142	60.2	61.2	61.2
	1	41	17.4	17.7	78.9
	2	28	11.9	12.1	90.9
	3	13	5.5	5.6	96.6
	4	8	3.4	3.4	100.0
	.	4	1.7	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.724	STD ERR	.072	MEDIAN	.000
MODE	.000	STD DEV	1.094	VARIANCE	1.196
KURTOSIS	1.256	S E KURT	.318	SKEWNESS	1.467
S E SKEW	.160	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	168.000		

VALID CASES 232 MISSING CASES 4

CB20

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	105	44.5	44.9	44.9
	1	38	16.1	16.2	61.1
	2	25	10.6	10.7	71.8
	3	35	14.8	15.0	86.8
	4	31	13.1	13.2	100.0
	.	2	.8	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.355	STD ERR	.098	MEDIAN	1.000
MODE	.000	STD DEV	1.493	VARIANCE	2.230
KURTOSIS	-1.150	S E KURT	.317	SKEWNESS	.616
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	317.000		

VALID CASES 234 MISSING CASES 2
 107 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
 00:36:39 Department of Psychology VAX-3500

Ultrix V2.2

CB21

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	111	47.0	47.2	47.2
	1	17	7.2	7.2	54.5
	2	40	16.9	17.0	71.5
	3	31	13.1	13.2	84.7
	4	36	15.3	15.3	100.0
	.	1	.4	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.421	STD ERR	.101	MEDIAN	1.000
MODE	.000	STD DEV	1.543	VARIANCE	2.382
KURTOSIS	-1.305	S E KURT	.316	SKEWNESS	.501
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	334.000		

VALID CASES 235 MISSING CASES 1

CB22

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	177	75.0	75.3	75.3
	1	23	9.7	9.8	85.1
	2	14	5.9	6.0	91.1
	3	14	5.9	6.0	97.0
	4	7	3.0	3.0	100.0
	.	1	.4	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.515	STD ERR	.068	MEDIAN	.000
MODE	.000	STD DEV	1.043	VARIANCE	1.088
KURTOSIS	3.062	S E KURT	.316	SKEWNESS	2.033
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	121.000		

VALID CASES 235 MISSING CASES 1
 109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
 00:36:39 Department of Psychology VAX-3500 Ultrix V2.2

CB23

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	99	41.9	42.3	42.3
	1	22	9.3	9.4	51.7
	2	37	15.7	15.8	67.5
	3	39	16.5	16.7	84.2
	4	37	15.7	15.8	100.0
	.	2	.8	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.543	STD ERR	.101	MEDIAN	1.000
MODE	.000	STD DEV	1.545	VARIANCE	2.387
KURTOSIS	-1.424	S E KURT	.317	SKEWNESS	.360
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	361.000		

VALID CASES 234 MISSING CASES 2

CB24

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	95	40.3	40.9	40.9
	1	23	9.7	9.9	50.9
	2	26	11.0	11.2	62.1
	3	30	12.7	12.9	75.0
	4	58	24.6	25.0	100.0
	.	4	1.7	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.711	STD ERR	.110	MEDIAN	1.000
MODE	.000	STD DEV	1.672	VARIANCE	2.795
KURTOSIS	-1.620	S E KURT	.318	SKEWNESS	.258
S E SKEW	.160	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	397.000		

VALID CASES 232 MISSING CASES 4
 109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
 00:36:40 Department of Psychology VAX-3500 Ultrix V2.2

CB25

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	115	48.7	49.4	49.4
	1	22	9.3	9.4	58.8
	2	26	11.0	11.2	70.0
	3	32	13.6	13.7	83.7
	4	38	16.1	16.3	100.0
	.	3	1.3	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.382	STD ERR	.103	MEDIAN	1.000
MODE	.000	STD DEV	1.577	VARIANCE	2.487
KURTOSIS	-1.303	S E KURT	.318	SKEWNESS	.575
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	322.000		

VALID CASES 233 MISSING CASES 3

CB26

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	166	70.3	70.9	70.9
	1	32	13.6	13.7	84.6
	2	15	6.4	6.4	91.0
	3	14	5.9	6.0	97.0
	4	7	3.0	3.0	100.0
	.	2	.8	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.564	STD ERR	.068	MEDIAN	.000
MODE	.000	STD DEV	1.047	VARIANCE	1.097
KURTOSIS	2.637	S E KURT	.317	SKEWNESS	1.898
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	132.000		

VALID CASES 234 MISSING CASES 2
 109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
 00:36:40 Department of Psychology VAX-3500

Ulrix V2.2

CB27

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	95	40.3	40.6	40.6
	1	23	9.7	9.8	50.4
	2	44	18.6	18.8	69.2
	3	40	16.9	17.1	86.3
	4	32	13.6	13.7	100.0
	.	2	.8	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.534	STD ERR	.098	MEDIAN	1.000
MODE	.000	STD DEV	1.494	VARIANCE	2.233
KURTOSIS	-1.362	S E KURT	.317	SKEWNESS	.342
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	359.000		

VALID CASES 234 MISSING CASES 2

CB28

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	167	70.8	71.1	71.1
	1	26	11.0	11.1	82.1
	2	18	7.6	7.7	89.8
	3	17	7.2	7.2	97.0
	4	7	3.0	3.0	100.0
	.	1	.4	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.600	STD ERR	.071	MEDIAN	.000
MODE	.000	STD DEV	1.091	VARIANCE	1.190
KURTOSIS	1.889	S E KURT	.316	SKEWNESS	1.744
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	141.000		

VALID CASES 235 MISSING CASES 1
 109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
 00:36:40 Department of Psychology VAX-3500 Ultrix V2.2

CB29

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	99	41.9	42.3	42.3
	1	25	10.6	10.7	53.0
	2	38	16.1	16.2	69.2
	3	37	15.7	15.8	85.0
	4	35	14.8	15.0	100.0
	.	2	.8	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	1.504	STD ERR	.100	MEDIAN	1.000
MODE	.000	STD DEV	1.523	VARIANCE	2.320
KURTOSIS	-1.358	S E KURT	.317	SKEWNESS	.407
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	352.000		

VALID CASES 234 MISSING CASES 2

CB30

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	176	74.6	75.9	75.9
	1	21	8.9	9.1	84.9
	2	15	6.4	6.5	91.4
	3	14	5.9	6.0	97.4
	4	6	2.5	2.6	100.0
	.	4	1.7	MISSING	
	TOTAL	236	100.0	100.0	

MEAN	.504	STD ERR	.067	MEDIAN	.000
MODE	.000	STD DEV	1.028	VARIANCE	1.056
KURTOSIS	3.041	S E KURT	.318	SKENNESS	2.028
S E SKEW	.160	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	117.000		

VALID CASES 232 MISSING CASES 4
 109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
 00:36:40 Department of Psychology VAX-3500 Ultrix V2.2

CB31

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	194	82.2	83.3	83.3
	1	17	7.2	7.3	90.6
	2	9	3.8	3.9	94.4
	3	9	3.8	3.9	98.3
	4	4	1.7	1.7	100.0
	.	3	1.3	MISSING	
	TOTAL	236	100.0	100.0	

MEAN	.335	STD ERR	.056	MEDIAN	.000
MODE	.000	STD DEV	.861	VARIANCE	.741
KURTOSIS	7.041	S E KURT	.318	SKENNESS	2.772
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	78.000		

VALID CASES 233 MISSING CASES 3

CB32

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	208	88.1	88.9	88.9
	1	17	7.2	7.3	96.2
	2	4	1.7	1.7	97.9
	3	4	1.7	1.7	99.6
	4	1	.4	.4	100.0
	.	2	.8	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.175	STD ERR	.038	MEDIAN	.000
MODE	.000	STD DEV	.578	VARIANCE	.334
KURTOSIS	17.535	S E KURT	.317	SKEWNESS	4.011
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	41.000		

VALID CASES 234 MISSING CASES 2
 109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
 00:36:41 Department of Psychology VAX-3500 Ultrix V2.2

CB33

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	192	81.4	82.4	82.4
	1	19	8.1	8.2	90.6
	2	11	4.7	4.7	95.3
	3	7	3.0	3.0	98.3
	4	4	1.7	1.7	100.0
	.	3	1.3	MISSING	
	TOTAL	236	100.0	100.0	
MEAN	.335	STD ERR	.055	MEDIAN	.000
MODE	.000	STD DEV	.840	VARIANCE	.706
KURTOSIS	7.294	S E KURT	.318	SKEWNESS	2.773
S E SKEW	.159	RANGE	4.000	MINIMUM	.000
MAXIMUM	4.000	SUM	78.000		

VALID CASES 233 MISSING CASES 3
 109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
 00:36:41 Department of Psychology VAX-3500 Ultrix V2.2

APPENDIX 36 (i)

Six Factor Solution For The Tinnitus Coping Strategies
Questionnaire - Frequency Scale (TCSQ-F) : Eigenvalues,
Percentage of Variance Accounted For, and Cumulative Percentages.

FACTOR	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENTAGE
1	7.23	21.9	21.9
2	3.76	11.4	33.3
3	1.73	5.3	38.6
4	1.57	4.8	43.4
5	1.35	4.1	47.5
6	1.32	4.0	51.5

APPENDIX 36 (ii)

SIX FACTOR SOLUTION FOR THE TCSQ-F SCALE

ROTATED FACTOR MATRIX:

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	FACTOR 6
CF1	.38376	.14164	.19406	.58355	.09560	.00881
CF2	.55548	-.18512	.34679	.03196	.23760	-.07148
CF3	.38096	.35494	.09391	.23946	.10732	.14804
CF4	.22048	.69224	-.05410	.12161	-.04286	.19099

109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
 01:47:33 Department of Psychology VAX-3500 Ultrix V2.2

----- F A C T O R A N A L Y S I S -----

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	FACTOR 6
CF5	.67567	-.08608	.06548	.06129	.08204	.36488
CF6	.53041	-.02333	.17890	.07639	.18677	.27151
CF7	.15987	.11676	.34039	.36753	.16455	.24930
CF8	.26913	-.26910	.37089	.17188	-.05664	.35507
CF9	-.03663	.60348	-.04788	.51386	.15155	-.01380
CF10	.29572	.11766	-.06929	.34003	.35091	.36582
CF11	.16631	.12174	.05473	.72391	.24641	-.04010
CF12	.10872	.26827	.11532	.51690	.05846	.23177
CF13	.16216	-.17528	.63393	.23688	.21904	-.08395
CF14	.16771	-.13154	.64998	.12365	.07617	.04237
CF15	-.00001	.14882	.17063	.32127	.62059	.13554
CF16	.16448	-.25603	.21364	.40427	.34287	.20205
CF17	-.02828	.31850	.58184	.06985	-.11182	.20916
CF18	.05333	.33073	.57702	.40904	-.01488	.03214
CF19	-.03168	.38348	.15084	.07720	.65349	.09156
CF20	.21152	-.03828	-.01257	.18101	.58805	.04796
CF21	.18564	.24326	.60011	-.10276	.26115	-.04969
CF22	.44275	-.03884	.48796	-.12852	.20090	.09285
CF23	-.02490	.64356	.04757	.46141	.09638	-.04330
CF24	.05703	.13031	-.13303	.21787	.11238	.72481
CF25	.43573	.23957	.28863	.20418	-.00367	.07991
CF26	.42822	-.11579	.31503	.30411	-.10554	.08736
CF27	.03544	.50600	.15685	-.00327	.21314	.16593
CF28	.01667	.01731	.28380	-.10937	.12121	.63795
CF29	-.13976	.78111	-.00045	.03609	.04908	-.11137
CF30	.46163	.17820	.13380	-.15244	.46278	.09785
CF31	.66606	.15156	-.05741	.26878	-.11847	-.14717
CF32	.57736	-.11107	.16624	.19671	.25019	-.20432
CF33	.33191	-.45120	.40323	-.02660	-.06815	.13405

ROTATED FACTOR MATRIX:

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	FACTOR 6	FACTOR 7	FACTOR 8	FACTOR 9
CB1	.51138	.43460	.12354	-.13893	-.17101	.14474	-.17570	.17672	.05567
CB2	.75174	-.29515	.02192	.09587	.02759	.22222	-.05160	-.07911	.01656
CB3	.79525	.14904	.04921	.10310	.15418	.06701	-.01001	.02185	.03664
CB4	.17095	.27247	.00876	.11485	-.06141	.10453	.79106	.00259	.03599
CB5	.41089	-.05268	.27621	-.02297	.24323	-.01219	.53198	.21702	.13142
CB6	.15052	.15909	.24616	-.00297	-.02612	-.00715	-.53198	-.59624	.33394
CB7	.10602	.65942	.02817	.07323	-.03625	.12538	.27153	-.20314	.13502
CB8	.15753	.15731	.23889	.07323	.14941	.12496	.30190	-.01447	.76416
CB9	-.01602	.71568	.03597	-.07533	.13895	.09959	.04487	.02941	.39893
CB10	.12590	.13799	.75929	-.03546	.03164	.02954	.07738	.08335	.09519
CB11	.14295	.63926	.32689	-.21851	.19035	-.02757	.14900	.08799	.07086
CB12	.76900	-.15795	.11262	.07918	-.04715	.21277	-.04418	-.01966	.11618
CB13	.77084	.19240	.05566	-.17021	.02912	-.03036	.07340	.04069	.08207
CB14	-.07544	.16767	.03171	.34451	.04423	.54720	-.07712	-.21518	.06168
CB15	.25757	.17576	.32406	.38958	.13184	.42780	.14935	-.00148	.03436

109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX

00125:37 Department of Psychology

VAX-3500

ULTRIX V2.2

FACTOR ANALYSIS

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	FACTOR 6	FACTOR 7	FACTOR 8	FACTOR 9
CB16	.28684	-.01986	.05378	-.02334	.02606	.31924	.09088	.12110	.09353
CB17	-.14975	.37445	.24749	.30772	.30123	-.06132	.35745	.20495	-.10462
CB18	-.11740	.83681	-.00260	.18192	.01725	.01455	.02960	-.05114	-.11887
CB19	.07200	.30432	.16493	.71609	.05878	-.03624	.02373	.14383	.14357
CB20	.64899	.04733	.26974	-.12557	.15787	.04929	.09949	-.05612	.10918
CB21	.70302	-.02029	.19868	.06147	.00650	.12587	.27264	-.08666	.08382
CB22	.14352	.17615	.53929	.12573	-.13974	.22664	.00079	.23979	.09384
CB23	-.13054	.23865	.07763	.12313	-.01590	.13153	-.01430	.06633	.09007
CB24	.70410	-.23889	-.05075	-.00332	-.00266	-.13256	.11760	.08893	.22074
CB25	.70771	-.28415	-.03797	.02182	.11123	-.22114	.11193	.02090	.09007
CB26	.10827	.13181	.44016	-.13953	.56621	.06901	-.04266	-.19119	.09353
CB27	-.11695	.63587	.31224	.13027	.10805	-.09742	.13286	-.04311	-.10462
CB28	.00872	.09381	.56733	.48013	-.10141	.04020	-.05225	-.24162	-.11887
CB29	-.33354	.58638	-.00944	.47792	.03572	-.01240	.15940	.00101	.14357
CB30	.09882	.10657	.59066	.22780	.30845	.08296	-.00370	-.05372	.10918
CB31	.15929	.12537	-.07777	.11012	.73947	-.00770	.00592	.13121	.08382
CB32	.05883	.03861	.10622	-.12040	-.04925	.76475	.00256	.12631	.09384
CB33	.07562	.05280	.14246	.03750	.03755	.06626	.15524	.68532	.09384

APPENDIX 37 (ii)TCSQ-B SCALE: FOUR FACTOR SOLUTION

ROTATED FACTOR MATRIX:

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
CB1	.42149	.30486	.01376	.46823
CB2	.73663	-.18409	.18640	-.01062
CB3	.65950	.14974	.12120	.10542
CB4	.30565	.45935	.18352	-.10917

109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
01:54:36 Department of Psychology VAX-3500 Ultrix V2.2

----- F A C T O R A N A L Y S

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
CB5	.49016	-.02357	.13696	.42403
CB6	.26282	.31141	.29618	-.17658
CB7	.15180	.73166	.13131	-.01707
CB8	.22257	.22755	.30723	.25052
CB9	-.00876	.73130	.02156	.26565
CB10	.10155	.08984	.50828	.37855
CB11	.07391	.50519	.05484	.53748
CB12	.76951	-.11254	.24275	.00487
CB13	.73329	.13690	-.07611	.26512
CB14	.10657	.26031	.50221	.00325
CB15	.23484	.23339	.62406	.08635
CB16	.25529	-.10819	.40830	.43216
CB17	-.17760	.42693	.30993	.25478
CB18	-.16870	.82907	.03405	.08193
CB19	.01197	.43511	.43606	-.03860
CB20	.60131	-.01550	.17386	.25132
CB21	.71497	.03121	.27684	.02146
CB22	.09696	.14105	.48944	.23701
CB23	-.19763	.78726	.08273	.17696
CB24	.72401	-.18156	-.05776	.03417
CB25	.73591	-.20752	-.04327	.06261
CB26	.08194	.05027	.34718	.52190
CB27	-.15609	.62970	.23059	.21581
CB28	-.05535	.14514	.67192	-.15328
CB29	-.36791	.67291	.19546	-.10894
CB30	.05512	.10362	.60853	.32779
CB31	.12438	.11796	.05431	.52695
CB32	.08299	-.02174	.31750	.13773
CB33	.04212	.02088	.06487	.40080

APPENDIX 38

Nine Factor Solution For The Tinnitus Coping Strategies
Questionnaire - Benefits Scale (TCSQ-B): Eigenvalues, Percentage
of Variance Accounted For, and Cumulative Percentages.

FACTOR	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENTAGE
1	6.90	20.9	20.9
2	5.35	16.2	37.1
3	1.78	5.4	42.5
4	1.52	4.6	47.1
5	1.28	3.9	51.0
6	1.25	3.8	54.8
7	1.17	3.6	58.4
8	1.09	3.3	61.7
9	1.03	3.1	64.8

Four Factor Solution For The Tinnitus Coping Strategies
Questionnaire - Benefits Scale (TCSQ-B) : Eigenvalues, Percentage
of Variance Accounted For, and Cumulative Percentages.

FACTOR	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENTAGE
1	6.90	20.9	20.9
2	5.35	16.2	37.1
3	1.78	5.4	42.5
4	1.52	4.6	47.1

APPENDIX 39 (i)THQ : EIGHT FACTOR SOLUTION

ROTATED FACTOR MATRIX:

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
H1	.54784	.16952	-.05159	.45129
H2	.05527	.07678	-.04143	.17186
H3	-.02667	.65083	.01318	.46700
H4	.06402	.86824	.17846	-.00582
H5	.44173	.35451	-.11384	.21421
H6	.20275	.86535	-.06011	.07707
H7	.28398	.76870	.01410	.09308
H8	-.01773	.01201	.16407	-.00348
H9	.43478	.39030	.35191	.21421
H10	.44891	.20081	-.02743	.61850
H11	.51958	.13783	.48927	.35147
H12	.21361	.07927	.76860	-.01641
H13	.42674	.05931	.53611	.05072
H14	.56204	.06040	.27758	.09170

104 Oct 91 SPSS-X Release 3.0 for VAX/UNIX
07:25:15 Department of Psychology VAX-3500 Ultrix V2.

----- F A C T O R A N A

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
H15	.51919	.32778	.23095	.24565
H16	.42093	-.08176	.09598	-.22322
H17	.71229	.06007	.19269	.08222
H18	.60991	.33853	.32439	.02905
H19	.76414	.13273	.26197	.07327
H20	.64819	.21223	.14600	.26798
H21	.20788	.74388	.30061	.00649
H22	.14384	.02793	.33864	.65083
H23	.14705	.64880	.23079	.36083
H24	.31567	.30253	.53669	.55210
H25	.42123	.29423	.52339	.44338
H26	.08677	.09270	-.00087	.12501
H27	.00360	-.04777	-.03445	-.14106
H28	.27048	.19779	.52479	.22078

THQ: EIGHT FACTOR SOLUTION (CONT.)

FACTOR 5	FACTOR 6	FACTOR 7	FACTOR 8
.28314	.18508	.08648	.04407
.83032	.00956	.09353	-.11104
.00884	-.22740	.14200	-.00240
-.02724	.06676	-.00020	.17308
-.40163	-.16367	.38070	.10351
-.01523	.05347	.14716	-.09184
.20861	.24199	.13751	.03723
.10684	.02724	.82356	-.03311
.06050	.14048	-.04442	.15877
.01099	.17972	-.13166	.04069
.07914	.23007	-.01432	-.05534
.01430	-.17749	.12622	-.05681
.03620	.25158	.11747	.07677
.46527	.05650	.09063	.07048

Page

.2

L Y S I S

FACTOR 5	FACTOR 6	FACTOR 7	FACTOR 8
.05116	.34380	.01230	.11296
.47564	.05475	.00680	.51378
.09024	-.19874	.02562	.02690
.08130	.03749	.17276	.04047
-.10334	.12023	-.02191	-.00147
.04935	.13367	-.14598	.00161
-.10964	.09023	-.18351	-.14563
.23955	.22280	.25107	.09076
.11929	-.06115	-.28293	.08835
-.01868	-.00417	-.10491	.14078
-.04230	-.06582	-.15303	.06744
.04369	.87887	.01688	-.09328
.12392	.09222	.02562	-.86553
.04361	.26029	.27101	.25454

APPENDIX 39 (ii)THQ: THREE FACTOR SOLUTION

ROTATED FACTOR MATRIX:

	FACTOR 1	FACTOR 2	FACTOR 3
H1	.48189	.25213	.49964
H2	.05704	.00540	.67393
H3	.06427	.72425	.00706
H4	.14003	.82653	-.02292
H5	.29082	.44808	-.16487
H6	.05610	.86072	.15198
H7	.20847	.73974	.38349
H8	.10333	-.03006	.22178
H9	.59295	.42300	.11691
H10	.45034	.36113	.27562
H11	.74123	.22234	.22480
H12	.60442	.05918	-.21040
H13	.66687	.06720	.12459
H14	.62353	.02758	.39956

117 Oct 91
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SPSS-X Release 3.0 for VAX/UNIX
Department of Psychology

VAX-3500

Ultrix V2.2

----- FACTOR ANALYSIS I

	FACTOR 1	FACTOR 2	FACTOR 3
H15	.58346	.38161	.29293
H16	.44103	-.20572	.26462
H17	.64768	.08473	.03013
H18	.63574	.33228	.13575
H19	.71084	.18760	.06423
H20	.60323	.29018	.20093
H21	.24919	.74610	-.05512
H22	.50681	.13835	.39290
H23	.31197	.69514	.02730
H24	.70039	.42124	-.03049
H25	.72152	.39941	-.07999
H26	.07936	.13409	.59078
H27	-.23944	-.05288	.28205
H28	.62652	.22007	.14902

APPENDIX 40

- (i) Eight Factor Solution For The Tinnitus Handicaps Questionnaire (THQ): Eigenvalues, Percentage of Variance Accounted For and Cumulative Percentage.

FACTOR	EIGENVALUE	PERCENTAGE OF VARIANCE	CUMULATIVE PERCENTAGE
1	9.72	34.7	34.7
2	2.65	9.5	44.2
3	1.61	5.8	49.9
4	1.34	4.8	54.7
5	1.23	4.4	59.1
6	1.21	4.3	63.4
7	1.06	3.8	67.2
8	1.01	3.6	70.9

APPENDIX 40

- (ii) Three Factor Solution For The Tinnitus Handicaps Questionnaire (THQ): Eigenvalues, Percentage of Variance Accounted For and Cumulative Percentage.

FACTOR	EIGENVALUE	PERCENTAGE OF VARIANCE	CUMULATIVE PERCENTAGE
1	9.72	34.7	34.7
2	2.65	9.5	44.2
3	1.61	5.8	49.9

APPENDIX 41 (i)

TEQ: FOURTEEN FACTOR SOLUTION

ROTATED FACTOR MATRIX:

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	FACTOR 6	FACTOR 7	FACTOR 8
E1	.05837	.01097	.16788	-.26628	.15538	-.24943	.10674	-.39868
E2	.12199	-.26192	-.04633	.01132	.11011	-.07290	-.06851	.13003
E3	.32679	.04106	.10227	-.01420	.49415	-.13905	-.10598	-.03785
E4	.11680	.07670	.09915	.82022	.16693	.08441	-.02938	.13701
E5	.15777	.12874	.77008	.12435	.17250	.01068	.01871	.04600
E6	.14919	-.00606	.16504	.03281	.08109	.05624	-.08859	-.02737
E7	.10454	.05916	.53618	.06755	-.05065	.34586	.01673	.43265
E8	.62775	.03187	.17276	.22855	.19436	.20182	.09865	.14411
E9	-.04838	.60988	.06981	-.00629	.10307	.08349	.13865	.13615
E10	-.04267	.17396	.26480	.04845	.30218	.44601	.13803	.20093
E11	.13089	.17367	.62525	.11122	.31532	.12669	-.05128	-.13539
E12	.19580	.05599	.28642	.72122	.12910	.02962	.08722	.04551
E13	.44888	.05241	.09786	.16049	.49649	.22884	.13542	.15616
E14	-.15435	.70927	.21655	.01925	.07634	.24035	.08562	-.13464
E15	.08039	.12371	.70189	.11245	-.03370	.33027	.12106	-.14196
E16	.79422	.03647	.12434	.06764	-.00848	.07487	.23782	.02135
E17	.51567	.09411	.07900	-.07111	.18547	-.00043	.17818	.15531
E18	.38611	.53850	.12775	-.07111	-.03606	.06548	.20489	.08056
E19	.08816	.03607	.01102	.16225	.43543	.38542	.21821	-.02877
E20	.44800	.14382	.23108	.18364	.14063	.30982	.12402	.17799
E21	.13520	.09441	.19048	.15802	.13627	.08002	-.01228	.04563
E22	.17440	.18553	-.07222	.18027	.08981	.13165	.61510	-.06352
E23	.17490	.01477	.21988	.05494	.09343	.09101	.38870	-.30669
E24	.32306	.22200	.12783	-.01884	.40852	.40852	.07735	-.03190
E25	.21947	-.03282	.07352	.10801	-.00710	.16847	.69077	-.05555
E26	.02301	.77185	-.02869	.07935	.08113	-.01522	.17597	-.11194
E27	.20502	.10023	.15036	.12566	.74641	.00833	.02342	-.11926
E28	.72893	-.06383	-.05238	.11777	.22889	.00857	.15461	-.05270
E29	-.02283	-.08849	.49904	.18342	.12002	.20924	.11683	-.04948
E30	.40340	.01560	.11879	.03588	.21899	.10000	.29156	.21295
E31	.13863	-.02783	.10309	.70909	-.05004	.10897	.16267	-.01624
E32	-.14648	.10394	.20556	.07219	.13082	.00686	-.04742	.11181

Page

109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX VAX-3500 Ultrix V2.2

FACTOR ANALYSIS

TEQ: FOURTEEN FACTOR SOLUTION (CONT.)

FACTOR ANALYSIS

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	FACTOR 6	FACTOR 7	FACTOR 8
E33	-.03119	.84328	.09330	.01567	-.02240	.14606	.03449	-.06439
E34	-.13803	.15208	.05694	.20012	.08197	.67175	.03562	-.16285
E35	.18835	.12700	.29054	.08591	.07157	.64378	.08450	.05823
E36	.06537	.04655	.08245	.02520	.10380	.16386	.11851	-.05892
E37	.35981	.02046	.10695	.02789	.44894	.21964	.05797	.18339
E38	-.17532	.67740	-.08415	.10034	.06030	.01181	-.27892	.02964
E39	.43849	-.04721	-.05923	.09045	.40041	.34734	.03991	.06392
E40	.05145	.12093	.05914	.16247	-.06687	-.07701	-.07174	.73227
E41	.62197	.12336	.18787	.13908	.11923	.04743	.11386	.22806
E42	.11641	.12104	.01161	.06508	.05294	-.06349	.07514	-.00661
E43	.07752	.03383	.21055	.13476	.74878	-.02869	.18659	.09015
E44	.20239	.09099	-.00126	.07123	.05221	-.06124	.05167	.47235
E45	.06629	-.00829	.76688	.16454	.07691	-.03149	.03826	-.15440
E46	.00275	-.06411	-.02033	.18935	.03423	-.06134	-.02671	-.03385
E47	.33678	.07107	.03302	.14408	.32947	.32178	-.08020	.23498
E48	.16948	.31251	.14749	.15083	.02899	.52268	.02670	.01573
E49	.20135	-.05940	-.15669	-.13097	.13123	.03264	.01317	.63476
E50	.18030	.51699	.07700	-.01506	-.09918	.06524	-.04356	.14348
E51	.23281	.08863	.10608	.04498	.06438	.06713	-.72526	.00370
E52	.00975	-.09975	.04108	.19773	-.07087	-.09407	.16126	.02526

	FACTOR 9	FACTOR 10	FACTOR 11	FACTOR 12	FACTOR 13	FACTOR 14
E1	.33808	.13212	.15300	-.03069	-.13116	-.23087
E2	.09207	.73002	.03777	.02945	.13058	.02361
E3	.30908	.11956	.14272	-.19391	.07139	-.09616
E4	-.03870	-.00513	.03597	-.04590	.09804	.05627
E5	.05619	.06565	.09441	.07146	.03228	-.08850
E6	.13879	.07384	.09863	.76725	-.06312	.06974
E7	-.16027	-.27732	-.01618	-.13802	.11216	-.02263
E8	.15938	.02043	.16580	.03230	.00415	-.07176
E9	-.05415	-.05533	.16151	-.08632	.25325	-.20978
E10	.07848	-.09383	-.04229	.14418	.25078	.10966
E11	.19236	.06863	-.08814	.04240	-.01499	.14949
E12	-.06678	-.05944	-.03029	.00265	.10714	.17912
E13	.13460	-.05858	.04424	.09401	-.26447	.09030
E14	.05430	.12017	.00117	-.02610	-.01830	.03097
E15	-.03900	-.14784	-.06198	.05880	.03990	.04905
E16	-.04403	.01476	.07825	.17354	.03366	-.09877
E17	.37794	-.01188	.29016	-.12100	.00846	.13820
E18	.19329	.10347	.14384	-.14809	.02076	-.06358
E19	.25965	.12431	.07060	.11042	.35706	.06546
E20	.04845	.17318	.14459	.12769	-.03399	-.14899
E21	.76017	.05580	-.05571	.17831	-.06433	.04024
E22	-.06428	.01670	.17569	.02309	-.18931	.08576
E23	-.03558	.10262	.20472	-.39069	.00744	-.12253
E24	.17295	.07431	.06125	-.36939	.21847	.04994

TEQ: FOURTEEN FACTOR SOLUTION (CONT.)

FACTOR ANALYSIS

	FACTOR 9	FACTOR 10	FACTOR 11	FACTOR 12	FACTOR 13	FACTOR 14
E25	.11642	-.11710	-.00734	-.10826	.14198	-.13370
E26	.09607	.01137	-.02508	.05450	-.25110	.01952
E27	.15325	.03253	-.19322	.06924	.09707	-.03006
E28	-.09444	.04867	-.12841	.10049	-.07976	-.07880
E29	-.10104	.29885	.08261	.00874	-.17736	.02303
E30	.07361	.26469	.21365	-.07599	-.12054	-.19931
E31	.29160	.06115	.04638	.05376	.09944	.17137
E32	-.02602	.35486	-.53810	.17412	.02630	-.19639
E33	-.00757	.07790	.00794	.01563	-.10734	.03051
E34	-.06167	.21243	-.00806	-.11441	-.03703	.03049
E35	.10271	-.16358	-.06599	.15701	.02044	-.10542
E36	.12344	.04137	-.00169	.03495	-.03602	-.14324
E37	-.02616	-.12305	.29931	-.21291	.02175	-.05267
E38	-.03313	.09388	-.00747	.03882	.09946	-.03764
E39	.10769	.01791	-.05396	-.23296	-.00558	.03658
E40	.05347	.08031	-.03113	-.06591	-.24091	.11136
E41	.29424	.11714	.07751	-.19198	.20502	.00171
E42	-.00263	.10706	.79838	.15357	.13801	-.00799
E43	-.11481	.09112	.07635	.11641	-.04069	-.08775
E44	.22555	.08937	.08411	.17609	.12266	-.42854
E45	.25350	.00329	-.07653	-.00769	-.02291	-.00367
E46	-.05627	.12198	.10061	-.09543	.70869	.09350
E47	.26052	.13013	.17984	-.15108	.03067	.33475
E48	.07933	.16892	-.02560	-.01733	-.25635	-.17061
E49	-.03938	.10119	-.04801	.04222	.14693	-.03143
E50	.04733	.52078	-.12708	.00052	.12286	-.02231
E51	-.01169	-.01117	-.02650	-.03752	.02254	-.19004
E52	.07670	.02100	.09953	.15597	.15380	.69089

APPENDIX 41 (ii)

ROTATED FACTOR MATRIX:

TEQ: FIVE FACTOR SOLUTION

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
E1	-.40907	-.28145	-.13737	-.15850	.21013
E2	.25921	-.06147	.45515	.08543	-.30591
E3	.58365	.20237	.07114	-.05952	-.09862
E4	.19172	.23428	.09004	.71433	-.10060
E5	.19555	.67787	.10501	.07706	-.03401
E6	.11356	.22117	-.03280	.15268	-.31632
E7	-.17912	-.53541	-.04543	.07800	-.03620
E8	.72367	.23525	.07948	.18560	.04158
E9	.08617	.08707	.59154	-.05926	.10125
E10	.22603	.47417	.16936	.06436	-.02827
E11	.16656	.68338	.12457	.11144	-.03874
E12	.17570	.35460	.02666	.68237	.03967
E13	.65156	.29447	.03222	.12501	-.01391
E14	-.11276	.32954	.71207	.00174	.11359
E15	.08087	.72595	.10604	.04830	.10701
E16	.63144	.09291	.06238	.07762	.20211
E17	.67494	.02786	.11593	.20264	.10866
E18	.39464	.06797	.58280	-.05595	.18138
E19	.41438	.24816	.09579	.25827	.03398
E20	.54570	.32200	.24072	.11661	-.01658
E21	.30078	.30798	.11642	.22550	-.27853
E22	.31736	-.00461	.23480	.24351	.41595
E23	.21697	.18630	.07955	.03689	.57266
E24	.37442	.19797	.31637	-.03247	.26693
E25	.35446	.16328	.00710	.14697	.52408
E26	.05913	.04618	.73032	.05465	.00360
E27	.40295	.37418	.01071	.09622	-.12165
E28	.59379	.02726	-.07239	.12236	.12399
E29	.06543	.51337	-.00455	.14472	.06982
E30	.59905	.07638	.11360	.12555	.11872
E31	.18123	.19934	.03714	.75940	.02735
E32	.13941	-.32617	-.15017	.02481	.40329
E33	-.09070	.16562	.82389	-.01708	.07209
E34	.18768	.34923	.29194	.09683	.19138
E35	.26611	.56951	.16161	-.02415	.07671
E36	.12990	.30337	.10210	.69626	-.00389
E37	.61844	.18247	.01428	-.05385	.13405

109 Dec 91 SPSS-X Release 3.0 for VAX/UNIX
02:53:23 Department of Psychology

VAX-3500

Ultrix V2.2

----- FACTOR ANALYSIS -----

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
E38	.07165	-.03285	.64463	.03477	-.20773
E39	.60714	.16089	-.00257	.01375	.07424
E40	-.21697	.03072	-.17131	-.09582	.41580
E41	.70377	.13360	.18712	.15917	.01600
E42	.27790	-.16701	.16818	.20234	.14148
E43	.40342	.33792	-.02017	.09150	-.06085
E44	-.40070	.01942	-.15883	.00368	.35109
E45	.02616	.69239	-.04968	.09453	.04351
E46	.05010	-.10355	-.03412	.31106	.02104
E47	.60022	.14438	.14049	.19526	-.10101
E48	.22108	.38567	.42901	-.01210	.02064
E49	-.43009	.17613	-.00312	.13502	.33601
E50	.13613	.03816	.64547	.00014	-.21450
E51	.29163	.05423	.08810	.20233	.49642
E52	.01139	-.07146	-.12130	.49659	.08241

APPENDIX 42Fourteen Factor Solution For The Tinnitus Effects Questionnaire (TEQ):
Eigenvalues, Percentage Of Variance Accounted For, and Cumulative
Percentages.

FACTOR	EIGENVALUE	PERCENTAGE OF VARIANCE	CUMULATIVE PERCENTAGE
1	10.93	21.0	21.0
2	3.60	6.9	27.9
3	3.04	5.8	33.8
4	2.31	4.4	38.2
5	2.12	4.1	42.3
6	1.86	3.6	45.9
7	1.65	3.2	49.1
8	1.54	3.0	52.0
9	1.37	2.6	54.7
10	1.21	2.3	57.0
11	1.15	2.2	59.2
12	1.10	2.1	61.3
13	1.07	2.1	63.4
14	1.04	2.0	65.4

Five Factor Solution For The Tinnitus Effects Questionnaire (TEQ):
Eigenvalues, Percentage Of Variance Accounted For, and Cumulative
Percentages.

FACTOR	EIGENVALUE	PERCENTAGE OF VARIANCE	CUMULATIVE PERCENTAGE
1	10.93	21.0	21.0
2	3.60	6.9	27.9
3	3.04	5.8	33.8
4	2.31	4.4	38.2
5	2.12	4.1	42.3

APPENDIX 43FACTOR STRUCTURE OF THE TINNITUS EFFECTS QUESTIONNAIRE (TEQ):
RESULTS OF STUDY II REPORTED BY HALLAM, JAKES AND HINCHCLIFFE (1988).

<u>Sleep Disturbance</u> (43% and 9% variance)	<u>NR (F1)</u>	<u>R(F2)</u>
36. It takes me longer to get to sleep because of the noises.	0.78	0.77
4. I wake up more in the night because of the noises.	0.77	0.75
31. Sleep is my main problem.	0.76	0.76
12. Because of the noises I wake up earlier in the morning.	0.75	0.75
35. My noises are often so bad I can't ignore them.	0.61	0.49
34. I find it harder to relax because of the noises.	0.61	0.48
2. I am unable to enjoy listening to music because of the noises.	0.59	-
48. The noises have affected my concentration.	0.57	-
50. Because of the noises I am unable to enjoy the radio or television.	0.55	-
39. I am more liable to feel low because of the noises.	0.50	-
41. Because of the noises life seems to be getting on top of me.	0.49	-
18. I have lost some of my confidence because of the noises.	0.48	-
20. The noises distract me whatever I am doing.	0.44	-
<u>Emotional Distress</u> (9% and 37% variance)		
10. The way the noises sound is really unpleasant	0.74	0.59
15. The noises are loud most of the time.	0.69	0.41
13. I worry whether I will be able to put up with this problem forever.	0.68	0.47

Emotional Distress

7. Most of the time the noises are fairly quiet.	-0.61	-0.48
43. I often think about whether the noises will ever go away.	0.57	0.69
5. I am aware of the noises from the moment I get up to the moment I sleep.	0.56	-
37. I sometimes get very angry when I think about having the noises.	0.54	0.55
24. I am more irritable with my family and friends because of the noises.	0.54	0.54
27. It will be dreadful if these noises never go away.	0.51	0.43
3. It's unfair that I have to suffer with my noises.	0.50	-
47. I am a victim of my noises.	0.49	-
39. I am more liable to feel low because of the noises.	0.49	0.66
45. The noises never 'let up'.	0.42	-
19. I wish someone understood what this problem is like.	0.40	0.52
11. I feel I can never get away from the noises.	-	0.61
<u>Auditory Perceptual Difficulties</u> (7% and 7%variance)		
14. Because of the noises it is more difficult to listen to several people at once.	0.86	0.78
33. I have more difficulty following a conversation because of the noises.	0.81	0.74
9. Because of the noises I have difficulty in telling where sounds are coming from.	0.72	0.71
38. I find it harder to use the telephone because of the noises.	0.53	0.63
18. I have lost some of my confidence because of the noises.	0.44	0.40
26. Because of the noises, other people's voices sound distorted to me.	-	0.66

APPENDIX 44RAW DATATREATMENT OUTCOME STUDY 1KEY

All lines : Group, Subject Number, Occasion

Line 1 : TRQ 1

Line 2 : THQ 1

Line 3 : THQ 1

Line 4 : Disregard

Line 5 : TCQ 1

Line 6 : TCSQ-F 1

Line 7 : TCSQ-B 1

Line 8 : TKQ 1

Line 9 : BDI 1 LCB 1 Noticeability 1 Loudness 1 Bothersomeness 1
Pitch 1 Loudness Match 1 MML 1 TEQ:ED 1 TEQ:IB 1
TEQ:IN 1 TEQ:AP 1

Line 10 : TRQ 2 THQ 2 TEQ 2 TCQ2 TCSQ-F 2 TCSQ-B 2 TKQ 2
BDI 2 LCB 2 Noticeability 2 Loudness 2 Bothersomeness 2
Pitch 2 Loudness Match 2 MML 2 TEQ:ED 2 TEQ:IB 2
TEQ:IN 2 TEQ:AP 2

Line 11 : TRQ 3 THQ 3 TEQ 3 TCQ 3 TCSQ-F 3 TCSQ-B 3 BDI 3
LCB 3 Noticeability 3 Loudness 3 Bothersomeness 3
TEQ:ED 3 TEQ:IB 3 TEQ:IN 3 TEQ:AP 3

Line 12 : TRQ 4 THQ 4 TEQ 4 TCQ 4 TCSQ-F 4 TCSQ-B 4 BDI 4
LCB 4 Noticeability 4 Loudness 4 Bothersomeness 4
TEQ:ED 4 TEQ:IB 4 TEQ:IN 4 TEQ:AP 4

Line 13 : TRQ 5 THQ 5 TEQ 5 TCQ 5 TCSQ-F 5 TCSQ-B 5 BDI 5
LCB 5 Noticeability 5 Loudness 5 Bothersomeness 5
TEQ:ED 5 TEQ:IB 5 TEQ:IN 5 TEQ:AP 5

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APPENDIX 45RAW DATATREATMENT OUTCOME STUDY 2KEY

All Lines : Group, Subject Number, Occasion

Line 1 : TRQ 1

Line 2 : THQ 1

Line 3 : THQ 1

Line 4 : Disregard

Line 5 : TCQ 1

Line 6 : TCSQ-F 1

Line 7 : TCSQ-B 1

Line 8 : ATQ 1

Line 9 : BDI 1 Loudness 1 Bother 1 Depression 1 Tension 1
Irritability 1 Sleep 1 Sleep Disturbance due to tinnitus 1
Restlessness 1 Restlessness due to tinnitus 1 TEQ:ED 1
TEQ:IB 1 TEQ:IN 1 TEQ:AP 1

Line 10 : TRQ 2 THQ 2 TEQ 2 TCQ 2 TCSQ-F 2 TCSQ-B 2 ATQ 2
BDI 2 Loudness 2 Bother 2 Depression 2 Tension 2
Irritability 2 Sleep 2 Sleep disturbance due to tinnitus 2
Restlessness 2 Restlessness due to tinnitus 2 TEQ:ED 2
TEQ:IB 2 TEQ:IN 2 TEQ:AP 2

Line 11 : TRQ 3 THQ 3 TEQ 3 TCQ 3 TCSQ-F 3 TCSQ-B 3 ATQ 3
BDI 3 Loudness 3 Bother 3 Depression 3 Tension 3
Irritability 3 Sleep 3 Sleep disturbance due to tinnitus 3
Restlessness 3 Restlessness due to tinnitus 3 TEQ:ED 3
TEQ:IB 3 TEQ:IN 3 TEQ:AP 3

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MULTIPLE REGRESSION ANALYSIS

RAW DATA

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(Data for all subjects)

Line 1: Treatment study TRQ1

Line 2: TRQ2

Line 3: Age, Sex, Retirement, Duration, Noise Exposure, Location 1, Location 2.

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MULTIPLE REGRESSION ANALYSIS : RAW DATA

(TREATMENT SUBJECTS ONLY N=58)

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APPENDIX 49

Raw Data: TEQ

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APPENDIX 51

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