
Coping with Tinnitus: Two Studies of Psychological and Audiological Characteristics of Patients with High and Low Tinnitus-Related Distress

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Abstract: Two studies are described which were designed to investigate the relationship between psychological distress and tinnitus. In the first study, four groups of subjects (N=72) who differed in degree of tinnitus-related distress were compared on audiological measures. No differences were found between the four groups on loudness, pitch and minimum masking level when employing the Bonferroni correction which controls for inflation of the Type I error rate when conducting multiple statistical tests on the same set of data. The univariate tests indicated that the more severely distressed tinnitus sufferers experienced loud tinnitus as measured by a loudness match procedure. In the second study, 81 tinnitus patients were categorised as either displaying high or low tinnitus-related distress. The two groups were compared on various measures including level of depressive symptomatology, reported use of coping strategies, perceived benefits from these coping strategies, reported engagement in depression-related negative cognitions, and tinnitus-specific dysfunctioning thinking. High distress subjects were found to have elevated scores on the Beck Depression Inventory. These subjects also reported engaging in more dysfunctional thinking specifically in relation to tinnitus. The implications of the findings of the two studies are discussed.

INTRODUCTION

Estimates of the prevalence of tinnitus suggest that the problem affects from about 6 to 17% of the population, although approximately 1 to 2% appear to be severely disturbed by it.¹ Tinnitus may be associated with a number of psychological complaints such as increased tension, depression, irritability, and sleep disturbance.² In some cases the distress can be extremely debilitating, and may lead to significant changes to lifestyle, occupational functioning, emotional well-being and social satisfaction.

What distinguishes those people who can cope with tinnitus from those who display significant emotional distress? This question has considerable importance for our understanding, not only of tinnitus-related distress in particular, but also of coping mechanisms in relation to other aversive, uncontrollable medical conditions, such as chronic pain.

One possible difference between good and poor copers

may reside in the qualities of the tinnitus per se, such as its loudness or pitch. However, early observations by House, Miller and House³ and Meikle, Vernon, and Johnson⁴ suggested that loudness does not differentiate between complainers and non-complainers. Hallam, Rachman, and Hinchcliffe⁵ found that self-reported loudness did not distinguish between the two groups, nor did the loudness match as 1kHz. Jakes, Hallam, Chambers, and Hinchcliffe⁶ also found that the loudness of tinnitus, either self-rated or audiotically assessed, was unrelated to complaint dimensions. Kirsch, Blanchard, and Parnes⁷ reported a lack of correlation between audiological measures of tinnitus and daily diary ratings of distress.

In contrast to the findings of no relationship between audiological measures (mainly of loudness) and ratings of distress, some researchers have found weak positive correlations. For example, Halford and Anderson⁸ report correlations between their recently developed Subjective Tinnitus Severity Scale (STSS) and several audiometric variables such as loudness match ($r = .48$), sensation level at 1 kHz ($r = .36$), and loudness match at the tinnitus frequency ($r = .41$) but not with tinnitus frequency ($r = .02$). Similarly, Kuk, Tyler, Russell, and Jordan⁹

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report low correlations between the Tinnitus Handicap Questionnaire and both loudness matching and minimum masking level ($r = .2$ to $.5$). One explanation for these positive correlations may lie in the use of psychometrically sound instruments for the assessment of tinnitus-related distress. Studies in which no relationship has been found between psychological distress and audiological measures of loudness have generally employed simple Likert-type rating scales and other relatively unsophisticated measures of unknown reliability and validity to assess distress. One aim of the present research is to further assess the relationship between audiological measures of pitch and loudness and our own measure of tinnitus-related distress, the Tinnitus Reaction Questionnaire (TRQ), the psychometric properties of which have been previously reported.¹⁰

A second line of research on tinnitus distress has involved the study of psychological characteristics of good and poor copers (or low and high distress groups). The main finding from this type of research has been the elevation of scores on measures of anxiety and depression in tinnitus patients who seek treatment¹¹ and especially in subjects who have been defined as poor copers.¹² However, Kearney, Wilson, and Haralambous¹³ found that tinnitus patients who were attending a psychological treatment program were actually less depressed than a headache comparison group and no different from non-tinnitus normal controls.

In a similar study, Kirsch¹² found that good copers presented with similar profiles to headache patients and did not differ from normal controls on any psychological measures with the exception of state anxiety which was found to be higher for the tinnitus patients. Poor copers were more depressed than good copers. This study suggests the need for researchers to distinguish between good and poor copers when making assertions about the psychological characteristics of tinnitus patients. Although it is of interest to identify precisely what forms of psychopathology are displayed by poor copers (such as depression), these findings need to be carried somewhat further if they are to reveal the mechanisms which are responsible for good or poor copers with tinnitus and other aversive conditions. Thus, the present research also aims to identify some of the characteristics that might distinguish between good and poor copers, albeit in a rather modest way at this stage, using rather simple self-report measure of cognitions and coping strategies.

One theory which may contribute to our understanding of tinnitus-related distress is Beck's cognitive theory of emotional disturbance¹⁴ which asserts that depression, anxiety and other states involve negative automatic thinking about the self, the world and the future and that such thinking is characterised by illogical processes such

as arbitrary inference, overgeneralisation, and magnification. Two aspects of this theoretical position are addressed in the present research. One aspect concerns the extent to which depressed tinnitus patients display general negative biases in their automatic thinking. It is possible that such patients, whose thinking is already characteristically negative, may simply focus on the tinnitus as an additional subject over which they entertain negative, illogical thoughts. On the other hand, tinnitus patients may exhibit negative thinking quite specifically about their tinnitus and not about other aspects of the self, the world and the future. The present research will focus on this particular issue. In addition, a measure of coping strategies adapted from the pain literature will be utilised in an attempt to assess the frequency of use of various coping strategies and any benefits that are derived from their use.

In brief, the present research involves two studies. Study One was designed to examine the relationship between audiological parameters of tinnitus and psychological distress, using a measure of distress with known psychometric properties. Study Two was designed to examine differences between subjects defined as exhibiting either high or low tinnitus distress on measures of general negative thinking, tinnitus-relevant dysfunctional thinking, frequency of use and benefits derived from coping strategies and level of depressive symptomatology.

METHOD

Study One -

Subjects

The total sample consisted of 72 tinnitus sufferers. The subjects were drawn from a sample of sufferers who attended the Audiological Department of a Veterans Hospital on an outpatient basis for routine investigation of their tinnitus and hearing. There were 61 males and 11 females. The mean age was 64.6 years (range = 33 to 77 years). With regard to duration of tinnitus, 23% reported duration of 0-5 years, 25% reported duration of 5-10 years, 21% reported duration of 10-20 years, and 31% reported duration of 20 years or greater. Bilateral tinnitus was reported by 54%, unilateral tinnitus was reported by 28%, and 18% reported their tinnitus to be located 'all over the head'. Hearing loss accompanied tinnitus in 59 subjects.

Procedure

All 72 subjects were invited to complete a general questionnaire which asked for details about their tinnitus

(e.g., onset, location, presumed cause, subjective description, and treatments received) and details of demographic characteristics. In addition, they were invited to complete a self-report questionnaire, the Tinnitus Reaction Questionnaire (TRQ). The TRQ is a self-report scale designed to assess the psychological distress associated with tinnitus.¹⁰ It consists of 26 items which describe some of the potential effects tinnitus might have on an individual's lifestyle; general well being and emotional state. Respondents are asked to indicate the extent to which the effects listed have applied to them over the past week. Each item is rated on a five point scale where 0 = not at all; 1 = a little of the time; 2 = some of the time; 3 = a good deal of the time; 4 = almost all the time. The scoring procedure for the TRQ involves the simple addition of the number circled by the respondent for each of the 26 questions to obtain a total score with a potential range from 0 to 104. All items are scored in the same direction since they are all negative descriptors. Thus, a high score represents worse distress. The psychometric properties of the TRQ indicate good test-retest reliability ($r = 0.88$) and high internal consistency (Cronbach alpha = 0.96). Item-total correlations range from 0.44 to 0.81.¹⁰

On the basis of their responses to the TRQ, the total sample of 72 subjects was divided into four subgroups. That is, group one consisted of 16 subjects who obtained TRQ scores of 0-17, group two consisted of 20 subjects who obtain TRQ scores of 18-34, group three consisted of 18 subjects who obtained TRQ scores between 35-51, and group four consisted of 18 subjects who obtained TRQ scores of 52 or greater. All subjects underwent audiological evaluation of various aspects of their tinnitus including measures of loudness match, minimum masking level and pitch. The audiologist performed an

audiogram and impedance measures on all subjects. Tinnitus measures were performed using a Madsen OB 822 audiometer which allowed frequency variation in 62.5Hz steps in the range of 125Hz to 12kHz. Tinnitus matching - determining the nearest match to subject's dominant tinnitus - involved the presentation of pure tones, narrow band noises (NBN), white noise (WN) and speech noise (SN) to the ipsilateral ear, or each ear when tinnitus was 'in the head'. Loudness matching and minimum masking level (MML) were obtained using dB steps and recorded as hearing level (HL).

Statistical Analysis

Statistical analyses were conducted to compare the four groups of subjects on three dependent variables. That is, one way analyses of variance (ANOVA) were performed on each of the three dependent variables: loudness match, minimum masking level and pitch. The ANOVAs were performed according to planned contrasts. The first planned contrast compared the samples reporting no distress through to moderate distress, with the sample reporting severe distress. The second contrast compared the sample who report no distress, with those reporting mild through to severe distress. The Bonferroni correction was employed in order to control for the inflation of the Type I error rate when conducting the multiple statistical tests on the same set of data.¹⁵

Results

Table 1 presents the means and summary of F-ratios for the four groups of subjects on measures of loudness, MML and pitch. The TRQ results are only included in

Table 1. Summary of ANOVA F-ratios for four groups of tinnitus sufferers on audiological measures of loudness, minimum masking level, and pitch.

Variable	Sample								Contrast	
	1 0-17		2 18-34		3 35-51		4 52 +		1	2
	M	(n)	M	(n)	M	(n)	M	(n)	F-ratio	F-ratio
TRQ	10.2	(16)	25.15	(20)	41.8	(18)	65.4	(18)	339.59**	229.03**
Loudness	56.9	(16)	54.4	(20)	59.1	(18)	65.5	(18)	4.69*	0.43
MML	46.9	(16)	55.3	(20)	50.6	(18)	56.9	(18)	2.40	3.37
Pitch	3056.3	(16)	3483.8	(20)	3606.6	(18)	3513.06	(18)	0.16	2.03

** Bonferroni $p < .01$ * Univariate $p < .05$

Key: Sample 1 = no distress Sample 2 = mild distress Sample 3 = moderate distress
 Sample 4 = severe distress.

the following table to provide an indication of the means and effects related to the division between the four samples. Primary interest, however, is on the obtained F-values for the two contrasts with respect to the audiological measures.

The Bonferroni-corrected results revealed no significant differences between the samples reporting no distress through to moderate distress compared to the sample reporting severe distress, nor between the sample reporting no distress compared to the samples reporting mild through to severe distress, on any of the audiological measures.

However, if the results of the analysis are considered in terms of the less conservative univariate decision-wise error rate, the contrast comparing the samples reporting no distress through to moderate distress, with the most severely distressed sample, is significant with regard to the loudness variable ($F = 4.69, p < .05$).

METHOD

Study Two -

Subjects

The total sample consisted of 81 tinnitus sufferers who had responded to media advertisement inviting individuals to participate in a Tinnitus Management program. There were 52 males and 29 females. The mean age was 58.95 years (range = 31-83 years). With regard to duration of tinnitus, 37% of the sample reported duration of 0-5 years, 21% reported duration of 5-10 years, 12% reported duration of 10-20 years, and 30% reported duration of 20 years or greater. Bilateral tinnitus was reported by 38 subjects, unilateral tinnitus was reported by 26 subjects, and 27 subjects reported their tinnitus to be located 'all over the head'.

Measures

Tinnitus Reaction Questionnaire (TRQ): All subjects completed this questionnaire which is described in Study One.

Tinnitus Cognitions Questionnaire (TCQ): The TCQ is a 26-item questionnaire designed to assess the kinds of cognitions that people might think in response to their tinnitus.¹⁶ For each item, respondents are asked to indicate how often they have been aware of thinking a particular thought on occasions when they have noticed their tinnitus. Ratings are made on a five-point Likert rating scale with the extreme points ranging from 'never' to 'very frequently'. The negative items are scored 0 to 4, while the positive items are reverse scored (4 to 0). The scoring procedure for the TCQ involves the simple

addition of the number circled by the respondent for items 1 to 13, and the addition of the reverse scored items, 14 to 26. The total score of the TCQ has a potential range from 0 to 104. A high score represents a greater tendency to engage in negative cognitions in response to tinnitus, and low engagement in positive cognitions. Collectively, the construct measured by this scale is interpreted to be dysfunctional thinking in relation to tinnitus. The psychometric properties of the TCQ indicate good test-retest reliability ($r = 0.88$) and high internal consistency (Cronbach alpha = 0.91). Item-total correlation range from 0.35 to 0.61.¹⁷

Tinnitus Coping Strategies Questionnaire (TCSQ):

The TCSQ is a self-report questionnaire designed to assess the use of cognitive and behavioural coping strategies in response to tinnitus.¹⁷ Items for the TCSQ were constructed primarily using a variety of coping models or strategies described in the general literature on stress and coping,¹⁸ and those described in the literature on pain coping.^{19,20} Indeed, many of the items were drawn directly from Rosenstiel and Keefe's¹⁹ Pain Coping Strategies Questionnaire and adapted for use with tinnitus sufferers. The TCSQ consists of 33 items which represent a variety of cognitive and behavioural coping strategies. These include distraction or diverting attention (by thinking about other things or engaging in some mental or physical activity); seeking social support (from family; significant others; other sufferers; professionals) relaxation (engaging in some activity (cognitive or physical) with the implicit intention of relaxing); religion and prayer (seeking spiritual comfort or support); reinterpretation (transforming sensations to some alternatives); inhibition of action (doing nothing as a strategy or taking passive response - lying around etc.).

Respondents are asked to rate each of the 33 items on two separate rating scales. First, they are asked to rate how often they have been using the coping strategy whenever they are aware of their tinnitus (TCSQ-Frequency scale). This is rated on a 0-4 scale, where 0 = not at all; 1 = a little of the time; 2 = about half of the time; 3 = a good deal of the time; 4 = almost all of the time. Second, respondents are asked to rate each item according to how helpful they find each coping strategy (TCSQ-Benefits scale). This is rated on a 0-4 scale where, 0 = not at all helpful; 1 = a little helpful; 2 = moderately helpful; 3 = very helpful; 4 = extremely helpful. Two total scores (TCSQ - Frequency and TCSQ - Benefits) are obtained by simply summing the responses to the two rating scales separately with a maximum possible score for each scale being 132. The higher the scores indicates greater frequency of use and greater benefit. The psychometric properties of the TCSQ indicate good test-retest stability ($r = 0.90$, TCSQ - Frequency scale;

$r = 0.91$, TCSQ - Benefits scale) and high internal consistency (Cronbach alpha = 0.88, TCSQ -Frequency and TCSQ - Benefits scales).¹⁷

Beck Depression Inventory (BDI): The BDI is a 21-item self-report measure widely accepted as a reliable and valid measure of the symptomatology of depression.^{21,22} Each of the items contains four descriptions of depression-related thoughts and behaviour on a continuum from normal through to depressive content. The response format to each item is scored 0 to 3, and these item scores are added to form a total score. The total score has a potential range from 0 to 63.

Automatic Thoughts Questionnaire (ATQ): The ATQ was devised by Hollon and Kendall²³ as a measure of the frequency of occurrence of automatic negative thoughts (negative self-statements) associated with depression. For each of the 30 negative thoughts, respondents are asked to indicate how frequently the thought occurred to them over the last week. Ratings are made on 1-5 rating scales with 1 = not at all; 2 = sometimes; 3 = moderately often; 4 = often and 5 = all the time. The ATQ appears to have satisfactory reliability with a split-half reliability coefficient of 0.97 and coefficient alpha of 0.96. Individual item-total coefficients range from $r = 0.47$ to $r = 0.78$.²³

Procedure

All subjects were administered the TRQ, TCQ, TCSQ, BDI and ATQ. On the basis of their responses to the TRQ the subjects were divided into two subsets classified as

‘low distress’ defined by TRQ scores of less than 17 points ($n = 31$), and as ‘high distress’ defined by TRQ scores of 17 points or greater ($n = 50$). A score of 17 on the TRQ corresponds to approximately the 30th percentile. This score has been used as a cut-off score for selection of distressed subjects in a number of studies.²⁴⁻²⁶

Statistical Analysis

Statistical analyses were conducted to compare the two sub samples (low versus high distress) on the five dependent measures, the TCQ TCSQ-frequency scale, TCSQ-Benefits scale, BDI and ATQ. One-way analyses of variance were performed on each dependent variable. The Bonferroni correction was employed to control for inflation of the Type 1 error rate.¹⁵

Results

Table 2 presents a summary of the means and standard deviations and ANOVA - F ratios for low distress versus high distress samples for six dependent variables. The TRQ results are only included in the table to provide details of the obtained mean scores.

The results of statistical analysis, using the Bonferroni correction, revealed a significant difference between the low distress versus high distress samples on the measure of engagement in tinnitus-specific negative cognitions (TCQ; $F = 8.30$, $p < 0.05$) and a measure of depressive symptomatology (BDI; $F = 22.36$, $p < 0.01$). No significant differences were found between the low versus

Table 2. Summary of means, standard deviations and ANOVA-F ratios for Low and High Distress Tinnitus Samples on six psychological measures.

Variables	Sample						ANOVA results	
	Low Distress			High Distress			F-ratio	df
	M	SD	n	M	SD	n		
TRQ	9.96	4.23	(31)	33.26	17.57	(50)	52.31**	(1,79)
BDI	4.70	3.68	(30)	10.18	5.65	(50)	22.36**	(1,78)
ATQ	37.80	10.21	(31)	63.60	108.33	(50)	1.73	(1,79)
TCQ	40.61	10.59	(31)	49.36	14.67	(50)	8.30*	(1,79)
TCSQ-F	27.41	20.86	(24)	33.72	12.30	(50)	2.66	(1,72)
TCSQ-B	34.35	17.89	(28)	30.54	14.73	(50)	1.03	(1,76)

** Bonferroni $p < .01$ * Bonferroni $P < .05$.

high distress samples on measures of general negative cognitions (ATQ) or frequency of use of coping strategies or benefits derived from these strategies (TCSQ-F; TCSQ-B).

CONCLUSION

The main aim of this research was to further investigate the relationship between psychological distress and tinnitus. In the first study, four groups of subjects who differed in degree of tinnitus-related distress were compared on audiological measures. No differences were found between the four groups on loudness, pitch and minimum masking level when employing the Bonferroni correction which controls for inflation of the Type I error rate when conducting multiple statistical tests on the same set of data. The univariate tests indicated that the most severely distressed group experienced louder tinnitus as measured by a loudness match procedure. In the second study, tinnitus patients were categorised as either displaying high or low tinnitus-related distress. The two groups were compared on various indices of coping including level of depressive symptomatology, reported use of coping strategies, perceived benefits from these coping strategies, and reported engagement in depression-related negative cognitions or tinnitus relevant dysfunctional thinking. High distress subjects were found to have elevated scores on the Beck Depression Inventory. The finding from Study One, that groups which differed on distress did not differ on audiological measures, is consistent with existing research in which no relationship was found between tinnitus loudness and various psychological measures. The present study differs from previous work through the use of the TRQ as the means of discriminating between groups differing in severity of distress. In contrast to the visual analogue scales and other measures which have been employed in previous research, this measure has been specifically developed for this purpose and possesses good psychometric properties.¹⁰ Thus, failure to find differences between groups is not likely to have resulted from the use of a measure with poor discriminability. While accepting the results of the Bonferroni-corrected analyses, it should be noted that the univariate tests did yield a significant effect on the comparison between the most severely distressed group and the other three groups. The TRQ scores for this more severely distressed group corresponded to percentile scores of in excess of 80% on this measure (based on independent data sets), certainly representing a group of subjects at the extreme end of the distribution of scores on the TRQ. Thus, it is possible that a relationship between distress and tinnitus loudness only holds when one includes these very severely distressed subjects, but does not hold throughout the mild-

to-moderate portion of the range. This result requires further investigation to ensure that it is not a Type I error. If found to be robust, this association between loudness and distress will need to attenuate purely "psychological" accounts of the distress related to tinnitus.

Study Two was designed to examine the relationship between tinnitus-related distress and various psychological characteristics, particularly those derived from a cognitive theory of emotional distress. More severely distressed subjects were found to have elevated levels of depression. This finding is consistent with other reports in the literature using different measures or methods of investigation.^{7,10,11,27-29} High-distress subjects also reported engaging in more dysfunctional thinking related to tinnitus. However, there were no differences between the high and low distress groups on the ATQ, a measure of engagement in general negative cognitions which have been found to be particularly related to depression. It is quite intriguing that, despite the elevation in depression, high distress tinnitus subjects did not report engaging in a greater amount of general negative cognitions. Thus, the dysfunctional thinking of distressed tinnitus patients is quite specifically related to the tinnitus itself. This finding suggests that more explanations of tinnitus-related distress which places emphasis on the presence of a more general dysfunctional thinking style may be incorrect. Rather, it seems that tinnitus patients who experience distress display dysfunctional thinking that is promoted by the experience of tinnitus. This finding may have important implications for cognitive therapy in the management of tinnitus. For example, some of our own treatment approaches have employed a focus on both tinnitus and general dysfunctional thinking.²⁴⁻²⁶ However, it appears from the results of the present study that treatment techniques employing cognitive therapy may need to be specifically targeted on the tinnitus, and any reference to the alteration of more general dysfunctional thoughts and beliefs may be of little benefit to most patients.

One point of caution is in order with respect to the results on the ATQ. It is noteworthy that the ATQ mean is higher for the high-distressed group, but there is a much greater amount of variation around that mean in the high-distressed group compared with the low-distress group. Thus, the group of high distress tinnitus patients is not homogeneous with respect to this measure. Clearly, some high distress subjects display more general dysfunctional thinking than others. The ATQ might be used to select such patients for more intensive training in the modification of general dysfunctional thinking.

The high and low distress groups did not differ on reported use of coping strategies or on benefits derived from these strategies. There are several possible explanations for this finding. The measurement of coping

strategies in a self-report questionnaire is itself somewhat problematic. Subjects are asked to recall their use of various strategies, some of which may not be easily understood. Thus, the TCSQ may have poor validity as a measure of the actual use of coping strategies in everyday life. It is also possible that the sum of a total score may mask important differences in the engagement in or benefits derived from specific strategies such as distraction, engagement in certain activities, or use of mental imagery. More research on coping strategies is needed in which subjects are asked to monitor their use of specific methods on a daily basis.

It is worthy of note that the mean level of depression displayed by the high-distress subjects^{10,18} was within the mild depressive range, and only just outside the normal range (generally regarded as < 10). A similar finding on the BDI was reported by Kearney, Wilson, and Haralambous¹³ in a comparison of tinnitus and chronic headache patients. Thus, tinnitus patients who experience distress do not necessarily display a uniformly high level of depressive symptomatology. In the case of depressive symptoms, a distinction also needs to be made between the occurrence of major depressive episode, chronic depression (dysthymia), and depressive mood. The BDI may reflect any one of these manifestations of affective disturbance and is not used as a diagnostic tool. The presence of sleep disturbance, common among tinnitus patients, and other physical disturbances associated with ageing, may inflate scores on the BDI. Thus, one cannot conclude from this research that distressed tinnitus patients are suffering from a depressive disorder. Further research is warranted into the nature of depressive symptoms in tinnitus patients, including (1) analyses of the contribution made by individual items on the BDI to the total score in the population, and (2) studies of daily mood changes and the contribution of alterations in the loudness and annoyance of tinnitus to diurnal variations in mood.

There has been very little research on the nature of distress related to tinnitus. It is clear that not all people who experience tinnitus are significantly bothered by the problem. Some patients are severely debilitated, and these are the ones who we generally see in psychological clinics. The present research adds to the body of previous literature in indicating that individual differences in tinnitus-related distress are not a simple function of the loudness or pitch of the tinnitus. The research contributes to this pattern of findings by the use of a standardised, reliable and valid measure of tinnitus-related distress. Thus, one can have more confidence that failure to find differences between high and low distress groups on audiological measures is not simply a result of the use of classification methods which have poor psychometric properties.

Psychological factors are emerging as an important source of variance in tinnitus-related distress, although more research is needed before a clear understanding of the mechanisms that are responsible for good and poor coping is obtained. The present research suggests the importance of the role of dysfunctional thinking related to the experience of tinnitus. For most distressed tinnitus sufferers this dysfunctional thinking seems to be more related to tinnitus, rather than a result of engagement in more general negative thinking that is characteristic of depression. Researchers need to continue in endeavours to distinguish the characteristics of high and low distress patients because such research may enhance our understanding of the processes involved in coping with tinnitus and other aversive conditions such as chronic pain. Such information may provide a more solid empirical basis for the development of more effective and durable treatment techniques for the management of psychological distress related to tinnitus.

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