Hearing Voices: an exploration of beliefs, coping strategies and emotional well-being in those who find the experience distressing

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Declaration

"This thesis has been composed by myself and the work contained herein is my own"

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Acknowledgements

Abstract

The experience of hearing voices is often distressing and it is known that the beliefs that an individual has about that experience, particularly the belief that a voice is extremely powerful or omnipotent is associated with higher depressive symptomatology (Chadwick & Birchwood, 1996). Chadwick, Sambrooke, Rasch & Davis (2000) demonstrated that these beliefs were modifiable in a group intervention but they did not find an associated decrease in measures of anxiety and depression. It has also been proposed that coping strategies only become understandable when they are connected to an individuals beliefs about their voices (Chadwick, Birchwood & Trower, 1996). Previous research into the coping strategies of voice hearers, however, has rarely utilized standardised coping assessments, but has rather relied upon open-ended questioning and post-hoc categorisation.

The hypotheses of this study were that the emotionally distressing experience of hearing voices would be associated with an increased strength of beliefs about the voice, and avoidance coping strategies. Of particular interest was the strength of belief of control an individual perceived they had over their voice, as this had not been explored in previous studies and that in line with the concept of learned helpless a perceived lack of control would be indicative of anxiety and depression in this population. It was also postulated that the choice of coping strategy would reflect the individuals belief system, and again particularly the control they perceive themselves to have.

Twenty-eight volunteers were approached by a third party who had identified them as currently hearing voices and finding that experience distressing. In a semi-structured interview they were asked to complete the following measures: The Topography of Voices Scale, A visual analogue scale measuring strength of conviction of beliefs about voices, The Hospital Anxiety and Depression Scale, and The Coping Responses Inventory (adapted). Results will be given and conclusions discussed.

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Chapter 1. Introduction

1.1 Background to the Study

Traditional assumptions, especially in the field of psychiatry, have been that delusions, including secondary delusions (beliefs about hallucinations), were not actually beliefs but 'empty speech acts, whose informational content refers neither to world nor self' (Berrios, 1991, p. 12). This is in contrast to psychological theories that expect the content of voices and delusions to reveal significant personal meaning and relevance to an individual's wider psychological vulnerability (Chadwick *et al.*, 2000a). Chadwick *et al.* (2000a), postulate that the reason for this difference in viewpoint is that, in psychiatry, voice content is only significant in classing whether a delusion or voice is true and of what disorder they are symptomatic. That is, to aid diagnosis not formulation. There is a burgeoning interest, however, in exploring the personal experience that individuals have with their voices, from the content and meaning of the voice itself, to the emotional and behavioural consequences and attempts to cope with the experience.

The following section covers the development of theories of schizophrenia and psychosis through to respective interventions and forms of treatments. Although the phenomena of both schizophrenia and voice hearing are often mutual this is by no means always the case, and so an exclusive section is devoted to voice hearing, it's phenomenology, models and interventions. As there is often considerable overlap, discussion of cognitive behavioural treatments for schizophrenia will mainly focus on treatments of the syndrome or delusions alone. Treatment for auditory hallucinations will be covered separately in the section dedicated to voices. This will then lead to the development of the aims of this study, which focuses on the relationship between the strength of beliefs about voices, the associated distress, and coping strategies in reaction to the experience.

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1.2. Schizophrenia

1.3. History of Schizophrenia

Emil Kraeplin and Eugen Bleuler were the first to develop the concept of schizophrenia. Before this conceptualisation a number of other 19th century psychiatrists had struggled to develop satisfactory classifications of insanity. In 1856, Morel described an adolescent's withdrawal into a state of silence the condition of which he named demesne precoce; in 1868 Kahlbaum described the syndrome of Katatonie, and in 1871 Hecker coined the term Hebephrenie (Kendall, 1993).

Emil Kraeplin, however, was the first to delineate such clinical descriptions into major groups on the basis of their symptomatology and long-term course. In 1898 he presented these two new classifications of endogenous psychoses: manic-depressive illness which had a fluctuating course with frequent relapses followed by complete recovery, and dementia praecox, which represented an early onset followed by a progressive deterioration. This latter classification both borrowed Morel's terminology and also incorporated Kahlbaum's catatonic and Hecke's hebephrenia as well as his own dementia paranoids. Characteristic symptoms included hallucinations, experience of influence, attentional disturbances, disruption of comprehension and flow of thought, affective flattering and catatonia (Pull, 1999). Kraeplin assumed that dementia praecox was a disease of the brain and therefore did not move much beyond focusing on the course and the symptoms of the disorder.

Eugen Bleuler, was however influenced by the work of Sigmund Freud and psychoanalysis and therefore adopted a more psychological rather than neuropathological approach to defining the disorder. He was less interested in the course of the illness as it did not necessarily have an early onset and did not always result in gradual deterioration in mental functioning. For these reasons he rejected the term dementia praecox and in 1908 proposed a new term 'schizophrenia',

meaning 'split mind' which reflected his theory that the disorder was due to a 'loosening of associations' or 'breaking of associative threads'. For Bleuler associative threads joined not only words, but thoughts, emotions and volition. This explained schizophrenic patient's attentional difficulties, loss of purposeful direction in thought and speech, and the disruption in co-ordination between emotional and cognitive processes in general.

Bleuler considered the fundamental symptoms of schizophrenia to be thought disorder, blunting or inappropriate affect, autism, and pervasive ambivalence. Other symptoms such as delusions, hallucinations and catatonia were considered of less importance. Bleuler, however, did not accept that schizophrenia was a unitary disease and instead classified multiple disorders under the umbrella of the 'group of schizophrenias', which included simple schizophrenia, hebephrenia, catatonia and paranoid schizophrenia. Bleuler also recognised mild forms of schizophrenia and his concept can therefore be seen as both broader and as having of a more pronounced theoretical emphasis.

This division in conceptualisation of schizophrenia lead to vast differences in the definitions and prevalence rates reported around the world. The most famously documented differences were those in the 1950s between America, who in line with the prevailing psychoanalytic orientation had adopted Bleuler's definition, and Britain, where a Kraeplinian tradition predominated. In New York State Hospital the percentage of patients diagnosed with schizophrenia reached 80 per cent whereas at the Maudsley, Hospital, London, the percentage of diagnosed schizophrenics stayed relatively stable at 20 per cent (Kuriansky, Deming & Gurland 1974). Cooper, Kay, Curry, Garside & Roth, (1972) proposed that the reasons for this were that the American concept of schizophrenia embraced many patients who would have been diagnosed with depressive or manic psychosis or even neuroses and personality disorders.

Other authors have since influenced the current definitions of psychosis. Pull (1999) reviews the work of Karl Jaspers who proposed in Psycopathologie (1911) that

psychopathological symptoms were organised in layers. These ranged from the more profound, such as organic symptoms through schizophrenic affective and neurotic symptoms up to finally the most superficial level, symptoms related to personality disorders. When symptoms from different levels occurred simultaneously, priority was given to the most profound level when making a diagnosis. In line with this, wherever schizophrenic and affective symptomology were both present, clinicians were to opt for a diagnosis of schizophrenia.

Kurt Schneider in his Klinische Psychopathologie (1950) focused on what he described as 'symptoms of the first rate', which were present in the earlier acute stage of the illness. These were defined as abnormal experiences and consisted of hallucinations and delusions in the absence of overt brain disease. He regarded them a convenient diagnostic aids and was less concerned with any theoretical significance. Even today, Schneider's first-rate symptoms are still influential in Britain and Germany largely because of their reliability in diagnosis. However, they have demonstrated little significance for long-term prognosis (Kendell, 1993).

Although still used today it was long before the end of the nineteenth century that John Hughlings Jackson (1869) applied the terms 'positive' and 'negative' symptoms (Pull, 1999). Negative symptoms were postulated to result directly from damage to the brain, whereas positive symptoms reflected the brain process affected by this damage. Strauss, Carpenter & Bartko (1974) applied this nomenclature and defined positive symptoms as the presence of additional abnormal features, which included hallucinations, delusions and disordered thought. Negative symptoms referred to the absence of normal features such as blunted affect, emotional withdrawal and cognitive deficits.

1.4. Classification: Syndrome Versus Symptoms

The construct of schizophrenia remains a controversial one. In psychiatric terms the experiences of hearing voices, holding unusual beliefs and having marked mood swings are seen to be 'symptoms' of underlying 'mental illness' (BPS, 2000). It is

argued that such a diagnostic approach allows different professionals and members of the public to communicate clearly in a shorthand explanation of complex difficulties. It can also be argued that it helps medically trained doctors to decide appropriate treatment and can also be reassuring to the individual diagnosed in that they are not alone and can be helped, (BPS, 2000). In terms of research, it allows findings to be compared across different studies when subjects are selected according to defined criteria (Fowler, Garety & Kuiper, 1995).

In order for the concept of the diagnosis of schizophrenia to be scientifically valid, it must be both reliable and valid. The assumption of reliability assumes consistency between clinicians in assigning individuals to diagnostic categories. Traditionally this has not been the case as clinicians have often disagreed about diagnosis and as previously discussed (see section 1.9.) diagnostic practices differ from country to country. It has been argued that modern diagnostic classifications such as the DSM-IV (American Psychiatric Association, 1994) and the ICD-10 (World Health Organisation, 1992) accompanied by structured clinical interviewing, enable clinicians to consistently identify individuals who present with syndromes of schizophrenia and manic-depressive psychosis (Brockington, Kendell & Leff, 1978). Others contend that this reliability is a myth and there is only limited success in normal clinical practice (Kirk & Kutchins, 1994).

The assumption of validity, however, concerns the usefulness of a diagnostic category and whether it is meaningful. There are three factors that can help illuminate the usefulness of a diagnostic category: whether it enables us to predict the outcome over time; whether it allows us to assert something about the aetiology of the disorder; and whether it informs the clinician of the most effective treatment (Chadwick *et al.* 2000a). Chadwick *et al.* (2000a) assert that a concept has scientific validity if it brings one or more of the above advantages, but that if it fails to give a firm indication of aetiology, course or treatment it should be dismissed in favour of a new system for categorising clinical problems.

The outcome for those with a diagnosis of schizophrenia, however, is extremely variable and difficult to predict (Ciompi, 1984). Attempts to define a diagnostic group with a less mixed outcome have also not been very successful (Boyle, 1990). In terms of treatment the picture is again mixed, as an individual with a diagnosis of schizophrenia does not always respond to a particular class of treatment and to that class alone (Bentall, Jackson & Pilgrim, 1988a; 1988b). Moncrieff (1997) found that response to, either a neuroleptic, or lithium, both or neither was related to specific symptoms, but not diagnosis i.e. delusions and hallucinations responded to the neuroleptic and mood swings responded to lithium. Despite years of research the cause(s) of schizophrenia also remain elusive and open to contention and debate. In addition to this there is no symptom common to all individuals diagnosed with schizophrenia, and the symptoms that define the disorder are also found in other disorders.

It has therefore been argued by many authors that as the very concept of schizophrenia is invalid it should either be abandoned or that we should study symptoms rather than syndromes (Bentall *et al.* 1988a; Bannister, 1968; Bentall, 1990; Boyle, 1990). There are a number of advantages to this approach, which are summed up by Persons (1986). Firstly, the problems of diagnosis would be avoided through the less difficult task of defining and detecting symptoms rather than clusters of symptoms (syndromes). Secondly, the focus is on phenomena, which have traditionally been ignored. Thirdly, this approach is more amenable to theoretical development. Fourthly, abnormal experiences and behaviour are understood in relation to normal behaviour. Finally, an improvement in classification may actually follow from a better understanding of symptoms.

Chadwick *et al.* (2000a) believe that it is this call to study psychotic symptoms rather than syndromes that led to the recent blossoming in psychological research into psychotic phenomena, particularly through a cognitive-behavioural approach. Both psychological investigation of, and interventions for, the positive symptoms of delusions and hallucinations have flourished, through understanding these

experiences in term of normal psychological principles. This continually expanding area is covered further in section 1.7.3.

1.5. Epidemiology

1.5.1. Prevalence and Incidence

Prevalence studies of schizophrenia have produced varying rates, partly due to the differences in diagnostic criteria used. It is generally accepted, however, that in most industrial countries the lifetime risk of schizophrenia is approximately 1 per cent and the annual incidence is between 15-20 per 100,000 of the population (Johnstone, 1998; Leema, 1996).

1.5.2. Age and Gender

The onset of schizophrenia is typically between the ages of 15-45 years, with the peak incidence occurring between 25 and 30 years. There are no significant gender differences in the rate of occurrence but there are striking differences in the age of onset with men twice as likely as women to be admitted between the ages of 15-24 years (Leema, 1996). It has been suggested that this may be a reflection of different patterns of stressful life events, with men more likely to face work-related stress at a younger age, and women more likely to face the stress of childbearing and childrearing as they get older (Warner, 1994). Evidence against this is that in both sexes those who develop schizophrenia show reduced levels of fertility (Johnstone, 1998). Gender differences have also been noted with respect to outcome with women more likely to be symptom-free, working and functioning independently Salokanges 1983). Warner again theorises that differences in workforce dynamics are a factor, as women are more likely to have a valued social role when not working, which may facilitate reintegration and rehabilitation following hospitalisation (Warner, 1984).

1.5.3. Social Class

Higher rates of schizophrenia have been reported both in individuals classified as functioning in a lower social class and those living in inner-city areas (Leema, 1998). One idea put forward is Faris and Dunham's social isolation theory, which suggests that the greater stresses, such as social isolation and poverty, placed upon this group render them more vulnerable to developing schizophrenia (Faris and Dunham, 1944). A second theory is known as the social drift hypothesis, which suggests that people who are given a diagnosis of schizophrenia may be born into any socio-economic environment, but that the development of psychotic symptoms is likely to lead to poorer social functioning and employment opportunities and a subsequent drift into lower socio-economic circumstances, with poorer housing and low status employment (Fox, 1990).

1.5.4. Cross-Cultural Perspectives

Although the World Health Organisation (WHO) reports a similar incidence of schizophrenia in both developing and industrial countries, the prevalence is significantly lower in the developing world (WHO, 1973). The reason for this is that in the developing world such individuals are not only more likely to recover more quickly but also to die younger in comparison with industrial countries (Leema, 1996). Warner (1994) proposes one theory that the high productivity demands and competitive performance environment of industrial countries are particularly unsuitable for someone recovering from schizophrenia, and that the extended family structure more commonly found in the developing world helps prevent the high expressed emotion that is accepted as an indication of poor prognosis (Kavanagh, 1992).

1.6. Models of the Aetiology of Schizophrenia

Despite much research, schizophrenia is essentially a disorder of unknown aetiology, which is not surprising, given the previously mentioned controversy surrounding the validity of the concept. Many different markers and factors have been proposed over

the years to both predict the onset and confirm the presence of the disorder. These will be discussed briefly and incorporated into a psychological model.

1.6.1. Biological

The traditional psychiatric or medical assumption has been that psychotic phenomena are evidence of an underlying, biologically determined illness such as schizophrenia, and that the determinants of this are either genetic or the result of abnormalities in brain structure or biochemistry.

1.6.1.a. Genetics

Evidence for a genetic component to the development of schizophrenia comes mainly from studies of monozygotic and dizygotic twins and adoption studies. It has been estimated that the risk of being given a diagnosis of schizophrenia is 44 to 46 per cent for the child of two parents, 12 to 13 per cent for the child of one parent, and 9 per cent for siblings (Gottessman, McGuffin & Farmer 1987). Such studies indicate that genetic factors play an important role in the development of schizophrenia. However, they do not explain how the majority of genetically vulnerable children fail to develop schizophrenia in later life, and that this vulnerability only hints at a non-specific predisposition, which leads to the development of psychotic disorders under certain additional circumstances (Lehtonen, 1994)

1.6.1.b. Brain Structure

The search for a brain abnormality that causes schizophrenia has been ongoing since the syndrome was first identified. Chua & McKenna (1995) reviewed the research and concluded that findings were often conflicting, with the only well established abnormality being that of enlarged lateral ventricles. As with studies investigating the role of transmitters it is not possible to draw any conclusions on causal mechanisms as such an abnormality may well be as a result of anti-psychotic medication, psychological trauma or even psychotic experiences themselves (BPS, 2000). Neurological abnormalities resulting from viral infection (e.g. influenza) during foetal development have been linked with the development of schizophrenia.

However, such findings remain speculative (Barr, Mednick & Munk-Jorgenson, 1990).

1.6.1.c. Brain Biochemistry

The discovery that some neuroleptics induced Parkinsonism (side-effects resembling Parkinson's Disease, known to be caused in part by low levels of dopamine in a particular nerve tract of the brain) led to the development of the dopamine hypothesis – the theory that schizophrenia may result from the overproduction of the neurotransmitter D_2 dopamine (Owen, Crow, Poulter, Cross, Longden & Riley, 1978). This theory was further supported by the literature on amphetamine psychosis, where amphetamines, which increase dopamine production, have been reported to produce a state that can resemble paranoid schizophrenia and can exacerbate the symptomatology of someone diagnosed with schizophrenia (Angrist, Lee & Gershon, 1974). However, the evidence is again inconclusive as these findings are not applicable to all people with a diagnosis of schizophrenia. It has been reported that some individuals have displayed no exacerbation (or even an improvement) in symptoms following the administration of an amphetamine (Kornetsky, 1976), while many individuals suffer from neuroleptic-resistant symptoms.

Newer 'atypical' neuroleptics such as Clozapine effect different neurotransmitters (e.g. serotonin) and this effect has led to the investigation of the role of serotonin in psychotic experiences (BPS, 2000). From this research, however, it is difficult to propose a causal mechanism from such associations as neurotransmitter activity may well change after the onset of schizophrenia and may therefore be a product of the experience itself, or even the medication administered to control symptomatology.

1.6.2. Psychological Theories

There has been a proliferation of psychological models over the last 30 years, including psychoanalytic theory, patterns of communication within families and cognitive and perceptual abnormalities (Lemma, 1996).

1.6.2.a. Psychoanalytic Theories

Psychoanalytical theorists proposed that schizophrenic symptoms are generated from anxiety. This anxiety is the result of becoming aware of and being frightened of expressing unacceptable, unconscious impulses. It is postulated that unlike neurotics schizophrenics do not have a stable ego, and therefore regress to the first psychosexual phase to an easier time or less threatening private world, which results in a loss of contact with reality. There has been no research evidence, however, to suggest that such ego impairments are responsible for the development of schizophrenia.

1.6.2.b. Family Factors

Research in the past 40 years has examined the factors that family relationships and communication patterns have had to play in the development of schizophrenia. Freda Fromm-Reichmann (1948) coined the phrase 'schizophrenogenic mother' for the supposedly cold and dominant, conflict-inducing parent who could be both hostile and overprotective towards her children, who would later be prone to developing schizophrenia. Bateson, Jackson, Haley & Weakland (1956), proposed the 'double-bind' hypothesis, where an individual is constantly subjected to paradoxical communication (that is, contradiction between the content and the tone of the voice) from a significant relative and is therefore unable to respond to or ignore the messages. While there have been no controlled studies supporting these theories, a number of other studies have found that the families of schizophrenics do differ from normal families by displaying vague patterns of communication and high levels of conflict or overprotection, which has led to the development of the label 'high expressed emotion' (Vaughn & Leff, 1976). Although there is a clear association, the mechanism is again unclear as families may develop this pattern of interaction in response to a family member developing schizophrenia and the accompanying individual and social difficulties. Nevertheless measurements of high expressed emotion are highly correlated with rates of relapse.

1.6.2.c. Cognitive Models

Many different researchers have proposed cognitive models to explain the symptoms and experiences of people with schizophrenia. It is currently accepted that these are manifest as disturbances in cognition, both in basic information processing, which results in anomalies in perception and experience of the 'self' (e.g. hallucinations) and in appraisals and judgements that can result in unusual beliefs (delusions) (Garety *et al.* 2000). Cognitive research has found evidence that disruptions and biases in cognitive processes are responsible for the development and maintenance of psychotic experiences (Garety & Freeman, 1999). Cognitive models attempting to explain the experience of auditory hallucinations are described in more detail in section 1.12, but there are also models that try to integrate the range of deficits seen in schizophrenia.

McGhie and Chapman (1961) hypothesised that there was a primary attention deficit in people with schizophrenia and that this led to a decrease in the ability to select and inhibit incoming stimuli and information. A difficulty with this model is that the concept of selective attention is ill defined. Broadbent (1971), however, extended the model and proposed a specific deficit in 'pigeon-holing', which is the ability to filter out irrelevant stimuli to reduce information-processing demands. It was proposed that this deficit would explain the difficulty that people with schizophrenia describe in screening out irrelevant information, but other researchers have found the evidence for this to be inconsistent (Hemsley, 1988).

There are currently several competing theories to explain the cognitive processes behind psychotic symptoms. Hemsley (1994) suggested that some people with delusions show a reasoning bias that involves making over-rapid and hasty decisions about incoming information or stimuli. They literally 'jump to conclusions' on the basis of very little evidence. Hemsley (1994) suggests that this deficit is probably the result of brain dysfunction. Research by Gray, Feldon, Rawlins, Hemsley & Smith (1990) has suggested that it is the septo-hippocampal pathways that underpin this function, and that biochemical disruption, perhaps through dysregulation of the neurotransmitter dopamine, is responsible for the deficits experienced. Frith (1992)

postulated that a deficit in the ability to understand accurately the intentions of other people, that is social understanding, leads an individual with schizophrenia to make incorrect inferences or become highly confused about the intentions of others. Experiencing the social world as unusual and different may provide the basis for the development of paranoid delusions. Frith (1992) also postulates that these deficits arise from brain dysfunction, namely the pathways that form the interaction between the prefrontal cortex and the septo-hippocampal system.

A criticism of these approaches is that they are highly reductionistic, and assume that the underlying cause of psychosis is almost solely biological (Fowler *et al.* 1995). Some theorists have suggested that delusions may arise through reasonable attempts to make sense of anomalous experiences (Maher, 1988), while others have argued that delusions are more motivational in origin and may serve as a defence against perceived threats to self-esteem (Bentall, Haddock & Slade, 1994). Other theorists have focussed more on the negative appraisals of psychotic experiences and how this may lead to emotional disturbances such as anxiety and depression or in negative evaluations of the self, which can lead to the development, and maintenance of symptoms and distress (Chadwick & Birchwood, 1994; Close & Garety, 1998). Such a viewpoint has led to the development and application of cognitive-behavioural therapy (CBT) techniques for these problems (Birchwood & Iqbal, 1998; Freeman & Garety, 1999) (see section 1.7.3.).

1.6.2.d. Social Theories

Research indicates that many people who have psychotic experiences have suffered from trauma or abuse at some point in their lives (Bebbington, Wilkins, Jones, Foerster, Murray, Toone & Lewis, 1993). Bebbington *et al.* (1993) also found that stress appears to be associated with the onset of schizophrenic and psychotic episodes as individuals are likely to have had more stressful life events in the preceding six months. Stressful events can include bereavement, separation or abuse, and more insidious long-term experiences such as poor relationships or living conditions. Norman & Malla (1993) reviewed the literature and concluded that although there does appear to be a relationship between life events and psychotic

symptoms in those who are vulnerable to schizophrenia, there is less convincing evidence that those people diagnosed as schizophrenic have experienced any more life-event stressors than people with other diagnoses.

1.6.3. Stress-Vulnerability Models

The stress-vulnerability models propose that interactions between biological, psychological and social factors relate to the development and outcomes of psychiatric disorders (Zubin & Spring, 1977; Strauss & Carpenter, 1981; Nuechterlein, Monte, Buchsbaum & Dawson, 1994; Ciompi, 1988). The best known of these models is probably that proposed by Zubin and Spring (1977), which originally only suggested that there was a continuum of biologically determined vulnerability to mental illness, interacting with stress to produce psychotic episodes. Factors affecting vulnerability could be both biological (i.e. genetic factors and biological changes following birth) or psychological and social (e.g. sensitivity to stress, coping strategies, or stressful life events). The model suggests that in some individuals there is an inherited or acquired vulnerability to develop schizophrenia, which is manifested in a threshold for stress. If the vulnerability is great then relatively low levels of stress might be enough to precipitate a psychotic episode. If the vulnerability is lower then difficulties will only develop when that individual is exposed to higher levels of stress.

Subsequent models such as that of Nuechterlein and Dawson (1984) have drawn on research from various areas of study such as information processing, social competence, life events and expressed emotion to produce a more inclusive explanatory framework incorporating the way difficulty coping and poor outcomes feed back into the model to increase future vulnerability. This may help explain the toxic effect of psychosis in that experiencing one episode increases the probability of experiencing future episodes in an accumulative fashion (Mason, Harrison, Glazebrook, Medley & Croudace, 1996). Stress-vulnerability models provided a framework that allowed an escape from the traditional impasse between those who solely believed in a psychosocial explanation and ignored the importance of biological determinants and on the other hand the 'disease entity' theorists who

dismiss the importance of psychological and social factors (Fowler *et al.* 1995). There is now considerable empirical backing for stress-vulnerability models (Clements & Turpin, 1992) and they now underpin many of the psychological interventions that are discussed later.

1.7. Psychological Interventions in Schizophrenia

The contributions of a variety of psychological interventions have helped to reduce the distress of people suffering from schizophrenia and have also emphasised the need for multiple treatment strategies (Birchwood & Shepherd, 1992)

1.7.1. Psychodynamic and Psychoanalytic Approaches

Prior to the 1970's psychotherapeutic interventions were dominated by psychoanalytic theories (Pull, 1999). The majority of clinical literature on psychodynamic and psychoanalytic therapy with schizophrenics has been based upon case summaries, with little attempt to systematically demonstrate the changes in patients treated with these techniques (Gomes-Schwartz, 1984). Reilly (1997) reviewed a few large-scale projects that have investigated the implementation and efficacy of psychotherapeutically orientated interventions for schizophrenic patients. The Finnish National Schizophrenia Project (FNSP; Alanen, Salokangas & Ojanen, 1990) found improvement in the quality of treatment and rehabilitation of patients, but little effect on the need for ongoing care. The Chestnut Lodge Follow-Up Study (McGlashan, 1984) assessed patients 15 years after discharge (after intensive psychoanalytic psychotherapy within a group setting) and found that schizophrenic patients did not tend to do well. However, other large-scale studies have shown little support for psychodynamic psychotherapy with schizophrenia (Stanton Gunderson & Knapp, 1984; Gunderson, Frank, Katz, Vannicelli, Frosch & Knapp, 1984).

The use of these therapies with schizophrenic patients remains controversial with some claiming they are, not only ineffective in the treatment of psychotic symptoms, but also intrusive, stressful, and stigmatising of the family support system judged

causative in the genesis of the illness (McGlashen, 1994). Gunderson *et al.* (1984) recommend that therapies of a more supportive, as opposed to expressive, insight-orientated nature would appear to be more helpful, as psychodynamic approaches are too stressful for at least some patients. With the development of neuroleptic medication in the 1950s and 1960s came improved management of schizophrenia and a shift away from psychological interventions.

1.7.2. Behaviour Therapy

Behavioural treatments, which stemmed from a more soundly established empirical background, became a more established form of intervention in the 1960s and 1970s. Contingency management, based upon operant learning methods were used to decrease the behavioural components of hallucinations and delusions. Methods used included social reinforcement, time out, punishment and negative reinforcement. Unfortunately many of these approaches only produced short-term results, or specific improvements that did not generalise to other situations (Tarrier, Yusupoff, Kinney & McCarthy, 1997).

Other approaches derived from the behavioural tradition include, stimulus control methods and self-management and self-instructional training (SIT). Stimulus control methods were based upon functional analysis for the recognition and modification of antecedents to psychotic symptoms and the use of systematic desensitisation (Slade, 1972). Self-management involved teaching people to monitor their own symptoms, identify them as illness-related or not, take the appropriate action, and then reward themselves for this. Again, improvements were not maintained over time (Alford, Fleece & Rothblum, 1982). Meichenbaum & Cameron (1973) used SIT to teach patients to talk to themselves to help organize, regulate and control their behaviour.

1.7.3. Cognitive Behaviour Therapy

Beck (1952) was the first to report a cognitive approach to treatment, where an individual's thoughts and beliefs were elicited and modified. Despite this and work by Shapiro & Ravenette (1959), schizophrenia and its symptomatology remained an area relatively neglected by cognitive therapists, until recently. In investigating the

reasons for this McGovern & Turkington (2001) take a historical perspective. They propose that the disappointing lack of generalisability of behavioural work led to medically orientated professionals focussing on the chemical imbalances of the brain, whereas in contrast cognitive behaviour therapists in the 1970s and 1980s were turning to and making great progress in the treatment of affective disorders (Blackburn & Davidson, 1990). During the 1990's and since then, however, there has been a resurgence in interest, occurring mainly in the UK, Italy and Canada, partly in response to the limitations of neuroleptic medication in managing positive symptoms successfully (Tarrier *et al.* 1997). This has led to the publication of at least seven major texts on CBT for psychoses (Birchwood & Tarrier, 1992; Chadwick *et al.* 2000a; Fowler, Garety & Kuipers, 1995; Haddock & Slade, 1996; Kingdon & Turkington, 1994; Nelson, 1997; Perris & McGorry, 1998).

The work focussing on the positive symptoms of auditory hallucinations is covered in section 1.12, but there has also been a substantial amount of work tackling the positive symptom of delusions, as well as more holistic approaches. Cognitive behavioural treatments for schizophrenia utilise a stress-vulnerability model and are adapted from treatments used in affective disorders. The main assumption of CBT is that the psychological difficulties experienced by the individual depend on how people think or interpret events (cognitions), how they respond to these events (behaviours) and how it makes them feel (emotions) (Beck, Rush, Shaw & Emery, 1979). CBT aims to break the vicious circle between thoughts behaviours and feelings, by helping people to find more adaptive ways of thinking and coping.

Underpinning the cognitive-behavioural approach to schizophrenia is a focus on the experiences of psychosis (i.e. the symptoms) and the individual's attempts to understand them. The principle aim is to reduce the distress and interference with functioning caused by the psychotic symptoms, while the thoughts, beliefs, and images experienced by the individual are the core material with which the cognitive-behaviourist works (Garety *et al.* 2000). Fowler *et al.* (1995) state three broad aims of CBT for medication-resistant psychosis: (1) to reduce the distress and disability caused by psychotic symptoms, (2) to reduce emotional disturbance, and (3) to help

the individual arrive at an understanding of psychosis that enables them to reduce risks of relapse and social disability.

As with CBT for affective disorders, the therapist style is a collaborative one, setting agendas and therapy goals, and actively enquiring about the client's accounts of their experience. The content of therapy involves identifying thoughts and beliefs, reviewing evidence for these beliefs, encouraging self-monitoring of thoughts, identifying thinking biases and relating cognitions to mood and behaviour. Modifications include taking into account the special difficulties of engagement and establishing a therapeutic relationship, the complexity and severity of the problems presented, possible neuropsychological deficits, and the subjective experience of psychosis (Garety *et al.* 2000).

1.7.4. Comprehensive CBT Approach

Garety, Kuipers, Fowler, Chamberlain & Dunn (1994) examined the efficacy of a comprehensive cognitive behavioural approach encompassing coping strategy enhancement (Tarrier, Beckett, Harwood, Baker, Yusopoff & Ugarteburu, 1993), belief modification (Chadwick & Lowe, 1990) and normalizing and psychoeducation (Kingdon & Turkington, 1991). This approach included an awareness of and focus on the affective symptoms experienced by people with psychosis and viewed them as equally important as psychotic symptoms. A supportive therapy was devised that attempted to maximise engagement using a flexible approach that emphasised reducing pressure on the client within sessions (Kuipers, Garety & Fowler, 1996). Garety *et al.* (1994) found that 13 clients given this form of therapy for an average of 16 sessions over 6 months, showed significant improvements over a waiting list control (N = 7) in measures of depression, delusional conviction, and psychiatric symptoms. A criticism of this study is that blind raters were not involved and the numbers of subjects were small.

Some of these limitations were addressed in a number of more robust and intensive multi-site studies that have come to be known as the 'London and East Anglia studies' (Garety, Fowler, Kuipers, Freeman, Dunn, Bebbington, Hadley & Jones,

1997; Kuipers, Fowler, Garety, Chisholm, Freeman, Dunn, Bebbington & Hadley, 1998; Kuipers, Garety, Fowler, Dunn, Bebbington, Freeman & Hadley, 1997). Sixty patients who had at least one positive and distressing symptom of psychosis that was medication resistant were randomly allocated to CBT and standard care condition (N = 28) and a standard care only condition (N = 32). Therapy was individualised and lasted for nine months and resulted in significant changes in the treatment group with a 25 per cent reduction on the Brief Psychiatric Rating Scale (BPRS; Overall & Gorham, 1962). In addition to this there was a low dropout rate from therapy (11 per cent) and high levels of expressed satisfaction with treatment (50 per cent). There were, however, no improvements in measures of depression or delusional conviction. Acknowledged methodological problems included not having blind raters, stable medication levels, and that the control condition may have received less of non-specific aspects of treatment such as attention from the therapist. In a second study on the same subjects, predictors of good outcome were identified as cognitive flexibility concerning delusions and the number of recent admissions (Garety et al. 1997).

A criticism of this study is that despite the large number of variables investigated (N = 31), no adjustments were made to the conventional significance level of 5 per cent, although the two significant findings were significant below the 1 per cent level. Garety et al. (1997) therefore urge that findings be taken as preliminary, and that they should be clearly replicated before any clinical decisions are based upon them. In an 18-month follow-up study, with 78 per cent of the original population, significant and continuing improvement was shown in BPRS scores, delusional distress and frequency of hallucinations, both 18 months after base-line and 9 months after intensive therapy for the CBT treatment group (Kuipers et al. 1998). They also found that the costs of CBT appeared to be offset by reductions in service utilisation and associated costs during follow-up.

1.7.5. Cognitive Behavioural Therapy with a Normalising Rationale
Kingdon, Turkington and their colleagues have shown CBT with a normalising rational to be an effective strategy in the management of positive symptoms

(Kingdon & Turkington, 1991; Kingdon, Turkington & John, 1994; Sensky, Turkington, Kingdon, Scott, Scott, Siddle, O'Carrol & Barnes, 2000). Such an approach is based upon the premise that engaging a client in the collaborative production of a normalizing rationale/model of the development of their psychotic symptoms is a crucial first step in treatment (Kingdon & Turkington, 1991). Once a client is 'on board' a variety of techniques can be used to reduce distress and improve compliance (Turkington & Kingdon, 1996). Techniques for normalising and de-stigmatising the emergence of psychotic symptoms include explanation of the stress-vulnerability model and discussion of the stressors that can produce psychotic symptoms in the general population, e.g. sleep deprivation, sensory deprivation and sexual abuse. In line with this continuum view of psychopathology, Kingdon & Turkington, (1991) adapted Beck's (1979) model of CBT to tackle engagement and rapport building, examining antecedents, the treatment of anxiety and depression, delusions, hallucinations, thought disorder, negative symptoms, and relapse prevention.

Kingdon & Turkington (1991) carried out a retrospective study of 64 patients with schizophrenia treated using CBT, which revealed high acceptability and low readmission rates with no suicides or homicides over a seven-year period. Sensky *et al.* (2000) carried out a randomised controlled study over two sites, involving the treatment of 90 patients assigned to either a CBT treatment or befriending condition. The average number of sessions for both groups was 19 sessions over a 9-month period, and the study involved blind raters and manualised treatment. Results following treatment were that both groups showed significant reductions in both positive and negative symptoms and depression, with no significant differences between conditions. At 9-month follow-up, however, the CBT group showed significantly greater improvement on positive and negative symptoms and depression, as they continued to improve, whereas the befriending group deteriorated. Therefore it would seem that befriending would only offer short-term benefits whereas CBT leads to further post-treatment improvements. This has been noted to parallel the literature on the short-term benefits of distraction compared to the more sustained benefits of focussing (McGovern & Turkington, 2001). Possible

confounding factors in the study are the differences in findings between the two treatment centres and questions over the suitability of the scales used (McGovern & Turkington, 2001).

1.7.6. Coping Strategy Enhancement (CSE)

Tarrier (1987) identified 25 out of 85 patients from the Salford Family Intervention Project who were still experiencing persistent, drug-resistant hallucinations and/or delusions nine months after discharge. Using a detailed semi-structured interview, the Antecedent and Coping Interview (ACI; Tarrier, 1992), the individual's personal account of their psychotic symptoms, the conditions under which these were experienced, the accompanying emotional reaction, and the subsequent use of coping strategies, were elicited. Tarrier (1987) found that 18 (72 per cent) of the patients were able to identify coping strategies that they used to combat psychotic symptoms, and placed them into post hoc categories. Cognitive strategies (e.g. attention-switching, attention-narrowing, self-statements and rational restructuring) were used by ten patients (40 per cent), behavioural strategies (e.g. increasing or initiating social activities, withdrawing from social interaction, and increasing activity levels) were used by nine patients (36 per cent), sensory modification strategies (e.g. turning on the radio) were used by four patients (16 per cent), and strategies to modify physiological state (e.g. relaxation and breathing exercises, drug or alcohol misuse) were used by 5 patients (20 per cent). Of the patients that used active coping strategies, 18 (72 per cent) reported at least one to be moderately successful or better in controlling psychotic symptoms and 75 per cent of all strategies used were rated as at least moderately successful. Of the eight patients that reported multiple strategy use, there was a significant association with strategy effectiveness.

On the basis of these findings and other studies of patients attempts to cope with their symptoms Tarrier (1987) concluded that it would be possible to train patients in appropriate and effective coping skills. As it was evident from the research that many clients already used their own coping strategies it was hypothesised that this would also involve enhancing existing skills and therefore would be an acceptable form of treatment to the individual. This new treatment method was termed coping

strategy enhancement (CSE) and involved a traditional cognitive behavioural analysis looking at the antecedent, response and consequences of distressing experiences of psychotic phenomena, and to look at ways of assisting the individual to modify this interaction. Tarrier *et al.* (1997) named the following three characteristics that they felt distinguished CSE from other approaches:

(a) there was an attempt to build upon established coping repertoires, hence using the patients assets and strengths;

(b) *in vivo* practice of coping skills was encouraged;

(c) training in coping was not restricted to the application of a single technique but consisted of an array or combination of individual coping strategies (p.135).

Following the successful treatment of two individuals using CSE (Tarrier, Harwood, Yusupoff, Beckett & Baker, 1990), Tarrier, Beckett, Harwood, Baker, Yusopoff & Ugarteburu (1993) conducted a controlled study with drug-resistant schizophrenic outpatients comparing CSE to problem solving and a waiting list control condition. They found that patients in both the CSE and problem-solving conditions showed significant improvements in psychotic symptoms, but that CSE was superior in reducing delusional beliefs.

Tarrier, Yusupoff, Kinney, McCarthy, Gledhi, Haddock & Morris (1998) followed up these promising findings with a more rigorous second study involving a larger number of participants where medication was monitored and non-specific factors were controlled through the use of a supportive counselling condition. In this study 72 patients with persistent positive symptoms were randomly assigned to one of three groups: CBT plus routine care, supportive counselling and routine care, and routine care alone. Results revealed significant reductions in severity and number of positive symptoms in the CBT group and non-significant reductions in the supportive counselling group. Significantly more patients in the cognitive behavioural group showed improvements of 50 per cent or more than in the other groups. A 12-month follow-up study found that there continued to be significant improvements between

the CBT and routine care group (Tarrier, Wittkowski, Kinney, McCarthy, Morris & Humphreys, 1999).

1.7.7. Reviews of Outcome Research

There have been many case studies reporting the success of cognitive therapy in the alleviation of hallucinations and delusions (e.g. Greenwood, 1983; Kingdon & Turkington, 1994; Perris, Inglesson & Jonsson, 1993). Bouchard, Vallieres, Rot & Maziad (1996) reviewed 15 published empirical studies on schizophrenia and the treatment of hallucinations or delusions using 'cognitive restructuring'. They considered only five studies to be methodologically rigorous with reliable diagnoses of schizophrenia. They concluded, however, that despite methodological flaws in the majority of the studies, there was evidence that cognitive structuring was an effective treatment for reducing or eliminating positive symptoms. They also postulated that cognitive restructuring may be more effective in reducing delusions than hallucinations, although subjects also improved in most studies addressing the latter.

Yusupoff, Haddock, Sellwood & Tarrier (1996) carried out a review of CBT for hallucinations and delusions and emphasised caution on the presumed benefits of symptom reduction as a measure of improvement, especially as there is evidence that many patients derive benefits from positive symptoms (Miller, O'Connor & Di Pasquale, 1993). They also expressed concern about the high attrition rates in many studies (e.g. Tarrier *et al.* 1993) and that this must limit the extent to which findings can be generalised. Haddock, Tarrier, Spaulding, Yusupoff, Kinney & McCarthy (1998) also carried out a comprehensive review of CBT for hallucinations and delusions and concluded that the literature provided fairly strong evidence for its efficacy, but that there are a number of areas that need to be developed.

McGovern & Turkington (2001) elaborate on these areas of development, stressing the need for research into the specific effective elements of multi-modal CBT treatment packages and whether CBT can stand alone as a treatment for psychotic symptoms. They also readdress the concerns of Yusupoff *et al.* (1996) as to the lack

of consensus on what are the most important outcomes to demonstrate a treatment effect and how to measure them.

Finally, there has been an independent Cochrane review (Jones, Cormac, Mota & Campbell, 1999), which focused only on randomized controlled trials of CBT for people with a diagnosis of schizophrenia, possible schizophrenia, or mental illness without a specific diagnosis. This left them with four trials (Drury, Birchwood, Cochrane & MacMillan, 1996; Kemp, Hayward, Applewhaite, Everitt & David, 1996; Kuipers, E., Garety, Fowler, Dunn, Bebbington, Freeman & Hadley, C., 1997; Tarrier *et al.* 1998). Jones *et al.* (1999) expressed concern that none of the trials provided data on medication compliance, or whether the statistical power of the trials was sufficient to detect an effect for CBT. They estimated the statistical power of the trials, based upon their review, and concluded that future researchers should aim for an initial sample size of 60-65 per condition. They also commented on the high level of experience of the therapists in the trials and whether CBT would be as effective in the hands of less experienced practitioners. They did, however, conclude from their review that CBT is associated with a substantially reduced risk of relapse in those who are willing to receive it.

1.7.8. CBT and Negative Symptoms

In general CBT for psychosis has focussed on persistent positive symptoms, rather than people with negative symptoms only. The reason for this is perhaps that people who exhibit negative symptoms only, do not appear to respond well to treatment (Garety *et al.* 2000). Fowler (1992) reports finding severe difficulties in establishing and maintaining a therapeutic relationship with such individuals, in part because their distress about symptoms was not always apparent. He found that it was rarely possible to implement CBT procedures and that sporadic signs of improvement were not maintained.

1.7.9. Early Interventions

CBT has emerged as an effective approach for the relief the symptoms of psychosis not successfully treated by anti-psychotic medication. This is reflected in the latest

Scottish Intercollegiate Guidelines Network (SIGN; 1998) on psychosocial interventions in the management of schizophrenia, where it is recommended that: 'Cognitive Behaviour Therapy should be considered for symptoms of psychosis which are distressing and resistant to conventional treatment' (p.8). There is increasing support, however, for an earlier approach, focussing on acute and early psychosis, rather than waiting until 'conventional' treatments have proved ineffective. It is hypothesised that a CBT approach is likely to more helpful if offered early, and there is some evidence for this.

Drury *et al.* (1996) report on promising results from their controlled trial of CBT and recovery from acute psychosis. In their study, 40 patients were randomly assigned to either a CBT programme or the control condition of meaningful social activities away from the wards and support. Both groups also received medication and routine treatment. The CBT programme was a multi-modality treatment consisting of individual CBT, group CBT and family education and support. The patients in the CBT condition showed a significantly faster rate of decline in positive symptoms during treatment, with no difference in negative symptoms. At 9-month follow-up there was a similar pattern with 95 per cent of the CBT group and 44 per cent of the control group reporting no or only minor hallucinations or delusions, with no group differences in negative symptoms.

Importantly, they also found that on three stringent definitions of recovery that the CBT group showed a quicker resolution of psychotic symptoms on all three definitions and that this was associated with a 25-50 per cent reduction in recovery time (depending on which definition was used) and a significantly shorter stay in hospital. These impressive findings indicate that intensive multi-modality CBT interventions in acute psychosis are both beneficial to the client and also cost-effective. A limitation of the study was that the CBT treatment was multi-modal and the control condition may not have controlled for the non-specific one-to-one factors of the treatment group.

Haddock, Morrison, Hopkins, Lewis & Tarrier, (1998) attempted to remedy this by trying to replicate the study of Drury *et al.* (1996) using a smaller sample with a more specific form of individual CBT and a control condition of supportive counselling to control for the non-specifics of one-to-one therapy. Of 21 inpatients who were experiencing a recent onset acute schizophrenic episode and entered into treatment, 20 completed treatment, 9 in the CBT condition and 11 in the supportive counselling condition. Although there were significant pre and post improvements for the sample as a whole, no differences were found between the conditions on a variety of different measures either after treatment or at a 2-year follow-up. It may be hypothesised that the reason for this may be due to the limitations of such a small sample size when comparing two active treatments.

1.7.10. Cognitive Remediation/Rehabilitation

Unlike cognitive restructuring or cognitive therapy, which is defined as a set of strategies used primarily to change dysfunctional core beliefs (cognitive propositions), cognitive remediation or rehabilitation, refers to strategies used to compensate for deficits in information processing (cognitive operations) (Bouchard, Vallieres, Rot & Maziad, 1996). These deficits can include problems with concentration, attention, memory and thought processes (BPS, 2000). These difficulties can affect both relationships and treatment outcome, and cognitive remediation tries to improve people's abilities through practise and rehearsal (Hogarty & Flesher, 1992).

1.7.11. Family Interventions

Family interventions are based upon the research on the effects of expressed emotion. There is mounting evidence that effective support for families can significantly reduce the risk of relapse for the individual (Leff *et al.* 1990; Tarrier *et al.* 1989). Elements of the intervention include: psycho-education, that is helping the family to understand that behaviours may be due to lack of motivation and withdrawal rather than deliberate, training in problem-solving and non-specific emotional support (Barrowclough & Tarrier, 1992).

1.7.12. Other Interventions

In addition to the aforementioned interventions clinical psychology has been involved in many other areas attempting to alleviate the debilitating effects and maintaining factors associated with schizophrenia. These include social skills and problem solving (Hogarty *et al.* 1991; Lieberman *et al.* 1986), increasing compliance with neuroleptics (Weiden, Mott & Curcio, 1995) and integrated psychological therapy (Hodel & Brenner, 1994).

1.8. Schizophrenia and Emotional Disturbance

It is recognised that emotional disturbance is a highly significant aspect of the subjective experience of psychotic disorders (Fowler *et al.* 1995). People with psychosis often report that feelings of severe anxiety, despair, loneliness, unworthiness and rejection are as important if not more so than the actual symptoms that define the disorder (MacCarthy, Benson & Brewin, 1986). It is not surprising then that attempted suicide and suicide rates are extremely high in people with psychotic disorders. Caldewell and Gottesman (1990) report a suicide rate of around 10-13 per cent, and Markowe, Steinhert & Heyworth-Davis (1967) state that the risk of someone with schizophrenia committing suicide is 50 times greater than the general population.

Symptoms of anxiety and depression can precede a psychotic episode, coexist with it and/or follow on from it (Barnes, Curson, Liddle & Patel, 1989). Siris (1991) reviewed 29 studies and found prevalence rates for depression of 45 per cent concurrent with an acute episode and 20 per cent during the year following an acute episode. Period prevalence rates for co-morbid depression are also high, with Johnson (1988) reporting a period prevalence of 65 per cent over a sampling between one and three years. Panic and anxiety symptoms occur in approximately 60 per cent of people with chronic psychotic disorder (Siris, 1991).

It has been proposed that depressive symptoms surrounding acute episodes are different from the depression, which emerges as a chronic or recurring feature in chronic schizophrenia, which can and often does present without persisting positive symptoms (Johnson, 1981). It has been proposed therefore that depression may be a psychological response to a chronic illness (Birchwood, Mason, Macmillan & Healy, 1993). Drake & Cotton (1986) report that suicide correlates specifically with hopelessness and the more psychological aspects of depression rather than the vegetative features.

In a study of long-term schizophrenic and manic-depressive patients, Birchwood *et al.* (1993) investigated their hypothesis and confirmed that a perceived lack of controllability over their illness powerfully discriminated depressed patients from non-depressed patients. They propose that following on from these findings that interventions should include the encouragement of a blame-free acceptance of an individual's own illness, help to develop a sense of mastery through education and strategies for self-control (e.g. management of auditory hallucinations; Fallon & Talbot, 1981), and recognizing and responding to early signs of relapse (Birchwood *et al.* 1989).

1.9. Hearing Voices

1.10. Introduction

Slade & Bentall (1988) define an hallucination as:

> A percept-like experience that occurs in the absence of an appropriate stimulus, that has the full force and impact of a corresponding ("real") perception, and that is not amenable to direct and voluntary control by the experiencer (p52).

In the context of this study voices are defined as verbal auditory hallucinatory experiences. Although commonly regarded as first rank symptoms of schizophrenia and symptoms of mental illness, it has been questioned whether hearing voices is an unequivocal sign of mental illness (Romme, Honig, Noorthoorn & Escher, 1992; Sartorius, Shapiro & Jablensky, 1974). It is, however, established that auditory hallucinations have a powerful effect on the lives of those who experience them (Falloon & Talbot, 1981). Traditionally, discussion of an individual's subjective experience of hearing voices had been avoided for fear of confusing the client even further and increasing their internal chaos (Romme *et al.* 1992). The majority of voice hearers experience verbal auditory hallucinations every day, with these episodes lasting no more than a few seconds or minutes for a third of people, up to one hour in approximately a half, and are continuous for about a fifth (Chadwick *et al.* 2000a).

1.11. Phenomenology

1.11.1. Voices in Schizophrenia

Auditory hallucinations have traditionally been associated with a diagnosis of schizophrenia, a perspective laid down by almost all of the fathers of psychiatry such as Kraepelin, Griesinger and Schneider (Romme & Escher, 1994). In the World Health Organisation's International Pilot Study of Schizophrenia (WHO; 1973) 73 per cent of those diagnosed as having acute schizophrenia reported experiencing

auditory hallucinations. Although schizophrenia can be treated by pharmacotherapy and psychotherapy, there remain a small but significant group of patients who continue to hear voices (Falloon & Talbot, 1981). Johnstone, Owens, Frith & Leavy (1991) found in a follow-up study of 500 people who had received a diagnosis of schizophrenia that over 30 per cent reported that they still experienced moderate to severe levels of hallucinations.

1.11.2. Voices in Other Psychiatric Disorders

Auditory hallucinations have also been reported in many people not diagnosed as suffering from schizophrenia. Romme & Escher (1996) explored the experience of hearing voices in 288 patients of varying psychiatric diagnosis. They found that 28 per cent of the total sample reported hearing voices: 53 per cent of those with schizophrenia, 28 per cent of those with affective disorders and 13 per cent of those with personality disorders as well as other smaller groups of different diagnoses. They were also unable to find any qualitative differences between the two major groups (affective disorder and schizophrenia). They therefore concluded that hearing voices is present in people with different kinds of diagnoses and that qualitative differences of these hallucinations are not specific to particular diagnoses.

Investigations into discrete disorders have revealed that different forms of stressors or an accumulation of stressors can precipitate the emergence of auditory hallucinations in other psychiatric disorders and these are summarized by Turkington & Kingdon (1996). They report on evidence that hallucinations are very common in people suffering from post-traumatic stress disorder, as shown by Wilcox, Rionase & Suez (1991) study of veterans of the Vietnam War. Hallucinations are also common in those patients who have been subjected to prolonged or particularly brutal sexual abuse (Ensink, 1992).

Benjamin (1989) examined the relationship that individuals with varying psychiatric diagnosis had with their voices. The study found that all 30 patients had integrated and coherent relationships with their voices but that there were qualitative differences in these relationships between individuals with different diagnostic

syndromes. Those with a diagnosis of psychotic depression or borderline personality disorder found their voices to be hostile and attacking; a manic patient had cordial relationships with this voices; whereas the schizophrenic patients had a mixed picture of different types of stable substantial relationships. Benjamin (1989) goes on to suggest that because the relationship individuals have with their voices may serve an adaptive function, that it was important for any intervention to take into account that function.

1.11.3. Voices as a Continuum with Normal Experience

Historically many researchers have explored the existence and prevalence of auditory hallucinations in the general population. Sidgewick (1894) had noted that 2 per cent of the 'normal' population heard voices and recently Tien (1991) replicated this finding with a prevalence rate of 2.3 per cent in a sample of 15,000 people. Only one third of those who hallucinated reported distress or met criteria for the impairment of functioning, despite meeting the criteria for psychiatric diagnosis.

Posey & Losch (1983) developed a questionnaire based upon the reports of individuals who had experienced auditory hallucinations. They then administered the questionnaire to 375 students to see if they had ever had such experiences and found that 41 per cent had experienced sleep-related hallucinations, 36 per cent of the students reported that they regularly heard their name being called out loud when nobody was present, 39 per cent revealed that they heard their own thoughts aloud, 10 per cent heard an advisory voice and 5 per cent actually had conversations with a voice. Slade & Bentall (1988) developed a different set of questions, which they then administered to 136 psychology students and found that 15 per cent reported hearing someone talking and concluding that nobody was there.

Barret & Etheridge (1992) repeated the study of Posey and Losch (1983) and found similar percentages of those who experienced hearing voices, with 45 per cent hearing them regularly (varying between daily to once a month). They then compared the 'normal' individuals who experienced auditory hallucinations to non-hallucinators on tendencies to psychopathology using the Minnesota Multiphasic Personality Inventory (Graham, 1987). They found that indications of

psychopathology were as high in the non-hallucinating as in the hallucinating group, and therefore concluded hearing voices in the general population could not be considered as evidence of mental illness or psychopathology.

There is much evidence that when anyone is placed under extreme or repeated stress that they may experience auditory hallucinations, and a number of these experiences are described by Turkington & Kingdon (1996). Sleep deprivation among medical staff has been shown to lead to both visual and auditory hallucination, in addition to paranoid ideation (Oswald, 1974). Sensory deprivation from water tank emersion can lead to the development of simple and eventually complex hallucinations (Slade, 1984). Similarly, prisoners kept in solitary confinement for prolonged periods have been known to develop psychotic symptoms, including auditory hallucinations. There are considerable cultural differences in the experience of hearing voices. These can be seen in the frequency with which people who regard themselves as normal, report hallucinations and in the form with which hallucinations are reported (Al-Issa, 1978).

1.11.4. Positive Experiences of Voice Hearing

Miller *et al*. (1993) explored patient's attitudes towards their hallucinations by looking at their beliefs about the purpose of the hallucinations and about the adverse effects. Although nearly all the subjects experienced adverse effects approximately half (52 per cent) also reported some positive effects of their hallucinations and a sizeable minority (12 per cent) stated they would like to continue hallucinating. Their subjects were 50 hospitalised patients and it is therefore feasible that positive attitudes may well have been under-represented by this study sample. Miller *et al*. (1993) found that when hallucinations predictably followed certain internal states they may be valued more, and postulated that not only was predictability a factor in minimising the distress of the hallucination, but that the hallucination in itself may provide relief from distressing internal states. This is in line with theories that hallucinations may be self-reinforcing by reducing arousal (Slade, 1976), or relieving unpleasant affect (Horowitz, 1975). Other cognitive behavioural theorists have

proposed that hallucinations may also limit incoming stimuli (Helibrun, Diller, Fleming & Slade, 1986).

Falloon & Talbot (1981) also report that chronic hallucinators who have developed non-pharmacological means of controlling their voices did not want to reject their experiences completely. It is also well documented that socio-cultural attitudes can influence the occurrence of hallucinations (Al-Issa, 1978). In some cultures hallucinations are even valued and can be deliberately induced (Slade & Bentall, 1988).

1.12. Cognitive Models

Although there is no one comprehensive cognitive model that covers the experience of auditory hallucinations and is universally supported, many authors have attempted to explain the phenomena by supposing that they are internal cognitive events that are misattributed to an external source (Morrison, Haddock & Tarrier, 1995). Empirical support for these suppositions comes from research indicating that sub-vocalisations, that is unseen movement of the speech muscles, accompany auditory hallucinations and inner speech (Gould, 1950), and that tasks that inhibit sub-vocalisation also prevent the occurrence of auditory hallucinations (Margo, Hemsley & Slade, 1981). However, although there is agreement about the links between internal mental events and auditory hallucinations, the actual mechanism that results in this misattribution of inner speech is much debated and several models have been developed.

Hoffman & Rappaport (1994) propose that auditory hallucinations are a 'parasitic' form of long-term memory of previously stored linguistic information, which disrupt language production processes. The resultant inner speech is experienced as alien and unintended, that is, as an auditory hallucination. Similarly Hemsley (1993) puts forward difficulty in the integration of stored material with current sensory input as the responsible cognitive deficit. David (1994) uses a cognitive neuropsychological

model of language input and output processes, and proposes that faults in this language system result in auditory hallucinations. Frith (1992) argues that a deficit in the internal monitory system that regulates inner speech is the reason for the experience of auditory hallucinations. This results in a disassociation between intention and action and he argues that this is also a factor in other positive symptoms, e.g. delusions of control, where the individual does not feel in control of his own actions. Bentall (1990) also proposes that the misattribution of internal events reflects a deficit in internal monitoring, but that this is also influenced by an individual's beliefs and expectations in a top-down process. This, he argues, would explain cultural differences in the content of hallucinations, as the reality of an experience is judged against cultural norms. Reinforcement processes are involved in the maintenance of such misattributions.

Morrison *et al.* (1995) propose that in addition to the previously described models, meta-cognitive beliefs inconsistent with intrusive thoughts result in a cognitive dissonance. This then leads to the misattribution of these thoughts to an external source and the perception of them as auditory hallucinations. They cite as evidence for this the fact that the content of most auditory hallucinations is personally meaningful (Haddock, Bentall & Slade, 1993; Romme & Escher, 1994) that the meaning of them is therapeutically important (Chadwick & Birchwood, 1994; Romme & Escher, 1996) and the meaning or the individual's beliefs are intrinsic to the resultant affective and behavioural responses (Chadwick & Birchwood, 1994). They also note that as intrusive thoughts are often ego-dystonic e.g. blasphemous, violent (Rachman, 1994), voices can be of a similar theme, e.g. telling the individual to commit suicide or attack others (Chadwick & Birchwood, 1994). Thus it is postulated that hallucinations are maintained by a reduction in anxiety through reducing cognitive dissonance, which is achieved by attributing intrusive thoughts to an external source. This would also apply to hallucinations that are pleasant in content, as they may result from positive intrusive thoughts that are inconsistent with an individuals belief system.

Morrison, Wells & Nothard (2000), also offer Wells & Matthews' (1994) self-referent executive function (S-REF) as a framework for understanding the phenomenon of auditory hallucinations. The model proposes that individuals are vulnerable to psychological dysfunction in general if they have cognitive-attentional syndrome, which is characterised by heightened self-focused attention, attentional bias, ruminative processing and activation of dysfunctional beliefs. Cognitive-attentional experiences are mediated by executive processes, which are in turn directed by the individual's beliefs. Therefore, these beliefs are linked to interpretation, selection and execution of particular thought processes which can lead to the interpretation of those experiences as hallucinations.

1.13. Cognitive Behavioural Formulations of Voices

1.13.1 Voice Content and Behavioural and Emotional Responses

Benjamin (1989) studied 30 people who heard voices and found that in all 30 cases they had meaningful, integrated and personally coherent relationships with their voices. In people diagnosed with schizophrenia these relationships were judged as interpersonally 'normal' but not always complimentary. Even when a voice was hostile and attacking, patients might still say that it liked them. Benjamin (1989) states that it is the content of the voice that is directly responsible for the person's coping behaviours and affective response. Other research, however, has demonstrated that voices with similar content can provoke quite different coping behaviours (Tarrier, 1992), and that voices themselves do not always provoke a strong enough emotional or behavioural reaction to bring an individual to the attention of psychiatric services despite the serious content (Romme & Escher, 1989). For these reasons it has been proposed that psychological processes mediate the emotional and behavioural response to voices, i.e. beliefs (Chadwick *et al.* 2000a).

1.13.2. Beliefs About Voices

How is the content of a voice connected to behavioural and affective responses? Fowler *et al.* (1995) propose that the meaning and significance of the experience of hearing voices is often dependent upon the beliefs the individual has about the nature and content of voices. This link has been investigated by Romme & Escher (1989) who examined the beliefs of a large population of voice hearers who both had and had not been in contact with psychiatric services and found that a person's ability to cope with their voices was dependent upon their appraisal of them. They also found that many beliefs about the voices were similar to general beliefs that people held about themselves, the world and other people and that therefore these beliefs may be part of the continuum of normal attributes or social constructions about anomalous experience. This is in line with the earlier work on delusions of Hemsley & Garety (1986) who suggested that there were common processes at work in the formation and the maintenance of delusions and normal beliefs. Maher (1988) supports this view and describes delusions and normal beliefs as being on a continuum. Maher suggests that delusions constitute rational theories formed to explain abnormal experiences, such as, for example, hallucinations. Beliefs about hallucinations are often referred to as secondary delusions.

1.13.3. Beliefs and Behavioural and Emotional Responses

Fowler *et al.* (1995) propose that the understanding of psychotic problems may be improved by taking more account of the patient's subjective experience of psychosis, and the ways in which people with psychosis may try to make sense of their subjective experiences, and then act to cope with them. Appraisal has also been shown to affect the choice of coping strategy in the general population in response to a stressful situation (Lazarus & Folkman, 1984).

Morrison *et al.* (1995) predicted that behavioural responses to a negative appraisal of an auditory hallucination were likely to include suppression and distraction. They propose that, in line with their theory that intrusive thoughts can be experienced as auditory hallucinations, this could have a paradoxical effect and actually result in an

increase in the occurrence of hallucinations, as has been demonstrated on research into intrusive thoughts (Salkovskis & Campbell, 1994). Romme & Escher (1994) found that individuals who coped less well with voices relied primarily upon trying to escape from them using distraction techniques as a coping strategy.

Chadwick & Birchwood (1994) examined the beliefs and behavioural, cognitive and affective responses of 26 patients and found that the different responses were intrinsically linked to beliefs about these voices. They categorised three behavioural responses: engagement (elective listening, willing compliance, actively eliciting the voices), resistance (arguing and shouting, non-compliance, reluctant compliance, avoidance of triggers, and distraction) and indifference (ignoring or disregarding the voice). They also examined the beliefs about the voices, identity, omnipotence, purpose and presumed consequences of compliance/non-compliance, and from this classed the voice as either malevolent or benevolent. Without fail they found that when the voice was believed to be benevolent it was engaged with and when malevolent it was resisted. Those who were uncertain about their voices showed no clear pattern between their beliefs and behaviour. Affective responses were also closely associated with behavioural responses. All 12 malevolent voices provoked negative emotions (anger, fear, depression, anxiety) and 10 of the 11 benevolent voices provoked positive emotions (amusement, reassurance, calm, happiness). The one exception was a subject who felt anxious in response to a benevolent voice that gave warnings about possible danger. Chadwick & Birchwood (1994) also found that all of their patients viewed their voices as omnipotent and omniscient. Nearly one third (31 per cent) of subjects' beliefs in terms of malevolence/benevolence were inconsistent with content, which is in line with the cognitive model.

Chadwick & Birchwood (1994) concluded that distress and behaviours in response to voices are shaped by the beliefs about the voices power, identity and purpose. They accepted that the methodology needed to be operationalised and the measurements made more objective. When viewed from this cognitive perspective they proposed a new therapeutic approach, that alleviating the distress associated with voices might be possible through the weakening of these beliefs.

In a follow up study evaluating their own assessment questionnaire, a 30-item Beliefs About Voices Questionnaire (BAVQ), Chadwick & Birchwood (1995) further explored the connection between depressive symptomatology and beliefs about voices. They found that out of a sample of 60 individuals who heard voices, 26 of these believed the voice to be malevolent and were almost twice as commonly depressed as those without paranoid beliefs and also more severely so. Believing a voice to be very powerful was also associated with an increase in depressive symptomatology. To be in the presence of a controlling other from whom there is no escape is known to produce a sense of helplessness and powerlessness in all individuals, and that this is associated with depression (Gilbert, 1992).

Close & Garety (1998) carried out a replication study in an attempt to validate the assessment instrument (Assessment of Voices Schedule) used by Chadwick & Birchwood (1994), and to investigate extra factors such as mood-state, self-esteem, and appraisal of the voice in relation to the self with a view to developing a cognitive model of voices. They found that the Assessment of Voices Schedule was reliable for both test-retest and inter-rater reliability, but unlike Chadwick & Birchwood (1994) the participants in their study were significantly less likely to believe in the omnipotence or omniscience of their voices or to have a positive affective response to benevolent voices. Close & Garety (1998) propose that initially in treatment, behavioural interventions to increase control over voices may reduce a sense of helplessness and consequently reduce negative affect. They also advocate CBT techniques for changing beliefs about voices

1.13.4. Beliefs About Commanding Voices and Compliance

A cognitive approach predicts that whether or not people comply with commands is partly due to their appraisal of the situation (Brewin, 1988). Milgram's famous experiment demonstrated that dependent upon individual's beliefs about the authority of the experiments, their perception of their own degree of control and the presumed consequences of disobedience, ordinary individuals would administer severe electric shocks to another individual (Milgram, 1974).

Beck-Sander, Birchwood & Chadwick (1997) used a cognitive approach to explore the relationship between an individual's beliefs about voices, compliance and their subsequent emotional reaction with reference to command hallucinations. They found that beliefs did appear to be important in determining both compliance and the affect generated. These beliefs about the voices were categorised as either benevolent or malevolent. If a voice was perceived as benevolent the primary emotional response of most participants was a positive one and if the voice was perceived as malevolent the primary emotional response was a negative one. Beck-Sander *et al.* (1997) also found qualitative evidence that suggested that several other beliefs may affect compliance, such as beliefs about disobedience, identity of the voice and its perceived power or authority, and the social acceptability of the commanded behaviour. They propose that further research is needed to explore the importance of these beliefs and their interrelationships more fully.

Roger, Gillis, Turner & Frise-Smith (1990) found that command hallucinations tended to have a more self-punishing content than other hallucinations and that individuals who experienced them felt more helpless and also more reliant on their voices for advice and help with decision-making.

1.13.5. Beliefs and Emotional Responses in the Maintenance of Voices
Beliefs about voices not only elicit emotional, behavioural and physiological responses (Tarrier, 1987), they also maintain them (Chadwick & Birchwood, 1994). Morrison *et al.* (1995) propose that the underlying mechanism for this may be explained by linking auditory hallucinations with intrusive thoughts. Research shows that the frequency of intrusive thoughts is higher following a negative mood induction. Thus, according to their model, if a negative belief about a voice leads to a negative emotional response, this response will maintain the occurrence of the hallucination.

Baker & Morrison (1998) examined attributional biases in patients experiencing auditory hallucinations and found that they scored higher on meta-cognitive beliefs

about uncontrollability and danger and positive beliefs about worry. They also found that beliefs about uncontrollability and danger were predictive of whether subjects experienced auditory hallucinations or not. The mechanisms linking beliefs about thoughts with beliefs about hallucinations are not known at present.

1.14. Studies of Coping Strategies

Falloon & Talbot (1981) interviewed 40 people with a diagnosis of schizophrenia living in the community and who had persistently reported hearing voices, in order to explore the coping mechanisms used to reduce the interference of the auditory hallucinations. They found frequent coping mechanisms to include changes in activity, interpersonal contact, manipulation of physiological arousal and attentional control. Successful copers used fewer coping strategies but were able to apply them more systematically with more consistency and greater confidence in their efficiency. They also found that a significant number of non-depressed individuals showed more acceptance of their voices and appeared reconciled to their persistence. Although difficult to assess reliably, Falloon & Talbot (1981) acknowledge that it is probable that because effective coping behaviour may reduce stress, that it may also reduce the severity of the hallucination itself, especially as increased stress may be associated with the occurrence of voices.

In an innovative study the experience of hearing voices was explored through the responses of viewers to a television talk show where a patient diagnosed with schizophrenia talked about her voices (Romme and Escher, 1989; Romme et al. 1992). Of the 450 questionnaires sent out there were 173 responses. They found that only 7 per cent (N = 13) of respondents did not report experiencing social difficulties or additional psychiatric symptoms, and that 66 per cent (N = 115) reported not being able to cope. The demographic data did not differ significantly between copers and non-copers, but the non-copers felt significantly less in control of their voices and experienced them more negatively. They also found that imperative voices were significantly more common among non-copers. Coping strategies were categorised into four groups: distraction, ignoring the voices, selective listening to them, and

setting limits on their influence. Of these, distraction was used significantly more often by the non-copers, while a larger percentage of copers used selective listening and setting limits compared to non-copers. They also found that coping styles were more diverse in copers.

Romme & Escher (1989) detail stages leading up to the acceptance of voices, which precede the actual development of coping strategies. These stages are: the startling phase, which reflects the sudden onset of hearing voices, primarily as a frightening experience; the phase of organisation, which describes the process of selection and communication with the voices; and the stabilisation phase, which is the period in which a more continuous way of dealing with the voices is acquired.

O'Sullivan (1994) explored the coping strategies of 29 attendees at a depot clinic who had experienced hearing voices within the last 12 months, and the impact it had upon them. They found that 16 of the participants did not always experience their voices as unpleasant. They also found that there were significant differences in the way participants dealt with pleasant and unpleasant voices, with participants who found the experience unpleasant using significantly more coping strategies and significantly different ones. They attempted to identify groups of coping strategies and defined the following four factors: active, hopeful engagement; passive, despairing rejection; active ambivalent acceptance; and active, hopeful rejection.

1.15. Psychodynamic Theories

Miller *et al.* (1993) report that psychodynamic theories have postulated that hallucinations serve to gratify infantile wishes (Modell, 1958), as a function of bereavement, restoring lost objects (Schneck, 1989), to help master traumatic experiences (Modell, 1958; Mueser & Butler, 1987), project unacceptable impulses (Pilowsky, 1986), regulate anxiety (Tolpin, 1975) and enhance ego and super ego functions (Modell, 1958).

1.16. Interventions for Voices

In addition to the comprehensive interventions for psychotic symptoms discussed earlier, there are a number of techniques that have been used specifically to address the phenomenon of auditory hallucinations and related difficulties.

1.16.1. Behaviour Therapies

Nydeggar (1972) was one of the first people to report the successful clinical application of operant procedures when he treated a 20-year-old man with a diagnosis of paranoid schizophrenia, whose symptoms included auditory hallucinations. Careful analysis revealed that the symptoms occurred whenever the man was involved in conflict and had to make difficult decisions, at which point the voices would begin to tell him what to do. Nursing staff were told to give social approval for any talk involving accepting personal responsibility and within two months no further hallucinations or related behaviours were reported. It is difficult to draw conclusions from this study on operant conditioning as the patient was also asked to refer to his voices as his thoughts, which is in line with focussing approaches described in the following section, and the study is also unable to differentiate between a decrease in hallucinations and having learned through social reinforcement not to discuss them with staff.

Slade (1972) demonstrated in his work on systematic desensitisation towards auditory hallucinations that stress and arousal are associated with an increase in auditory hallucinations. He used imagery to gradually reduce the anxiety of an 18-year-old man with a diagnosis of paranoid schizophrenia experienced in the presence of his father, or when having thoughts about his father. Imaginal stimuli triggered voices, that following treatment reduced from 16 per cent reported frequency, to 6 per cent, and then at five-week follow-up to 2 per cent. An interesting point to note when considering the measurement of outcome in treatment is that this improvement in positive symptomatology was accompanied by the development of depressive symptoms.

1.16.2. Distraction Versus Focussing

Another form of behavioural therapy to control auditory hallucinations is the use of distraction or counter-stimulation. There is evidence that sub-vocal distraction techniques (e.g. asking patients to read) are useful in the management of auditory hallucinations, but that they do not appear to show long-lasting effects (Margo *et al.* 1981). Other techniques have included the use of headphones or 'personal stereo therapy' (Nelson, Thrasher & Barnes, 1991), and thought stopping (Lamontagne, Audet & Elie, 1983). Although these studies also reported short-term benefits the results were less positive in the long-term (Nelson *et al.* 1991).

An alternative approach has involved a requirement for individuals to focus on their voices. Fowler & Morley (1989) carried out a preliminary study looking at an intervention for five individuals who were hearing voices. The aim of the intervention was to encourage subjects to bring on and switch off their voices in order to facilitate reattribution of the voices from an external to an internal source. Only one person showed a reduction in the frequency of their voices, but four out of five reported an increase in perceived control over their voices. Unfortunately it is not clear if this was solely down to the use of focussing, as distraction techniques were also used concurrently.

Haddock *et al.* (1993) further developed this focussing approach and carried out a pilot intervention on two patients with chronic auditory hallucinations. This involved focussing on the physical characteristics of the voices, the content of the voices, related thoughts and the meanings attributed to the voices (belief system). Both patients received 20 sessions of treatment, and the results were that one patient showed a marked reduction in the frequency and content of his voices, with the second patient showing little change. The second patient however was originally receiving treatment that used distraction, but because of the negative effect of this treatment was changed to a focussing approach.

As discussed in section 1.7.4, many researchers have felt the need to utilize a combination of approaches including forms of focussing or distraction (Garety *et al.*

1994; 1997; Kingdon & Turkington, 1991; Kingdon *et al.* 1994; Kuipers *et al.* 1997; 1998; Sensky *et al.* 2000; Tarrier *et al.* 1997), but as a result of this it is still unclear which elements were most suitable and for whom. Some studies have indicated that the benefits of self-directed distraction techniques do not generalise outside of sessions, whereas focussing techniques may be distressing for some individuals if the content of hallucinations is particularly unpleasant (Haddock *et al.* 1996).

To investigate this further Slade, Haddock & Bentall (1996), compared two groups, one using a focussing-based treatment and the other using a distraction-based treatment. Based on their own cognitive model for hallucinations developed over a number of years (Bentall, 1990; Bentall & Slade, 1985; Slade, 1976; Slade & Bentall, 1988) they hypothesised that distraction techniques, although useful for some patients, would not produce lasting effects because they do not address the fundamental cognitive disorder of hallucinations, that is the misattribution of self-generated events to an external source. Furthermore, they hypothesised that with focussing techniques where there is a requirement to identify voices as relating to the self, that there would be longer term improvements, as this very problem is addressed. Surprisingly perhaps they found that of the nineteen patients that completed treatment (focusers, N = 11, distracters, N = 8), both groups showed significant improvements in both time spent on hallucinations and disruption to life compared to a control, but no significant differences between the groups, even at follow-up, with both groups maintaining improvement.

1.16.3. CBT for Modification of Beliefs About Voices
Beck's cognitive model of depression (Beck, Rush, Shaw & Emery, 1979) proposed that behavioural and affective responses are consequences of negative beliefs about an experience and not the experience itself. This theory led to the cognitive treatment of depression partly through the disputing and testing of beliefs. Research since then has shown that a cognitive-behavioural approach to beliefs about positive symptoms, such as examining evidence and considering alternative explanations is effective (Birchwood & Tarrier, 1992; Chadwick & Birchwood, 1994; Watts, Powell & Austin, 1973). CBT treatment of voices is similar to treatment of delusions in

some respects, and beliefs about voices are often referred to as secondary delusions (Chadwick *et al*. 2000a).

Chadwick & Birchwood (1994) describe four case studies where after 18 sessions of an adapted cognitive therapy for the treatment of drug resistant voices, subjects reported large and stable reductions in conviction in beliefs about omnipotence, identity and purpose, and that these reductions were associated with reductions in distress, increases in adaptive behaviour and, un-hypothesised, a fall in voice frequency. Miller *et al*. (1993) found that subjects that continued to hallucinate post treatment, either maintained the same attitude towards their hallucinations or reported more positive attitudes. Optimal treatment was selected and this could include pharmacotherapy, individual and group therapy, family therapy, and occupational therapy as indicated. They therefore postulated that treatment qualitatively altered hallucinations so that they were less distressing

Kuipers *et al*. (1997) as part of a more comprehensive approach (see section 1.7.4), incorporated modification of beliefs about voices into their randomised controlled trial. Beliefs about voices were treated in much the same way as delusions, with gentle challenging, the presentation of alternative explanations, and reality-testing where appropriate, e.g. testing out the actual rather than feared consequences of obeying a command hallucination. In addition to this the meaning attributed to voices was examined, and if possible links between current distressing voices and past events in the individuals' lives were explored. Again, if possible, voices were discussed as internal events, experienced as real by the client, but not part of the experience of others. Although not the sole focus of treatment or outcome measurement, as part of a comprehensive package, such an approach resulted in significant symptom reduction as measured by the BPRS.

1.16.4. Group Treatment

Chadwick *et al*. (2000b) examined the effectiveness of group CBT treatment for drug resistant auditory hallucinations. Twenty-two participants entered one of five groups run over eight weekly sessions of one-hour duration. Therapy was manualised and

adhered to through peer supervision. The focus of the groups was to modify beliefs about voices omnipotence, control and personal meaning, which were measured using visual analogue scales. In addition to this, measures were taken of process variables, and symptoms of anxiety and depression at assessment and the first and last session. Although the groups achieved a significant reduction in beliefs about the voices omnipotence and control, and process measures suggested that participants valued and benefited from the groups, no affective changes were found.

The authors conclude that the lack of change in depressive and anxious symptoms as measured by the Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983), was unsurprising considering the severity of symptoms and brevity of treatment, especially as Haddock, Slade, Bentall, Reid & Faragher (1998) found no reduction in depressive symptoms following 16 sessions of individual therapy. Chadwick *et al.* (2000b) also state that it is important to find a way of measuring how people react to a distressing hallucinatory experience, as acquisition of compensatory strategies to limit distress and behavioural disturbance are thought to be the most likely mechanisms of change in all forms of CBT (Barber & de Rubeis, 1989). They conclude that overall the data suggests that groups were most successful at increasing perceived control, yet no measure is indicated in the study, only for the reduction of the conviction in the voice's perceived control. The implications of this for the current study are discussed in section 1.17.1.

Wykes, Parr & Landau (1999) report on the group treatment of twenty-one individuals with medication-resistant auditory hallucinations. The focus of the sessions was on education, coping strategies and improving self-esteem. Among the measures used was a simple self-report questionnaire, in which the participants listed their coping strategies in response to the voices and rated the effectiveness of those strategies. A variety of other scales were used and the authors report significant changes in all outcome measures, including perceived power and distress as well as an increase in the number and effectiveness of the coping strategies. They conclude that although it needs further investigation, group treatment of auditory

hallucinations appears promising and may prove a cost effective alternative to individual therapy.

1.17. Current Study and Aims

Voices can be distressing for a large proportion of people with psychosis (Garety & Hemsley, 1987). Beck-Sander *et al.* (1997) proposed that further investigations into the relationship between mood, voice content and beliefs about voices are needed. There is evidence in the treatment of delusions that successful reduction of the conviction with which people hold their delusional beliefs is accompanied by a reduction in depression (Chadwick & Lowe, 1994). There is also evidence that secondary delusions, that is, beliefs about voices, may be weakened also using CT (Fowler & Morley, 1989; Chadwick & Lowe, 1990). Similarly if beliefs about voices can be weakened it is proposed that this might reduce associated distress and problem behaviour.

The exploration of these factors was of particular interest to the author because of their clinical utility. Hearing Voices Groups were to be set up within the Psychiatric Rehabilitation Service based upon a cognitive behavioural model with the goal to alleviate distress in reaction to hearing voices. The intended aims of the group were to identify, evaluate and modify the strength in conviction of beliefs about voices, and to explore and enhance the effectiveness of coping strategies used in response to voices.

1.17.1 Conviction of Beliefs About Voices

Chadwick & Birchwood (1994) first used the CBT conceptual framework to propose that voices were activating events, and that the beliefs an individual held about this experience were the determinants to how they felt and coped. There have been studies that provide empirical support for this cognitive formulation of voices (Birchwood & Chadwick, 1997; Chadwick & Birchwood, 1994, 1995; Close & Garety, 1998). These studies have identified four beliefs that are particularly important, the perceived identity, purpose/meaning, omnipotence/power and control (over the individual) of the voice.

Close & Garety (1998) propose that numerous years of hearing voices and a lack of ability to control them can lead to a sense of helplessness. They also postulate that as with the reformulation of the helplessness model of depression (Abramson, Seligman & Teasdale, 1978) and also the hopelessness model of depression (Abramson, Metalsky & Alloy, 1989) that the perceived uncontrollability of voices may be important. In addition to this there is evidence that people with schizophrenia who feel less control over their voices are more likely to be violent (Cheung, Scweitzer, Crowley & Tuckwell, 1997).

In their study validating the Assessment of Voices Schedule (Chadwick & Birchwood, 1994), Close & Garety (1998) found that all but one of the participants in their study perceived their voices as uncontrollable. They predict that experiencing a voice perceived as uncontrollable could cause a high negative effect. Their study and the Assessment of Voices Schedule do not provide an indication of the degree of control that a person perceives themself to have over their voice(s). Close & Garety (1998) comment that the categories of beliefs identified by Chadwick & Birchwood (1994) do not appear to encapsulate the full range of beliefs that people have about their voices, and it is with this justification that an individual's belief about their perceived control over their voices was explored in this study.

Control over psychotic symptoms is often a focus of intervention in CBT yet the literature provides little flexibility in the measurement of perceived control. Previous assessments of an individual's perceived ability to control their voices have been limited to yes/no responses. The Cognitive Assessment of Voices, (Chadwick *et al.* 2000a) contains questions relating to perceived control under the section 'Power' [of the voice]. The structured interview asks if an individual can control the voice (yes/no) and how sure they are of this, with no quantitative measurement. In their study exploring the effectiveness of CBT in modifying conviction of beliefs about voices Chadwick *et al.* (2000b), used a visual analogue line to be anchored at either end by 0 or 100 per cent to measure conviction of beliefs in omnipotence, control and personal meaning both before and after an intervention of group CBT. This

method of measurement was adapted for this study, but with the personal meaning measure broken down into its two component beliefs, identity and purpose, with the additional belief measurement of 'control you have over the voice'. One of the aims of this study was therefore to explore the association between conviction of beliefs, especially perceived control, and emotional distress and coping strategies.

1.17.2. Coping Strategies

One of the aims of this study was to explore the range of coping strategies used by people who hear distressing voices. Several studies (see section 1.14.) have explored how individuals cope with hearing voices and other psychotic phenomena, using concepts developed for coping with stressful situations, particularly those of Lazarus and colleagues (e.g., Lazarus & Folkman, 1981). There have been many criticisms of these studies, two of which have been that because the studies were innovative and exploratory that they often produced categories that were ad hoc, intuitive, and based upon the clinical intuition of the investigator, and also that they did not explore the impact the experience had on the participants lives e.g. whether it distressed or helped them (O'Sullivan, 1994). For these reasons a well established measure of coping strategies in response to stressful situations (The Coping Responses Inventory; CRI; Moos, 1992), based upon cognitive behavioural constructs was adapted for the study (see Methodology chapter). One of the aims of the study, therefore, was to explore the coping strategies used in response to distressing voices and the association between use of avoidance coping strategies and negative affect.

As previously described, Romme et al. (1992) found that individuals classed as not coping with their voices felt significantly less in control of them and experienced them more negatively. Another aim of the study therefore was to explore in more detail the relationship between coping strategies and perceived control of voices.

1.17.3 Emotional Distress

Most studies of the emotional impact of voices have focussed on depressive symptoms (e.g. the perceived omnipotence of the voice has been found to be positively associated with frequency and severity of depression; Chadwick & Birchwood, 1996), perhaps due to the well-documented links between schizophrenia, depression and risk of suicide (Drake & Cotton, 1986). It could be hypothesised, however, that experiencing a distressing voice that is perceived as uncontrollable, would also lead to higher levels of anxiety in addition to depression. For this reason this study explores not depression alone in the response to distressing voices, but the additional measure of anxiety and a combined overall measure of emotional distress including the two dimensions.

1.18. Hypotheses

Due to the expected limitations of available participants, the number of hypotheses to be tested is limited to three primary hypotheses, specific to this study. There are, however, a number of predictions based upon previous literature that one would expect to find and these are listed as subsidiary predictions. If a greater sample size were available, these would have ideally been tested as primary hypothesis but are instead explored. A summary of primary and subsidiary correlations to be conducted based on these hypotheses is presented in Appendix 1.

1.19. Associations Between Strength of Conviction in Beliefs About Voices and Current Emotional Distress

1.19.1. Hypothesis 1:

The specific hypothesis to be tested is that the strength of conviction of belief in perceived 'control over voice' will be negatively correlated with current emotional distress as measured by total HADS score.

1.19.2. Subsidiary Hypotheses:

<u>1.19.2.a. Associations Between Other Beliefs and Current emotional Distress</u>

Subsidiary hypotheses based upon the previous literature that are hoped to be replicated, are that increased conviction in beliefs concerning 'identity', 'purpose', 'power', and 'control over the individual', will be positively correlated with emotional distress as measured by total HADS score.

<u>1.19.2.b. Associations Between Other Beliefs and Anxiety and Depression</u>

Another subsidiary prediction is that although depression has been the primary emotional reaction to be explored in reaction to distressing voices, anxiety would also be associated with conviction of beliefs. Specifically, an increased conviction of belief in 'identity', 'meaning', 'power' and 'control over individual', in contrast to a decreased conviction of belief in perceived 'control over voice', would be correlated with an increase in depression and anxiety as measured by the subscales of the HADS

1.20. Associations Between Coping Strategies Used in Response to Hearing a Distressing Voice and Current Emotional Distress

1.20.1. Hypothesis 2:

The specific hypothesis to be tested is that 'avoidance' coping strategies will be positively correlated with current emotional distress as measured by total HADS score.

1.20.2 Subsidiary Hypothesis

A Subsidiary hypothesis is that 'approach' coping strategies will be negatively correlated with current emotional distress as measured by total HADS score.

1.21. Associations Between Strength of Conviction in Beliefs About Voices and Coping Strategies Used in Response to Hearing a Distressing Voice

1.21.1 Hypothesis 3

The specific hypothesis to be tested is that the strength of conviction of belief in perceived 'control over voice' will be negatively correlated with 'avoidance' coping strategies.

1.21.2. Subsidiary Hypotheses:

<u>1.21.2.a. Association Between Control Over Voice and Approach Coping Strategies</u>

One subsidiary hypothesis is that strength of conviction of belief in perceived 'control over voice' will be positively correlated with 'approach' coping strategies.

<u>1.21.2.b Associations Between Other Beliefs and Coping Strategies</u>

Other subsidiary hypotheses are that, the strength of conviction of belief in 'identity', 'meaning', 'power' and 'control over individual', will be positively correlated with 'avoidance' coping strategies and negatively correlated with 'approach' coping strategies.

Chapter 2. Method

2.1 Subjects

2.1.1. Ethical Approval

The Grampian Research Ethics Committee granted ethical approval for this study in February 2001 (see Appendix 2). As part of this approval it was stipulated that clients within Grampian Primary Care Trust, who were not being seen already by the clinical psychology service, would have to be identified and approached by their consultant psychiatrist, or a member of their team, who had been given the explicit permission of the consultant. The reason for this was because of a past complaint by a consultant that patients had been contacted, concerning research relating to their diagnosis, by healthcare professionals not directly involved in their care. The concern was that patients might make complaints against the professional who passed on details of their diagnosis without their consent, and that the ethics committee should guard against this.

2.1.2. Recruitment

Potential participants were identified from several different sources, both within and outwith the National Health Service (NHS). For a breakdown of the sources of participants successfully recruited, see Table 2.1.

Within the NHS, the principal source of subjects was the Community Mental Health Teams (CMHTs) within Royal Cornhill Hospital. Where possible the author attended CMHT meetings to present the proposal for the study, ask for possible participants and then for their key-workers to approach them. If this was not possible, then CMHTs and their respective consultants were contacted by letter and provided with a more detailed explanation of the project and criteria for participant inclusion. No participants were identified by the teams or their consultants through this second, more indirect approach. All hospital wards were approached in the same manner as the CMHTs, as were the Depot Clinic, Day Hospital, Older Adults Day

Hospital, Psychiatric Rehabilitation Service and the associated Outreach and Assertive Outreach Teams.

Clients were then approached by their key-worker, with the permission of the consultant (unless identified through the Psychiatric Rehabilitation Service Psychologist), and given an information sheet, (see Appendix 3). They were then given at least 24 hours to think about the project and if they then wished to participate, their key worker or consultant would pass on their details, so that the author could make contact. Participants were seen either within the clinical psychology department, at their home address, or on the ward, depending upon their preference.

Table 2.1. Breakdown of sources of recruitment for participants

Source of Referral	Number of Participants Seen (~%)
NHS	
CMHTs	9 (32%)
Rehabilitation Service: Psychology	7 (25%)
Rehabilitation Service: Psychiatry	4 (14%)
Long-Term Wards	2 (7%)
Older Adult Day Hospital	1 (4%)
Acute Wards	1 (4%)
Psychiatry	1 (4%)
Non-NHS	
Drop-in Centres	3 (11%)
Total	28 (100%)

Outside of the NHS, Grampian Research Ethics procedures did not apply, but the same method of recruitment was used as a standard of good practice. The study was discussed with managers of institutions, and with their permission, key-workers would approach potential clients and supply them with the relevant information. The

National Schizophrenia Fellowship were contacted, but were reluctant to approach their members because of their recent involvement with a Clinical Standards Review. Information concerning the study was sent for review, but no participants were accessed through this route. Two drop-in centres were approached and both were able to recruit volunteers for the study.

2.1.3. Refusal to Participate

Due to the ethical stipulations on participant recruitment it is not possible to provide accurate information on how many people refused to take part in the study. The reasons for this are, firstly, the author was not allowed to approach individuals unless they had already agreed to participate. Secondly because key-workers were not allowed to provide names without consent it was impossible to actively pursue them for numbers who had refused to participate. It is known that many key-workers said that there were suitable clients on their caseloads, but either they refused to take part or the key-worker did not return contact with the researcher. There were 18 known explicit refusals to participate.

2.1.4. Exclusion and Inclusion Criteria

An operational definition of shared experience was used for inclusion criteria, that is, anyone who hears voices and finds that experience distressing, as opposed to a diagnostic one such as schizophrenia. Potential participants who were excluded were those who were hearing voices but did not find the experience distressing, those who only experienced non-verbal auditory hallucinations, evidence of an organic psychosis or disabling use of illicit drugs or alcohol. On two occasions, grounds for exclusion only came to light during the interview.

2.1.5. Demographics

Of a total of 38 subjects who agreed to participate, 28 were able to complete the study. The reasons that ten individuals were unable to complete the study, were: four did not turn up to their appointments or home visits; two did not find their voices distressing; one changed their mind; one was too paranoid and unable to concentrate;

one was unable to communicate; and one found discussing their voices too distressing, so the assessment was terminated by mutual consent.

Many of the 28 participants had received a variety of different diagnoses, but at the time of testing, 25 had a diagnosis of schizophrenia or it's sub-types (e.g. paranoid schizophrenia), two had a diagnosis of psychotic depression, and one had a diagnosis of borderline personality disorder. All participants were of white European origin, there were 14 males and 14 females, and the average age was 42 years and 11 months with a range of 20 years and 5 months to 75 years and 4 months. For a detailed list of demographic information please refer to Appendix 4.

2.2. Design

This study employed a cross-sectional correlational design investigating the association between conviction of beliefs about distressing voices, coping strategies in response to this experience and current emotional distress.

2.3. Measures

The following measures were chosen for their appropriateness to the hypotheses proposed. They were also selected to reduce the cognitive and attentional demands placed upon the participant, as members of this client group often experience cognitive deficits. An additional concern about reducing demands of interviewing was the awareness that this study would involve, by definition, discussion of potentially distressing material, and therefore the length of the interview and rating scales should be kept to a reasonable limit.

2.3.1. Topography of Voices Rating Scale (TVRS)
The TVRS is a five-point Likert scale based upon one devised by Hustig & Hafner (1990). It was used to measure frequency, loudness, clarity, intrusiveness and

distress of voices over the last few days (see Appendix 5). The response to the distress item was used as a screening measure to exclude participants who were not currently finding their voices distressing (i.e. responses of 'slightly comforting' & 'very comforting'). If participants reported that they experienced their voice as neither comforting nor distressing (i.e. 'neutral'), they were also excluded. If, however, clients reported that their voices had been both distressing and comforting over the last few days, they were included, a score of 'neutral' recorded, and the distressing experience was used for the assessment.

2.3.2. Coping Responses Inventory – Adapted (CRI-A)

The Coping Responses Inventory (CRI; Moos, 1992) is a 48-item questionnaire or structured interview used to evaluate personal coping strategies and is based upon the eight subscales seen in Table 2.2. It is considered suitable for use with adult, general medical, and psychiatric clients, in addition to the general population (Milne, 1992). Its reliability has been investigated in terms of the internal consistency of the subscales and by test-retest over a one-year period, both resulting in satisfactory reliability (Milne, 1992). The test-retest scores (N = 624) also indicate stability over time in coping responses, of individuals. In terms of validity the original CRI correlated highly (coefficients of 0.56 to 0.83) with earlier coping questionnaires developed from Moos' research (Billings & Moos, 1981).

Table 2.2. The Eight Subscales of the CRI

	Approach coping responses	Avoidance coping responses
Cognitive coping strategies	Logical Analysis (LA)	Cognitive Avoidance (CA)
	Positive Appraisal (PA)	Acceptance (A)
Behavioural coping strategies	Seeking Support (SS)	Alternative Rewards (AR)
	Problem-Solving (PS)	Emotional Discharge (ED)

For the original version, clients are asked to select the most stressful problem or situation that they have experienced in the last 12 months. For this study, however the CRI was adapted, and the participants asked to recall a time, within the past 12 months, but as recently as possible, when they experienced hearing a voice(s) and found that experience distressing. The reason clients were asked for an experience as recently as possible, was because of the high frequency of hearing voices and documented difficulties with memory in this population. If this adaptation had not been made then the saliency of the experience may well have been reduced resulting in a less reliable recall of coping strategies and responses to that experience. This also increased the validity of correlating the CRI-A with other measures asking for responses in relation to recent experience, e.g. HADS.

A second adaptation was to change the wording of the item structure from 'problem' or 'situation' to 'experience'. The client is then asked to answer 10 separate items in Part 1 assessing their appraisal of the experience. Examples include the predictability of the experience, 'did you know this experience was going to occur?' and the perceived threat, 'when the experience occurred did you think of it as a threat?' Items are rated on a four-point scale ranging from 'definitely no' (0) to 'definitely yes' (3). This appraisal is seen as a stage between stress and coping, moderating an individual's perception of events and influencing their judgement about the appropriate coping strategy or response (Moos, 1976).

Once the experience has been identified, written down, and the appraisal clarified, the 48 coping items in Part II are administered in relation to that experience. Each response is again rated on a four-point scale, this time ranging from 'never' (0) to 'fairly often' (3). The individual item scores are used to derive the eight subscales and construct a coping profile (see Appendix 6 for items relating to subscales). This is done through converting the raw scores into standard scores using a table based upon a sample of almost 2000 people (Moos, 1990). In general the higher the score on the approach subscales, the better the coping repertoire, whereas the higher the avoidance subscales the less adaptive the coping (Milne, 1992). The detailed breakdown of personal coping strategies is believed to account for more of the

variance than other more limited coping instruments and is particularly well suited to measure any therapy designed to modify a clients coping strategies, such as cognitive or behavioural therapy (Milne, 1992). See Appendix 7 for copy of CRI-A.

2.3.3. Hospital Anxiety and Depression Scale (HADS)

The HADS (Zigmond & Snaith, 1983) is a 14-item self-report measure of anxiety and depression, designed originally for use in a general hospital outpatient setting (see Appendix 8). Seven items make up each of the two sub-scales, anxiety and depression. Each item is rated on a four-point scale, ranging from the absence of a symptom or the presence of positive features (a score of '0') to maximum symptomatology or the absence of positive features (a score of '3'). For each subscale scores from '0-7' are 'non-cases', '8-10' are 'doubtful' and '11-21' are likely to indicate definite anxiety or depression, or 'cases'. The scale has been shown to be a valid measure of severity (Duffy, Morrison & Peck, 1998) and although originally designed for use within general medical outpatient populations it has been used in many other clinical populations, including people with psychosis and also in measuring distress associated with the experience of hearing voices (e.g. Bentall, Haddock & Slade, 1994; Chadwick *et al.* 2000b; Haddock, Bentall & Slade, 1993). In addition to this the HADS is easy to understand, quick to administer, and was constructed, to as far as possible diminish the effect of somatic illness (Snaith, 1993). It was hoped, therefore, that this would help minimise any confounding side effects of neuroleptic medication.

In order to obtain an overall indication of current emotional distress the subscales of anxiety and depression were totalled to provide a single score. The subscale scores were also correlated to ensure not only that there was a significant association between the two variables, but also that they were not too closely associated and therefore essentially measuring the same thing, as empirically at least, scores taken from anxiety and depression overlap to a considerable extent (Dunbar, Ford, Hunt & Der, 2000). The use of an overall HADS score has been advocated by Ravazi, Delvaux, Farvacques & Robaye (1990).

The General Health Questionnaire, 28-item version, (GHQ-28; Goldberg 1981) was rejected after piloting due to it's over use of suicidal ideation in its section related to depression. The use of such questions in interview with a vulnerable population, with no follow-up therapeutic input always available was also not deemed appropriate. An additional factor was the phrasing of responses indicating that answers should be relative to usual functioning e.g. 'no more than usual'. As a significant proportion of this population had been experiencing distress in relation to voices for a considerable period of time, and not just the past few weeks as indicated by the GHQ-28, this form of measurement would miss the effects of chronic distress.

2.3.4. Belief About Voices Rating Scale (BAVRS)

Visual analogue scales are widely used as a quick and easy way of obtaining self-ratings of mood (Aitken & Zealley, 1970). Chadwick *et al.* (2000b) used visual analogue scales to measure participants conviction in three beliefs about their voices: 'power', 'control' and 'personal meaning' (identity and purpose), anchored at either end as 0 or 100 per cent, with an appropriate descriptive statement. For example, for the question 'How much control does the voice have over you?' the anchors were '0 %, no control at all' and '100 %, complete control'. The same concept was used for this study with 'meaning' broken down into two separate scales for 'identity' and 'purpose', and an additional scale added for 'control over the voice' (see Appendix 9). Participants were asked to place a cross on a 120mm line separating the two anchors at the point which best described their own belief. The distance between the left anchor and the cross was later measured and converted into a percentage of the total scale length. For the first two scales, voice 'identity' and 'purpose' blanks were left in the question so that it was individualised for each participant, i.e. 'How much do you believe that the voice belongs to _____?' and 'How much do you believe that the purpose of the voice is to _____?' Participants were asked to provide the information for these blanks, and then rate their conviction in their own idiosyncratic belief. If an individual did not know the identity or purpose of the voice then no score was recorded. If, as on one occasion, an individual accepted that the voice must actually belong to him, then a score of '0%' was given rather than filling in the blank, 'yourself' and recording '100%'. The reason for this is that in

the associated literature (e.g. Chadwick *et al.* 2000b), the concept of 'identity of voice' refers to voices that are believed to belong to an external entity and that weakening that belief and attributing it to an internal source is the focus of intervention.

2.4. Procedure

Once participants had agreed to take part in the research and for their details to be passed on they were seen either at their place of residence (e.g. at home, on the ward) or, if they preferred, given an appointment to be seen at the psychology department. Before any assessment took place subjects were asked if they had any questions about the information sheet they had been given or anything else to ask about the research. If they had forgotten the contents of the information sheet this was discussed again and a new copy given to them. The voluntary nature of the research was reiterated, as were issues of confidentiality and the anonymity of the results. Permission was sought to obtain demographic information from psychiatric notes and with this a consent form was signed and dated by both the participant and the researcher. This form was later added to the front page of the individual's psychiatric file. Participants were informed that the researcher would be unable to offer any individual therapeutic input concerning the experience of hearing voices, but that the psychology department was currently running groups. If they so wished at the end of the interview they could asked to be placed on the waiting list for assessment for joining the groups. The groups would focus on some of the factors discussed in the interview e.g. beliefs and coping strategies.

For the purpose of the assessment participants were initially asked to describe their voices and how many there were. If they experienced more than one voice they were then asked to chose the one they currently found the most distressing and this experience was used during the interview. Each questionnaire was then explained in turn and dependent on their ability to read and levels of understanding, participants either read through and answered the questionnaires themselves or had the questions

read to them and answers (except for the BAVRS) ticked on their behalf. All assessments were completed in one day, and the approximate duration of this was 45 minutes, ranging from 20 minutes to up to 3 hours (three one-hour sessions in a single day). This considerable variation was dependent upon each individual's mental state, understanding, need for clarification, and personal propensity to elaborate on their experience and answers to questions. Following assessment, participants were given the opportunity to ask any questions about the session and the option to have their name put forward for the hearing voices group. If participants expressed any concerns about their psychotic experiences they were directed to their community psychiatric nurse or consultant psychiatrist and the researcher with permission past on those concerns to the relevant healthcare professional.

2.5. Data Analysis

All statistical analyses were carried out using the Statistical Package for the Social Sciences for Windows (SPSS for Windows; Version 10.0). Due to the unidirectional nature of the hypotheses one-tailed correlations were used to explore associations between variables. The size of correlation coefficients are based upon the definitions of Cohen and Holliday (1982):

- .00 to .19 is very low
- .20 to .39 is low
- .40 to .69 is modest
- .70 to .89 is high
- .90 to 1.00 is very high

2.6. Statistical Power

Cohen (1992) states that for significance of product-moment, 'r', a medium effect size is 0.3, and a large effect size is 0.5. A power calculation suggested that for power of 0.83, one-tailed, to find a medium to large effect size of 0.4, a sample of 40 subjects would be required.

Chapter 3. Results

3.1. Exploration of Data

Prior to statistical analysis the data was explored. Due to the extremely skewed nature of some of the variable distributions, the median and interquartile ranges are the preferred measures of central tendency.

3.2. Topography of Voices Rating Scale (TVRS)

The frequency of responses to topography items can be seen in Table 3.1. Distributions for each scale of the TVRS are displayed in Appendix 10. For a full description of the wording of each item please see copy of questionnaire Appendix 5.

3.2.1. Frequency:

Over 90 per cent (N = 23) of subjects reported hearing voices at least once a day (score of '1' = every hour, '2' = several times a day but not every hour and '3' = once a day). All participants had experienced voices within the past few days.

3.2.2. Volume

Over half of the participants (N = 17) reported that their voices were either very loud (score of '1') or fairly loud (score of '2'), while only four found their voices to be fairly quiet (score of '4') or very quiet (score of '5').

3.2.3. Clarity

Half of the participants (N = 14) described their voices as 'very clear' (score of '1') and over a quarter as 'fairly clear' (score of '2').

3.2.4. Distress

Over 90 per cent of the participants (N = 26) found their voices to be either very distressing (score of '1') or fairly distressing (score of '2').

3.2.5. Distractibility

Over 60 per cent of participants reported that their voices were either fairly distracting (score of '3') or very distracting (score of '4'). Only one participant found their voices very easy to ignore (score of '1'), whereas three participants reported that their voices compelled them to obey them.

Table 3.1. Frequency of scores on the Topography of Voices Rating Scale (TVRS)

Topography		Rating					Total
		1	**2**	**3**	**4**	**5**	
Frequency	%	32.1	42.9	17.9	7.1	0	100
	(N)	(9)	(12)	(2)	(5)	(0)	(28)
Volume	%	35.7	25.0	25.0	10.7	3.6	100
	(N)	(10)	(7)	(7)	(3)	(1)	(28)
Clarity	%	50.0	28.6	7.1	10.7	3.6	100
	(N)	(14)	(8)	(2)	(3)	(1)	(28)
Distress	%	50.0	42.9	7.1	0	0	100
	(N)	(14)	(12)	(2)	(0)	(0)	(28)
Distraction	%	3.6	21.4	21.4	42.9	10.7	100
	(N)	(1)	(6)	(6)	(12)	(3)	(28)

3.3. Coping Responses Inventory – Adapted (CRI-A)

The responses to the CRI-A are summarised according to its subscales. The median scores and respective interquartile ranges are in Table 3.2 and graphically represented in Figure 3.1. It is interesting to note that the two most commonly reported coping strategies, are those which make up the Cognitive Avoidance subscale (Cognitive Avoidance and Acceptance) with median responses of 12 and

interquartile ranges of 4.00 and 5.75 respectively. In contrast to this, the two least frequently utilised coping strategies are that of Alternative Rewards and Emotional Discharge, with median response scores of 6 and 6.5 and interquartile ranges of 6 and 4.75 respectively. These two coping strategies make up the Behavioural Avoidance subscale which when combined with the Cognitive Avoidance subscale give an overall avoidance coping strategy score, that is used to test the primary hypotheses concerning the use of avoidance coping strategies. In contrast there is much less variation in the approach coping strategies with the Seeking Support and Problem-Solving subscales proving to be the most frequently used subscales with median responses of 10 and respective interquartile ranges of 5.25 and 4.50.

Table 3.2. Median scores on coping strategy responses on the CRI-A

CRI-A	Median (Interquartile range)	N
Approach subscales		
Logical Analysis	8.5 (5.75)	28
Positive Appraisal	9.5 (3.00)	28
Seeking Support	10.0 (5.25)	28
Problem-Solving	10.0 (4.50)	28
Avoidance subscales		
Cognitive Avoidance	12.0 (4.00)	28
Alternative Rewards	6.0 (6.0)	28
Emotional Discharge	6.5 (4.75)	28
Acceptance	12.0 (5.75)	28

Figure 3.1. Median scores for coping strategy responses on the CRI-A
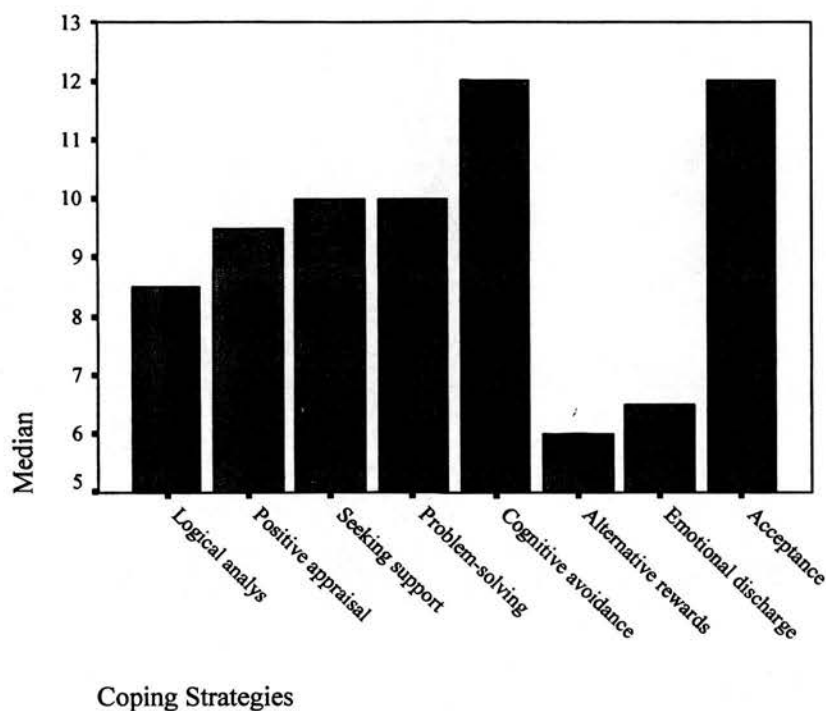
There are no published studies to show how extreme these results are or are not, as the questionnaire was adapted and has not previously been used as a measure of coping strategies in response to the experience of hearing a distressing voice. For this reason the raw scores stand on their own, but it is useful to convert them to the standard scores provided by Moos (1990), in order to compare them to the coping strategies used by other populations in response to stressful situations. The results can be seen in Table 3.3 and Figure 3.2. When the scores are converted, it is clear that, overall, this sample are less likely to use approach coping strategies in reaction to their voices than the 'general' population are in reaction to stressful events. In contrast this sample were more likely to use avoidance coping strategies. The seemingly low raw scores for Behavioural Avoidance Factor subscales (alternative rewards and emotional discharge) can now be seen to actually be higher than those found in the general population.

Table 3.3. Median standardised scores of coping strategy responses on the CRI-A

CRI-A	Standardised Median (Interquartile range)	N
Approach subscales		
Logical Analysis	43 (15.0)	28
Positive Appraisal	48 (6.0)	28
Seeking Support	52 (13.0)	28
Problem-Solving	48 (11.0)	28
Avoidance subscales		
Cognitive Avoidance	62 (9.0)	28
Alternative Rewards	52 (14.0)	28
Emotional Discharge	58 (14.0)	28
Acceptance	61(11.0)	28

Exploring the pattern for overall coping strategy factors reveals that approach coping strategies are less commonly used than avoidance strategies, and also that cognitive strategies are more often reported than behavioural strategies. These patterns are clearly seen in Table 3.4.

Figure 3.2. Median standardised scores on coping strategy responses on the CRI-A
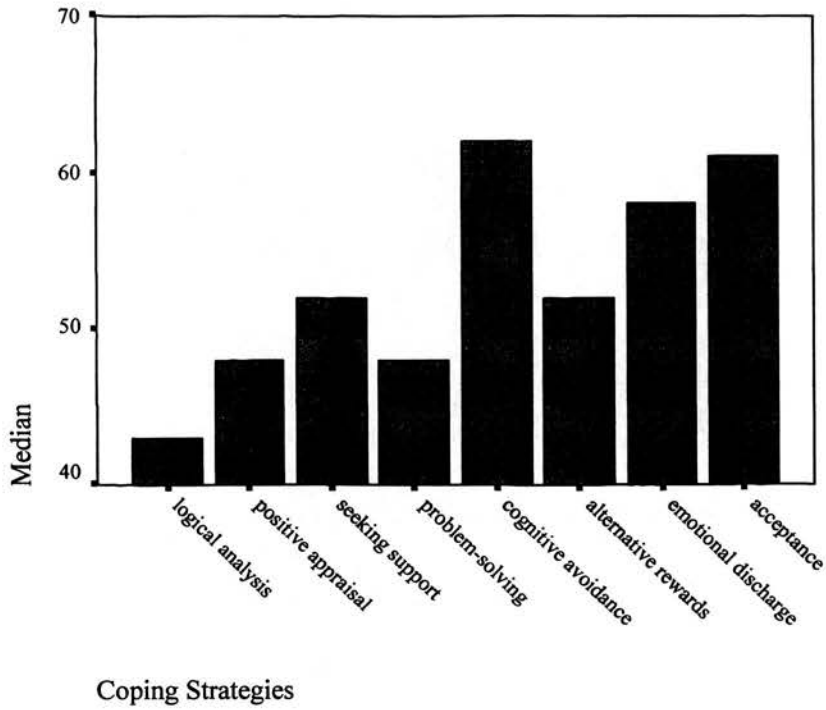
Coping Strategies

Table 3.4. Median scores on coping strategy factors with interquartile ranges in parenthesis

	Approach coping responses	Avoidance coping responses	Overall
Cognitive coping strategies	17.5 (7.75)	21.0 (7.75)	42.5 (13.25)
Behavioural coping strategies	19.5 (10.00)	14.5 (9.00)	33.5 (18.25)
Overall	34.0 (13.00)	39.0 (11.75)	

3.4. Hospital Anxiety and Depression Scale (HADS)

3.4.1 Anxiety and Depression Subscales

There was a significant modest positive correlation between the HADS sub-scales of anxiety and depression (rho = .55, p = .001, one-tailed test, N = 28). This validated the procedure used by Ravazi *et al.* (1990) of totalling the subscales in order to provide a single index of emotional distress.

The median scores and respective interquartile ranges for the HADS subscales are shown in Table 3.5, and as can be seen overall in this sample there was a lower level of depression in comparison to anxiety. In Table 3.6 the total numbers of participants falling into the subscale ranges 0-7 (non-cases), 8-10 (doubtful) and 11-21 (cases) for anxiety and depression are shown.

Table 3.5. Overall HADS scores

HADS	Median (Interquartile range)	N
Anxiety	14 (5.75)	28
Depression	11 (8.75)	28
Total	23.5 (11.75)	28

Table 3.6. Number of people within each subscale range for the HADS

Range	Anxiety	Depression
Non-case (0-7)	3	8
Doubtful (8-10)	4	5
Case (11-21)	21	15

<u>3.4.2. Current Emotional Distress and Reported Distress in Reaction to Voices</u>

There was a significant high positive correlation between total HADS score and distress caused by voices as measured on the TVRS (rho = .745, p < .000, one-tailed test, N= 28). There was a significant high correlation between HADS depression subscale score and distress caused by voices on the TVRS (rho = .754, p < .000, one-tailed test, N= 28). There was also a significant modest correlation between HADS anxiety subscale score and distress caused by voices on the TVRS (rho = .495, p = .004, one-tailed test, N= 28).

3.5. Beliefs About Voices Rating Scale (BAVRS)

Of the 28 participants, 8 were unable to provide an identity, and 2 were unable to name a purpose for their voice. These missing values were excluded pairwise from any correlations involving identity or purpose. A description of the identity and believed purpose of the voices for each subject can be obtained in Appendix 11. All participants were able to rate their beliefs about the power of the voice, the control of the voice and their control over the voice. As can be seen in Table 3.7, there was a high level of conviction in beliefs about voices identity, purpose and power. In comparison beliefs about the control the voice had over the individual, were much lower at approximately 50 per cent, but with a much larger interquartile range than the previously mentioned beliefs of identity, purpose and power. The conviction of belief in perceived control that the participants had over their voices was much lower with a median score of less than 30 per cent, but again there was a greater variance of response as indicated by the interquartile range of 55.2 per cent.

Table 3.7. Median responses for Beliefs About Voices Rating Scale (BAVRS)

Belief	Median (interquartile range)	N
Identity	98.8 (18.1)	20
Purpose	100.0 (22.5)	26
Power	80.0 (30.6)	28
Control of Voice	51.3 (68.3)	28
Control over Voice	29.6 (55.2)	28

3.6. Hypotheses Testing

Because of the lack of normality of distribution of some variables, and the small sample size, nonparametric statistical tests were used due to concerns that their parametric equivalents may not have been robust enough in light of a small sample size, to avoid assumption violation. Spearman's correlation coefficient (rho) was therefore used for all correlations and a significance level (alpha) set at <0.05. For the interested reader, a correlation matrix for all variables, relating to primary and subsidiary hypotheses can be found in Appendix 12.

3.7. Primary Hypothesis

3.7.1. Hypothesis 1: Strength of conviction of belief in perceived 'control over voice' will be negatively correlated with current emotional distress as measured by total HADS score.

A statistically significant, low negative correlation was found between control over voice and emotional distress (rho = -.325, p = .046, one-tailed test, N = 28). For a diagrammatic representation see Appendix 13. The hypothesis was therefore upheld.

3.7.2. Hypothesis 2: Avoidance coping strategies will be negatively correlated with current emotional distress as measured by total HADS score.

A statistically non-significant, low positive correlation was found between avoidance coping strategies and emotional distress (rho = .209, p = .143, one-tailed test, N = 28). For a diagrammatic representation see Appendix 14. The hypothesis was therefore not upheld. A power calculation was carried out on the results, which indicated that for the low effect size found, a sample of N = 105 would be needed to achieve power of 0.8, for a one-tailed test, at α = .05.

3.7.3. Hypothesis 3: Strength of conviction of belief in perceived 'control over voice' will be negatively correlated with 'avoidance' coping strategies.

A statistically non-significant, very low negative correlation was found between control over voice and avoidance coping strategies (rho = -.159, p = .210, one-tailed test, N = 28). For a diagrammatic representation see Appendix 15. The hypothesis was therefore not upheld. A calculation based upon this effect size indicated that to achieve power of 0.8, for a one-tailed test, a sample size of N = 151 would have been needed to find it significant at α = .05.

3.7.4. Subsidiary Hypotheses

It was hypothesised that increased conviction in beliefs concerning 'identity', 'purpose', 'power', and 'control over the individual', will be positively correlated with emotional distress as measured by total HADS score, and also with the subscales of anxiety and depression. In contrast, decreased conviction of belief in perceived 'control over voice' would be positively correlated with anxiety and depression. A similar prediction was that conviction of belief in voice 'identity', 'meaning', 'power' and 'control over individual' would be positively correlated with avoidance coping strategies and negatively correlated with approach coping strategies. Further subsidiary hypotheses were that approach coping strategies would also be positively correlated with perceived 'control over voice' and negatively correlated with emotional distress as measured by total HADS score.

All 24 correlations were analysed by means of Spearman's rho coefficients, after inspection of all possible bivariate scatterplots. Due to the nature of multiple testing and chance findings the Bonferroni procedure was used to set alpha (α) = .0021 (.05/24). Following this adjustment only one of the subsidiary hypothesis achieved an effect size that could be said to be statistically significant, which was the modest positive correlation between perceived power of the voice and avoidance coping strategies (rho = .544, p = .001, one tailed test, N = 28). The correlations of low to modest strength can be seen in descending order of effect size in Table 3.8. Perceived power was also positively correlated to a modest and low extent with HADS depression and total scores respectively, but not strongly enough for the result to be significant. 'Control over voice' showed a larger correlation with the HADS subscale of anxiety compared to depression, but not enough to prove statistically significant as a subsidiary hypothesis, following corrections for alpha. An interesting trend to note is that 'control over voice' was negatively correlated with approach coping strategies, which was in the opposite direction to prediction.

Table 3.8. Subsidiary hypotheses results: Correlations of low to modest strength

Correlation (one-tailed)	Rho	Sig.	N
Power by avoidance coping strategies	.544*	.001	28
Power by HADS-depression	.490	.004	28
Power by HADS-total	.385	.022	28
Control over voice by approach coping strategies	-.376	.024	28
Control over voice by HADS-anxiety	-.361	.030	28
Purpose by HADS-total	.273	.088	26
Purpose by HADS-anxiety	.263	.099	26
Control of voice by HADS-anxiety	.262	.089	28
Control over voice by HADS-depression	-.241	.108	28
Purpose by approach coping strategies	.227	.132	26

* Significant at α = .0021.

3.8. Post Hoc Analyses

Due to the variation seen in the avoidance coping strategies subscales as illustrated previously in section 3.3 and Table 3.2, the decision was made to explore the statistically significant relationship found between avoidance and perceived power further by looking at the relationship of power with the individual subscales. These relationships can be seen in Table 3.9, where it is evident that the strongest effect sizes are in relation to the two subscales of the Cognitive Avoidance factor (cognitive avoidance + acceptance). When compared to the Cognitive Avoidance factor, an even stronger effect was found (rho = .642, N = 28). Although these effects were significant it has to be highlighted that these are exploratory analyses and not predicted hypotheses. The significance levels are therefore attached only as an aid to the reader.

Table 3.9. Spearman's rho correlations of perceived power of the voice against CRI-A avoidance subscale coping strategies (N = 28).

Avoidance coping strategies	Power
Cognitive avoidance	.485**
Alternative rewards	.051
Emotional discharge	.220
Acceptance	.518**

**p<.001, one-tailed.

Again, because of the variation within the avoidance coping strategies and the unexpected negative trend found with approach coping strategies, the primary and secondary hypotheses concerning the relationship between 'control over voice' and coping strategies was further explored. Spearman's rho correlations were performed between perceived 'control over voice' and all eight coping strategy subscales, the results of which can be seen in Table 3.10. There were no individually unusual

results, however, all eight subscales showed very low to low negative correlations with perceived control over voice, including the four subscales which make up approach coping strategies, which was predicted to be positively correlated with perceived control. Again, it is highlighted that these are exploratory analysis and not predicted hypotheses and that the significance levels are therefore attached only as an aid to the reader.

Table 3.10. Spearman's rho correlations of perceived control over voice against CRI-A subscale coping strategies (N = 28).

CRI-A	Control over voice
Approach subscales	
Logical Analysis	-.349*
Positive Appraisal	-.106
Seeking Support	-.099
Problem-Solving	-.334*
Avoidance subscales	
Cognitive avoidance	-.191
Alternative rewards	-.083
Emotional discharge	-.120
Acceptance	-.245

* p<.05, one-tailed.

3.9. Case Vignettes

In the following example case vignettes from the study, personal information has been altered so as to protect participant confidentiality.

'C'

C., a single man aged 20, had been in hospital on only one occasion because of a psychotic episode, but it had lasted for over a year. At the time of assessment 'C'

reported that his voices were fairly frequent, very loud, very clear, very distressing, and fairly distracting. He described hearing many different voices and although he was unsure how many they were, he knew there were less than ten. The voices were those of his family and friends from school, and the most distressing was that of his grandmother. He believed 83 per cent that the voice belonged to her, and 93 per cent that the purpose of it was to make a fool of him. The voice would cast disparaging remarks about him and his father, and also try to belittle him and comment on his inadequacies in social situations. He believed that the voice was 84 per cent powerful and that it had 80 per cent control over him, the evidence for this being its ability to muddle up his thoughts. He only believed that he had about 8 per cent control over the voice and was unable to stop it. 'C' scored 16 for anxiety and 14 for depression on the sub-scales of the HADS. His most common coping strategies were to seek alternative rewards and acceptance, and overall he scored higher on avoidance 'compared' to 'approach' strategies.

'F'

'F' was a 46-year-old woman who had been in and out of hospital with treatment resistant schizophrenia, since suffering a nervous breakdown 15 years ago. Currently staying in a chronic ward she believed she was there because she was working for the FBI and the police undercover. 'F' reported hearing ten voices, all of them unpleasant. She did not want to reveal the identity of the most distressing voice because it was to personal, and so offered the pseudonym of Mr X. 'F' was 100 per cent sure the voice belonged to Mr X and 43 per cent that its purpose was to taunt her. It would comment that she would never get out of here and that her money would go either to him or to the state. At the time of interview she reported that the voices were very frequent, very loud, very clear, fairly distressing and very easy to ignore. On the HADS, 'F' scored 7 for anxiety and 4 for depression. Her most common coping strategy was seeking alternative rewards, but because she used no emotional discharge and very little acceptance or cognitive avoidance as coping strategies, she scored much higher overall on approach, rather than avoidance coping strategies.

3.10. Summary of Results

No statistically significant correlations were found between the reported use of avoidance coping strategies and emotional distress or the reported use of avoidance coping strategies and the perceived control an individual has over their voice. A statistically significant negative correlation was found between perceived control over voice and emotional distress. Investigation of 24 subsidiary hypotheses with adjusted alpha levels revealed one significant finding, the positive correlation between avoidance coping strategies and the perceived power of the voice.

There are a number of possible reasons for these results, which will be discussed in the following section.

Chapter 4. Discussion

4.1. Summary of Results

Of the primary hypotheses, only the proposed negative association between perceived control over a voice and current emotional distress was found to be statistically significant. No significant correlations were found between perceived control and the use of avoidance coping strategies, or the use of avoidance coping strategies and current emotional distress. In terms of the subsidiary hypotheses only the positive correlation between avoidance coping strategies and the perceived power of the voice was found to be statistically significant, following alpha adjustments. These exploratory findings also found interesting effect sizes for associations between 'control over voice' by anxiety and 'power' by depression Additionally, an unexpected direction of correlation was found for 'control over voice' by approach coping strategies.

In the following sections the general findings of the study and the specific hypothesis tested will be explored and discussed with additional references to possible future research and the clinical implications of the results. Attention will also be paid to methodological difficulties and the clinical utility of the questionnaires adapted for this study. To conclude, the implications for future research will be discussed and the findings summarised.

4.2. General Findings

4.2.1. Coping Strategies
The sample in this study was more likely to use Cognitive Avoidance Factor coping strategies (cognitive avoidance and acceptance) than any others. Examples of cognitive avoidance coping strategy items are 'Try to forget the whole thing', and 'Try not to think about the experience.' It could be argued that such responses are

more likely in reaction to a cognitive event such as hearing a voice, than to the stressful external events, which would form the focus of the original CRI, and it's standardised scores. The second coping strategy making up the Cognitive Avoidance Factor, is acceptance, which includes items such as '[Did you] Feel that time would make a difference, the only thing to do was wait?' and '[Did you] Accept it, nothing could be done?' Higher responses on these items, it could be argued, are more likely in this sample given the chronic nature of hearing voices and the fact that the 'stressful event' of hearing a voice was an ongoing difficulty and not a one off stressor, which would be more likely on the original CRI.

When examining the standardised scores it is clear that this sample are much more likely to use avoidance strategies rather than approach strategies. An interesting piece of research would be to repeat the CRI-A, but with a population of voice hearers who do not find the experience distressing and compare it with the results of this sample. This would allow further speculation as to whether the predominant use of avoidance over approach coping strategies is solely related to the chronic nature of hearing voices, or whether it is associated more strongly with finding that experience distressing.

4.2.2. Emotional Distress

Three-quarters (21/28) of the sample scored within the 'case' range on the HADS anxiety subscale. However, roughly, only half (15/28) of the sample scored within the 'case' range on the HADS depression subscale. Possible reasons for this difference are that, despite the fact that the HADS was constructed to diminish the effect of somatic illness, the side-effects of neuroleptic medication may have resulted in an increased score on some anxiety items. Alternatively, some anxiety items may be more pertinent to the experience of hearing voices. Inspection of overall item scores on the HADS reveals that only two items had a median greater than '2', and that these were 'I get a sort of frightened feeling as if something awful is about to happen' (median = 3.0, interquartile range = 1.00) and 'Worrying thoughts go through my mind' (median = 3.0, interquartile range = 1.75). These items can clearly be interpreted as being applicable to hearing distressing voices, both the

expectation and the actual experience respectively, rather than neuroleptic side-effects. It would again be interesting to repeat the administration of the HADS to voice hearers who do not find their experience distressing, to explore any differences between the two groups. One could predict that this would tease any item differences related to the distressing experience of hearing voices, whereas scores on items confounded by side effects of medication could be controlled for.

4.2.3. Conviction of Beliefs About Voices

Eight participants were unable to provide an identity for their voice and two participants were unable to state the purpose of their voices. It was clear during assessment that the participants who were unable to answer these items had not been asked these types of questions before. As described in the Introduction it has often been the case in psychiatry that more interest is paid to the form of the voice, for example to ascertain whether it is in the third person as an aid to diagnosis, rather than to any personal meaning (e.g. identity and purpose) attached. This would perhaps explain why these concepts were unfamiliar to some of the participants. Previous studies (e.g. Chadwick *et al*. 2000b) have combined identity and purpose into one belief rating. The variability, however, in ability to give a response would suggest that separating the concepts is a valid and useful process.

Of those who were able to provide identities and purpose to their voices, the strength of conviction in these beliefs was extremely high. This was also the case for beliefs about power, but not so for control of the voice for which the median strength of conviction was around 50 per cent, with by far the greatest variation in scores. It is not clear why this was the case, as this does not replicate the findings of Chadwick *et al*. (2000b), who found much higher scores, using the same measurement scale for control of the voice. Overall the sample scored fairly low on perceived control over voice, but again there was great variation in scores.

4.3. Hypotheses

4.3.1. Associations Between Strength of Conviction in Beliefs About Voices and Current Emotional Distress

4.3.1.a. Control Over Voice and Emotional Distress

A significant negative correlation was found between the strength of conviction of belief in perceived 'control over voice' and current emotional distress as measured by total HADS score. The results indicated that the two variables accounted for 10.6 per cent of each other's variance (r^2). It was also predicted, however, that experiencing a distressing voice that is perceived as uncontrollable, would also lead to higher levels of anxiety in addition to depression, the emotional reaction predominantly investigated in the literature (e.g. Chadwick & Birchwood, 1996). In exploring the subsidiary hypotheses a greater effect size was found for correlations of perceived control with the HADS subscale of anxiety compared to depression, but due to limitations imposed, to correct for multiple testing, this correlation cannot be taken as statistically significant. Perceived control over voice accounted for 15 and 5 per cent of the variance (r^2) found in anxiety and depression scores respectively. Despite their failure to reach statistical significance, these findings, when taken in conjunction with the finding of the primary hypothesis, do suggest that symptoms of anxiety are related to distressing voices perceived as beyond the control of the individual. These findings are in line with the predictions of Close & Garety (1994) who stated that experiencing a voice perceived as uncontrollable could cause a high negative effect. This is consistent with established psychological theories in other areas, such as helplessness and hopelessness models of depression (Abramson *et al.* 1989; Abramson *et al.* 1978) where perceived uncontrollability is an important determinant of emotional affect.

The exciting implications of this, if it were true, are that treatments based upon either increasing the perceived control over an individual's voice or alleviating the emotional distress, associated with hearing distressing voices may have a beneficial

effect upon each other. Further replication is needed before any firm conclusions can be drawn from these findings, and a longitudinal study would help establish the causal nature of this relationship. The literature, however, would suggest that there might in fact be a two-way interactional relationship. The adaptation of Beck's (1979) cognitive model of depression, to formulate and treat the distressing experience of voices has shown that modifying beliefs about voices can reduce negative affect (e.g. Birchwood & Tarrier, 1992; Chadwick & Birchwood, 1994; Watts *et al.*, 1973). In contrast to this, Morrison *et al.* (1995) linked auditory hallucinations with intrusive thoughts, and predicted that as with intrusive thoughts, the frequency of hearing voices would be higher following a negative mood induction. Thus, according to their model, if a negative belief about a voice leads to a negative emotional response, this response will maintain the occurrence of the hallucination.

The tentative conclusions of these results would help explain the unexpected findings of Slade *et al.* (1996), that interventions based upon distraction proved as effective as those based upon focussing in relieving distress, which was contrary to their predictions based on their cognitive model of voices (the misattribution of internal events to an external source). It would be premature to base interventions solely on the results of this study, but if we were to do so it would follow the proposals of Close & Garety (1998) that in the initial stages of treatment, behavioural interventions to increase control over voices may be beneficial in reducing negative affect through the mechanism of reducing the sense of helplessness.

4.3.1.b. Other Beliefs About Voices and Emotional Distress

Subsidiary hypotheses based upon the previous literature that were not replicated, were that increased conviction in beliefs concerning 'identity', 'purpose', 'power', and 'control over the individual', would be positively correlated with emotional distress as measured by total HADS score and also depression and anxiety as measured by its subscales. Although, again not statistically significant following a Bonferonni correction, there was a low to modest correlation between perceived power of the voice and depression as measured on the HADS. This is consistent

with previous studies indicating that belief that a voice is extremely powerful is associated with higher depressive symptomatology (e.g. Chadwick & Birchwood, 1995). For this sample and effect size, the power of this one-tailed test was calculated to be 0.86.

4.3.2. Associations Between Coping Strategies Used in Response to Hearing a Distressing Voice and Current Emotional Distress

4.3.2.a. Avoidance Coping Strategies and Emotional Distress

The hypothesis that avoidance coping strategies would be positively correlated with current emotional distress as measured by total HADS score was not proven in his study. A power analysis indicated that the hypothesis and effect size found are not worth replicating.

4.3.2.b. Approach Coping Strategies and Emotional Distress

The subsidiary hypothesis that approach coping strategies would be negatively correlated with current emotional distress as measured by total HADS score was also not proven in this study. The substantial numbers needed to find such a low effect size statistically significant certainly indicate that this hypothesis is not worth replicating under its current design.

Although the exploration of the CRI-A scores originally appeared to show clear differences between the use of approach and avoidance coping strategies in this sample, the above results call into question the utility of this, due to the lack of association with emotional distress, the primary focus of any psychological intervention. One explanation of these findings is that as reported by Falloon & Talbot (1981) successful copers do in fact use fewer coping strategies, but are able to apply them more systematically and with greater confidence in their efficiency. It may be in this sample that those who did not cope well, applied approach strategies in addition to avoidance ones, or more of them but less effectively. What is missing from the CRI-A is some measure of perceived effectiveness or confidence that the

applied coping strategy would work. Wykes *et al.* (1999) report on using such a measure in relation to coping strategies, and perhaps this study would also have benefited from such an approach.

A possible confounding variable in the CRI-A is the approach strategy of seeking support. In this population CRI-A subscale items that cover seeking support such as '[Did you] Talk with a professional person?' or '[Did you] Seek help from persons or groups with the same type of problems?' may well be more likely to apply to those who are more distressed by their voices and less able to cope. An individual in hospital because of inability to cope with their psychotic symptoms would be very likely to talk to a nurse or doctor about their symptoms to seek help from a fellow patient. Those in the community who are very distressed by their experience would also be likely to be in contact with a CPN or psychiatrist, for example, and may well be attending a drop-in centre or hearing voices group. A further possible confounding effect from one of the subscales is that of 'acceptance' coping strategies. Although classed as an avoidance strategy in the original CRI and therefore a less adaptive way of managing a stressful situation, in this population, research has shown that non-depressed voice hearers show more acceptance of their voices and appear reconciled to their persistence (Falloon & Talbot, 1981).

4.3.3. Associations Between Strength of Conviction in Beliefs About Voices and Coping Strategies Used in Response to Hearing a Distressing Voice

4.3.3.a. Control Over Voice and Coping Strategies.

The primary hypothesis to be tested was that the strength of conviction of belief in perceived 'control over voice' would be negatively correlated with 'avoidance' coping strategies, but this was not found to be statistically significant. A power analysis indicated that this hypothesis would not be worth replicating in its current design.

One subsidiary hypothesis was that strength of conviction of belief in perceived 'control over voice' would be positively correlated with 'approach' coping strategies. Although this hypothesis was also rejected it was of interest to note that the low correlation was actually in the opposite direction to that hypothesised.

The same reasons as those put forward earlier, concerning the confounding nature of some of the CRI coping strategy subscales when converted to the CRI-A, and the application of fewer strategies more systematically, may also explain these results. An example of this is that talking to your doctor or being in contact with people with similar difficulties may also be associated with a lack of control over psychotic symptoms and hospitalisation, rather than being an active approach coping strategy.

4.3.3.b. Other Beliefs and Coping Strategies

Of the other subsidiary hypotheses only the positive correlation between perceived power of the voices and avoidance coping strategies was found to be statistically significant, following a Bonferroni correction. The relationship accounted for 29.6 per cent of the variance between the two variables. Further exploration of the relationship between perceived power and avoidance coping strategies revealed that the strongest accounts of variance were with the cognitive avoidance ($r^2 = 23.5$ per cent) and acceptance ($r^2 = 27$ per cent) strategies which together make up the Cognitive Avoidance factor. Furthermore, the strongest relationship of the whole study was found between this factor and perceived power with 41.2 per cent of the variance (r^2) accounted for.

Instinctively this would make sense, as although the causality cannot be predicted, it would be understandable to avoid a perceived omnipotent presence, or in the face of such omnipotence accept that nothing could be done. Conversely, to avoid or react in an accepting manner may well lead to a self-fulfilling prophecy and the perception of a voice as omnipotent. Although Falloon & Talbot (1981), as previously mentioned, found that those who accepted their voices coped better and were less depressed, this may not be an effective coping strategy when the voice is also viewed as omnipotent. This is backed up by the findings of Chadwick & Birchwood (1996)

who found that voices believed to be omnipotent are associated with more common and severe symptoms of depression. The same association was also found in this study, although not as statistically significant.

The associations between beliefs about power and avoidance coping strategies is a strong one, particularly considering that they were found to be significant despite a conservative level of adjustment, nonparametric tests and small sample size. Although a prospective longitudinal study is needed to confirm a causal link, the clinical implications, if it were true, would be the emphasis on the importance of establishing beliefs about a voices power, before judging whether coping strategies such as acceptance are adaptive or not. This further supports Chadwick *et al.* (2000a) model that stipulates that coping strategies only become understandable when they are connected to individuals' beliefs about their voices.

4.4. Methodological Problems

4.4.1. Sampling Bias

Due to the small numbers and various sampling biases one must be cautious about how representative this sample is and any findings are. The first reason for a possible sampling bias is the reliance on other professionals to decide whether the individuals on their caseload actually meet criteria for inclusion in the study. This is not as straightforward as it would first seem as, as on at least two known occasions there was disagreement between CMHT members as to whether an individual was really hearing voices or not. Whenever there was any doubt as to the validity of an individual's voice hearing, as on these two occasions, they were excluded from the study.

A second reason for sampling bias is that even when individuals fulfilled inclusion criteria, their consultant would sometimes decide that they were too psychotic or vulnerable to participate. This may well have excluded those individuals who found their voices particularly distressing, or had insufficient coping strategies to deal with

them. These decisions were more idiosyncratic and dependent upon the particular consultant. Furthermore, sampling bias could occur once participants were approached and asked to volunteer. Many subjects said no, and even two subjects who originally agreed, changed their mind upon reflection. One argument is that a reliance on such voluntary participation may well exclude those who find their voices extremely distressing and do not wish to discuss their experience. Indeed it may well be those who engage in cognitive avoidance, that exclude themselves from the study. However, a contrary argument may be put forward, that some individuals in the community may cope well with their voices, even though they are distressing and therefore may no longer be in contact with CMHTs and psychiatrists. Efforts to combat these factors were to recruit through a variety of sources, from chronic and acute wards, through those still in contact with CMHTs but living independently, to those with only infrequent contact with their consultant and attendance at a drop-in centre. There is no way to investigate the validity of these arguments, but careful consideration needs to be made of possible sampling biases in the interpretation of these results, or comparison with other studies.

4.4.2. Sample Size

The final sample size was not as large as had originally been planned for, based upon power calculations and there were many reasons for this. Many of the reasons have been discussed in other sections such as the stipulations laid down by the ethics committee. Although there are good reasons for the new guidelines they restrict the opportunity to recruit subjects. There were, however, also arguments against the approach preferred by the ethics committee. An example of this is one consultant refused to approach any of his clients due to concerns that this would infringe upon the therapeutic relationship, but was happy to provide a list of names for the researcher to approach. Unfortunately this was contrary to ethical guidelines, but consultation by the researcher between the consultant and the ethical committee allowed for a compromise, where jointly signed letters compiled by the researcher were sent to participants. This approach, however, only generated one participant for the study out of nine possible individuals.

Another reason for difficulties in recruiting subjects in this population is the fear of discussing voices, both because of the effect it will have on the voices, but also the possible consequences. Chadwick *et al.* (2000b), provide qualitative data about how all 22 of the voice hearers in their study experienced immense difficulties talking about their voices. With family and friends, the reasons for keeping quiet were because they were afraid of being misunderstood, judged, criticized or viewed as dangerous. With professionals, they avoided talking openly about their voices for fear of being given impossible advice (e.g. ' just ignore them'), having an enforced increase in medication or re-hospitalisation. Falloon & Talbot (1981) report that these fears are not unfounded and that discussion of hearing voices or delusional beliefs can indeed lead to concern by families and psychiatrists and may result in hospitalisation or excessive use of medication. The voices themselves may also warn hearers against discussing them (Chadwick *et al.* 2000b). A risk therefore, when looking at this clinical population, is the difficulty in recruiting participants who are willing to talk about their voices and their beliefs about them.

4.4.3. Statistical Power of the Study

The small sample size and use of nonparametric statistics would have reduced the statistical power of this study. Parametric procedures are normally highly robust in spite of violations of their assumptions about normal distributions. However, when a study also has a small number of participants in addition to a severe violation assumption, non-parametric statistics should be used in their stead (Duffy, *et al.* 1988). Because they are less sensitive, non-parametric statistics are generally less powerful than their parametric equivalents. The use of non-parametric tests in this study would therefore have reduced its ability to detect significant results. The small sample size in its own right will have reduced the power of statistical tests and their ability to detect a significant result, particularly with variables such as beliefs about voice identity and purpose where sample sizes were further reduced by an inability to provide an answer. Despite these limitations, significant results were still found.

4.4.4. Multiple Hypotheses

Although the three primary hypotheses were driven by specific theories it could be argued that the similarity of the variables used across the hypotheses is akin to multiple testing and would therefore capitalise on chance findings, i.e. making a Type I error and accepting the hypothesis when it is false. If this argument is applied to this study then a Bonferroni correction procedure would set alpha at <0.017 (0.05/3), and it is accepted that on this basis, all three hypothesis would be rejected.

4.4.5. One Versus Two Tailed Tests

There are different schools of thought as to whether experimental hypotheses should be unidirectional (i.e. one-tailed) or bi-directional (i.e. two-tailed). Bryman & Cramer (1999) argue that in the social sciences it is unlikely that we would ask the sort of question that would require a non-directional hypothesis and that in carrying out research we are usually concerned with showing that a particular relationship holds or does not hold between two or more variables, that is, examining the direction as well as the existence of a relationship. Greene & D'Oliviera (1982) state that 'It is obviously preferable to give an explanation of human behaviour in terms of predicting behaviour in one direction; rather than to state vaguely that there will be an effect of some kind in either direction' (p39). This was the philosophy adopted in this study, as hypotheses were based upon predictions from the literature and therefore theory-driven rather than simply exploratory.

Exploratory research with no indication of which direction a difference might occur in, would utilise a bi-directional hypothesis, simply stating that there will be an effect but it is not known in which direction it will occur. Because this would double the chances of finding a significant result, two tailed tests halve the probability between both directions and therefore adopt a lower and less lenient level of significance in a particular direction. Duffy *et al.* (1998) state that despite the popularity of one-tailed tests in psychiatry they should seldom, if ever, be used. The reason for this they argue is that if a significant result occurred in the opposite direction to the one predicted in the unidirectional hypothesis, the only honest course would be to ignore the result. So therefore, if one is even vaguely interested in a result not consistent with a unidirectional hypothesis then a two-tailed test should be used. If this

philosophy had been applied to this study, then the primary hypothesis concerning the relationship between belief of control over voice and current emotional distress would not have been found statistically significant.

This philosophical debate would have become more of a feature of this study if the relationship between beliefs about control over voice and 'approach', rather than, 'avoidance' coping strategies had been a primary hypotheses, and not a subsidiary one. The set level of alpha would then have been achieved but not in the predicted direction. If this were the case the hypothesis would have been rejected. If the hypothesis, however, had been bi-directional and only predicted an association then it would have been upheld.

4.4.6. Design

A cross-sectional design of this nature is unable to detect causal relationships and any findings therefore have to be replicated and then investigated in prospective longitudinal studies before any interventions are based upon them.

When looking at measures of emotional distress and the experience of hearing voices there are many confounding aspects of psychotic disorders that may affect the observed relationship. It is proposed that it is not only the beliefs about a voice that lead to negative affect in an individual, but that additional factors such as being given a psychotic diagnosis and the societal and cultural stereotypes of mental illness that lead to distress (Birchwood *et al.* 1993). Voices have been shown in other studies, however, to be associated with emotional distress (e.g. Chadwick & Birchwood, 1994). The comparison of the reported distress caused by the voices, (as indicated by the TVRS), with HADS scores validated the relationship between voices and current emotional functioning in this study. This reinforces the view that although there are other factors, related to the secondary effects of psychosis such as disruption to life and socio-cultural stereotypes, which can lead to negative affect, the actual distressing experience of voices also has a direct effect.

4.4.7. Demographic Information

In a larger study with greater resources and availability of time it would have been advantageous to collect more demographic information e.g. equivalent chlorpromazine doses for medication levels which can be calculated using the tables and formulae which appear in Foster (1989). Although beyond the scope of this study, such information would be necessary for any longitudinal studies based upon the findings of this study.

4.4.8. Time

The procedure for recruiting subjects was very time intensive. Due to ethical stipulations recruitment always had to be through a third person. One of these avenues involved attending CMHT meetings to present the study and attempt to recruit participants. Various factors slowed recruitment through this avenue including, waiting for permission to attend the meeting and being given a suitable date. Meetings could then be cancelled at the last minute as key members were unavailable, or the researcher would be asked not to attend a meeting prior to it commencing because of difficult team matters that needed to be discussed. Time was also taken up visiting all of the wards, individual psychiatrists, the day hospital, the depot clinic, and drop in centres. Each visit would require a brief presentation, and, with the exception of the wards, appointments would have to be made in advance, varying from two weeks to over two months with one psychiatrist.

Clients missing appointments, either in the clinical psychology department or at home visits, also took up time. These occurrences are commonplace in this client group and as a result of their often chaotic lives, cognitive deficits, or poor motivation. Depending upon the mental state and cognitive abilities of the participants the actual length of assessment process could vary considerably and on three occasions lasted over two hours. Home visits were particularly problematic and interrupted by the presence of partners (requested to be present by the participant) or visitors. All of these factors are important to consider in any attempted replication of this study, or in assessing a similar population.

4.4.9. Clinical Utility of Adapted Questionnaires

The CRI was selected because of it's ability to be adapted to the experience of hearing distressing voices and also because it was well suited to measure therapies designed to modify coping strategies, such as CBT. This, it was believed, would increase the clinical utility of the study and allow potential findings of the study to be replicated longitudinally in conjunction with interventions. Although exploration of its results provided interesting observations, the relationships of its main factors, approach and avoidance strategies, to other variables such as emotional distress were not strong ones. The reasons for this have already been discussed, and it may be surmised that the difficulties lie with the CRIs original factors being based upon both a one-off stressful event and strategies which are known to be either effective or ineffective with respect to this. Voice hearing in this population was not a one-off event, and the strategies used were also perhaps indicative of the situation that those who can't cope find themselves in (e.g. hospitalisation) rather than the use of active coping strategies. To further explore the validity of the CRI-A in relation to voice hearing it needs to perhaps be replicated with those who successfully cope with the experience or do not find the experience distressing, to see if an adaptive coping strategy profile can be identified. This may involve the abandonment of coping strategy factors, and a reliance on the subscales only. It may be advantageous to also investigate the degree of effectiveness associated with each item response, as explored by Wykes *et al.* (1999).

The BAVRS would appear to have more clinical utility. Both beliefs in perceived power of the voice and perceived control that the individual has over the voice were significantly associated with avoidance coping strategies and current emotional distress respectively. Interestingly, further exploration indicated relatively larger relationships between perceived control over voice and anxiety (negative correlation) and perceived power and depression (positive correlation). If these results could be replicated, then the exciting implication would be that individuals who have a primarily anxious response to their voice hearing may benefit initially, from coping strategies which increase control, such as distraction or attempting to set limits on the onset and termination of the voice. Those who experience a voice perceived to be

powerful, and whose primary response is one of depression, would perhaps benefit from a more cognitive approach, challenging the beliefs held about the voices power. Such an approach would have to be based not only on replication of this study, but also a longitudinal approach investigating whether there is a causal effect. Such approaches are already commonplace in individual and group interventions for CBT, and these findings, if replicated, could be used to help tailor the initial intervention. The BAVRS would be easy to administer as a means of assessment and has also been used in its original format to measure change (Chadwick *et al.* 2000b).

4.5. Implications for Future Research

It is reiterated throughout this chapter that the next useful step on from this study would be to use the same design to look at the experience of individuals who do not find their voices distressing. It appears that there are far fewer individuals who have either successfully made this transition, or have never found the experience distressing, and given that it is usually those who are not coping or find the experience distressing that are brought to the attention of services it may prove extremely difficult to recruit sufficient participants. In the design of this study, these factors influenced the focus on the more immediately, clinically relevant, experience of distressing voices. In addition to this, the clinical psychology department runs an ongoing hearing voices group and it is also hoped that this study may be extended to investigate the longitudinal effects of the variables that were measured, and in doing so provide additional measures of assessment and possibly change.

One of the focuses of this research has been to draw on concepts from other areas of psychology, such as coping strategies in response to a stressful event, and the emotional effects of a perceived lack of control over a distressing experience, or the perceived power of a distressing presence. This is in line with the continuum model of McGovern & Turkington (2001), a heuristic way of looking at what is known or effective with affective disorders and adapting them for psychosis. This model emphasises the idea that psychotic symptoms are an exaggeration of normal function

and is similar in this vein to the future direction of psychological research and intervention proposed by Chadwick *et al.* (2000a). Their 'person model' looks at ordinary human psychological processes and how we construct and maintain a sense of self and how this is affected by stressful learning experiences. This is seen as a natural progression from the much-criticised study of syndromes, to the more useful study and treatment of symptoms, to a more theoretically driven understanding. Future research may therefore look at underlying psychological vulnerabilities and how these develop into the emergence of psychotic symptoms. Such an approach would be truly person-centred and based on notions of continuity.

4.6. Summary

To conclude, the results of this study support the hypothesis posed at the outset that emotional distress is associated with the perceived uncontrollability of hearing a voice. The study was in the main unable to find significant associations between overall approach and avoidance coping strategy factors, based upon reactions to everyday stresses, and emotional distress and beliefs about voices. The exception to this was the association between avoidance coping strategies and perceived power of a voice. It was suggested therefore, that the CRI-A factors be abandoned and the questionnaire be re-examined either on a population that do not find hearing voices distressing, or investigated longitudinally in the existing population. The BAVRS would appear to be a useful tool for assessing conviction of beliefs about voices, but needs to be investigated longitudinally. A promising area of further research would be the association between perceived control and anxiety and perceived power and depression. If these findings were also validated longitudinally, they would indicate a method for tailoring individual interventions based upon simple measures of beliefs, and emotional distress, whether it be depression or anxiety.

References

Abramson, L.Y., Seligman, M.E.P. & Teasdale, J. (1978). Learned helplessness in humans: Critique and reformulation. Journal of Abnormal Psychology, 87, 49-74.

Abramson, L.Y., Metalsky, G.I. & Alloy, L.B. (1989). Hopelessness depression: A theory-based subtype of depression. Psychological Review, 96, 358-372.

Aitken, R.B. & Zealley, A.K. (1970). Measurement of moods. British Journal of Hospital Medicine, 4, 215-224.

Alanen, Y.O., Salokangas, R.K.R. & Ojanen M. (1990). Tertiary prevention: treatment and rehabilitation of schizophrenic patients – results of the Finnish National Programme. In D.P. Goldberg & D. Tantam (Eds), Public Health Impact on Mental Health Disorder, pp.176-187. Toronto: Hogrefe and Herbert.

Al-Issa, I. (1978). Social and cultural aspects of hallucinations. Psychological Bulletin, 84, 570-587.

American Psychiatric Association (1994). Diagnostic and Statistical Manual of Mental Disorders (4th ed.). Washington DC: American Psychiatric Association

Alford, G.S., Fleece, L. & Rothblum, E. (1982). Hallucinatory-delusional verbalisations: modification in a chronic schizophrenic by self-control and cognitive restructuring. Behavior Modification, 6, 421-435.

Angrist, B., Lee, H.K. & Gershon, S. (1974). The antagonism of amphetamine-induced symptomatology of a neuroleptic. American Journal of Psychiatry, 131, 817-819.

Baker, C.A. & Morrison, P. (1998). Cognitive processes in auditory hallucinations: Attributional biases and metacognition. Psychological Medcine, 28(5), 1199-1208.

Bannister, D. (1968). The logical requirements of research into schizophrenia. British Journal of Psychiatry, 114, 181-188.

Barber, J.P. & DeRubeis, R.J. (1989). On second thought: where the action is in cognitive therapy for depression. Cognitive Therapy and Research, 13, 441-447.

Barnes, T.R., Curson, D.A., Liddle, P.F. & Patel, M. (1989). The nature and prevalence of depression in chronic schizophrenic inpatients. British Journal of Psychiatry, 154, 486-491.

Barr, C.E., Mednick, S.A. & Munk-Jorgenson, P. (1990). Exposure to influenza epidemics during gestation and adult schizophrenia: A 40-year study. Archives of General Psychiatry, 47, 869-874.

Barraclough, C. & Tarrier, N (1992).   Families of Schizophrenic Patients: Cognitive-Behavioural Intervention. London: Chapman & Hall.

Barret, T.R. & Etheridge, J.B. (1992).   Verbal hallucinations in normals: I. People who hear 'voices'. Applied Cognitive Psychology, 6, 379-387.

Bateson, G., Jackson, D.D., Haley, J. & Weakland, J. (1956).   Toward a theory of schizophrenia. Behavioral Science, 1, 251-264.

Bebbington, P.E.,Wilkins, S., Jones, P., Foerster, A., Murray, R.M., Toone, B. & Lewis, W. (1993). Life events and psychosis: Initial results from the Camberwell Collaborative Psychosis Study. British Journal of Psychiatry, 162, 358–362.

Beck, A.T. (1952). Successful outpatient psychotherapy of a chronic schizophrenic outpatient with a delusion based on borrowed guilt. Psychiatry, 15, 305-312.

Beck, A.T., Ward, C.H., Mendelson, M., Mock, J.E. & Erbaugh, J.K. (1962). Reliability of psychiatric diagnosis: II. A study of consistency of clinical judgments and ratings. American Journal of Psychiatry, 119, 351–357.

Beck, A.T., Rush, A.J., Shaw, B.F. & Emery, G. (1979). Cognitive therapy of depression. NewYork: Guildford Press.

Beck-Sander, A., Birchwood, M. & Chadwick, P. (1997). Acting on command hallucinations: A cognitive approach. British Journal of Clinical Psychology, 36, 139-148.

Benjamin, L.S., (1989). Is chronicity a function of the relationship between the person and the auditory hallucination? Schizophrenia Bulletin, 15, 291-230.

Bentall, R. (1990). The illusion of reality: a review and integration of psychological research on hallucinations. Psychological Bulletin,107, 82-95.

Bentall, R.P., Haddock, G. & Slade, P.D. (1994). Cognitive-behavioural therapy for persistent auditory hallucinations: From theory to therapy. Behaviour Therapy, 25, 51-66.

Bentall, R., Jackson, H. & Pilgrim, D. (1988a). Abandoning the concept of "schizophrenia": Some implications of validity arguments for psychological research into psychiatric phenomena. British Journal of Clinical Psychology, 27, 303-324.

Bentall, R., Jackson, H. & Pilgrim, D. (1988b). The concept of schizophrenia is dead: long live the concept of schizophrenia. British Journal of Clinical Psychology, 27, 329-331.

Bentall, R.P. & Slade, P.D. (1985). Reality testing and auditory hallucinations. British Journal of Clinical Psychology, 24, 159-169.

Birchwood, M. & Iqbal, Z (1998). Depression and suicidal thinking in psychosis. In T. Wykes, N. Tarrier & S. Lewis (Eds), Outcome and Innovation in Psychological Treatments of Schizophrenia, pp. 81-100, Chichester: John Wiley and Sons.

Berrios, G.E. (1991). Delusions as "wrong beliefs": A conceptual history. British Journal of Psychiatry,159 (14), 6-13.

Billings, A. & Moos, R.H. (1981). The role of coping responses and social resources in attenuating the stress of life events. Journal of Behavioural Medicine, 4, 139-157.

Birchwood, M. & Tarrier, N. (1992). Innovations in the Psychological Management of Schizophrenia. Assessment, Treatment and Services. Chichester: John Wiley & Sons.

Birchwood, M., Smith, J., McMillan, F., Hogg, B., Prasad, R., Harvey C. & Bering, S. (1989). Predicting relapse in schizophrenia: The development and implementation of an early signs monitoring system using patients and families as observers, a preliminary investigation. Psychological Medicine, 19, 649–656.

Birchwood, M., Mason, R., Macmillan, F. & Healy, J. (1993). Depression, demoralisation and control over psychotic illness: A comparison of depressed and non-depressed patients with chronic psychosis. Psychological Medicine, 23, 387-395.

Birchwood, M. & Shepherd, G. (1992). Controversies and growing points in cognitive-behavioural interventions for people with schizophrenia. Behavioural Psychotherapy, 20(4), 305-342.

Blackburn, I.M. & Davidson, K. (1990). Cognitive Behaviour for Depression and Anxiety. London: Blackwell.

Bouchard, S., Vallieres, A., Roy, M.A. & Maziad, M. (1996). Cognitive restructuring in the treatment of psychotic symptoms in schizophrenia: A critical analysis. Behavior Therapy, 27, 257-277.

Bouchard, S., Vallieres, S.A., Roy, M.A. & Maziade, M. (1996). Cognitive restructuring in the treatment of psychotic illness: A comparison of depressed and non-depressed patients with chronic psychosis. Psychological Medicine, 23, 387-395.

Boyle, M. (1990). Schizophrenia: A Scientific Delusion? London: Routledge.

Brewin, C. (1988). Cognitive Foundations of Clinical Psychology. Hove: Lawrence Erlbaum Associates.

British Psychological Society (2000). Recent Advances in Understanding Mental Illness and Psychotic Experience. Leicester: British Psychological Society.

Broadbent, D.E. (1971). Decision and stress. London: Academic Press.

Brockington, I.F, Kendell, R.E. & Leff, J.P. (1978). Definitions of schizophrenia concordance and prediction of outcomes. Psychological Medicine, 8, 399-412.

Bryman, A. & Cramer, D. (1999). Quantitative data analysis with SPSS Release 8 for windows. A guide for social scientists. London: Routledge.

Caldewell, C.B. & Gottesman, I. (1990). Schizophrenics kill themselves too. Schizophrenia Bulletin, 16, 571-590.

Chadwick, P.D.J. & Birchwood, M.J (1994). The omnipotence of voices: a cognitive approach to auditory hallucinations. British Journal of Psychiatry, 164, 190-201.

Chadwick, P.D.J. & Birchwood, M. J. (1995). The omnipotence of voices II: The beliefs about voices questionnaire. British Journal Psychiatry, 166, 11-19.

Chadwick, P.D.J. & Birchwood, M.J. (1996). Cognitive therapy for voices. In G. Haddock & P.D. Slade, Cognitive-behavioural interventions with psychotic disorders. pp.71-85. London: Routledge.

Chadwick, P.D.J., Birchwood, M.J. & Trower, P. (2000a) Cognitive Therapy for Delusions, Voices and Paranoia. Chichester: Wiley.

Chadwick, P.D.J. & Lowe, C.F. (1990). Measurement and modification of delusional beliefs. Journal of Consulting and Clinical Psychology, 58(2), 225-232.

Chadwick, P., Sambrooke, S., Rasch, S. & Davis, E. (2000b). Challenging the omnipotence of voices: group cognitive behaviour therapy for voices. Behaviour Research & Therapy, 38, 993-1003.

Cheung, P., Scweitzer, I., Crowley, K. & Tuckwell, V. (1997). Violence in schizophrenia: Role of hallucinations and delusions. Schizophrenia Research, 26(2-3), 181-190.

Chua, S.E. & McKenna, P.J. (1995). Schizophrenia – A brain disease? A critical review of structural and functional cerebral abnormality in the disorder. British Journal of Psychiatry, 166, 563–582.

Ciompi, I. (1984). Is there really a schizophrenia? The long-term course of psychotic phenomena. British Journal of Psychiatry, 145, 636–640.

Ciompi, L. (1987). Toward a coherent multidimensional understanding and therapy of schizophrenia: Covering new concepts. In J.S. Strauss, W. Boker & H.D. Brenner (Eds), Psychological Treatment of Schizophrenia. Bern: Huber.

Clements, K. & Turpin, G. (1992). Vulnerability models and schizophrenia: the assessment and prediction of relapse. In M. Birchwood & N. Tarrier (Eds), Innovations in the Psychological Management of Schizophrenia. Chichester: Wiley.

Close, H. & Garety, P. (1998). Cognitive assessment of voices: further developments in understanding the emotional impact of voices. British Journal of Clinical Psychology, 37, 173-188.

Cooper, A.F., Kay, D.W.K., Curry, A.R., Garside, R.F. & Roth, M. (1972). Hearing voices loss in the paranoid and affective psychoses of the elderly. Lancet, 2, 851-854.

David, A.S. (1994). The neuropsychological origin of auditory hallucination. In A.S. David & J.C. Cuttings (Eds), The Neuropsychology of Schizophrenia, pp. 269-313. London: Erlbaum.

Drake, R.E. & Cotton, P.G. (1986). Depression, hopelessness and suicide in chronic schizophrenia. British Journal of Psychiatry, 148, 120-127.

Drury, V., Birchwood, M., Cochrane R. & MacMillan, F. (1996). Cognitive therapy and recovery from acute psychosis: A controlled trial: I. Impact on psychotic symptoms. British Journal of Psychiatry, 169, 593-601.

Duffy, J.C., Morrison, D.P. & Peck, D.F. (1998). Research design, measurement and statistics. In E.C. Johnstone, C.P.L. Freeman & A.K. Zealley (Eds), Companion to Psychiatric Studies, pp.149-196, London: Churchill Livingstone

Dunbar, M., Ford, G., Hunt, K. & Der, G. (2000). A confirmatory factor analysis of the hospital anxiety and depression scale: Comparing empirically and theoretically derived structures. British Journal of Clinical Psychology, 39, 79-94.

Ensink, B.J. (1992). Confusing Realities: A Study on Child Sexual Abuse and Psychiatric Symptoms. Amsterdam: Free University Press.

Falloon, I.R.H. & Talbot, R.E. (1981). Persistent auditory hallucinations: coping mechanisms and implications for management. Psychological Medicine, 11, 329-334.

Farhall, J. & Gehrke, M. (1997). Coping with hallucinations: Exploring stress and coping framework. British Journal of Clinical Psychology. 36(2), 259-261.

Faris, R.E.L. & Dunham, H.W. (1944). Mental disorders in urban areas: An ecological study of schizophrenia. Chicago: Chicago University Press.

Foster, P. (1989). Neuroleptic equivalence. The Pharmaceutical Journal (September 30th), 4431-4432.

Fowler, D., Garety, P. & Kuipers, E. (1995). <u>Cognitive Behaviour Therapy for Psychosis: Theory and Practice</u>. Chichester: Wiley.

Fowler, D. & Morley, S. (1989). The cognitive-behavioural treatment of hallucinations and delusions: A preliminary study. <u>Behavioural Psychotherapy, 17,</u> 267-282.

Fowler, D.G. (1992). Cognitive behaviour therapy for psychosis: Preliminary studies. In A.Werbart & J. Cullberg. (Eds), <u>The Psychotherapy of Schizophrenia : Facilitating and Obstructive Factors</u>. Norway: Scandinavian University Press.

Fox, J.W. (1990). Social class, mental illness, and social mobility: The social selection-drift hypothesis for serious mental illness. <u>Journal of Health and Social Behaviour, 31,</u> 344-353.

Freeman, D. & Garety, P.A. (1999). Worry, worry processes and dimensions of delusions: An exploratory investigation of a role for anxiety processes in the maintenance of delusional distress. <u>Behavioural and Cognitive Psychotherapy, 27,</u> 47-62.

Frith, C.D. (1992). <u>The Cognitive Neuropsychology of Schizophrenia</u>. Hove: Lawrence-Erlbaum.

Fromm-Reichmann, F. (1948). Notes on the development of treatment of schizophrenics by psychoanalytic psychotherapy. <u>Psychiatry, 11,</u> 263-273.

Garety, P., Fowler, D. & Kuipers, E. (2000). Cognitive-behavioural therapy for medication-resistant symptoms. <u>Schizophrenia Bulletin, 26(1),</u> 74-86.

Garety, P., Fowler, E., Kuipers, D., Freeman, G., Dunn, G., Bebbington, P., Hadley, C. & Jones, S. (1997). London-East Anglia randomised controlled trial of cognitive-behavioural therapy for psychosis. II: Predictors of Outcome. <u>British Journal of Psychiatry, 171,</u> 420-426.

Garety, P.A. & Freeman, D. (1999). Cognitive approaches to delusions: A critical review of theories and evidence. <u>British Journal of Clinical Psychology, 38 (Pt2),</u> 113-154.

Garety, P.A., Kuipers, L., Fowler, D., Chamberlain, F. & Dunn, G. (1994). Cognitive behaviour therapy for drug resistant psychosis. <u>British Journal of Medical Psychology, 67,</u> 259-271.

Gilbert, P. (1992). Depression: <u>The Evolution of Powerlessness</u>. Hove: Lawrence Erlbaum.

Gomes-Schwartz, B. (1984). Individual psychotherapy of schizophrenia. In A.S. Bellack (Ed), <u>Schizophrenia: Treatment, Management and Rehabilitation,</u> pp.307-335. London: Grune & Stratton.

Gottessman, I.I., McGuffin, P. & Farmer, A.E. (1987). Clinical genetics as clues to the 'real' genetics of schizophrenia. Schizophrenia Bulletin, 13, 23-47.

Gould, L.N. (1950). Verbal hallucinations as automatic speech. American Journal of Psychiatry, 107, 110-119.

Graham, J.R. (1987). The MMPI: A Practical Guide (2nd Edition). New York: Oxford University Press.

Gray, J.A., Feldon, J., Rawlins, J.N.P., Hemsley, D.R. & Smith, A.D. (1990). The Neuropsychology of schizophrenia. Behavioural and Brain Sciences, 14, 1-84.

Greene, J. & D'Oliveira, M. (1985). Learning to Use Statistical Tests in Psychology. Milton Keynes: Open University Press.

Greenwood, V.B. (1983). Cognitive therapy with couples and groups. In A. Freeman (Ed), Cognitive Therapy with the Young Chronic Patient, pp.183-198. New York: Plenum Press.

Gunderson, J.G., Frank, A.F., Katz, H.M., Vannicelli, M.L., Frosch, J.P. & Knapp, P.H. (1984). Effects of psychotherapy in schizophrenia: II. Comparative outcome of two forms of treatment. Schizophrenia Bulletin, 10, 564-598.

Haddock, G., Bentall, R.P. & Slade P.D. (1993). Psychological treatment of auditory hallucinations: Two case studies. Behavioural and Cognitive Psychotherapy, 21, 335-346.

Haddock, G., Morrison, A.P., Hopkins, R., Lewis, S. & Tarrier, N., (1998). Individual cognitive behavioural interventions in early psychosis. British Journal of Psychiatry, 173 (Suppl.33), 101-106.

Haddock, G. & Slade, P.D. (1996). Cognitive-Behaviour Interventions with Psychotic Disorders. London: Routledge.

Haddock, G., Slade, P., Bentall, R., Reid, D. & Faragher, E.B. (1998). A comparison of the long term effectiveness of distraction and focusing in the treatment of auditory hallucinations. British Journal of Medical Psychology., 71(3), 339-349.

Haddock, G., Tarrier, N., Spaulding, W., Yusupoff, L. ,Kinney, C. & McCarthy, E. (1998). Individual cognitive-behaviour therapy in the treatment of hallucinations and delusions: A review. Clinical Psychology Review, 18, 821–838.

Helibrun, A.B., Diller, R., Fleming, R. & Slade, L. (1986). Strategies of disattention and auditory hallucinations in schizophrenics. Journal of Nervous Mental Disorders, 174, 265-273.

Hemsley, D.R. (1988). 'Psychological modes of schizophrenia'. In E. Miller & P. Cooper (Eds), Adult Abnormal Psychology. London: Churchill Livingstone.

Hemsley, D.R. (1993). A simple (or simplistic) cognitive model for schizophrenia. Behaviour Research and Therapy, 31, 633-645.

Hemsley, D.R. (1994). Perceptual and cognitive abnormalities as the bases for schizophrenic symptoms. In A.S. David & J.C. Cutting (Eds), The Neuropsychology of schizophrenia, pp. 97-116. Hove: Lawrence Erlbaum.

Hemsley, D.R. & Garety, P.A. (1986). The formation and maintenance of delusions: a Bayesian analysis. British Journal of Psychiatry, 149, 51-56.

Hodel, B. & Brenner, H.D. (1994). Cognitive therapy with schizophrenic patients: Conceptual basis, present state, future directions. Acta Psychiatrica Scandinavica Supplementum, 90 (384 suppl), 108-115.

Hoffman, R.E. & Rappaport, J. (1994). A psycholinguistic study of auditory/verbal hallucinations: preliminary findings. In A.S. David & J.C. Cutting (Eds), The Neuropsychology of Schizophrenia, pp.255-268. Hove: Lawrence Erlbaum.

Hogarty, G.E., Anderson, C.M., Reiss, D.J., Kornblith, S.J., Greenwald, D.P., Ulrich, R.F., Carter, M. & The Environmental-Personal Indicators in the Course of Schizophrenia (EPICS) Research Group (1991). Family psychoeducation, social skills training, and maintenance chemotherapy in the aftercare treatment of schizophrenia. Archives of General Psychiatry, 48, 340-347.

Hogarty, G. & Flesher, S. (1992). Cognitive remediation in schizophrenia: Proceed...with caution! Schizophrenia Bulletin, 18, 51-57.

Horowitz, M.J. (1975). A cognitive model of hallucinations. American Journal of Psychiatry, 132, 789-795.

Hustig, H.H. & Hafner, R.J. (1990). Persistent auditory hallucinations and their relationship to delusions of mood. Journal of Nervous and Mental diseases, 178, 264-267.

Jackson, J.H. (1869). Certain points in the study and classification of diseases of the nervous system. Reprinted in J. Taylor (1932) Selected Writings of John Hughlings Jackson, vol 2. London: Hoddart & Stoughton.

Jaspers, K. (1911). Allgemeine Psycopathologie. 1. Berlin: Auflage.

Johnson, D.A.W. (1981). Studies of depressive symptoms in schizophrenia. I. The prevalence of depression and its possible causes. British Journal of Psychiatry, 139, 89-93.

Johnson, D.A.W. (1988). The significance of depression in the prediction of relapse in chronic schizophrenia. British Journal of Psychiatry, 152, 320-323.

Johnson, M. (1998). 'Discriminating the origin of information'. In J. Ottmanns & B. Maher (Eds), Delusional Beliefs. New York: Wiley.

Johnstone, E.C. (1998). Schizophrenia. In E.C. Johnstone, C.P.L. Freeman & A.K. Zealley (Eds), Companion to Psychiatric Studies, 6th Edition, pp. 369-397, London: Churchill Livingstone.

Johnstone, E.C., Owens, D.G.C., Frith, C.D. & Leavy J. (1991). Clinical findings: abnormalities of mental state and their correlates. The Northwick Park follow-up study. British Journal of Psychiatry, 159, 21-25.

Jones, C., Cormac, I., Mota J. & Campbell, C. (1999). Cognitive Behaviour Therapy for Schizophrenia. The Cochrane Database of Systematic Reviews, Issue 4. UK: Oxford

Kavanagh, D. (1992). Recent developments in expressed emotion and schizophrenia. British Journal of Psychiatry, 160, 601–620.

Kemp, R., Hayward, P., Applewhaite, G., Everitt B. & David, A. (1996). Compliance therapy in psychotic patients: randomised control trial. British Medical Journal, 312, 345-349.

Kendall, R.E. (1993). Schizophrenia. In R.E. Kendall & A.K. Zealley (Eds), Companion to Psychiatric Studies, 5th Edition, pp. 397-426, London: Churchill Livingstone.

Kingdon, D.G. & Turkington, D. (1991). The use of cognitive-behaviour therapy with a normalising rationale in schizophrenia. Journal of Nervous and Mental Disease, 179, 207-211.

Kingdon, D. & Turkington, D. (1994). Cognitive-Behavioural Therapy for Schizophrenia. Hove: Lawrence Erlbaum.

Kingdon, D.G., Turkington, D. & John, C. (1994). Cognitive behaviour therapy for schizophrenia: the amenability of delusions and hallucinations to reasoning. British Journal of Psychiatry, 164, 581-587.

Kirk, S. & Kutchins, H. (1994). The myth of the reliability of the DSM. Journal of Mind and Behaviour, 15, 71–86.

Kornetsky, C. (1976). Hyporesponsivity of chronic schizophrenic patients to dextroamphetamine. Archives of General Psychiatry, 33, 1425-1428.

Kuipers, E., Fowler, D., Garety, P.A., Chisholm, D., Freeman, D., Dunn, G., Bebbington, P. & Hadley, C. (1998). London-East Anglia randomised controlled trial of cognitive–behavioural therapy for psychosis. III: Follow-up and economic evaluation at 18 months. British Journal of Psychiatry, 173, 61–68.

Kuipers, E., Garety, P. & Fowler, D. (1996). An outcome study of cognitive-behavioural treatment for psychosis. In G. Haddock & P. D Slade (Eds). Cognitive-Behavioural Interventions with Psychotic Disorders. London: Routledge.

Kuipers, E., Garety, P.A., Fowler, D., Dunn, G., Bebbington, P., Freeman, D. & Hadley, C. (1997). London-East Anglia randomised controlled trial of cognitive-behavioural therapy for psychosis. I: Effects of treatment phase. British Journal of Psychiatry, 171, 319–327.

Kuriansky, J.B., Deming, W.E. & Gurland, B.J. (1974). On trends diagnosis of schizophrenia. American Journal of Psychiatry, 131, 402-407.

Lamontagne, Y., Audet, N. & Elie, R., (1983). Thought stopping for delusions and hallucinations: A pilot study. Behavioural Psychotherapy, 11, 117-184

Lazarus, R.S. & Folkman, S. (1984). Stress, Appraisal and Coping. New York: Springer.

Leema, A. (1996). Introduction to Psychotherapy. London: Sage.

Lehtonen, J. (1994). From dualism to psychobiological interaction. British Journal of Psychiatry, 164(suppl.23), 27–28.

Leff, J., Berkowitz, R. & Shavit, E. (1990). 'A trial of family therapy versus a relatives group for schizophrenia: two-year follow-up'. British Journal of Psychiatry, 157, 571-7.

Lieberman, R.P., Meusen, K.T., Wallace, C.J., Jacobs, H.E., Eckman, T. & Massel, H.K. (1986). Training skills in the psychiatrically disabled: Learning coping and competence. Schizophrenia Bulletin, 12, 631-647.

MacCarthy, B., Benson, J. & Brewin, C.R. (1986). Task motivation and problem appraisal in long-term psychiatric patients. Psychological Medicine, 16, 431-438.

Maher, B.A. (1988). Anomalous experience and delusional thinking: The logic of explanations. In T.F. Oltmans & Maher, B.A. (Eds), Delusional Beliefs, pp.15-33. New York: John Wiley and Sons.

Margo, A., Hemsley, D.R. & Slade, P.D. (1981). The effects of varying auditory input on schizophrenic hallucinations. British Journal of Psychiatry, 139, 122-127.

Markowe, M., Steinhert, J. & Heyworth-Davis, F. (1967). Insulin and chlorpromazine in schizophrenia: A ten-year comparison study. British Journal of Psychiatry, 113, 1101-1106.

Mason, P., Harrison, G., Glazebrook, C., Medley, I. & Croudace, T. (1996). The course of schizophrenia over 13 years. British Journal of Psychiatry, 169, 580-586.

McGhie, A. & Chapman, J. (1961). 'Disorders of attention and perception in early schizophrenia'. British Journal of Medical Psychology, 34, 103-16.

McGlashan, T.H. (1984). The Chestnut Lodge Follow-Up Study. I. Follow-up methodology and study sample. II. Long-term outcome of schizophrenia and the affective disorders. Archives of General Psychiatry, 41, 373-601.

McGlashan, T.H. (1994). What has become of the psychotherapy of schizophrenia? Acta Psychiatrica Scandinavica, 90 (suppl. 384), 147-152.

McGovern, J. & Turkington, D. (2001). ' Seeing the wood from the trees': A continuum model of psychopathology advocating cognitive behaviour therapy for schizophrenia. Clinical Psychology and Psychotherapy, 8, 149-175.

Meichenbaum, D. & Cameron, R. (1973). Training schizophrenics to talk to themselves: a means of developing attentional control. Behavior Therapy, 4, 515-534.

Milgram, S. (1974). Obedience to Authority. New York: Harper & Row. Baker & Morrison (1998).

Miller, L.J, O'Connor, E. & Di Pasquale, T. (1993). Patients' attitudes toward hallucinations. American Journal of Psychiatry, 150, 584-588.

Milne, D. (1992). Stress, Coping and Social Support. In Assessment: A Mental Health Portfolio: Stress, Coping and Social Support. Windsor: NFER-NELSON. Modell, A.H. (1958). The theoretical implications of hallucinatory experiences in schizophrenia. Journal of American Psychoanalysis Association, 6, 442-480.

Moncrieff, J. (1997). Lithium: evidence reconsidered. British Journal of Psychiatry, 171, 113-119.

Moos, R.H. (1976). Human adaptation: Coping with life crises. Lexington, Mass.: Heath.

Moos, R.H. (1990). Coping responses inventory manual. Palo Alto: Stanford University.

Moos, R.H. (1992). Coping Reponses Inventory. In D. Milne (Ed.), <u>Assessment: A Mental Health Portfolio: Stress, Coping and Social Support</u>. Windsor: NFER-NELSON.

Morrison, A.P., Haddock, G. & Tarrier, N. (1995). Intrusive thoughts and auditory hallucinations: a cognitive approach. <u>Behavioural and Cognitive Psychotherapy, 23,</u> 265-280.

Morrison, A.P., Wells, A., Nothard, S. (2000). Cognitive factors in predisposition to auditory and visual hallucinations. <u>British Journal of Clinical Psychology, 39,</u> 67-78.

Mueser, K.T. & Butler, R.W. (1987). Auditory hallucinations in combat-related chronic post-traumatic stress disorder. <u>American Journal of Psychiatry, 144,</u> 299-302.

Nelson, H. (1997). <u>Cognitive Behavioural Therapy with Schizophrenia-A Practice Manual</u>. Chettenham, UK: Nelson Thornes.

Nelson, H.E., Thrasher, S. & Barnes, T.R.E. (1991). Practical ways of alleviating auditory hallucinations. <u>British Medical Journal, 302,</u> 307.

Norman, R. & Malla, A. (1993). 'Stressful life-events and schizophrenia: a review of the research', <u>British Journal of Psychiatry, 162,</u> 161-166.

Nuechterlein, K.H. & Dawson, M.E. (1984). A heuristic vulnerability/stress model of schizophrenic episodes. <u>Schizophrenic Bulletin, 10(2),</u> 300-312.

Nuechterlein, K.H., Monte, S., Buchsbaum, S. & Dawson, M.E. (1994). Neuropsychological vulnerability to schizophrenia. In A.S. David & J. C. Cutting (Eds), <u>The Neuropsychology of schizophrenia</u>, pp.53-77. Hove: Lawrence Erlbaum.

Nydeggar, R.V. (1972). The elimination of hallucinatory and delusional behaviour by verbal conditioning and assertiveness training: a case study. <u>Journal of Behaviour Therapy and Experimental Psychiatry, 3,</u> 225-227.

O'Sullivan, K. (1994). Dimensions of coping with auditory hallucinations. <u>Journal of Mental Health, 3,</u> 351-361.

Oswald, I (1974) <u>Sleep (3RD Ed)</u>. Harmondsworth: Penguin.

Overall, J.E. & Gorham, D.R. (1962). <u>The Brief Psychiatric Rating Scale.</u> <u>Psychological Reports, 10,</u> 799-812.

Owen, F., Crow, T.J., Poulter, M., Cross, A.J., Longden, A. & Riley, G.J. (1978). Increased dopamine-receptor sensitivity in schizophrenia. <u>Lancet 11,</u> 223-225.

Persons, J.B. (1986). The advantages of studying psychological phenomena rather than psychiatric diagnoses. <u>American Psychologist, 41,</u> 1252-1260.

Perris, C., Inglesson, U. & Jonsson, P.A. (1993). Cognitive therapy as a general framework in the treatment of psychotic patients. In K.T. Kuehlwein & H. Rosen (Eds), Cognitive Therapies in Action. Evolving Innovative Practice, pp379-402. San Francisco: Jossey Bass.

Perris, C. & McGorry, P.D. (1998). Cognitive Psychotherapy of Psychotic and Personality Disorders: Handbook of Theory and Practice. Chichester: John Wiley & Sons Ltd.

Pilowsky, D. (1986). Hallucinations in children: A psychoanalytic perspective. In D. Pilowsky (Ed), Hallucinations in Children. Washington: American Psychiatric Press.

Posey, T.B. & Losch, M E. (1983). Auditory hallucinations of hearing voices in 375 normal subjects. Imagination, Cognition and Personality, 2, 99-113.

Pull, C.B. (1999). Diagnosis of schizophrenia: A review. In M. Maj & N. Sartorius (Eds), Schizophrenia, pp.1-37. Chichester: Wiley.

Rachman, S.J. (1994). Pollution of the mind. Behaviour Research Therapy, 32, 311-314.

Ravazi, D., Delvaux, N., Farvacques, C. & Robaye, E. (1990). Screening for adjustment disorders and major depressive disorders in cancer in patients. British Journal of Psychiatry, 156, 79-83.

Reilly, S.P. (1997). Psychoanalytic and psychodynamic approaches to psychosis: an overview. In C. Mace & F. Margison (Eds), Psychotherapy of Psychosis, pp. 13-30. London: Gaskell.

Rogers, R., Gillis, J.R., Turner, R.E. & Frise-Smith, T. (1990). The clinical presentation of command hallucinations in a forensic population. American Journal of Psychiatry 147 (10), 1304-1307.

Romme, M. & Escher, S. (1989). Hearing Voices. Schizophrenia Bulletin, 15(2), 209-216.

Romme, M. & Escher, A. (1994). Accepting Voices. London: MIND.

Romme, M.A.R. & Escher, A.D.M.A.C. (1996). Empowering people who hear voices. In G. Haddock & P.D. Slade (Eds), Cognitive-Behavioural Interventions with Psychotic Disorders, pp. 137-150. London: Routledge.

Romme, M.A.J., Honig, A., Noorthoorn, E.O. & Escher, A.D.M.A.C. (1992). Coping with hearing voices: an emancipatory approach. British Journal of Psychiatry, 161, 99-103.

Salkovskis, P.M. & Campbell, P. (1994). Thought suppression induces intrusion in naturally occurring negative intrusive thoughts. <u>Behaviour Research and Therapy</u> <u>32</u>, 1-8.

Salokangas, R. (1983). 'Prognostic implications of the sex of schizophrenic patients'. <u>British Journal Psychiatry. 142</u>, 145-51.

Sartorius, N., Shapiro, R., & Jablensky, A. (1974). The international pilot study of schizophrenia. <u>Schizophrenia Bulletin, I</u>, 21-25.

Scottish Intercollegiate Guidelines Network (1998). <u>Psychosocial Interventions in the Management of Schizophrenia: A National Clinical Guideline</u>. Edinburgh: Scottish Intercollegiate Guidelines Network.

Schneck, J.M. (1989). Weir Mitchell's visual hallucinations as a grief reaction (letter). <u>American Journal of Psychiatry, 146</u>, 109.

Schneider, K. (1950). <u>Klinische Psychopathologie</u>. G. Stuttgart: Thieme.

Sensky, T., Turkington, D., Kingdon, D., Scott, J.L., Scott, J., Siddle, R., O'Carroll, M. & Barnes T.R.E, (2000). A randomised controlled trial of cognitive behavioural therapy for persistent symptoms in schizophrenia resistant to medication. <u>Archives of General Psychiatry, 57</u>, 165-172.

Shapiro, M.B. & Ravenette, A.T. (1959). A preliminary experiment on paranoid delusions. <u>Journal of Mental Science, 105</u>, 296-312.

Sidgewick, H.A. (1894). 'Report of the census of hallucinations'. <u>Proceedings of the Society for Psychical research, 26</u>, 25-26.

Siris, S.G. (1991). Diagnosis of secondary depression in schizophrenia. <u>Schizophrenia Bulletin, 17</u>, 75-98.

Slade, P.D. (1972). The effects of systematic desensitisation on auditory hallucinations. <u>Behaviour Research and Therapy, 10</u>, 85-91.

Slade, P.D. (1976). Towards a theory of auditory hallucinations: Outline of a hypothetical four-factor model. <u>British Journal of Social and Clinical Psychology, 13</u>, 73-79.

Slade, P.D. (1984). 'Sensory deprivation and clinical psychiatry.' <u>British Journal of Hospital Medicine 32</u>, 256-60.

Slade, P.D. & Bentall, R.P. (1988). <u>Sensory deception. A scientific anathology of hallucination.</u> Baltimore: The Johns Hopkins University Press.

Slade, P.D., Haddock, G. & Bentall, R.P. (1996). Psychological treatment of auditory hallucinations: Focusing or distraction. In G. Haddock & P.D Slade (Eds), Cognitive-Behavioural Interventions with Psychotic Disorders. pp.45-70. London: Routledge.

Snaith, P. (1993). What do depression rating scales measure? British Journal of Psychiatry, 163, 293-298.

Stanton, A.H., Gunderson, J.G. & Knapp, P.H. (1984). Effects of psychotherapy in schizophrenia: I. Design and implementation of a controlled study. Schizophrenia Bulletin, 10, 520-563.

Strauss, J.S., Carpenter, W.T. & Bartko, J.J. (1974). The diagnosis and understanding of schizophrenia: II. Speculations on the processes that underlie schizophrenic symptoms and signs. Schizophrenia Bulletin, 11, 61-76.

Strauss, J.S. & Carpenter, W.T. (1981). Schizophrenia. New York: Plenum.

Tarrier, N. (1987). An investigation of residual psychotic symptoms in discharged schizophrenic patients. British Journal of Clinical Psychology, 26, 141-143.

Tarrier, N. (1992). Management and modification of residual positive psychotic symptoms. In M. Birchwood & N. Tarrier (Eds), Innovations in the Psychological Management of Schizophrenia, pp.147-169. Chichester: Wiley.

Tarrier, N., Barrowclough, C., Vaughan, C.E., Bamrah, J.S., Porceddu, K. Watts, S. & Freeman, H. (1989). 'The community management of schizophrenia: A controlled trial of behavioural intervention with families to reduce relapse: a two year follow-up. British Journal of Psychiatry, 153, 532-42.

Tarrier, N., Harwood, S., Yusupoff, L., Beckett R. & Baker, A. (1990). Coping Strategy Enhancement (CSE): A method of treating residual schizophrenic symptoms. Behavioural Psychotherapy, 18, 283-294.

Tarrier, N., Beckett, R., Harwood, S., Baker A., Yusopoff, L. & Ugarteburu, I. (1993). A trial of two cognitive behavioural methods of treating drug-resistant residual psychotic symptoms in schizophrenic patients. British Journal of Psychiatry, 162, 534-532.

Tarrier, N., Yusupoff, L., Kinney, C. & McCarthy, E. (1997). The use of coping skills in the treatment of hallucinations and delusions in schizophrenia. In C. Mace & F. Margison (Eds), Psychotherapy of Psychosis, pp.130-147. London: Gaskell.

Tarrier, N., Yusupoff, L., Kinney, C., McCarthy, E., Gledhill, A., Haddock, G. & Morris J. (1998). Randomised controlled trial of intensive cognitive behaviour therapy for chronic schizophrenia. British Medical Journal, 317, 303-307.

Tarrier, N., Wittkowski, A., Kinney, C., McCarthy, E., Morris, J. & Humphreys, L. (1999). Durability of the effects of cognitive-behavioural therapy in the treatment of chronic schizophrenia: 12-month follow-up. British Journal of Psychiatry, 174, 500-504.

Tien, A.Y. (1991). 'Distribution of hallucinations in the population'. Social Psychiatry and Psychiatric Epidemiology, 26, 287-92.

Tolpin, P.H. (1975). On the regulation of anxiety: Its relation to "the timelessness of the unconscious and its capacity for hallucination." In Chicago Institute for Psychoanalysis (Ed), The Annual Of Psychoanalysis, Vol.II. New York: International University Press.

Turkington, D. & Kingdon, D. (1996). Using a normalising rationale in the treatment of schizophrenic patients. In G. Haddock & P. D Slade (Eds), Cognitive-Behavioural Interventions with Psychotic Disorders. pp103-115. London: Routledge.

Vaughn, C.E. & Leff, J.P. (1976). The measurement of expressed emotion in the families of psychiatric patients. British Journal of Social and Clinical Psychology, 15, 157-165.

Warner, R. (1994). Recovery from Schizophrenia. London: Routledge.

Watts, F.N., Powell, E.G. & Austin, S.V. (1973). The modification of abnormal beliefs. British Journal of Medical Psychology, 46, 359-363.

Weiden, P., Mott, T. & Curcio, N. (1995). Recognition and management of neuroleptic noncompliance. In C.L. Shriqui & H.A. Nasrallah (Eds), Contemporary Issues in the Treatment of Schizophrenia, pp 411-434 Washington: American Psychiatric Press Inc.

Wells, A. & Matthews, G. (1994). Attention and Emotion: A Clinical Perspective. Hillsdale, N. J: Erlbaum.

Wilcox, J., Rionase, D. & Suez, L. (1991). 'Auditory hallucinations, post-traumatic stress disorder and ethnicity.' Comprehensive Psychiatry 32: 320-323.

World Health Organisation (1973). Report of the international pilot study of schizophrenia, vol 1. Geneva: World Health Organisation.

World Health Organisation (1992). The ICD-10 Classification of Mental and Behavioural Disorders. Clinical Description and Diagnostic Guidelines. Geneva: World Health Organisation.

Wykes, T., Parr, A. & Landau, S. (1999). Group treatment of auditory hallucinations: exploratory study of effectiveness-a preliminary report. British Journal of Psychiatry, 175, 180-185.

Yusupoff, I., Haddock, G., Sellwood W. & Tarrier N. (1996). Cognitive behaviour therapy for hallucinations and delusions: current practices and future trends. In P.M. Salkovskis (Ed), <u>Trends in Cognitive Behaviour Therapies</u>. Chichester: John Wiley and Sons.

Zigmond, A.S. & Snaith, R.P. (1983). The Hospital Anxiety and Depression Scale. <u>Acta Psychiatrica Scandinavica, 67,</u> 361-370.

Zubin, J. & Spring, B. (1977). Vulnerability – a new view of schizophrenia. <u>Journal of Abnormal Psychology, 86(2),</u> 103-126.

Zubin, J., Steinhauer, S.R. & Condray, R. (1992). Vulnerability to relapse in schizophrenia. <u>British Journal of Psychiatry, 161(suppl.18),</u> 13–18.

List of Appendices

Appendix 1:

Summary of primary and subsidiary hypotheses to be tested

	HAD: Total	HAD: Anxiety	HAD: Depression	Avoidance Coping Strategies	Approach Coping Strategies
HAD: Depression	-	(Validation)	-	-	-
Avoidance Coping Strategies	Primary	-	-	-	-
Approach Coping Strategies	Subsidiary	-	-	-	-
Identity	Subsidiary	Subsidiary	Subsidiary	Subsidiary	Subsidiary
Purpose	Subsidiary	Subsidiary	Subsidiary	Subsidiary	Subsidiary
Power	Subsidiary	Subsidiary	Subsidiary	Subsidiary	Subsidiary
Control voice has	Subsidiary	Subsidiary	Subsidiary	Subsidiary	Subsidiary
Control over voice	Primary	Subsidiary	Subsidiary	Primary	Subsidiary

Appendix 2:

Ethics approval

GRAMPIAN HEALTH BOARD
AND
UNIVERSITY OF ABERDEEN

GRAMPIAN RESEARCH ETHICS COMMITTEE

Chairman
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Consultant
Department of Medical Genetics
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14th February 2001

Project No: 01/0029

Mr Tim Delahunty
Trainee Clinical Psychologist
Dept of Counselling & Clinical Psychology
Block A
Clerkseat Building
Royal Cornhill Hospital
Aberdeen

Dear Mr Delahunty

An exploration of beliefs, coping strategies and the emotional consequences in people who experience hearing voices

The above project was considered at the Grampian Research Ethics Sub-Committee meeting of 13th February 2001, and I am pleased to confirm that ethical approval for this project has now been granted subject to the following amendments.

- Could you confirm that there is a combined list of patients and set of records between psychology and psychiatry or that, if the latter has separate records, the psychiatrists have been approached and agree to the use of their records/clinic? If they are separate systems, any patients recruited solely from psychiatric clinics will have to be recruited by a psychiatrist

I look forward to receiving confirmation on the above before this study can start.

Yours sincerely

Mrs Diane Murray
Clerk to the Grampian Research Ethics Committee

Please quote project number on all correspondence

CLINICAL AND COUNSELLING PSYCHOLOGY
Block A, Clerkseat Building, Royal Cornhill Hospital, Aberdeen
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INFORMATION SHEET
- The Experience of Hearing Voices Project

Introduction
The experience of hearing voices can be distressing for a large proportion of people. The beliefs that each individual holds about their experience and the ways of coping with it are believed to contribute to the level of distress caused by the experience.

The aim of this project is to look in more detail at the ways people cope with their own unique experience, the beliefs they have and how this affects them emotionally.

I would like to invite you to participate in this research project to enable us to learn more about people's experience of hearing voices and how to help them more effectively.

What will I have to do?
This study involves filling in four questionnaires, which would take about 45 minutes in total to complete. The researcher, Tim Delahunty, would explain each of these questionnaires to every subject and would answer any questions you have regarding the project. The researcher would be happy to visit you at home, or at any location which is convenient to you in order to carry out the study.

Patient notes
I would also like to request your permission to review your file/notes for additional information, which I would keep in strict confidence.

Do I have to take part?
No, taking part is voluntary. If you prefer not to take part you do not

have to give a reason. Any treatments or support you are being given would not be affected. All the information gathered will be known only to the researcher and will be kept strictly confidential.

However, the Clinical Psychology Department is to run groups to help people who experience hearing voices. If you wish to participate in such a group you can ask for your name to be put forward as a possible future member.

What to do now?
If you would like to take part in the study could you let your nurse or key worker know, or contact me directly at the address or telephone number below.

Thank you very much for considering taking part in my research. Please discuss this information with your friends, family or G.P. if you wish.

Tim Delahunty
Psychologist in Clinical Training
Dept. of Clinical Psychology
Clerkseat Building (Block A)
Royal Cornhill Hospital
Aberdeen
Tel:01224 557475

Appendix 4:

Breakdown of demographic information for study sample

Gender	Male		Female	
	14		14	
Age	Mean (SD)		Range	
	42yrs 11ms (14yrs 11ms)		20yrs 5ms to 75yrs 4ms	
'Marital status'	Married	Co-habiting		Single
	3	3		22
Accommodation	Outpatient			
	Independent Living		Supported	
	19		1	
	Inpatient			
	Ward		Rehab Service	
	Long term	Acute	Ward	Unit
	3	1	1	3
Employment status	Employed		Unemployed	
	0		28	
Number of Hospital Admissions	None	1-5		6+
	1	10		17
Total duration of admissions	None	<1 year	1-5 years	5+ years
	1	11	10	6
Time since first diagnosis	Mean (SD)		Range	
	16yrs 10ms (14yrs 3ms)		2 yrs to 50 yrs	

APPENDIX 4: TOPOGRAPHY OF VOICES RATING SCALE (from Hustig & Hafner, 1990)

Over the last few days my voices have been

_____1_____	_____2_____	_____3_____	_____4_____	_____5_____
VERY FREQUENT (every hour)	FAIRLY FREQUENT (several times a day but not every hour)	AVERAGE (once a day)	FAIRLY INFREQUENT (several times this week but not every day)	ABSENT (not at all lately)

_____1_____	_____2_____	_____3_____	_____4_____	_____5_____
VERY LOUD	FAIRLY LOUD	AVERAGE	FAIRLY QUIET	VERY QUIET

_____1_____	_____2_____	_____3_____	_____4_____	_____5_____
VERY CLEAR	FAIRLY CLEAR	AVERAGE	FAIRLY MUMBLED	VERY MUMBLED

_____1_____	_____2_____	_____3_____	_____4_____	_____5_____
VERY DISTRES-SING	FAIRLY DISTRES-SING	NEUTRAL	FAIRLY COMFORT-ING	VER COMFORT-ING

_____1_____	_____2_____	_____3_____	_____4_____	_____5_____
VERY EASY TO IGNORE	SLIGHTLY DISTRACT-ING	FAIRLY DISTRACT-ING	VERY DISTRACT-ING	COMPELLING ME TO OBEY THEM

Appendix 6:

CRI Subscales and their constituting items

Coping Responses Inventory Subscale	CRI Items					
Logical Analysis (LA)	1	9	17	25	33	41
Positive Appraisal (PA)	2	10	18	26	34	42
Seeking Support (SS)	3	11	19	27	35	43
Problem-Solving (PS)	4	12	2	28	36	44
Cognitive Avoidance (CA)	5	13	21	29	37	45
Acceptance (A)	6	14	22	30	38	46
Alternative Rewards (AR)	7	15	23	31	39	47
Emotional Discharge (ED)	8	16	24	32	40	48

Adapted-Coping Responses Inventory

This is your copy of the Adapted-Coping Responses Inventory. It contains questions about how you manage your experience of hearing voices.

Please answer each question as accurately as you can. All your answers are strictly confidential. If you do not wish to answer a question, please circle the number of that question so that we know you have intentionally skipped it. If a question does not apply to you, please write 'N/A' (Not Applicable) in the margin next to the question.

What is your name? ....

What is today's date? ....

ADAPTED-COPING RESPONSES INVENTORY

Dealing with the experience of hearing a voice/or voices

Please think about a situation where you experienced hearing a voice/or voices during the last twelve months.

Describe the situation

....
....
....
....
....

Part I
Please answer the following questions about the situation you have listed.
Place an X in the appropriate box.

	Definitely No 0	Mainly No 1	Mainly Yes 2	Definitely Yes 3
1. Have you ever had an experience like this before?	☐	☐	☐	☐
2. Did you know this experience was going to occur?	☐	☐	☐	☐
3. Did you have enough time to get ready to handle this?	☐	☐	☐	☐
4. When this experience occurred, did you think of it as a threat?	☐	☐	☐	☐
5. When this experience occurred, did you think of it as a challenge?	☐	☐	☐	☐
6. Was this experience caused by something you did?	☐	☐	☐	☐
7. Was this experience caused by something someone else did?	☐	☐	☐	☐
8. Did any thing good come out of dealing with this experience?	☐	☐	☐	☐
9. Has this situation been resolved?	☐	☐	☐	☐
10. If the situation has been worked out, did it turn out all right for you?	☐	☐	☐	☐

ADAPTED-COPING RESPONSES INVENTORY

Part II

Please think again about the experience you described at the beginning of this Inventory; indicate which of the following you did in connection with that experience.

Did you:	NO 0	YES, once or twice 1	YES, some- times 2	YES, fairly often 3
1. Think of different ways to deal with the experience?	☐	☐	☐	☐
2. Tell yourself things to make yourself feel better?	☐	☐	☐	☐
3. Talk with your partner or other relative about the experience?	☐	☐	☐	☐
4. Make a plan of action and follow it?	☐	☐	☐	☐
5. Try to forget the whole thing?	☐	☐	☐	☐
6. Feel that time would make a difference, the only thing to do was wait?	☐	☐	☐	☐
7. Try to help others deal with a similar experience?	☐	☐	☐	☐
8. Take it out on other people when you felt angry or depressed?	☐	☐	☐	☐
9. Try to step back from the experience and be more objective?	☐	☐	☐	☐
10. Remind yourself how much worse things could be?	☐	☐	☐	☐
11. Talk with a friend about the experience?	☐	☐	☐	☐
12. Know what had to be done and try hard to make things work?	☐	☐	☐	☐
13. Try not to think about the experience?	☐	☐	☐	☐

ADAPTED-COPING RESPONSES INVENTORY

Questions about how you handled the experience you described at the beginning of this Inventory (continued)

	NO 0	YES, once or twice 1	YES, some-times 2	YES, fairly often 3
14. Realize that you had no control over the experience?	□	□	□	□
15. Get involved in new activities?	□	□	□	□
16. Take a chance and do something risky?	□	□	□	□
17. Go over in your mind what you would say or do?	□	□	□	□
18. Try to see the good side of the experience?	□	□	□	□
19. Talk with a professional person (e.g. doctor, lawyer, clergy)?	□	□	□	□
20. Decide what you wanted and try hard to get it?	□	□	□	□
21. Daydream or imagine a better time or place than the one you were in?	□	□	□	□
22. Think that the outcome would be decided by fate?	□	□	□	□
23. Try to make new friends?	□	□	□	□
24. Keep away from people in general?	□	□	□	□
25. Try to anticipate how things would turn out?	□	□	□	□
26. Think about how you were much better off than other people with similar experiences?	□	□	□	□
27. Seek help from persons or groups with the same type of experience?	□	□	□	□
28. Try at least two different ways to deal with the experience?	□	□	□	□
29. Try to put off thinking about the experience, even though you knew you would have to at some point?	□	□	□	□

ADAPTED-COPING RESPONSES INVENTORY

Questions about how you handled the experience you described at the beginning of this Inventory (continued)

	NO	YES, once or twice	YES, some-times	YES, fairly often
30. Accept it; nothing could be done?	☐	☐	☐	☐
31. Read more often as a source of enjoyment?	☐	☐	☐	☐
32. Yell or shout to let off steam?	☐	☐	☐	☐
33. Try to find some personal meaning in the experience?	☐	☐	☐	☐
34. Try to tell yourself that things would get better?	☐	☐	☐	☐
35. Try to find out more about the experience?	☐	☐	☐	☐
36. Try to learn to do more things on your own?	☐	☐	☐	☐
37. Wish the experience would go away or somehow be over with?	☐	☐	☐	☐
38. Expect the worst possible outcome?	☐	☐	☐	☐
39. Spend more time in recreational activities?	☐	☐	☐	☐
40. Cry to let your feelings out?	☐	☐	☐	☐
41. Try to anticipate the new demands that would be placed on you?	☐	☐	☐	☐
42. Think about how this event could change your life in a positive way?	☐	☐	☐	☐
43. Pray for guidance and/or strength?	☐	☐	☐	☐
44. Take things a day at a time, one step at a time?	☐	☐	☐	☐
45. Try to deny how serious the experience really was?	☐	☐	☐	☐
46. Lose hope that things would ever be the same?	☐	☐	☐	☐

ADAPTED-COPING RESPONSES INVENTORY

Questions about how you handled the experience you described at the beginning of this Inventory (continued)

	NO	YES, once or twice	YES, some-times	YES, fairly often
47. Turn to work or other activities to help you manage things?	☐	☐	☐	☐
48. Do something that you didn't think would work, but at least you were doing something?	☐	☐	☐	☐

This completes the inventory. Thank you very much for your help.

HADS

HAD Scale

Name: Date:

Doctors are aware that emotions play an important part in most illnesses. If your doctor knows about these feelings he will be able to help you more.

This questionnaire is designed to help your doctor to know how you feel. Read each item and place a firm tick in the box opposite the reply which comes closest to how you have been feeling in the past week.

Don't take too long over your replies: your immediate reaction to each item will probably be more accurate than a long thought-out response.

Tick only one box in each section

I feel tense or 'wound up':
Most of the time
A lot of the time
Time to time, Occasionally
Not at all

I still enjoy the things I used to enjoy:
Definitely as much
Not quite so much
Only a little
Hardly at all

I get a sort of frightened feeling as if something awful is about to happen:
Very definitely and quite badly
Yes, but not too badly
A little, but it doesn't worry me
Not at all

I can laugh and see the funny side of things:
As much as I always could
Not quite so much now
Definitely not so much now
Not at all

Worrying thoughts go through my mind:
A great deal of the time
A lot of the time
From time to time but not too often
Only occasionally

I feel cheerful:
Not at all
Not often
Sometimes
Most of the time

I can sit at ease and feel relaxed:
Definitely
Usually
Not often
Not at all

I feel as if I am slowed down:
Nearly all the time
Very often
Sometimes
Not at all

I get a sort of frightened feeling like 'butterflies' in the stomach:
Not at all
Occasionally
Quite often
Very often

I have lost interest in my appearance:
Definitely
I don't take so much care as I should
I may not take quite as much care
I take just as much care as ever

I feel restless as if I have to be on the move:
Very much indeed
Quite a lot
Not very much
Not at all

I look forward with enjoyment to things:
As much as ever I did
Rather less than I used to
Definitely less than I used to
Hardly at all

I get sudden feelings of panic:
Very often indeed
Quite often
Not very often
Not at all

I can enjoy a good book or radio or TV programme:
Often
Sometimes
Not often
Very seldom

Appendix 9:

BAVRS

Conviction of Beliefs Scale

The following lines are used to measure the strength of people's beliefs about the voices they hear. Each line represents a different belief and ranges from not believing the statement at all (0%) to believing it completely (100%). There are no wrong or right answers and each question is specific to your own individual experience.

Please mark with an X the place on the line that represents the degree to which you believe the associated statement.

Q1. How much do you believe that the voice belongs to ....?

0% ———————————————————————————— 100%
not at all   completely

Q2. How much do you believe that the purpose of the voice is to......................
....?

0% ———————————————————————————— 100%
not at all   completely

Q3. How powerful is the voice?

0% ———————————————————————————— 100%
not at all powerful   completely powerful

Q4. How much control does the voice have over you?

0% ———————————————————————————— 100%
no control at all   complete control
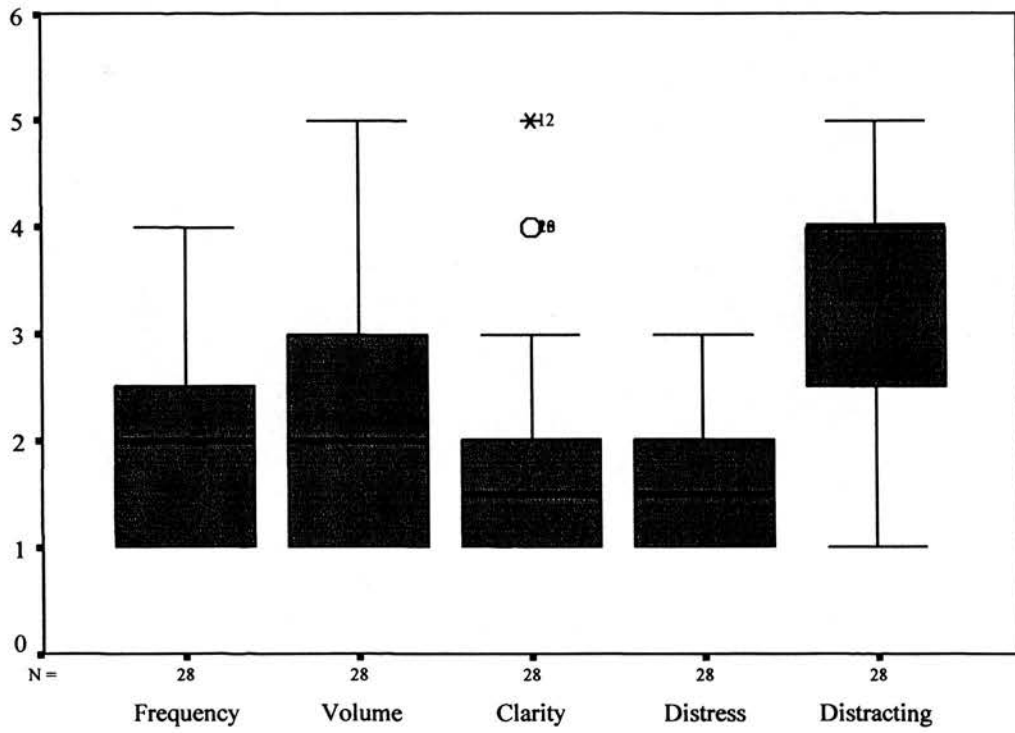
Q5. How much control do you have over the voice?

0% ———————————————————————————— 100%
no control at all   complete control

Appendix 10:

Boxplots of responses on the TVRS

Topography

Descriptions of beliefs about identity and purpose of voices

No.	Identity of Voice (% of conviction) 'How much do you believe the voice belongs to...'	Purpose of Voice (% of conviction) How much do you believe the purpose of the voice is to...'
1	Don't know – an elderly gentleman. (-)	Make me cross roads in front of cars. (100.00 %)
2	Hitler. (100.00 %)	Make me cut my wrists. (100.00 %)
3	A man, maybe the devil. (81.67 %)	Not sure. (-)
4	Old neighbour. (100.00 %)	Humiliate me, destroy my spirit. (100.00 %)
5	Me. (100.00 %)*	Get me to run around and do things for them. (100.00 %)
6	Fellow patient I met in the 1970s. (100.00 %)	Just to annoy me. (100.00 %)
7	Witch. (58.33 %)	To control me, giggles when I meet people and makes me giggle. (34.17 %)
8	Rob. (95.83 %)	Want me dead. (95.83 %)
9	Don't know. (-)	Tell me to do things to myself, pets, people around me. Kill myself, my pets, take an overdose. (100.00 %)
10	(No particular person. (65.00 %)	Don't Know. (-)
11	Don't know. (-)	Get me to hurt myself. (100.00 %)
12	Don't know. (-)	Try and get me out of here. (42.50 %)
13	Tom Jenkins. (100%)	Stop me seeing pictures of my mother and her lovers. Makes him angry (100.00 %)
14	Mr X. (100.00 %)	Taunt me. (43.33 %)

15	My step dad. (100.00 %)	Get me to hurt myself. (94.17 %)
16	A, B, C, D. (82.50 %)	Try to control me. (85.83 %)
17	Don't know. (-)	Try to get me to hurt myself. (68.33 %)
18	My Gran. (83.33 %)	Make a fool of me. (93.33 %)
19	Sally. (100.00 %)	Get me to do dangerous, impossible things. Try to confuse my brain. (70.00 %)
20	God. (100.00 %)	Get me to behave myself. (100.00 %)
21	Don't know. (-)	To get me to hurt or kill myself. (100.00 %)
22	My father. (90.00 %)	Get me to better myself and calls me a down and out. (80.00 %)
23	Step-brother (100.00 %)	Want me to keep a secret, to lower my self-esteem and make me harm myself. (100.00 %)
24	Someone who abused me when I was younger. (97.50 %)	Wants me to die. (95.00 %)
25	Officer from time in the army. (71.67 %)	Get me to harm myself (we didn't like each other). (100.00 %)
26	The mother of someone I know. (100.00 %)	She is jealous of me and wants to destroy me. (100.00 %)
27	Don't know. (-)	Make me worry and fear, because of things in the past. (100.00 %)
28	Don't know . (-)	Criticise me. (68.33 %)

* scored as 0 %

Note: Names have been changed by the researcher to protect client confidentiality. Codes given in place of names were given by participants not wishing to disclose names to the researcher.

Appendix 12:

Correlation matrix for primary and subsidiary hypotheses

Correlations

		HAD - total	HAD - anxiety	HAD - depression	Avoidance Coping Responses	Approach Coping Responses	Identity (%)	Purpose (%)	Power (%)	Control voice has (%)	Control you have (%)
HAD - total	Correlation Coefficient	1.000	.813**	.918**	.209	-.091	-.077	.273	.385*	.070	-.325*
	Sig. (1-tailed)	.	.000	.000	.143	.322	.374	.088	.022	.361	.046
	N	28	28	28	28	28	20	26	28	28	28
HAD - anxiety	Correlation Coefficient	.813**	1.000	.550**	.237	.207	.154	.263	.174	.262	-.361*
	Sig. (1-tailed)	.000	.	.001	.113	.145	.258	.098	.188	.089	.030
	N	28	28	28	28	28	20	26	28	28	28
HAD - depression	Correlation Coefficient	.918**	.550**	1.000	.147	-.246	-.167	.152	.490**	-.104	-.241
	Sig. (1-tailed)	.000	.001	.	.228	.104	.241	.229	.004	.299	.108
	N	28	28	28	28	28	20	26	28	28	28
Avoidance Coping Responses	Correlation Coefficient	.209	.237	.147	1.000	.404*	-.147	-.044	.544**	.066	-.159
	Sig. (1-tailed)	.143	.113	.228	.	.016	.268	.416	.001	.369	.210
	N	28	28	28	28	28	20	26	28	28	28
Approach Coping Responses	Correlation Coefficient	-.091	.207	-.246	.404*	1.000	-.072	.227	.158	.176	-.376*
	Sig. (1-tailed)	.322	.145	.104	.016	.	.381	.132	.210	.186	.024
	N	28	28	28	28	28	20	26	28	28	28
Identity (%)	Correlation Coefficient	-.077	.154	-.167	-.147	-.072	1.000	.289	-.109	-.134	-.328
	Sig. (1-tailed)	.374	.258	.241	.268	.381	.	.122	.324	.287	.079
	N	20	20	20	20	20	20	18	20	20	20
Purpose (%)	Correlation Coefficient	.273	.263	.152	-.044	.227	.289	1.000	.169	-.028	-.395*
	Sig. (1-tailed)	.088	.098	.229	.416	.132	.122	.	.205	.447	.023
	N	26	26	26	26	26	18	26	26	26	26
Power (%)	Correlation Coefficient	.385*	.174	.490**	.544**	.158	-.109	.169	1.000	-.076	-.350*
	Sig. (1-tailed)	.022	.188	.004	.001	.210	.324	.205	.	.349	.034
	N	28	28	28	28	28	20	26	28	28	28
Control voice has (%)	Correlation Coefficient	.070	.262	-.104	.066	.176	-.134	-.028	-.076	1.000	-.032
	Sig. (1-tailed)	.361	.089	.299	.369	.186	.287	.447	.349	.	.436
	N	28	28	28	28	28	20	26	28	28	28
Control you have (%)	Correlation Coefficient	-.325*	-.361*	-.241	-.159	-.376*	-.328	-.395*	-.350*	-.032	1.000
	Sig. (1-tailed)	.046	.030	.108	.210	.024	.079	.023	.034	.436	.
	N	28	28	28	28	28	20	26	28	28	28

. Correlation is significant at the .01 level (1-tailed).

*. Correlation is significant at the .05 level (1-tailed).

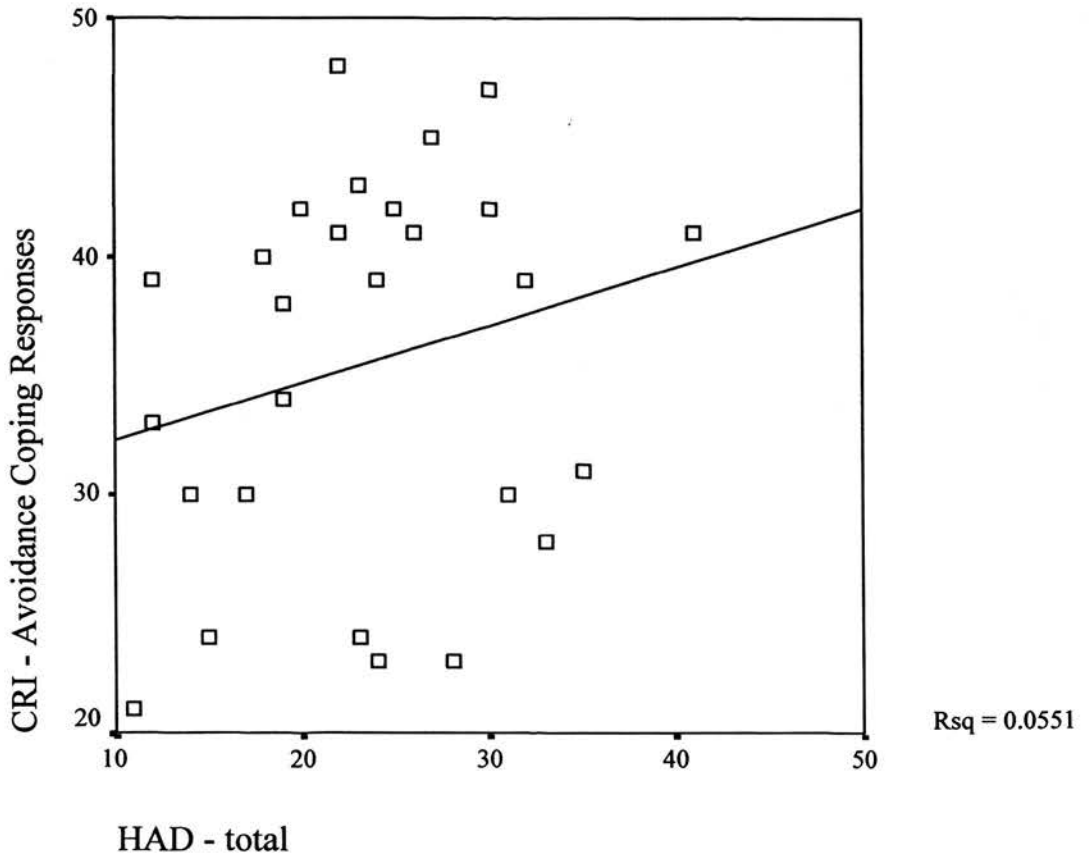# Appendix 13:

Scattergram of control over voice by HADS total

Rsq = 0.0926
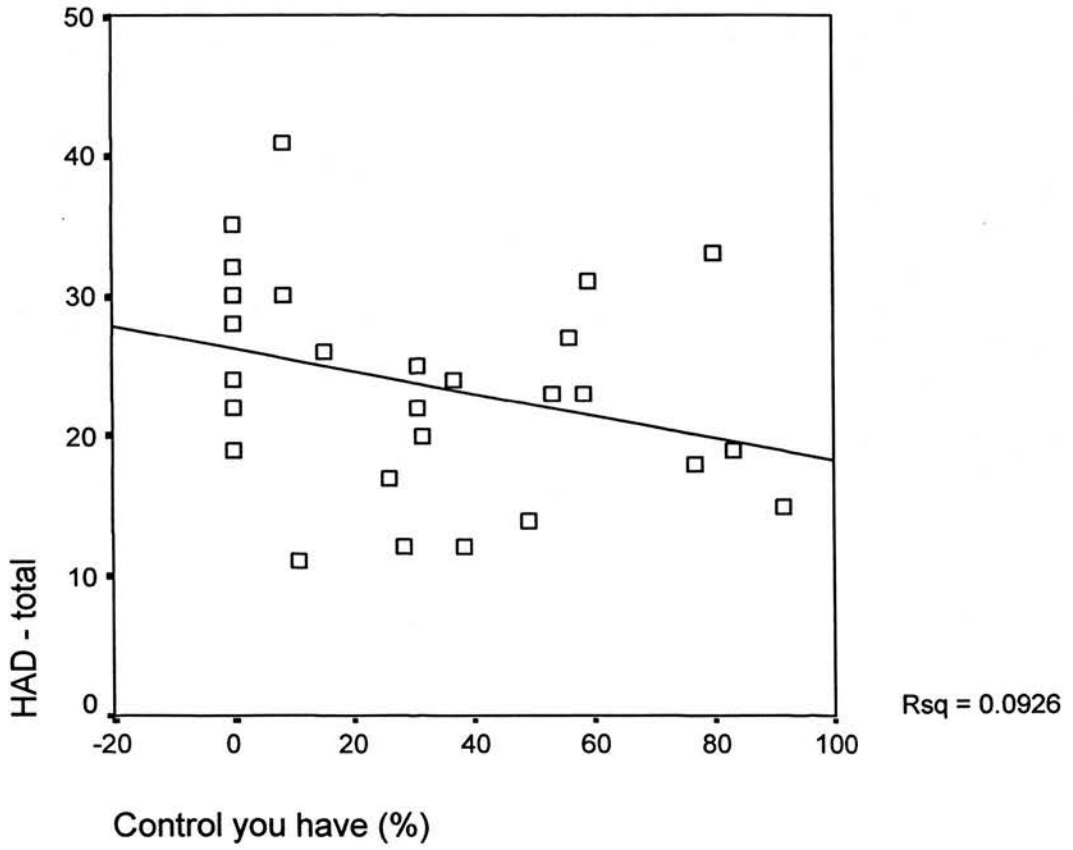
Appendix 14

Scattergram of HADS total by avoidance coping strategies

Rsq = 0.0551

Appendix 15

Scattergram of control over voice by avoidance coping strategies