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UNDERSTANDING PATIENTS' BELIEFS ABOUT VOICES
(AUDITORY HALLUCINATIONS) AND PATIENTS' ADOPTED
COPING STRATEGIES

BY
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DECLARATION

I hereby declare that, except for references to other people's works which have been duly cited, this work is the result of my own research and that this thesis has neither in whole nor in part been presented for another degree.

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DEDICATION

I dedicate this thesis to the Most High God, My Family at Cape Coast and to my children yet to be born.

LIST OF ACRONYMS

G A F	-	Global Assessment of Functioning Scale
W O C	-	Ways of Coping Checklist
D S M	-	Diagnostic and statistical manual

ABSTRACT

The purpose of this study was to obtain information regarding the understanding of the schizophrenic patients' beliefs about voices (auditory hallucinations) and their adopted coping strategies. The Ways of Coping Checklist, a Semi-Structured Questionnaire and the Global Assessment of Functioning Scale were used to explore the beliefs patients suffering from schizophrenia have about auditory hallucinations and the ways of coping patients adopt to cope with auditory hallucinations. The participants were in-patients with clinical diagnoses of schizophrenia. The results indicated that there were significant differences between men and women in the strategies adopted in coping with auditory hallucination. Further, the young and old did not differ in the coping strategies they have adopted for coping with auditory hallucinations; and also beliefs about the intention of the voice affected one's affective response to auditory hallucinations. The results revealed that most patients' suffering from auditory hallucinations believe that auditory hallucinations have supernatural causes. Ways of coping with auditory hallucinations varied from praying to taking medication.

CHAPTER ONE

INTRODUCTION

1.1 SCHIZOPHRENIA

Schizophrenia is the label given to a group of psychotic symptoms in which deterioration of functioning is accompanied by severe distortion of thought, perception, mood, bizarre behaviour and social withdrawal (Bootsin, Acocella, & Alloy 1993). In other words, schizophrenia may be defined as a severe disorder characterised by impaired social, emotional, cognitive and perceptual functioning. The basis of schizophrenia is a splitting within thinking and feeling themselves, between internal and external perception, a loosening in the association of ideas, which leads to a deep distance of both thought and feeling and thus a disorder of the whole personality. In fact, the term schizophrenia comes from the Latin word '*schizo*' meaning split and '*phrenia*' meaning mind. The individual's mind is split from reality and thought patterns become fragmented. Schizophrenia and multiple personality disorder (called split personality) are different. Schizophrenia involves the split of one's personality from reality not the co-existence of several personalities within one individual (as in split personality).

Schizophrenia can be caused by genetic, biological, environmental or socio-cultural factors (Bootsin, Acocella, & Alloy 1993).

A. Genetic factors:

If one has a relative with schizophrenia, what are the chances that one will develop schizophrenia? It depends on how closely you are related. As genetic similarity increases, so does your risk of becoming schizophrenic.

An identical twin of a person with schizophrenia has a 46% chance of developing the disorder. A fraternal twin, 14%; a sibling, 10% and an unrelated individual in the general population, 1% (Gottesman & Shields, 1982). The precise nature of the genetic influence is unknown.

B. Neurobiological factors:

Many neuroscientists believe that imbalances in brain metabolism, a malfunctioning dopamine system and distorted cerebral blood flow, cause schizophrenia (Cromwell & Snyder, 1993). Imaging techniques, for example, Positron Emission Tomography (PET) scan clearly shows deficits in brain metabolism. It has been reported that persons with schizophrenia produce too much of the neurotransmitter dopamine (Cromwell & Snyder, 1993). Persons suffering from schizophrenia also have a reduced blood flow in the prefrontal cortex (Weinberger, Berman, & Zee, 1986). For example when scientists monitored the brains of persons with schizophrenia as they performed a sorting task, the blood did not adequately flow into the prefrontal region where much of advanced thinking takes place (Weinberger, Berman, & Zee, 1986).

C. Environmental factors

Schizophrenia does not occur in an environmental vacuum. Some researchers e.g. (Goldstein, 1986) believe that environmental factors are important in schizophrenia. Others e.g. (Gottesman & Shields, 1982)

believe that genetic factors outweigh environmental factors. Stress is the environmental factor given the most attention in understanding schizophrenia. The diathesis-stress view argues that a combination of environmental stress and biogenetic disposition can cause schizophrenia (Meehl, 1962). A defective gene make-up only produces schizophrenia when the individual lives in a stressful environment. Advocates of the diathesis-stress view emphasise the importance of stress reduction and family support as part of treating schizophrenia (Meehl, 1962).

D. Socio-cultural factors

Disorders of thinking and emotions are common in schizophrenia within all cultures but the type and incidence of schizophrenic disorders may vary from culture to culture (Carson, Butcher & Coleman, 1988). One of the most puzzling studies evaluating cultural factors reported that the admission to mental health facilities for schizophrenia is very high for Irish Catholics in the Republic of Ireland (Torrey, 1980) but not among Irish Catholics living elsewhere (Murphy, 1978). Rates of schizophrenia may also vary for different groups within the same culture. For example, one study revealed that Blacks had higher rates of schizophrenia than Whites in both U.S. and Great Britain (Bagley, 1984). Blacks had significantly greater number of life crises than Whites and that may have precipitated schizophrenic episodes. In addition, African-Americans and African-British who became schizophrenic had higher aspirations to succeed than those who did not

become schizophrenic. One explanation may be that Blacks' efforts to become assimilated into, and achieve parity within a mainstream society that is oppressively racist creates considerable stress. It seems that poverty and the living conditions it engenders are much more likely to be associated with schizophrenia than ethnicity.

1.2 SYMPTOMS OF SCHIZOPHRENIA

Symptoms of schizophrenia can be divided into positive and negative symptoms (Kurt Schneider 1939). There are also other symptoms, which are neither positive nor negative. These terms, positive and negative symptoms, have slipped into the language of contemporary psychiatry with comparative ease.

Negative symptoms consist of behavioural deficits such as avolition, alogia, anhedonia and flat affects (Davison & Neale, 1989):

- i. Avolition refers to the situation whereby patients lose interest in daily routine activities. At times, personal hygiene is not observed.
- ii. Alogia is a negative thought disorder. Here the amount of speech is greatly reduced and the patient's speech is with little information. Some patients may not respond to questions at all or take a long time before they do so.
- iii. Anhedonia refers to an inability to experience pleasure especially in things that once gave the patient pleasure.
- iv. Flat Affect: A patient with flat affect may answer in a flat toneless voice

when spoken to. The patient may stare vacantly, the muscles of the face flaccid and the eyes lifeless (Davison & Neale, 1989).

Positive symptoms consist of excesses such as delusions, bizarre behaviour and hallucinations.

- i. Delusions may be defined as irrational beliefs that a person will defend with great vigour despite overwhelming evidence that they have no basis in reality. There are delusions of control. That is, the belief that some external force such as radar, a television or a creature from outer space is manipulating the person. In Africa, a person with delusions of control may believe that he or she is being controlled by witchcraft or his or her dead mother, and so on. There are also delusions of grandeur, which is the belief that one is an especially important or powerful person. People with schizophrenia sometimes have delusions of persecution - the belief that one is being plotted against or oppressed by others.
- ii. Bizarre behaviour is also a positive symptom of schizophrenia. This behaviour includes habits like hoarding food, collecting garbage and talking to one's self.
- iii. Other positive symptoms include somatic passivity, thought insertion, thought broadcasting, thought withdrawal and hallucinations. Somatic passivity is when the person is passive to things around him or her. Thought insertion is when the person believes that outside thoughts are inserted into his or her head. Thought broadcasting is when the person

believes that his or her thoughts are being broadcast to people around him or her. When the person feels that some of his or her thoughts are being withdrawn from his or her head, it is described as thought withdrawal (Davison & Neale, 1989). Hallucinations will be discussed in detail later on, in this thesis.

Other symptoms, which do not fall under the positive-negative scheme, include catatonic excitement, catatonic immobility, waxy flexibility and inappropriate affect.

- i. Catatonic Excitement: A patient with catatonic excitement may behave in the same way that a manic patient does. He or she will get excited about things that should not excite him/her under normal conditions. A schizophrenic patient with catatonic immobility adopts unusual and seemingly uncomfortable postures for long periods of time. For example, he or she may stand on one leg all day long. Some catatonic patients may have waxy flexibility. Here the patient's limb can be moved into strange positions and maintained for long periods of time.
- ii. Inappropriate Affect: Patients who laugh on hearing bad news like the death of a relative and get angry on being complimented are said to be having inappropriate affect (Davison & Neale, 1989).

1.3 HALLUCINATIONS

Added to the perceptual problems in schizophrenia is the fact that schizophrenic patients perceive things that are not there. Most schizophrenics report difficulties in attending to what is happening around them. Most schizophrenics are not aware

of what is happening around them. In addition, most of them remark that their surroundings are not as they used to be and everything appears flat and colourless (Falloon & Talbot 1981).

The most dramatic distortions are called hallucinations and this is a positive symptom of schizophrenia. The word hallucination is derived from the Latin word '*alucinatio*', which means to talk idly or to wander mentally. In the 16th century, it was used to refer to ghosts and spirits walking by night (Sarbib & Juhasz, 1975). A perceptual experience in the absence of relevant stimulation is hallucination. Hallucinations can also be defined as perceptions in any sensory modality without relevant and adequate external stimuli (Bootsin, Acocella & Alloy 1993). Hallucinations may be in the form of hearing voices (auditory hallucination) or seeing images (visual hallucination). It can also be tactile hallucinations (crawling things such as bugs, felt on the skin along with uncanny sensations), gustatory (in connection with the taste), somatic (to do with the body) and olfactory hallucinations (smelling odours). Among these forms of hallucinations, auditory hallucinations are the most frequent, followed by visual hallucinations and then hallucinations of the other senses (Ludwig 1986).

Hallucinations occur spontaneously and most people with schizophrenia are unsure whether their hallucinations are real or imagined (Frith & Done, 1988). This is because hallucinations result from the failure of the cognitive mechanism [which assists us to distinguish between experiences generated by the mind and

experiences induced by external stimuli, (Bental, 1990).] Severely psychotic patients are in fact convinced that their hallucinations are perceptions of objectively real events (Frith & Done 1988). These voices are sometimes persistent. Moreover, they may have a threatening or obscene nature or represent some outside evil power over which the patients feel they have no control. At other times, the same voices may be regarded as good and pleasant companions. Some patients are so pre-occupied with and reactive to the voices that social reintegration is hampered.

Various reviews of schizophrenia research published in the 1960s and 1970s (DeWolf, 1974; Higgins, 1969; Neale and Cromwell, 1970; Payne, 1973) were in agreement that patients with a good premorbid history differed in their style of attention deployment from patients with a poor premorbid history (process schizophrenics). Reactives were more attentive to external stimulation, risked excessive input and stimulus flooding. Process schizophrenics were described as insensitive to external stimulation and as such vulnerable to the dangers of attentional withdrawal and autism.

Most patients (64%) consider external factors to be responsible for their voices (Jenner, Van & Wiersma, 1998). In a study of auditory hallucinations, (Heilbrun & Blum, 1984), psychiatric patients were asked to judge the localisation from which words were spoken within the experimental room and without assistance of visual cues. Process hallucinators revealed a serious deficit in spatial localisation

of auditory cues, suggesting that they would have a special problem in dis-confirming the perception of a voice thought to be addressing them from somewhere in their surroundings. Their lack of spatial localisation ability was interpreted to be a result of their withdrawal of attention from outside stimulation. Reactive hallucinators were not impaired on the spatial-location task relative to patient control subjects (Heilbrun & Blum, 1984).

The problem of dis-confirming the faulty perception of a voice in the case of reactive hallucinators was treated in an investigation of how patients assign meaning to stimuli (Heilbrun & Blum, 1984). Heilbrun and Blum, (1984) found out that reactives with a history of auditory hallucinations were more intolerant of ambiguity, being quick to assign meaning to unclearly spoken words. A second measure suggested that they also were disinclined to search for alternative meaning once they had settled on an interpretation. Process hallucination and non-hallucinating control subjects did not show these cognitive characteristics. It was suggested that reactives would be vulnerable to misinterpretation because of the premature interpretation of 'thought' as a voice, and less capable of correcting this error because they are less inclined to consider alternatives (Heilbrun, Diller, Fleming, & Slade, 1986).

1.4 CULTURE AND AUDITORY HALLUCINATIONS

Culture appears to moderate the occurrence, quality and frequency of hallucinations. Third world cultural groups – partly Africans, West Indians, and

Saudi Arabians – hallucinate (hear voices) more than those in industrialised societies do (Ndeti & Vadhwa, 1984). Within the U.S., Blacks and Hispanics report more auditory hallucinations than Whites, which tends to lead to a higher risk of misdiagnosis in the direction of psychopathology (Mukherjee, 1983). But specific studies of the effect of culture on hallucinations have either lacked an accurate contemporary population base (Field, 1968; Sikanarthy & Eaton, 1984) or have not involved active case – finding within the general population under investigation (Sikanarthy & Eaton, 1984). Gender differences are not apparent from the literature.

1.5 PREVALENCE OF SCHIZOPHRENIA AND HALLUCINATIONS

There are reports that the prevalence of schizophrenia is constant with respect to time and place (Ben-Tovim, & Cushman J.M. 1986). Torrey (1980) has proposed that schizophrenia is a disease of industrialised society, thus reviving an argument that has been alive for at least 150 years (Burrows, 1828; Maudsley 1879; Morison, 1824).

Torrey (1980) has also used contemporary fieldwork studies to examine geographical variations in the prevalence of schizophrenia, and has identified a relative failure of schizophrenia to penetrate to the more remote parts of certain developing countries such as Papua New Guinea. Murphy (1984) has also said of schizophrenia that “with some notable exceptions such as the rural Irish, its

prevalence is higher in more civilised societies than in more primitive ones.” If schizophrenia is less common in non-industrialised settings, it could be said that people who are genetically predisposed to schizophrenia are more likely to break down when they are subject to the stress of modern industrialised society.

Schizophrenia has been repeatedly identified in various parts of Africa by both clinical methods (German, 1972) and structured interviews (Orley and Wing, 1979; World Health Organisation 1973). However, as has been stated earlier on, specific studies of prevalence have lacked an accurate contemporary population base (Field 1968, Sikanartey & Eaton 1984). Ben-Tovim and Cushier (1986) reported one-year prevalence of schizophrenia amongst individual's aged 15 years or older living in six villages in a remote area of Botswana. All cases were diagnosed independently by two experienced psychiatrists following the ICD 9. DSM III criteria was also applied separately. Accurate contemporary population estimates of the villages were available. The age-adjusted prevalence of schizophrenia was 5.3 per 1000 in terms of ICD 9 or 4.3 per 1000 in terms of DSM III, which has an upper age limit for onset of 45 years. These figures are well within the range generally reported for industrialized communities. Remote village life in Botswana appears to offer no protection against the development of schizophrenia. Various estimates suggest that 1/8 to 2/3 of the normal population have had hallucination while awake (Coleman, 1984; Parish, 1994; Posey & Losch, 1983).

1.6 ARE HALLUCINATIONS ALWAYS PSYCHIATRIC?

Experiencing auditory hallucinations does not mean that one is a mental case. According to Bauman (1999), one lady heard “The Star Spangled Banner” (US anthem) playing over and over in her head. Actually, according to one medical report, the National Anthem is often heard by those who experience auditory hallucinations. This report went on to say that there is nothing wrong with these people mentally. In other words, the occurrence of hallucinations may not necessarily be related to psychopathology though it is considered to be a common sign of psychosis by all leading psychiatric textbooks.

One source of evidence that normal people hallucinate in their everyday course of events comes from studies in which people are simply asked whether they have had this kind of experience in their lifetimes (Posey & Losch, 1983). Slade and Bental's (1988) review of this evidence begins with an early report by Sidgewick (1894) in which interviews with several thousand men and women revealed that about 10% had hallucinated at least once in their lifetime. West (1948) in another large-scale study, concluded that over 14% of his normal sample had ever engaged in hallucinatory behaviour. Two studies on normal subjects reported by Mckellar (1968) confirmed hallucination rates of 10% and 25%. Health professionals for example, are used to interpreting hallucinations within a psychodynamic, biological, or psychopharmacological frame of reference (Kaplan & Sadock, 1985). Hence, hearing voices is supposed to be accompanied by other psychiatric signs or symptoms for it to be seen as clinically significant. But auditory

hallucinations are perceived as a sign of mental illness by the psychiatric profession and both patients and lay people accept it as such.

The society for Natural Medicine is a group that interprets voices as the wandering spirits of the deceased (Murphy 1984). Jehovah Witnesses also consider voices as demons speaking.

Pre-school children may experience hallucinations as part of their normal development (Posey & Losch 1983). Clinical observation of children has revealed the presence of hallucinations in 3 - 6 year old children as they communicate with imaginary companions (Bender, 1970). Although Despert (1984) earlier had failed to uncover evidence of hallucinations in children 2 - 5 years of age. Al-Issa (1995) point out that normal waking imagery is distinguished from the occurrence and content of schizophrenic hallucinations by the control that the normal individual can exert in the former case. Schriere and Libow (1986) found out that those 2 - 5 year-old children experiencing hallucinations do so when uniformly bright and independent.

For both normal and psychiatric populations, hallucinations may serve an adaptive function. Benjamin's (1989) study of 30 individuals with mental illness reported an integrated interpersonally coherent and complementary relationship with their auditory hallucinations.

1.7 AUDITORY HALLUCINATIONS

Auditory hallucinations are characteristic of mental impression of sensory vividness, occurring without external stimulus. Auditory hallucinations are the most prevalent form of hallucination in schizophrenia which is usually experienced as voices. Typically, voices may ridicule the person or order the person to commit antisocial acts. The auditory hallucinations may be abusive, give orders, forbid them to do things or even be obscene. Sometimes it is a reassuring or complimentary voice and is therefore listened to and welcomed. Hallucinations seem to result in part from an impaired ability to discriminate self from non-self-generated events, linked to a sense of lack of control over this experience. Patients often seem to suffer less from the experience of auditory hallucinations *'per se'* than from lack of control of that experience (Romme & Escher, 1989). For example, they may be worried about whether to follow the advice of the voices, to set limits to them, to listen without becoming absorbed to them or drifting away from surrounding events.

Auditory hallucinations may sound (vaguely, and at times not so vaguely) like tunes, music or voices. Often they sound "fuzzy" or indistinct. In a case study, one lady from USA described hers as, "like the wind blowing, but with a musical quality, as if someone off in the distance was singing without words." Another lady said, "I've never heard a tune that I could identify. It sounds more like an orchestra warming up." Another woman described hers thus; "When I am in a real quiet

room I hear this humming in my head like someone is humming a song but can't keep a tune." And a man described his as, "some song that sounds for all the world."

Neuroleptics do not have any effect on the voices although they reduce the anxiety provoked by them. For example, a 30 year old woman who was examined by Romme & Escher, (1989) had auditory hallucination dominating her life. Neuroleptics had no effect on the voices but it reduced her mental awareness. One third of ex-patients continue to experience false perceptions, usually "voices" or auditory hallucinations after treatment. These may recur from time to time and may be difficult to ignore. Families find the return of this key symptom distressing. It is important to remember that it is usually sporadic and does not herald a new breakdown. Sometimes the command of the voices is compelling and calls for action. The psychiatric patient may answer the voices, returning abuse for abuse. This tendency to reply can be very upsetting to the uninformed witness – a relation, bystander, e t c. Ex-patients can be taught, in time, to ignore the voice, to develop strategies of not listening to it. Above all, they can learn not to act on the voice, to dismiss it as a "figment of their imagination," (Romme and Escher 1989).

The attitude of patients to their experience varies. Patients newly ill may be very distressed, some may claim that a radio or an automatic radiation or spirits of one kind or another is behind the voices (Meehl, P.E. 1986). Others are bewildered and depressed. Many researchers view auditory hallucinations as a form of inner

speech (Cutting, 1989). Electromyography (EMG) and other evidence suggest that they are sub-vocalisations, which reflect patients' disordered thoughts projected into other imagined speakers (Bicks & Kinsbourne, 1987). Prototypic auditory hallucinations, that of being addressed by a voice, is considered to be a misrepresentation of a person's own lexical thought (Horowitz, 1975). Patients may thus generate their own 'voices' and be able to control them more than clinicians realise (Persaud, 1995).

Auditory hallucinations are very real experience to those who hear them. In a case study, one woman commented to her husband after they arrived at their hotel that she had really enjoyed the music on the plane trip. Her husband replied, "there was no music on the plane." On the return trip, she again heard the music and nudged her husband. He listened and replied, "Nope! No music!" (Bauman, 1999).

Auditory hallucinations come in all varieties (Bauman, 1999). One lady reported, "I get Red Barber calling the game, I can't distinguish the words - but I'm sure that's who is talking." A man describing his said, "I had real life sounds like a jet aeroplane taking off, or someone talking to me, or classical music." One lady noted that when she was a young girl and flying with her Dad in small planes, she would hear music. She described it, "The music was a full choir, rather like the Mormon Tabernacle Choir, and when I was very young, I thought it was angels singing." (Bauman, 1999).

Romme and Escher (1989) put auditory hallucinations into three phases considering the process of learning to cope. These are the startling phase, phase of organisation and stabilising phase.

- i. The startling phase: Here most people who have auditory hallucinations report that it began quiet suddenly at a moment they well remembered. This is usually a startling and anxiety provoking experience.
- ii. Phase of organisation: This is the phase whereby the patient goes through a process of selection and communication with the voices. Some people get angry with the voice and later they find ways of coping with the auditory hallucinations like ignoring the voices, setting limits to them, selective listening, the use of distraction and many others.
- iii. Stabilisation Phase: Here people who learned to cope with voices developed a kind of balance. They accept it as part of themselves and part of life (Romme, Honig, Nourthorn, & Escher, 1992, pp 209 - 216).

Auditory hallucinations can come from a variety of causes. The main cause is hearing losses. When people become hard of hearing/deaf after having good hearing, their brains feel the loss of auditory input and seem to make up for this lack on their own. This seems to be particularly noticeable when it is very quiet and/or when one is very tired.

Another common cause of auditory hallucinations is taking various medications and drugs. One lady reported about one of her medications that “makes music in

my deaf ear.” A man taking several medications explained, “recently, I was about to take a nap when I heard the national anthem being played. I went into the next room and asked my wife if they were playing it on the Television. No! Well, I continued to hear it for a period of time. Then all of a sudden it went to ‘Amazing Grace.’ Now, it is a repetitive three or four notes.” (Bauman, 1990).

Beliefs about aetiology are also related to culture rather than profession (Wahass & Kent, 1997). Wahass & Kent, (1997), reported that UK staff were more likely to believe that brain damage, bad childhood experience, environmental factors, and stressful life events could have etiological significance. In addition, UK psychologists were more likely to believe that there could be a genetic component than did Saudi Arabian psychologists. Thus, UK staff were willing to entertain a wider range of possible aetiologies than Saudi Arabian staff (Wahass & Kent, 1997). In other words, psychologists and psychiatrists within a culture tend to agree with each other.

1.8 THE DIAGNOSIS OF AUDITORY HALLUCINATIONS

Comparisons of mental health staff of UK and Saudi Arabia revealed cultural differences in influencing diagnoses based on auditory hallucinations (Wahass & Kent, 1997). Most psychiatrists and psychologists believed that when one experienced auditory hallucinations, schizophrenia was a possible diagnosis and also the majority in both cultures believed that hallucinations could be due to drug and alcohol abuse. Few believed a diagnosis of neurosis or personality disorder

was appropriate. However more of the studies in the U K than Saudi Arabian staff believed that a general diagnosis of psychosis could be appropriate and more of the UK staff believed that a psychiatric diagnosis is not required. It is important to note that UK staff tended to agree with each other, as did Saudi Arabian staff. Thus, a psychologist's cultural background influences diagnosis based on auditory hallucinations. In other words, psychiatrists and psychologists are influenced by their cultural backgrounds when they are making a diagnosis of auditory hallucinations.

In general, the aim of psychiatric treatment is to bring the patient back into reality with anti-psychotic medication, social therapies, and sometimes psycho-dynamic therapy. The treatment of auditory hallucinations has been based on a medical model with the assumption that there is a causal biological deficit of some kind, which underlines the symptoms (Wahass & Kent, 1997). As a result, several anti-psychotic medications have been developed and used in attempt to control the frequency and intensity of the hallucinations. Advances in neuroleptic medication have led to significant improvement in the management of psychotic symptoms (Falloon & Talbot, 1981). But then many patients continue to experience auditory hallucinations despite the use of anti-psychotic medication (Barrow, Clough & Tarrier, 1992; Falloon & Talbot, 1981; McInnis & Mark, 1990). Patients may gain more control over persistent auditory hallucinations with a 'non-distraction' than with a 'removal' tactics (Persaud & Marks, 1995). They can learn that their experiences are self-generated, like their thoughts and have no external auditory

source. This approach resembles prolonged exposure therapy used to promote control over obsessive rumination (Duggan, 1993). On a portable cassette player, patients listen to their own-recorded voice describing their anxiety-generating thoughts for an hour or more daily and were encouraged to induce these thoughts in order to get used to them. An obstacle to applying this technique to auditory hallucinations is that psychotic patients seem to have less understanding than obsessives as to whether their experiences are generated internally or externally. Slade (1976) used systematic desensitisation for auditory hallucinations, but the hierarchy was imagined plus live exposure to stressful cues, which evoked the hallucination themselves.

Several trials have shown Cognitive-Behavioural Therapy to be an effective means of reducing persistent auditory hallucinations among patients with schizophrenia (Haddock, Slade 1995). These interventions have been developed as result of (a) theoretical developments in the understanding of psychosis (Bental, Haddock & Slade, 1994), (b) a recognition that symptoms are not controlled in up to 50% of patients and (c) a need to reduce unwanted side effects. But these have involved individual, fairly long-term protocols (such as 20 sessions over 6 months) administered by highly trained therapists (Bental, Haddock & Slade, 1994).

Examples of cognitive behavioural therapies which have been used to treat auditory hallucinations are, coping enhancement strategies (Tarrier, Harwoo, Yusopoff, Beckett, & Baker, 1990), Family Therapy (Tarrier, 1991; Mari &

Streiner 1994) and focusing strategies, (Bental, Hadduck & Slade 1993: Morrison 1994). These have achieved good clinical results. Other methods for dealing with persistent voices include headphone therapy (Hustig, Tran, Haafner, & Miller 1990), coping with hearing voices (Romme, Honig, Nourthorn, & Escher 1992) and language therapy (Hoffman & Satel, 1993).

1.9 AUDITORY HALLUCINATIONS, STRESS AND WAYS OF COPING

Empirical evidence suggests that auditory hallucinations can be distressing (Garety & Hemley, 1987). Apart from the distressing nature of the experience itself, there is evidence that such symptoms may depress social function and in some cases underpin the formation of delusion (Wallace, 1984). The question is, to what extent are auditory hallucinations stressful? Do some people cope better than others do? What then is defined as stress?

According to Canadian endocrinologist Hans Selye (1907-1982), stress is the physiological response of the body to physical and psychological demands (stressors). Stressors include noise, crowding, a bad relationship and many others. Each one of these experiences may be stressful to some people but not to others. In the same way, auditory hallucination is stressful to some people but not to others. How one perceives a potential stressor substantially determines whether one will experience stress. Also, the impact of any potentially stressful event is substantially influenced by how a person copes with it. Coping is the process of managing demands that are appraised as taxing or exceeding the resources of the

person (Lazarus & Folkman, 1984). The question of importance here is “how do auditory hallucinators perceive the voices they hear and how do they cope with the voices?” This will be the main focus of this study.

Coping with stress has much in common with the 'serenity prayer' of Reinhold Niebuhr that asks God for the wisdom to know the difference between what one can change and what one cannot (Sdorow, 1993). Most hallucinators spontaneously try ways of coping with voices such as distraction, seeking company and using alcohol (Falloon & Tallbot, 1981). It is unclear whether these strategies are specific to hallucinations and whether their success is due to amelioration of the hallucination or reduction of distress.

According to Folkman, Lazarus et al., (1979), two types of coping can be distinguished. These are problem solving efforts and emotion-focused coping. Problem solving efforts are attempts to do something constructive about the stressful conditions. For example, harming, threatening or challenging a stress event. Emotion-focused coping involves efforts to regulate the emotional consequences of the stressful events. Sometimes problem solving efforts and emotional regulations work together. An individual will use a wide variety of specific coping strategies in managing a single stressful event. Some will be problem-focused and others will be oriented towards emotional regulation. Which coping response will be used and what their effects are depends in large part on the nature of the stressor itself and the problems that are imposed by the particular

setting within which the event has arisen.

Subsequent research has suggested that coping strategies may be more varied than the simple distinction between problem-focused coping and emotion-focused coping strategies (e.g., Fleishmann, 1984). In another study by Folkman, Lazarus et al., (1986), 85 married Californian couples were interviewed once a month for 6 months about their most stressful event of the previous week, and coping was assessed using the Ways of Coping Instruments. Eight distinct coping strategies emerged in this study. These were as follows: Confrontative coping which characterised aggressive efforts to change the situation. The second one was seeking social support. Seeking social support characterised efforts to obtain emotional comfort and information from others. The next was Planful problem solving which described deliberate problem-focused coping dimension identified earlier.

These three factors most clearly relate to the problem-focused coping dimension identified earlier. The next were more focused on the regulation of emotion like self-control which was used to describe efforts to regulate one's feeling. (For example, "I tried to keep my feelings to myself"). Distancing was also one of the coping strategies discovered, this described efforts to detach one's self from the stressful situation (e.g. "I didn't let it get to me. I refused to think about it too much."). Positive reappraisal also characterised efforts to find positive meaning in the experience by focusing on personal growth (e.g. "I came out of the experience

better than I went in.”). Accepting responsibility which is acknowledging one's role in the problem (e.g. “I criticised or lectured myself.”). And also escape/avoidance describing wishful thinking (e.g. “I wished that the situation would go away.”) [Folkman, Lazarus et al., 1986].

Studies have shown that about five coping strategies are specific to auditory hallucinations. Among these are:

- i. Distraction: Distraction could be by physical means (taking a shower, jogging, breathing exercises, watching a pleasant video) or by more abstract means [drawing a cloak around yourself in your mind, meditation, yoga (Romme, Noorthoorn and Escher 1989)].
- ii. Ignoring: Patients using this coping strategy refuse to obey the instruction of the voices. This is very difficult in the beginning. But later their control over the voice increases (Romme, Noorthoorn and Escher 1989).
- iii. Focusing: A book published by Johns Hopkins university press discusses several methods to control hallucinations, including focusing on them instead of trying to ignore them. This may be as simple as saying the word “Stop” until the hallucination goes away. Some of the things that patients do to cope is engaging the hallucinations and taking the hallucinations' advice. The book also recommends taking personal responsibility for the hallucinations [(instead of attributing them to an outside source) and counter-stimulation (reading something out aloud)

(Romme, Noorthoorn and Escher 1989)].

- iv. Selective listening: Patients using this strategy select the positive from the negative voices and they also control voices. They ignore the negative voices but listen to the positive ones (Romme, Noorthoorn and Escher 1989).
- v. Setting limits: Patients using this strategy allow the voices to control them only at certain times and not at other times. They report that with time, the voices operate within the limits spelt out for them (Romme, Noorthoorn and Escher 1989).

1.10 BELIEFS AND HALLUCINATIONS

Beliefs may be defined as one's sets of expectations about the world. According to previous studies (Chadwick & Birchwood, 1994; Fowler and Morley, 1989), the last decade has seen an increase in sophisticated psychological intervention such as cognitive techniques for psychiatric symptoms, using coping techniques and belief modification. Encouraging research has focused on patients' beliefs about their hearing of voices, that is auditory hallucinations. Chadwick and Birchwood (1994) used a cognitive model to develop an understanding of voices and the affective and behavioural responses to them. They have postulated that a mediating factor between the voice experienced and distress is a person's beliefs about his voices. They then examined the voice hearer's beliefs and attribution about their voices. They identified three major themes, which characterised the voices of 26 people:

- i. The voices' omnipotence,
- ii. The voices' intent to do harm or good (malevolence or benevolence),
- iii. And the reaction to the voices in terms of engagement, resistance or indifference (Romme & Escher 1989).

Wahass and Kent (1997) reported that beliefs about aetiology among health professionals were related to culture. They realised that UK psychologists and psychiatrists were more likely to believe in the genetic component of auditory hallucinations. Saudi Arabian psychologists and psychiatrists believed that brain damage, bad childhood experience, environmental factors and stressful life event cause auditory hallucinations.

In a study by Romme, Noorthoorn and Escher (1989), 13 subjects reported that the voices they heard stimulated them. "They are friends, guides and tutors." And in this group, 7 of the subjects felt themselves to be paranormally gifted and described themselves as 'clairaudient' (Romme, Noorthoorn and Escher 1989, pp 209 - 216).

Literature on African beliefs regarding the cause of mental illness has focused on the magical and the religious (Jahoda 1961). However, some beliefs about mental illness among Africans include natural causes like bad diet, bad blood, the use of narcotic drugs and so on. A close observation of Africa and its society reveals that religion is a dominating factor of African culture just as it is the determining factor

of African life. To the African, religion is life and life religion. Idowu (1960) said that Africans are “a people who in all things are religious. The mentally ill is viewed as somebody who possesses or is possessed by evil spirit and for that reason it is considered a disgrace in some quarters of our society to have a mental patient in the family since that would spoil the family image (Bagley1984). Hence, in Ghana for example, people hesitate when they have to marry from families with a history of mental illness. The belief that illness was inflicted by a supernatural power or by an angry deity as a punishment for sin was widespread among the people of the ancient world. In other words, the beliefs are not only typical of the 20th century Ghanaian but also people of other African countries as well as those who lived in the 18th and 19th centuries in Europe (Torrey, 1980).

In the middle ages magical beliefs and practices were common. Witches and werewolves were accused of bewitching their neighbours or neighbour's animals or cause the death of infants, and producing miscarriages. They were further accused of producing impotence in a bridegroom, causing blights, and raising tempests.

African traditional healers believe the cause of illness is “wrong doing or doing something bad.” A person may get an illness from the evil spirit of his own family like the witches in the family and it is believed that gods punish witches when they do evil and they do so not by killing them but by making them suffer. A cheated person can also consult a god to punish the cheat. Hence the cheat will suffer.

Also, envious evil people can cause the downfall of a person. Another cause of illness is when a child born with the help of a god grows to become a rebellious adult, and refuses to keep close contacts with the god and also treats the god in question with contempt. ('Rebellious adult' because most gods expect such children to worship them and observe their statutes carefully). If such a child does anything contrary to that, he/she is seen as a rebellious person and he will incur the wrath of the gods. Only pacification can help treat this individual. Others see the causes of illness as natural (Jahoda, 1961).

Ghanaians believe in a Supreme Being who sends rain and other good things but is believed to be responsible for epidemics and plagues, famines and death. Ghanaians also believe that this powerful God has created other lesser gods, who have been endowed with supernatural powers and so, can bless, kill, heal illnesses or cause affliction (Sikanartey & Eaton, 1984).

Foster (1961) outlined some of the etiological factors held by the Ghanaian society on mental illness are enumerated. Put in his words, "illness of any sort was never considered as the result of pathological change. The supernatural powers were invariably invoked as the causative factor in mental illness. Spirits, witchcraft, juju, infringement of taboos, the evil eye, failure to perform customary rites, were all regarded as etiological factors," (Foster, 1961 pp 138).

It is the contention of the Yoruba of Nigeria that mental illness is caused by some

supernatural forces, witchcraft, malignant magic or juju, drugs, blood in the head, and cosmic forces such as the sun and dry season as well as hereditary. They are of the opinion that worms are normal and necessary inhabitants of the human body and that there are both good and bad worms. In their opinion, the good worms help in the digestion of food while the bad ones cause sickness and death. Thus, depending on which part of the body the bad worms are located, a particular illness is caused. For example, they believe that 'Soporo' (a spirit of small pox) can cause mental illness. In the case of mental illness, when 'Soporo' heats the blood, the worms that normally reside in the blood are driven in to the brain by the excessive heat. And it is believed that worms in the brain can cause madness. The Yorubas believe also that each person has his/her own destined life pattern fixed by a contract he/she makes before he/she is born and that if willingly or unwillingly, he/she departs from this, the results may be mental or emotional illness (Tooth 1950).

Shona, the dominant ethnic group of Zimbabwe identifies some four general causes of mental illness, which are:

- i. Spirits such as ancestral spirits which have been angered for some reason,
- ii. A witch who has cast a spell,
- iii. Certain ghosts,
- iv. Natural causes.

They also believe that the cause of mental disturbances may be, guilty conscience

such as might occur if one stole something or had committed adultery, strain and worry if one's material desires were excessive and has not been able to satisfy all and improper development of the brain (Jahoda, 1961).

To the Hebrews, those who grossly disobeyed God's commandments and violated his ordinance were threatened with death, madness and some kind of sickness. Moses' warning in the Old Testament that the people will go mad if they disobeyed God is an example of that. This passage can be found in the book of Deuteronomy, Chapter 28, verses 15-28.

1.11 GENDER AND COPING STRATEGIES

Gender is among the most important categories in human social life. The dichotomy between female and male is of crucial relevance to virtually every domain of human experience (Bem, 1981; Huston, 1983; Ruble and Ruble, 1982). All known cultures associate men and women with different sets of characteristic features and with different sets of behavioural expectations (Williams & Best, 1990). If males and females differ in certain aspects of life then they can also differ in the ways of coping they adopt to cope with auditory hallucinations.

1.12 AIM

The aim of this study is to explore the coping strategies patients with auditory hallucinations adopt to cope with their condition.

1.13 GOAL OF THE STUDY

The goal of this study is to examine the coping strategies of patients who suffer from auditory hallucinations.

1.14 DEFINITIONS

i. BELIEFS

Beliefs have been defined as assumptions about the probability that an object exists. Therefore the object that is believed to exist is ascribed some attributes. For example, most people believe that there is God and this God is described as omnipotent, omniscient, omnipresent. Beliefs influence a person's behaviour because of their cognitive nature.

ii. VOICES (AUDITORY HALLUCINATIONS)

Auditory hallucinations (voices) has been defined by Chadwick & Birchwood, (1994) as the hearing of voices. They are mental impressions of sensory vividness, occurring without external stimulus. Auditory hallucinations are a characteristic of psychosis. They can be prototypic auditory hallucinations (that of being addressed by a voice). This is considered to be a misrepresentation of the person's own lexical thoughts (Horowitz, 1975). They can be abusive, they can argue with the patient, accuse the patient of something the patient most likely has not done, and command the patient to do things outside his will or pass a comment about the

patient. Auditory hallucinations can be put into two categories. These are process auditory hallucinations and reactive auditory hallucinations. Most patients respond to these voices. This is quite distressing because no one else hears the voices except the patient. Most patients seen talking to themselves are responding to voices (auditory hallucinations) they have heard. They (the patients) believe the voices are real and their inability to discriminate between actual voices and invented ones is what brings about the inappropriate behaviour of a patient talking to himself or herself. Romme, Noorthoorn and Escher (1989) defined auditory hallucinations as a disorder of perception which people describe as being located in the external world (ego-dystonic) and which has the same qualities as normal perceptions, that is, is vivid and solid, in the absence of any actual sensory stimulus.

iii. COPING

Coping is the process of managing demands that are appraised as taxing or exceeding the resources of the person. The process of coping is complex and entails many variations in the preliminary sample. Coping must be successful. And coping success entails reaching some sort of peaceful accommodation and acceptance of the voice as “part of me” (Romme, Escher et al., 1989).

1.15 STATEMENT OF THE PROBLEM

People believe that mental illness is a moral problem rather than pathological as in the case of diseases like cancer and bronchitis. In the 18th century in Europe, the mentally ill were locked up in jails, workhouses and mad houses; insanity was attributed to sin and the activities of the devil, the retention of bodily excretion, poor diets and lack of sleep. In view of this, ignorance, superstition and moral condemnation dominated the treatment of the mentally ill in Europe.

In Ghana over the years, treatment for the mentally ill has had its problems. Few mentally ill are sent to the psychiatric hospitals first for treatment. Instead, they are often taken to the herbalists, traditional and other spiritual healers as in Europe of the 1800's therefore treatment is characterised by fear, superstition and condemnation.

In fact, this is not to say that certain institutions have not helped in treating the mental ill. Traditional healers like the herbalists and some spiritual churches have helped in treating the mentally ill. According to Jahoda (1961), were it not for extensive preliminary screening, by traditional methods, mental hospitals would be overwhelmed by a flood of cases with whom they would not possibly be able to deal with. In other words, traditional healers provide care to a large number of patients.

In this study, it is hoped that some of the beliefs about mental illness would be

examined. Certain questions will also be addressed. For example, “How do schizophrenics cope with this problem of persisted auditory hallucinations? Do they respond to it, ignore it or distract their attention from the auditory hallucinations by concentrating on other things?” These are some of the questions that this research seeks to answer.

CHAPTER TWO

LITERATURE REVIEW

2.1 THE DOMAIN OF THE REVIEW

Attempts to control hallucinations by behavioural strategies, distractive tasks, cognitive behavioural approaches and so on have been fruitful (Romme and Escher 1989). Others have also used other coping strategies like praying, fasting and meditation to cope with auditory hallucinations. Literature was reviewed in these areas. Also, literature was reviewed on subjects' beliefs about the phenomena of auditory hallucinations. The literature reviewed also focused on cross-cultural studies done on coping with auditory hallucinations like the study by Wahass and Kent, (1997). It was found out that no study had so far been done on coping with auditory hallucinations in Ghana.

2.2 THEORETICAL FRAMEWORK

1. GREEN'S THEORY

Green (1963) did a lot of research into auditory hallucinations. And he came out with a theory. He did observe schizophrenic patients wearing earplugs of their own accord and he used this method experimentally with patients. His theory states that schizophrenics suffer from defective information transfer between cerebral hemispheres and this defect interferes with speech comprehension. Schizophrenics with left hemisphere speech representation are significantly better at understanding speech presented to the right ear than to the left (Green 1978). Wearing an earplug in the left ear leads to significant increased levels of speech comprehension compared with binaural listening. In cases of right hemisphere

speech, the reverse is the case that is wearing earplug in the right ear leads to significant decreased levels of speech comprehension. To Green, voices are sub-vocalisations and so any verbalisation aloud or silent should be incompatible with auditory hallucinations. Therefore, Green's patients were taught to say, "stop" and to name things in the immediate environment whenever they start hearing voices. The emphasis is on loudness and speed of naming. This is later extended into a variety of settings in which the patient is taught to say stop and name things relevant to the ongoing activity and continuing that activity after the last thing named. At this stage stop and naming is done silently:

2. HYPNOSIS, SUGGESTIBILITY, AND HALLUCINATIONS

Despite the questions that have been raised regarding the nature of hypnosis and the quality of hallucination that is supposedly induced, there is evidence that hallucinatory experience can be generated by suggestion within the trance (Barber, 1970; Wagstaff, 1983). Rosenthal and Meele (1952) had their hypnotised subjects examine grey cards while suggesting that the cards were of another colour. A second grey card followed the first with instructions to name the colour. These instructions elicited responses in which the negative afterimage of the original suggested colour was reported just as if that colour had actually been seen. The involuntary afterimage response corresponded to the suggested sensory experience as if it had really occurred. Brady and Levitt (1964, 1966) also obtained results indicating that an involuntary response can be made to occur under hypnosis given a suggested perceptual experience. Subjects were told that they were viewing a

rotating drum on which alternating black and white strips were painted paralleled to the axis of rotation. Viewing actual movement ordinarily produces nystagmus. This type of involuntary eye movement was observed among those given the hypnotic suggestion that rotation was occurring, but only when the subjects described the movement perceptions as especially real. Barber & Calverley (1964) and Spanos and Barber, (1968) pre-tested their subjects for suggestibility prior to hypnosis. They were asked to hear a record playing "White Christmas" or they see a cat, each in the absence of the actual stimuli. A surprising number reported hearing the music or seeing the animal during the base-rate procedures, yet hypnotic induction further increases subjects' response to the auditory and visual suggestion above base levels. The Spanos and Barber's (1968) study included added instructions to an extra group of subjects from whom honest responses were demanded. Hypnotic induction did not result in an increase in auditory hallucination beyond base level for this group, but false perception of the visual stimulus remained above baseline. The limitations of hypnotic suggestion were revealed in a study by Thorne (1967) who found that a hypnotised group failed to differ in capability for hallucination a song from a group receiving simple instruction without hypnosis.

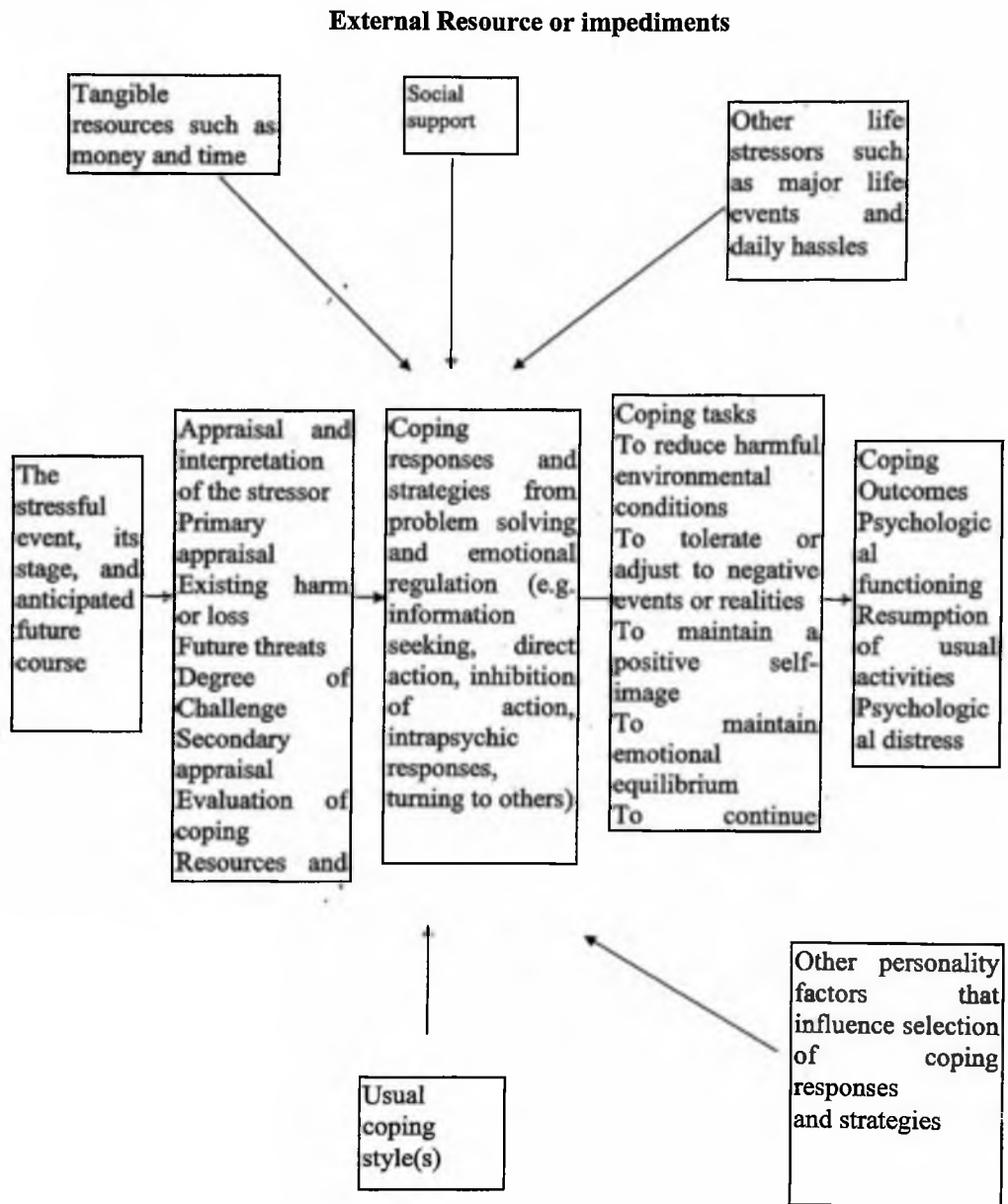
3. COPING PROCESS

The coping process is a process described by coping strategy researchers which says that when one perceives a stressful event, that person will have to appraise or interpret the event as stressful and thus will need some form of strategy to cope

with it which can be either emotion focused or problem focused. The purpose of these strategies is to reduce the negative impact of the stress and to help the person maintain an emotional equilibrium. The choice of the coping strategy depends on some factors, for example the person's personality will influence the choice of a particular coping strategy. If the coping strategy chosen is effective the person will resume his or her normal duties other wise it will lead to psychological distress. This is illustrated in figure 2.1.

2.3 COPING STRATEGIES FREQUENTLY USED BY PATIENTS

In an early effort to examine coping strategies comprehensively, Folkman and Lazarus (1980) enrolled 100 adults men and women in a 12-month study of stress, coping and emotions. Respondents were interviewed monthly about their most stressful experiences and they completed a 68-item checklist called "Ways of Coping" to indicate the thoughts and actions they had used in dealing with these stressful encounters. Respondents reported using both problem-focused and emotion-focused coping in 98% of their stressful experiences, suggesting both types of stressful events. Work related problems most commonly led people to attempt problem-focused coping efforts such as taking direct attention or seeking help from others. On the other hand, health problems were an event that led to more emotion-focused coping, (Folkman & Lazarus, 1980).

FIGURE 2.1**THE COPING PROCESS**

(Source: Cohen & Lazarus, 1979; Hamburg & Adams, 1967; Lazarus & Folkman 1984; Moos, 1988; Taylor, 1983)

Romme and Escher (1992) developed a questionnaire comprising 30 open ended items and were sent to 450 people aged 15 and above years with chronic hallucinations of hearing voices who had responded to a request on Television. Of the 173 subjects who were suitable for the study, 115 reported an inability to cope with voices. This suggests the distressing nature of voices. Ninety-seven (97) of the subjects were in psychiatric care and copers were less often in apparent psychiatric care than non-copers were. Four coping strategies were apparent. These were distraction, ignoring the voice, selective listening to them and setting limits on their influence. Subjects reported that the most fruitful strategy was to listen to the voices selectively (Romme and Escher, 1989).

2.4 COPING TECHNIQUES STUDIED BY PROFESSIONALS AND THEIR EFFECTIVENESS

There have been a number of reports of attempts to control hallucinations by behavioural strategies but the results have been variable and not firmly based on theory (Marzaller & Birchwood, 1981).

Hustig, Tran, Hafner and Miller (1990), examined the effects of relaxing and stimulating audio-tapes on the frequencies and characteristics of auditory hallucinations in 9 subjects (22 - 57 years) with persistent auditory hallucinations. All subjects were diagnosed with schizophrenia. The subjects had to rate the effects of the music on 9-point scales for seven consecutive mornings. Overall, neither the relaxing nor the stimulating tapes influenced the frequency of auditory hallucination. However, three subjects reported significant reductions of

frequencies individually. Listening to both the relaxing and the stimulating audio-tapes reduced the amount of distress caused by the auditory hallucinations. The effect of the relaxing audio-tape was somewhat greater in this. With this study, the music was not able to reduce the frequencies of the auditory hallucinations but it was able to help them cope with their hallucinations by reducing the distress it created in them. One can conclude that distraction can help subjects cope with their hallucinations.

Green (1989) investigated the effects of several behavioural conditions of 17 schizophrenic inpatients who experienced frequent auditory hallucinations. Five experimental conditions were selected based on predictions of their effects on sub-vocalisations like opening the mouth, biting the tip of the tongue, softly humming a single tone, raising the eyebrow and making a fist. Using ANOVA, it was realised that humming reduced the amount of time that subjects reported hallucinations. Humming can be said to be a distractive task. If this is able to reduce the frequency of hallucinations, then humming can help people cope with their hallucinations and hence an effective method.

Green (1978) and Green et al., (1983), reported evidence suggestive of poor inter-hemispheric transfer of complex manual and auditory information in schizophrenics, and this has been replicated (Carr 1980; Hatta, Yamamoto, & Kawabata, 1984). Poor interhemispheric transfer may not be a secondary (e.g. drug induced) phenomenon (Myslobodsky, Mintz, & Tomer 1983), as similar

results of poor inter-hemispheric transfer of complex manual and auditory information have been found in high-risk samples (Hallett & Green 1983). Green's theory is consistent with previous observation of sub-vocal speech and movement of vocal musculature, concomitant with reports of voices (Erickson and Gusstafson 1968; Gould 1948; Inouye and Shimizo 1970; McGuigon 1966).

A patient with schizophrenia whose severe level of auditory hallucinations had proved refractory to neuroleptic medication, participated in two treatment methods derived from Green's theory that hallucinations represent verbal activity in the non-dominant hemisphere. Voice activity was markedly reduced in frequency and severity over a six-month period and led to general improvements in interpersonal functioning. There was evidence for independent and additive effects of the two techniques (Hallett & Green 1983).

Green and Preston (1980) reported that the content of amplified sub-vocal speech in one schizophrenic patient corresponded to the patients' self-reports of his voices, which were schneiderian in character. [Kurt Schneider first introduced the concept of first rank symptoms of schizophrenia in 1939. His concept was named after him (schneiderian first rank symptoms of schizophrenia)]. These symptoms include; hallucinations (which may be auditory, visual, tactile, gustatory, or somatic) thought broadcast, feelings of paranoia, inappropriate behaviour, and so on. According to Mellor (1970), hallucination is found in only 72% of schizophrenic patients but their use as operational criteria for the diagnosis of

schizophrenia has become world-wide to the extent that patients are sometimes erroneously diagnosed as being schizophrenic despite the presence of an organic or toxic pathology (like benzodiazepine withdrawal) Roberts, and Vass, (1985).

A further study (Green et al., 1980) reported the success of a technique where auditory input is reduced using an earplug and the patient is taught to name things in his immediate environment at the onset of the voices. The choice of side for the earplug is determined by the results of an auditory comprehension (transfer) test. This technique could reduce the distress caused by auditory hallucinations, hence making the patient able to cope with auditory hallucinations.

An additional result of the use of earplugs in some patients is a decrease in hallucinations. Green and Preston (1980) reported patients diagnosed with schizophrenia wearing earplugs of their own accord and Green (1978) used this method experimentally with patients, determining the choice of side for the earplug by the headphones test described in his paper. Various other strategies were employed to disrupt hallucinatory experience. According to his theory, if voices are sub-vocalisation (a view not universally accepted) any verbalisation, aloud or silent should be incompatible with auditory hallucinations. Therefore, whenever hallucinations occur, patients are taught to say "stop" and to name things in immediate environment, the emphasis being on loudness and speed of naming. This is later extended into a variety of settings in which the patient is taught to say stop and name things relevant to the on going activity, continuing that activity after

the last thing named. At this stage saying stop and naming the object is done silently.

James (1983) conducted an experimental treatment of two people with auditory hallucinations. One was a 39 year old man and the other, a 20 year old woman who had been diagnosed with acute schizophrenia. Their auditory hallucinations resisted neuroleptic drugs. They were treated with earplugs in the left ear to test Green's (1978) suggestions that schizophrenics suffer from defective information transfer between the cerebral hemispheres. Both subjects improved. The male subject spontaneously changed the plug to his right ear after reductions in his hallucinations when the plug was in the left ear. Improvements continued, but at a slower rate. The female also experienced a decrease in hallucinations, but at a slower rate when she was asked to transfer the plug to her right ear. Results weakened one of the key points of the non-dominant hemisphere theory.

In a case reported by Chiu (1994), a 34-year-old woman with schizophrenia, whose auditory and visual hallucinations were resistant to medication was treated with two behavioural techniques derived from W.P. Green's reports (1978). The results showed that for auditory hallucinations, reducing the external auditory input to the non-dominant hemisphere by using an ear plug in the opposite ear was a very effective treatment where as visio-verbal activity (naming objects and reading) was insignificant for visual hallucinations.

Khan, Clark and Oyeboode (1988) reported a case of a 72-year-old female with unilateral auditory hallucinations related to deafness on the same side. This woman's auditory hallucinations disappeared when she used a hearing aid. Definitely a hearing aid would enable her hear properly and this has a way of creating some kind of distraction as compared to not hearing at all.

Done, Frith and Owen (1986) investigated the efficacy of wearing an earplug in a 42 year old male diagnosed with (chronic) schizophrenic with persistent neuroleptic resistant auditory hallucinations. Significant reductions in the frequencies and volumes of the voices during both day and night were detected when the plug was in the dominant ear only. After three months the subject ceased to be suicidal or depressed and had become optimistic about the future and somewhat ambitious. Here, the earplug made the subject concentrate on a particular information and this helped the subject remove his attention from the auditory hallucinations. If the earplug was able to help these clients, then one can conclude one more time that concentration on other tasks instead of the voices helps patients cope with the voices they hear.

Slade and Bental (1988) reported a useful review of the evidence relating hallucinations to schizophrenia. They conducted 15 studies, which considered the breakdown of schizophrenic patients experiencing the various types of hallucinations. Auditory hallucinations was found in about 60% of the schizophrenics on average range (25%-94%) and visual hallucinations in 39%

overall range (4%-72%); auditory hallucinations always prevailed in frequencies over visual hallucinations. Fewer studies reported on other modalities. Based on those that did include such reports, 40% of the schizophrenics experienced tactile hallucinations, with gustatory (18%), olfactory (17%) and somatic sensations (4%) observed less frequently. Posey & Losch, (1983) found evidence for the fact that auditory hallucinations may not necessarily be psychiatric from their 357 college subjects, based on interviews and the Minnesota Multiphasic Personality Inventory (MMPI) results. They found out that some people believed that the occurrence of auditory hallucinations was not necessarily believed to be a psychiatric symptom. Posey and Losch (1983) also reported that the most common auditory hallucinations were hearing a voice calling one's name aloud when alone (36%), hearing one's own thought as if they were spoken aloud (39%), and 5% of the students revealed that they held conversations with these voices. Slade and Bental's (1985) own research programme identified from 14% to 18% of two samples of college students who confirmed that they had heard their own thoughts as spoken voices. Despite the methodological limitations of these studies of normal people and questions regarding the equivalence of their self-reported experiences and schizophrenic hallucinations, it is difficult, given these percentages, to escape the conclusion that true hallucinations do occur among normal individuals.

An experiment was conducted by Bick and Kinsbourne (1987) to test the hypothesis that "auditory hallucinations may be projections of schizophrenic

patients' verbal thoughts, sub-vocalised due to deficient cerebral cortical inhibition." The basic manoeuvre of the experiment was to attempt to obstruct the hypothesised sub-vocalisation by requiring the hallucinating individual to open his or her mouth, which makes sub-vocalisations impossible. Bicks and Kinsbourne (1987) studied two groups of subjects (18 schizophrenic inpatients and 21 normal controls). Bicks and Kinsbourne (1987) used two control manoeuvres in addition to the mouth opening:

1. Closing the eyes tightly and
2. Making a tight fist.

The experimenters stated that the 3 manoeuvres were requested in a random order, counterbalanced across subjects for the schizophrenic subjects, and while this statement was not repeated with respect to the normal subjects. Presumably it was applied to them as well. Bicks and Kinsbourne informed their subjects before the instruction of the manoeuvres that they would later be asked to state if their voices got worse, stayed the same or went away. Such disclosure greatly magnified the possibility that the result would be largely a function of the demand characteristics of the experiment. This possibility was further increased by the facts that two of the three manoeuvres were relatively remote from the speaking – hearing axis.

Consistent with this finding, Erickson and Gusstafson (1968) suggested (based on two case studies) that humming or gargling could help patients control voices.

Allen, Halperin and Friend (1985) explored the effectiveness of combining removal and diversion tactics in the treatment of auditory hallucinations in a 29-year-old single woman with schizophrenia. Results showed that in controlled conditions, removal and diversion tactics effectively complemented each other in that diversions reduced the frequency and removal reduced the duration of auditory hallucinations. Data suggests that in uncontrolled real life conditions, diversion but not removal tactics may be effectively employed in controlling auditory hallucinations. This study suggests the efficiency of diversion in helping patients deal with their auditory hallucinations in uncontrolled situations. Removal tactics may be a good coping strategy but it works only in controlled situations.

Birchwood (1986) examined a case on the effect of occluding auditory input directly in a severely hallucinating patient suffering from schizophrenia. It was found out that the patient improved dramatically.

2.5 CROSS-CULTURAL DIFFERENCES IN COPING STRATEGIES

Research on coping has been largely confined to the United States. There is as yet no agreed-upon classification of coping behaviours. For example, Gurim, Veroff & Feld, 1960; Veroff, Kulka & Douvan, 1981), distinguish 'active from passive' coping methods, Folkman and Lazarus (1980, 1985) distinguish 'problem-focused' from 'emotion-focused' coping methods, and Billings & Moos, 1981; Holahan & Moos, 1987), distinguish between 'active-behavioural', 'active-cognitive' and

‘avoidance’ methods.

A study by Wahass and Ken (1997) showed that there were cultural differences in coping with auditory hallucinations. In this study, 70 patients with schizophrenia from Saudi Arabia and the United Kingdom who reported auditory hallucinations were interviewed to explore the ways in which they coped with their voices and sounds. Patients from both cultures had several coping mechanisms. These varied between cultures. The majority of Saudi Arabian patients used strategies associated with their religion whereas United Kingdom patients were more likely to use distraction or physiologically-based approaches. The majority of patients were slightly or not at all confident about the effectiveness of their coping strategies. Comparisons of Western and Non-western cultural reactions to hallucinatory experiences are of particular interest because of the widespread association in the west between hallucination and psychiatric illness. Much emphasis in the western societies, for example, is placed on the precipitating conditions of hallucinations (Al-Issa, 1976) where the mere occurrence of the event is likely to prompt a pejorative response. In contrast, while non-western societies do not necessarily welcome such experiences, their concern is generally focused on content and not on the occurrence of the phenomenon.

2.6 CLINICAL EXPLANATIONS FOR EFFECTIVENESS OF TECHNIQUES

If listening to both the relaxing and the stimulating audio-tapes reduced the amount of distress caused by the auditory hallucinations then distraction can be said to be

very effective in reducing the distress caused by auditory hallucinations. According to Green's (1978) theory voices are sub-vocalisation and so any verbalisation, aloud or silent is incompatible with auditory hallucinations. Therefore, whenever hallucinations occur, patients are taught to say stop and to name things in the immediate environment, the emphasis being on loudness and speed of naming and this is what interferes with the phenomenon of auditory hallucinations thus, reducing the frequency of auditory hallucinations.

Clinical observation shows that for auditory hallucinations, reducing the external auditory input to the non-dominant hemisphere by using an ear-plug in the opposite ear was a very effective treatment for auditory hallucinations. It reduces the frequency of auditory hallucinations. It is believed that auditory hallucinations results from poor inter-hemispheric transfer and so auditory inputs should only be through the dominant hemisphere alone instead of both hemispheres. Ear-plugs are effective because the auditory inputs are introduced to only one ear (the dominant ear).

Also the distractive nature of humming helped clients to cope with their auditory hallucination. It takes their attention off the voices.

2.7 LITERATURE ON STUDIES DONE USING THE GAF SCALE

A lot of studies have been done using the GAF Scale. A wide range of subjects have been administered the GAF Scale. Propst, Paris and Rosberger (1994) used

the GAF Scale in their article on outcome in short-term psychotherapy. They investigated the effects of clinical diagnosis, functional level, and therapist experience. The therapists included psychiatrists, psychiatry residents, family practice residents, and medical students. GAF Scale scores and the Global severity Index (GSI) of the SCL-90 were used to rate subjects at baseline after therapy, and 6 month follow up. Client satisfaction was assessed. All the subjects improved significantly. Neither therapist type, diagnostic category (adjustment, mood anxiety, or personality disorders), nor their interaction was related to outcome GAF Scores or to the GSI. Irrespective of their baseline symptom severity subjects improved significantly. Increased functioning and decrease in symptom severity were highly related to client satisfaction while the number of therapy sessions attended was modestly related to outcome and patient satisfaction. This is one of the ways in which the GAF Scale has been used.

In another article by O'Connor, and Herrman, (1993), the GAF Scale was used to define a range of disability levels. In this article, they assessed components of disability in 41 patients (aged 23-61yrs) diagnosed with DSM III R residual schizophrenia who were undergoing hospital and community rehabilitation programmes. A range of disability levels was defined with the GAF Scale. Most of the subjects had poor results on frontal lobe testing, persistent positive symptoms and high levels of emotion distress. Results suggest that rehabilitation programmes could be more focused if patients were assessed not only for their overall level of functional disability but also for the level of treatment resistant

positive symptoms, frontal lobe impairment and the amount and type of emotional distress and insight.

2.8 LITERATURE ON STUDIES THAT HAVE BEEN DONE USING THE WAYS OF COPING TECHNIQUE

Some studies have been done on the impact of these strategies. Frank, Umlauf, Wonderlick, Askansasi, Buckelew and Elliot (1987) used the scale to identify two subgroups of an SCI population by cluster analysis. They found out that cluster 1 had higher levels of depression and psychological distress and used all coping strategies to a greater extent than cluster 2. The general pattern of use of coping strategies was similar for both clusters. The most used coping strategies were using wishful thinking and problem-focused, the least used was self-blame.

Reidy, Caplan and Shawaary (1991) administered the Ways of Coping Questionnaire to 54 newly injured spinal cord patients. Depression was found to have a strong positive correlation with the use of escape – avoidance coping strategies. Positive affective states were positively associated with distancing, seeking social support, positive reappraisal and planful problem solving. Those used least were acceptance of responsibility and escape – avoidance. However, Carver, Schiere & Weintraub (1989), have argued that the distinction between problem-focused and emotion-focused coping is too simple. There are indications that studies using this instrument have found responses from several factors rather than just two (problem focus and emotion focus). Aldwin, Folkman, Schaefer, Coyne & Lazarus (1980) involved factors, which can themselves, be

inversely correlated with one another (Scheire, Weintraub and Carver 1986).

Malt (1992), used the Ways of Coping Questionnaire with 2 adult males hospitalised following accidental injury and found that the most commonly reported coping efforts involved passive – acceptance or mental avoidance, given that avoidance behaviour is central to both psycho-dynamic and conditioning models of trauma response (Horowitz 1986; Keane, Zimmerling & Caddell, 1985). Studies show that emotion-focused coping is used more in encounters holding little possibility for change (Folkman & Lazarus, 1950).

In an article by Atkinson and Violati (1993), The WOC Questionnaire was administered to 149 undergraduates coping with saddening life events. Subjects were made to collect data over a ten-week period using logbooks. The results were factor analysed and this indicated that the WOC Questionnaire Escape-avoidance item lost its uni-dimensionality and loaded on to two distinct factors: Cognitive Avoidance and physiological Escape-avoidance. However, items on the self-control Scale lost their coherence and did not load meaningfully on any factor.

A study by Wykes (1999) was undertaken with the aim to evaluate a shorter, group-based (and therefore less expensive) variant of the approach. Twenty-one patients participated in seven group sessions in which the goals were to share information about “voices,” learn about psychosis and hallucinations, develop effective coping strategies, and raise self-esteem. The patients’ mean age was 40

years, with a mean illness duration of 14 years. Three-fourths had auditory hallucinations every day, and three-fourths said these "severely disrupted" their lives. Moderate depression and anxiety plus low self-esteem characterised the group. Compared with a waiting-list control group, the treated patients showed an increase in insight and self-esteem and in the number and effectiveness of coping strategies. There was "a strong trend" toward improvement in auditory hallucination scores that was maintained at follow-up one month later. In particular, the acquisition of active coping strategies led to an increase in the sense of mastery. In addition, a reduction in the "power" of voices was associated with reductions in levels of distress. Improvements in psychopathology were similar to those seen with conventional, individual Cognitive-Behavioural Therapy. In addition, the group format appeared to have particular benefits. Patients were generally happy to attend, and several expressed appreciation at the opportunity to exchange coping ideas with others. "I'm not alone anymore," one patient was reported to have said.

The WOC Questionnaire has also been used in finding out the ways women with eating disorders cope with the disorder. Troop, Holbrey, Trowler and Treasure (1994) investigated coping strategies used with a current, self-nominated problem in 24 subjects (18 – 45 years) with anorexia nervosa and 66 subjects (aged 17 – 43 years) with bulimia nervosa. The control group were 30 undergraduate female students aged 20-34 years. Subjects completed the Beck Depression Inventory, measures of eating disorder symptoms and social class, and the revised WOC Questionnaire. Anorexia nervosa and bulimia nervosa subjects used more

avoidance than controls. Problem-focused coping was lower and self-blame was higher for psychological problems than for general and relationship problems and psychological problems were nominated more frequently by anorexia nervosa and bulimia nervosa than by controls. Teaching coping strategies especially to bulimia nervosa patients may be a useful component of treatment for eating disorders.

Burley and Kim (1994) examined relationships among gender, coping, and anticipated work-family conflict for 136 female and 120 male university students. Subjects completed an inter-role conflict scale and a dual employed coping scale. Results indicated significant differences between the sexes with respect to anticipated work-family conflict as well as with respect to expected use of coping strategies to manage anticipated work-family conflict. Contrary to expectation, coping strategies did not mediate the relationship between gender and work-family conflict.

In another study, Bentelspacher, Chitran and Binte-Abdul-Rahmaan (1994) examined cultural variations in the coping and adaptation process among 30 Chinese, Malay and Indian families caring for a relative with schizophrenic illness. Primary care givers were interviewed about the effects of patient behaviours on the family and the use of helpful coping techniques or informal and formal community support system. Eighteen (18) subjects reported that negative schizophrenic behaviours caused distress, and 17 subjects reported that the patient's illness had adversely affected their household. Chinese subjects experienced approximately

twice as many adverse effects as did Malay and Indian subjects. Malay families were least adversely affected, because they tended to use more helpful coping strategies and relied on informal support networks. Indian families also used helpful coping strategies and did not use either informal or formal support networks.

Other measures of coping are also available. Stone and Neale (1984) developed a measure of daily coping designed for use in longitudinal studies to see how coping changes on a day-to-day basis over time. There is also another one by Carver, Scheier and Weintraub (1989). The selection of a particular use of coping strategies depends on a variety of internal and external resources. These factors are called moderators of the stress experience because they influence how stressful an experience will be and coping strategies an individual will bring to bear on the stressful experience. Internal resources or impediments consist of coping styles and other personality factors. External resources or impediments include money and time, social support and other life stressors that may be occurring simultaneously with the stressful event. Figure 2.1 represents the coping process.

2.9 LITERATURE REVIEWED ON BELIEFS ABOUT MENTAL ILLNESS

In a case study of mental illness in Ghana, Jahoda (1961) found out that most of the mental patients admitted in the Government hospitals attributed their illnesses to juju, witchcraft, magic and supernatural powers. Some of the patients believed that some of their fellow students, workers and relatives envied their performance

at school, at the work site and therefore resorted to juju and magic to turn the tide of affairs against them.

Jahoda (1961) told a story where a brilliant student nurse attributed her illness to a friend. She passed her examinations while her friend failed, an examination they had both written. According to this nurse, the friend and her mother cast a spell on her, which made her suffer from hysteria.

Tooth (1950) in his research publication writes, “in the forest zones, especially in Ashanti, the lunatic is more feared than respected. This disorder is seen as something which is impolite to mention except in vague terms. An afflicted person is looked upon either as a victim of juju, or a witch. And it is customary to subject him to fetish tests to determine whether he is the victim or the aggressor”. But should the society attach such stigma to mental illness and look at it only as a moral problem without thinking of other pathological effects? If this question is answered in the affirmative, would the society not be respecting people whose illness came through no fault of theirs?

Woodward (1951) conducted a study on public opinion about mental illness. He used as his subjects four professional groups: Lawyers, Teachers, Doctors and Clergymen. He reported that lawyers had different attitudes towards the mentally ill. About 25% of the lawyers believed that punitive measures should be given to juvenile delinquency and more than 40% of them did not agree to seeking help

from a psychiatrist when someone acted strangely.

Furnham and Malik (1994) compared the beliefs of 33 Native British (NB) and 33 Asian-Born (AB) migrant middle-aged women (aged 35-62 years) and 43 Native British and 43 younger Asian women (aged 17-28 years) about the causes and symptoms of depression. Sixty-three percent (63%) of the younger Asian subjects had been born in Britain and the rest had been born in the sub-continent but had migrated to Britain at an early age. Middle-aged AB subjects scored highly in their beliefs about depressive and anti-depressive behaviour. They also scored significantly higher than middle-aged Native British subjects did on a Western measure of psychiatric morbidity, yet they did not report depression in themselves or others. Young Asian subjects appeared to have adopted a perception of the causes and symptoms of depression that is similar to that of their British peers. The perception of the causes and symptoms of depression and appropriate anti-depressive behaviour seems to be mediated by cultural values and beliefs to which the individual has been exposed in their formative years.

2.10 RESEARCH DONE ON SEX AND GENDER

No research on auditory hallucinations indicated whether there are gender differences in coping. However, the roles of gender, early childhood loss and personality as risk factors for lifetime episodes of dysphoria were examined in a large sample of college students (N=557) by Roberts and Gotlib (1988). Dysphoria classifications were based on the Inventory to Diagnose Depression

(IIDD) and the IDD-Lifetime Version. Females reported higher levels of depressive symptoms and neuroticism than did males, and were more likely to have a lifetime history of episodes of dysphoria, but males were more susceptible to the adverse effects of early childhood loss. Males with loss were more likely to have a history of protracted dysphoria and to report higher levels of neuroticism than were males who did not experience an early parental loss. It was found that the effects of gender on lifetime experience of dysphoria were mediated by neuroticism. In other words, females' increased vulnerability to episodes of dysphoria was due to their elevated levels of neuroticism. This also suggests that males and females differ in certain characteristics. The question is what about their ways of coping with auditory hallucinations. Are there gender differences in coping with auditory hallucination or not?

Gender also contributes to levels of personal disturbance. It influences both subjective and objective health, disability, the likelihood of bereavement, and economic and social deprivation (Bowling & Browne, 1991; Jagger, Clarke & Cook 1998; Nowlin, 1974; Stroebe and Stroebe, 1983; and Walker, 1987). It has been found, for example, that women have significantly higher levels of disability than men, especially in very old age and that women are significantly more economically and socially disadvantaged than men (Bowling & Browne, 1991; Jagger, Clarke, & Cook 1998). In contrast, it has been found that men are affected more severely by bereavement than women (Stroebe & Stroebe, 1983). If gender can contribute to levels of personal disturbance, then gender will have an influence

on coping strategies one uses to cope with stress.

2.11 LIMITATIONS OF THESE METHODOLOGIES

Bicks and Kinsbourne, (1987) informed their subjects before the instruction of the manoeuvres that they would later be asked to state if their voices got worse, stayed the same or went away. The subjects were aware of what the researchers were looking for, and this can confound the study. The subjects were more likely to unconsciously give desirable answers and not what the true picture is. The use of double blind subjects would have yielded better results in this case. The possibility of an erroneous result in the research of Bicks and Kinsbourne (1987) was further increased by the facts that two of the three manoeuvres (closing the eyes tightly and making a tight fist) were relatively remote from the speaking – hearing axis.

Also, some of the experimental tactics the researchers used cannot be used in real life situations. Diversion and removal tactics have been found to help one cope with auditory hallucinations. But data suggests that in uncontrolled real life conditions, diversion but not removal tactics may be effectively employed in controlling auditory hallucinations. Removal tactics may be a good coping strategy but it works only in controlled situations. One therefore cannot use removal tactics except in an uncontrolled situation.

Distraction techniques like wearing headphones and listening to music tapes, or sub-vocal counting are not always socially appropriate. Moreover, techniques of

reducing patients' attention to the voices can increase the chance of a thought being misperceived as a voice, because schizophrenics are poor at recognising their own thought and at locating the source of external sounds (Heilbrum, 1986).

2.12 SUMMARY OF MAIN TYPES OF COPING STRATEGIES

Few health workers have developed a way to control voices, which consistently helps more than one patient. In some case studies, it was found that listening to audio-tapes of pleasant memories improved auditory hallucinations. Others also have used humming to cope with auditory hallucinations. These have all proven effective. However, the greatest reduction in hallucinatory experience occurred when a response was required of the subject; for passive conditions the experiences were inversely related to the structure and attention, and commanding properties of the input (Margo, Hemsley & Slade, 1981).

Also, beliefs about auditory hallucinations differ from culture to culture. For example, there is a pervasive belief in Middle Eastern and African countries that mental illness is caused by possession by demons and by a belief in God's will, as a determinant of all events, including symptoms such as hallucinations. No wonder, Chiu (1994) emphasises the point that mental health professionals need to understand and accept each ethnic group's idiosyncratic background if they are to provide effective treatment in multicultural settings.

2.13 RATIONALE FOR THIS STUDY

Most of the researches on psychological interventions for hallucinations have been

conducted in Europe and North America. Even if these psychological techniques were to be accepted and used by clinicians in these cultures, there is some evidence that they may be less welcome within some other cultural traditions. As it has already been said, all these studies were done outside Ghana. There is the need for a study to be done here on how schizophrenics cope with their auditory hallucinations.

2.14 HYPOTHESES:

1. Subjects will reports various coping strategies.
2. GAF scores of subjects will be varied.
3. The coping strategies adopted by males and females will differ.
4. The young and old will differ in the strategies they adopt for coping with their auditory hallucinations.
5. There will be age differences about how people report the intensity of the auditory hallucination.
6. The level of education of the subject will affect one's report about the intention of the voices heard.
7. The extent to which voices are repetitive will influence subjects' affect.
8. Beliefs about the intention of the voice will affect one's affective response to auditory hallucinations.
9. The antecedent events, to auditory hallucinations will determine one's affective response.

CHAPTER THREE **METHODOLOGY**

3.1 POPULATION AND SAMPLE

Subjects were selected from Accra and Pantang Psychiatric hospitals. There were 237 subjects. Thirty-seven of the subjects dropped out of the study. 200 participated and they were 100 males and 100 females. Sixty-nine percent (69%) were between the ages of 18-40 years and 31% were 41 years and above. The mean age for the male subjects was 31 years while the mean age for the female subjects was 36 years. The mean number of years spent in school by the subjects was 11 years. The Tables below show the descriptive characteristics of the subjects.

TABLE 3.1

DESCRIPTIVE CHARACTERISTICS OF THE SAMPLE

DESCRIPTIVE CHARACTERISTICS	MALES	FEMALES
Mean age	31 years	36 years
No of years spent in school	11 years	11 years
Employed	84	46
Unemployed	30	40

3.2 INSTRUMENTS USED

The cognitive assessment questionnaire: This is a semi-structured interview schedule constructed specifically for this study. It was used to guide the exploration of (Falloon & Talbot 1981):

- a. The antecedents to hearing voices,
- b. Beliefs about the voices,

- c. Consequences of voices and
- d. Subjects' coping responses.

Questions that were asked included; “Do the voices want to do you harm or good?” “Do you hear voices which are repetitive?” “How do the voices make you feel?”; and “What do you do when you start hearing voices?” The questionnaire had several sections. There was a section to collect bio-data, a section to collect data on the antecedents to hearing the voices. And also there was a section to collect data on patients' beliefs about the voices they hear.

The psychometric properties of the cognitive assessment questionnaire

Test retest reliability was used to test the reliability of this questionnaire. Subjects were re-tested with the same questionnaire after 3 days. The reliability co-efficient was 0.632 which is fairly good (Chadwick & Birchwood, 1994). The face validity of this questionnaire rest upon the wordings of the items. It has fairly high face validity.

The Global Assessment of Functioning (GAF) Scale:

This scale is used to assess the level of adaptive functioning of a person. Its result helps to determine axis V of the Diagnostic Statistical Manual (DSM-IV) (APA, 1997) diagnosis. It is a scale, which is composed of behavioural benchmarks of functioning. Levels of functioning ranged from a scale of zero to hundred. Global Assessment of Functioning Scale (GAF) is a rating on a scale of 1 - 100. This is one of the five axes of the Diagnostic Statistical Manual, which is used in diagnosing patients in the mental health hospitals (Bootsin, Acocella, Alloy 1993).

It is used to determine both the patients' current adjustment (work performance, social relationships, use of leisure time) and of his or her adjustment during the past year. A person with effective coping strategies will be well adjusted to his or her environment and it is expected that such a person will score higher on the GAF scale when compared to a person whose coping strategies are not all that effective (Bootsin, Acocella, Alloy 1993).

The GAF Scale is for reporting the clinician's judgement of the individual's overall level of functioning. This information is useful in planning treatment and measuring its impact, and in predicting the outcome of the treatment. The GAF is useful in tracking the progress of individuals in global terms, using a single measure. Most of the time, ratings on the GAF scale should be for the current period (i.e. the level of functioning at the time of evaluation). This is because rating of current functioning will generally reflect the need for treatment or care. Sometimes it is used to rate patients at the time of admission and at the time of discharge. In some settings, it may be useful to assess social and occupational disability and to track progress in rehabilitation independent of the severity of the psychological symptoms. And so one is expected to score high on the GAF Scale if his or her coping strategy is effective.

Psychometric properties of the GAF scale

As has already been mentioned, the GAF scale is the 5th axis of the Diagnostic Statistical Manuals (DSM IV). But the reliability of the DSM IV was not

determined. Therefore, several years of using it will be necessary before reliability analyses can be done. But the reliability of the DSM III is out and a discussion will be done on it instead of the DSM IV. Earlier Diagnostic and statistical Manuals were badly flawed by problems of reliability Spitzer & Fleiss (1974). Experienced diagnosticians using DSM II, for example, found they could not agree with each other. In some instances, inter-judge reliability was so low as to make a diagnostic category functionally useless. In a review of all the reliability studies of DSM II, (Spitzer & Fleiss 1974) found that only three broad categories were sufficiently reliable to be clinically useful: “mental retardation,” “alcoholism,” and “organic brain syndrome.” When diagnosticians attempted to use finer categories to distinguish the different kinds of alcoholism or brain damage, diagnostic reliability fell further.

The actual reliabilities (test retest and inter-rater reliabilities) were quite disappointing for DSM III whether in the U S or else where. Hanada and Takahashi (1983), translated DSM III in Japanese and asked experienced, university based psychiatrists who had had several seminars on DSM III to evaluate patients in seven psychiatric centres. The reliability was disappointing. No reliability data has been collected on axis III of the DSM III, physical disorders (or General Medical Conditions in DSM IV). The reliability (test retest and inter-rater reliabilities) of axis IV, psychosocial Stressors (called psychosocial and environmental Problems in DSM IV), is modest at best. The reliability (test retest and inter-rater reliabilities) of Axis V, Highest level of Adaptive Functioning in the

Past Year (called Global Assessment of Functioning in DSM IV), is quite good and has been used in several studies some of which have been cited above. That axis however has been greatly revised since these studies were done.

The Ways Of Coping Checklist (WOC): One of the most popular instruments of assessing coping is the Ways of Coping (WOC) Questionnaire (Folkman & Lazarus 1988). Folkman and Lazarus' WOC Questionnaire (1988) was designed to measure coping strategies used by people in stressful situations. The ways of coping questionnaire identifies the use of problem-focused and emotional-focused strategies. They found out that a number of coping strategies can be used simultaneously – both problem-focused and emotion-focused. The Ways of coping Questionnaire enjoys wide use among coping researchers. It has been used in a wide range of different populations in community samples (Aldwin & Revenson 1987); student nurses (Parkes, 1986); parents of children with Down's syndrome (Knussen, Slopes, Cunningham & Turner, 1992) and spouses of patients with Alzheimer's disease (Vitaliano, Russo, Carr, Maiuro & Becker, 1985). It has also been used to study groups coping with specific traumatic life events such as adolescent incest survivors (Johnson & Kenkel, 1991), combat veterans from the 2nd world war to the 1982 Lebanon war (Fairbank, Hansen & Fitterling, 1991; Solomon, Milkilincer & Avitzur, 1988) and people exposed to both natural and technological disasters (Collins, Baum & Singer, 1983; Hicks, Marical, & Conti, 1991). Various different sub-scales for this instrument have been proposed based on different

samples and factor analyses. However, typically a distinction is found between direct or problem-focused coping strategies or behaviours and emotions as in emotion-focused strategies, which involve wishful thinking or suppression and avoidance of difficult feelings.

Psychometric properties of the WOC questionnaire

In a study using the Folkman and Lazarus' (1988) WOC Questionnaire, the reliability co-efficient (alpha) for the coping sub-scales were as follows:

1. Confrontative coping.....	0.53
2. Distancing.....	0.53
3. Self controlling.....	0.54
4. Seeking social support.....	0.82
5. Accepting responsibility.....	0.58
6. Escape-avoidance.....	0.65
7. Planful problem solving.....	0.67
8. Positive reappraisal.....	0.70

The average inter-score correlation for the sub-scales was 0.54.

Convergent validity was demonstrated by an examination of its association with seeking social support in 180 undergraduate students (aged 18 – 40 years). Subjects completed the WOC and the Beck's Depression Inventory. Four 2nd-order factors were identified; one Behavioural coping style sub-scale, and three

cognitive sub-scales to do with the meaning, expression, and consequences of showing emotions. It is suggested that 3 cognitive sub-scales underlie the behavioural sub-scale and that attitudes toward emotional expression are involved in the development of psychological disorder following exposure to stressful life-events.

Hooker, Frazier and Monahan (1994) have used the WOC. They examined the influence of personality on coping strategies for 50 spouse caregivers (average age 68.7 years) living in the same household with patients who had a confirmed diagnosis of Alzheimer's disease (AD) or a related dementia. Subjects completed the NEO Five-Factor inventory, a personality inventory designed to measure traits identified in the five-factor trait model, and a revised measure of the WOC. As indicated by previous studies, subjects who scored high on the Neuroticism scale were less likely to use problem-focused coping strategies and more likely to use emotion-focused ones. Subjects who scored high on the Extraversion scale were more likely to cope by seeking social support and less likely to depend on emotion-focused strategies.

Brown (1994) explored the construct validity of a shortened version of the WOC using veterinary medicine students. 207 students (aged 22-31 years) were administered the WOC Questionnaire. Results support the view that there are stable underlying coping structures across groups within specified coping situations. The 5 factors isolated in this study resemble those from previous

studies: problem solving, seeking emotional support, wishful thinking, and detachment. The only difference was in the “focus of the positive factor” which was highly rated in previous studies but not in Brown’s study.

The WOC Questionnaire was also used by Joseph, William, Irwing, and Cammock, (1994). It was used to examine the factor structures of attitudes towards emotional expression and they used the result to construct a 20-item measure of negative cognition and behaviours concerning emotional expression. The scale had high internal reliability.

3.3 THE DESIGN AND PROCEDURE

Subjects for this study were patients with a clinical diagnosis of schizophrenia who were maintained on neuroleptic medication. They had been diagnosed by psychiatrists using DSM IV. Any schizophrenic patient who did not experience auditory hallucination was exempted from this study. To qualify to participate in this study, subjects must be able to read and write English since translating the questionnaires is not possible for a study with such limited time.

Permission was first sought from the psychiatrist in charge of the hospital. Folders of subjects in the wards were used to select those with a clinical diagnosis of schizophrenia (from the consultant psychiatrists in the hospital). The screening test was then administered. With this test, subjects who were suffering from schizophrenia and who were experiencing auditory hallucinations were selected for

the study. They were asked whether they heard voices or not. And if they heard voices, the content of the voices was asked. This is because some of them sometimes got confused since the word 'voices' is ambiguous. Those who hear voices were then asked whether they could speak and write English. Most of them replied in the affirmative. They were then asked to read the consent form. After they had finished reading, they were made to explain what they had read. If they could not read the consent form at all or could not pronounce some of the words and if they could not explain what they had read, they were excluded from the study. Some of them could read and write but they did not give their consent to participate and so were excluded from the study.

After the screening, the questionnaires were administered. The researcher administered the semi-structured questionnaire, and the Ways of Coping Checklist, whilst independent assistants administered the GAF Scale to the subjects. The patients were tested individually in a quiet room in the wards. The assistants were trained to administer the GAF Scale. There was no fixed order for the presentation of the other measures. This is because a fixed order could produce order effects, which could confound the results of the study.

Ten nursing students volunteered to take part in the study. These nurses were students of the Nursing Training College (NTC). They were made up of three females and seven males. They were second year students of the NTC. The training took approximately two hours. First of all the GAF Scale was explained to

them. And one student was made to read the scale to the other students. After the codes were read, it was summarised. Then the questions were also read. The students were made to understand that physical and environmental conditions were not to be included. Also, they were informed that the GAF Scale score was a score reflecting the current level of functioning of a person at the time of assessment and not the previous time. They evaluated two subjects. Here the mistakes were noted and they evaluated more subjects until the reliability (inter-judge reliability) was high. The spearman's rank order was used to test this.

3.4 SCORING OF DATA

The hypotheses required the use chi-square and coefficient of correlations to analyse the data. For the WOC Checklist, subjects scoring between 0-17 were classified as low copers. Those scoring between 18-34, were classified as medium copers and those scoring 35 and above, high copers. This provided the level/degree of coping. Problem-focus coping questions and emotion-focused questions were separated. The one that a subject scored more was attributed to him/her as his/her coping strategy. And this yielded the results on the type of coping adopted by the subjects.

CHAPTER FOUR

RESULTS

The Chi Square one variable (or the goodness-of-fit) test and the Chi Square test of the independence of categorical variables were used to test the hypotheses. A further analysis with the Contingency Coefficient was used on the obtained Chi Square values, which were significant. A non-parametric test was used because to use a parametric test one must make assumptions about the parameters of the populations from which the data are drawn. For example one must assume that the population is normally distributed but the variances may differ greatly. So a non-parametric test was used so that no assumptions may have to be made about the parameters of the population from which the data are drawn (Siegle & Castellan, 1988).

4.1 GLOBAL ASSESSMENT OF FUNCTIONING (GAF) SCALE

Subjects who rated between 61-70 on the GAF scale were (thirty point five percent) 30.5%. Subjects who fell under this group have some mild symptoms (e.g., depressed mood and mild insomnia) but generally functioning pretty well. Thirty percent (30%) were rated between 51-60 on the GAF scale which means that they have moderate symptoms (e.g., flat affect and circumstantial speech, occasional panic attacks) or moderate difficulty in social, occupational, or school functioning. Another 29% fell between 41-50 and these have serious symptoms (e.g., suicidal ideation, severe obsessional rituals, frequent shoplifting) or moderate difficulty in social, occupational or school functioning (e.g., no friends, unable to keep a job). Those who were rated between 31-40 were 6%. This group of

subjects experience some impairment in reality testing or communication (e.g. speech is at times illogical, obscure, or irrelevant) or major impairment in several areas, such as work or school, family relations, judgement, thinking, or mood. Three percent (3%) also fell at 70 and above. With these subjects even if symptoms are present, they are transient and expectable reactions to psycho-social stressors (e.g. difficulty concentrating after family argument); no more than slight impairment in social, occupational, or school functioning. The remaining 1.5% scored between 20 and 30 on the GAF scale. Here the subject's behaviour is considerably influenced by delusions/hallucinations or serious impairment in communication or judgement (e.g., sometimes incoherent, acts grossly inappropriate, suicidal preoccupation) or inability to function in almost all areas. (See table 4.1)

Hypothesis: *GAF scores of subjects will be varied.*

Using the Chi Square one variable (or the goodness-of-fit) test to find out whether there was a significant difference in the GAF scores, the obtained value was very significant. [$\chi^2_{(5)} = 126.220, p < 0.01$].

Hypothesis: *The coping strategies adopted by males and females will differ.* The Ways of Coping Checklist was used here. This checklist contains items on emotion-focused coping strategies as well as items on problem-focused coping strategies. A subject was said to be using emotion-focused coping strategy if he or she scored more on the emotion-focused coping strategy items. If he or she scored more on the problem-focused items, he or she was said to be using problem-

focused coping strategy as his or her coping strategy for auditory hallucination. Some had equal scores for both emotion-focused coping and problem-focused coping. They were said to be using both emotion-focus coping and problem-focus coping. This can be seen from table A4 in the appendix.

TABLE 4.1

GAF SCORE

Codes	Frequency	Percentage	BEHAVIOURAL MANIFESTATION
70+	6	3%	If symptoms are present, they are transient and expectable reactions to psycho-social stressors (e.g. difficulty concentrating after family argument); no more than slight impairment in social, occupational, or school functioning.
61-70	61	30.5%	Some mild symptoms (e.g., depressed mood and mild insomnia) but generally functioning pretty well
51-60	60	30%	Moderate symptoms (e.g., flat affect and circumstantial speech, occasional panic attacks) OR moderate difficulty in social, occupational, or school functioning.
41-50	58	29%	Serious symptoms (e.g., suicidal ideation, severe obsessional rituals, frequent shoplifting) OR moderate difficulty in social, occupational or school functioning (e.g., no friends unable to keep a job).
31-40	12	6%	Some impairment in reality testing or communication (e.g. speech is at times illogical, obscure, or irrelevant) OR major impairment in several areas, such as work or school, family relations, judgement, thinking, or mood.
21-30	3	1.5%	Behaviour is considerably influenced by delusions or hallucinations OR serious impairment in communication or judgement (e.g., sometimes incoherent, acts grossly inappropriately, suicidal preoccupation) OR inability to function in almost all areas
Total	200	100	

Frequencies on table A4 (in the appendix), gender and type of coping were then analysed using Chi Square. The observed value [$\chi^2_{(2)} = 0.182$] was not significant. This shows that males and females did not differ in the type of coping strategies they adopt to cope with auditory hallucination.

The frequencies (Table A5 in the appendix) were also obtained from the Ways of Coping Checklist. This checklist contains 13 questions. For each question, a subject could score between zero and four. Four (there were four options) was multiplied by 13 to get 52. This (52) was then divided into three. That is from 0 – 17, 18 – 33, and 34 – 52. Subjects scoring between 0 – 17 were said to be low copers, those scoring between 18 – 33 were classified as medium copers whilst subjects scoring between 34 – 52 were designated high copers.

Chi Square was used to analyse the frequencies from the variables gender and level of coping [$\chi^2_{(4)} = 2.908$] was not significant. This shows that males and females did not differ in their level of coping.

For the raw data below, the question “what other ways do you cope with auditory hallucination” was asked.

Chi Square was also used to test this hypothesis. [$\chi^2_{(3)} = 5.148$] was not significant. For this analysis there was no significant difference between gender and other ways of coping. Males and females did not therefore differ in their type of coping,

their level of coping and the other ways of coping they adopted for auditory hallucination. Thus this hypothesis was not confirmed.

Hypothesis: *The young and old will differ in the strategies they adopt for coping with their auditory hallucinations.*

Frequencies obtained from the variables age and type of coping were further analysed using the chi square. [$\chi^2_{(2)} = 5.038 < .01$]. This implies that the old and young differed in the type of coping strategy they have adopted to cope with auditory hallucinations. A further analysis was made using the Contingency Coefficient (C) to find the degree of the relationship between age and type of coping. $C = 0.22$. This shows that the degree of relationship between the two variables is not a strong one.

Frequencies obtained from age and level of coping were also analysed using the chi square (Table A7 in the appendix. [$\chi^2_{(2)} = 10.719, p < .01$]. In other words the old and young did differ in their level of coping. A further analysis of the Chi Square with the Contingency Coefficient (C) showed that the degree of association between age and level of coping with auditory hallucination is moderate. $C = 0.319$.

Frequencies were also obtained from age and other ways of coping with voices.

These frequencies were then further analysed with Chi Square. [$\chi^2_{(3)} = 0.563$] was not significant. In other words, the old and young did not differ in the other ways of coping they have adopted to cope with auditory hallucination. Considering age, the type of coping, and the level of coping, one can say that the working hypothesis was confirmed but if one considers age and other ways of coping with auditory hallucination (like prayer, obeying the voice's commands and distraction), then the working hypothesis was not confirmed.

Hypothesis: *There will be age differences about how people report the intensity of their auditory hallucination.* To test this hypothesis, Power of the voices heard was divided into two groups. That is

- i) Powerful
- ii) Not powerful

These frequencies were analysed using Chi Square. [$\chi^2_{(4)} = 1.90$] was not significant. This shows that the old and young did not differ in their report of the power of auditory hallucination. The hypothesis was therefore not confirmed.

Hypothesis: *The level of education of the subject will affect one's report about the intention of the voices heard.* The responses subjects gave for the intention of the voices they heard was divided into two groups. That is

- i) Good intention
- ii) Bad intention

The level of education of subjects were also divided into four main groups, that is

1. J.S.S./ Middle school,
2. S.S.S.,
3. Vocational school/ post secondary school.
4. Tertiary institution.

To test this hypothesis the chi square was used. [$\chi^2_{(3)} = 9.259, p < .05$. The hypothesis was confirmed and so a further analysis was needed. The Contingency Coefficient was used to further analyse the obtained χ^2 . $C = 0.30$. This shows a moderate association between the two variables (level of education, and intention of voices).

Hypothesis: *The extent to which voices are repetitive will influence subjects' affect.* Responses on the repetitive nature of the voices were divided into two,

- i) Repetitive
- ii) Not repetitive)

Responses on one's affective response to the voices heard was divided into two groups. That is,

- i) Sad
- ii) Happy

The Chi Square test was also used to test this hypothesis. The obtained value [$\chi^2_{(1)} = 0.062$] was not significant. The working hypothesis was thus not confirmed.

This shows that the extent to which voices are repetitive did not influence subjects' affect.

Hypothesis: *Beliefs about the intention of the voice will affect one's affective response to auditory hallucinations.* Using the Chi Square to find out whether one's affective response was related to the intention of the voices heard, it was realised that the obtained value was significant. Thus the hypothesis was confirmed [$\chi^2_{(1)} = 40.913, p < .01$]. A further analysis with Contingency Coefficient depicted a fairly strong association between the two variables (affective response of subjects and the intention of voices, $C = 0.53$). This shows that the beliefs subjects had about the intention of the voices affected their affective response to auditory hallucinations. The hypothesis was thus confirmed.

Hypothesis: *The antecedent events to auditory hallucinations will determine one's affective response.* Using the Chi Square to test this hypothesis, the hypothesis was not confirmed. [$\chi^2_{(3)} = 4.579$] was not significant. This shows that the antecedent events to auditory hallucinations did not determine subjects' affective response to their auditory hallucinations.

4.2 SUMMARY OF RESULTS

The major findings of the study were the following: there were gender differences in coping strategies, no differences were observed between young and old schizophrenic patients regarding the coping strategies they had adopted to cope

with their auditory hallucinations. Also, most of the schizophrenic patients believed that auditory hallucinations have supernatural causes, with prayer being the most predominant strategy of coping. It was found out that prayer was a very important strategy of coping with auditory hallucinations in the Ghanaian culture.

CHAPTER FIVE

DISCUSSION

Subjects who scored between 61-70 on the GAF scale were 30.5 %. This was the biggest proportion of the sample. This means that most of them experienced some mild to moderate symptoms of psychosis (depressed moods, occasional panic attacks, auditory hallucinations e t c), some difficulty in social, occupational or school function (e g some meaningful interpersonal relationships. Though some had no friends and were unable to keep jobs, some had friends and were able to run errands for the hospital staff). The smallest proportion of 1.5% fell between 20 – 30. For this group, their behaviour was considerably influenced by delusions/hallucinations or serious impairment in communication or judgement (e.g., sometimes incoherent, acts grossly inappropriate, suicidal preoccupation) or inability to function in almost all areas. This shows that most of them are functioning quite well, perhaps their coping strategies are very effective. Chi Square (one variable test) was use to test the hypothesis that the GAF score of subjects will be varied. It was confirmed. In other words, there were significant differences between the proportion of literate schizophrenic patients with mild, moderate, and severe symptoms of auditory hallucinations in the Ghanaian population.

When the Ways of Coping Checklist was analysed, it was realised that most of the subjects were medium copers. Most medium copers had some methods of coping with auditory hallucinations. They used just a few strategies for coping with auditory hallucinations. This may account for their not being able to control it,

which landed them in mental hospitals. Also, it was found out that most of them used emotion-focused coping to cope with auditory hallucinations. That is the use of self-control, distancing, positive reappraisal, accepting responsibility and escape/avoidance in coping with auditory hallucinations. This led to the confirmation of what Folkman and Lazarus (1980) found. Their study revealed that work related problems most commonly led people to attempt problem-focused coping efforts such as taking direct attention or seeking help from others. They also found that health-related problems led to more emotion-focused coping like positive reappraisal, self-control e t c. Studies have found out that emotion-focused coping is used more in encounters holding little possibility for change (Folkman & Lazarus, 1950). Auditory hallucinations are persistent and one may experience it throughout one's lifetime and this may account for the use of emotion-focused coping by more of the subjects. It is therefore consistent with the study of Folkman and Lazarus.

Though most subjects used emotion-focused coping it was also reported there were 'other ways of coping' which included praying, ignoring the voices, responding to the voices, the use of distractive tasks, taking medication, and escape. Praying included Christian prayers and Islamic prayers depending on the religion of the individual. Some of them said that prayers backed with fasting was what they used to cope with the auditory hallucinations, though only 34% used a spiritual way of coping, (that is the use of prayers in coping with auditory hallucinations). The type of prayers used depended on the religion the patient is affiliated to, as has already

been said. Christian subjects prayed to their God to relieve them of the problem of auditory hallucinations while Moslems prayed to Allah to have mercy on them.

As has been already discussed, prayer is one of the coping strategies used. Though only 67 of the sample used prayer to cope with auditory hallucinations, it was the biggest proportion. The question is why prayers? This stems back to the fact that to most Africans (and for that matter, Ghanaians,) the causes of sickness, misfortunes and strange happenings are spiritual. Most of the subjects believed that auditory hallucinations was a spiritual phenomenon. They either said it was a consequence of a curse someone had placed on them or punishment from the gods. They also thought it may be God or the male mermaid speaking to them. They attribute some of these things to the work of witches and evil spirits and the wrath of the Supreme God as has been discussed in previous chapters. And as the saying goes, if you know the cause of a problem, it is half solved. Therefore, it is not surprising when a greater proportion of these subjects reported that they used spiritual means to cope with their auditory hallucinations. In other words to most Africans, the concept of auditory hallucinations is more of a spiritual phenomenon than a physical one hence most of the subjects attributed the cause of auditory hallucinations to the work of evil spirits, curses, punishment from God and so if it is spiritual, spiritual ways must be used in dealing with the problem.

This finding is consistent with the study of Wahass (1988) who found that patients from different cultures have several coping mechanisms that vary between

cultures. He studied Saudi Arabian patients and U.K. patients. He noticed that Saudi Arabian patients used strategies associated with their religion whereas U K patients were more likely to use distraction or physiologically based approach. Ghanaians are religious hence their defining auditory hallucinations in religious terms and some using prayers to cope with it.

This is also consistent with the study of Jahoda (1961) who found that mental patients admitted to Government hospitals attributed their illness to juju, witchcraft, magic and supernatural powers.

It is consistent with the study of Woodward (1951) who found that people of different professional groups (Lawyers, Doctors, Clergymen and Teachers) attributed the symptoms of mental illness (of which auditory hallucinations is one) to the spiritual world. They had different attitudes to the mentally ill and most of them (especially lawyers) felt the help of a psychiatrist was not necessary when someone acted strangely or started hearing voices.

It is consistent with the study of Tooth (1950) who realised that the mentally ill and any one having symptoms of psychosis (of which auditory hallucinations is included) is more feared than respected. Afflicted person is looked upon either as a victim of juju or a witch and so subjected to some form of fetish tests to find out whether he is the victim or aggressor, again referring to the supernatural).

A study by Furham and Malik (1994) also confirmed that perception of the cause and symptoms of a condition like depression and appropriate anti-depressive behaviour seems to be mediated by cultural values and beliefs to which the individual has been exposed in their formative years.

Some of the subjects ignored the voices (auditory hallucinations). This was the strategy that was reported by those who heard unfriendly voices. They reported it was not easy ignoring what the voices instructed them to do. They reported that they often analysed the content of their auditory hallucinations which they most often found to be senseless; for example,

"go and hit that man under the tree with a stick because he is a wizard."

The question they most often asked themselves was that "what shows the man is a wizard."

If there was nothing to indicate that that man is a wizard, they just ignored the voice. They said it was not an easy task ignoring voices but for them to live a normal life, they tried hard to ignore the voice. This group of copers said they were able to ignore the voice's instructions more easily as time went on. As this has been illustrated above, they may hear a voice telling them for example to

"slap the man because he is a wizard. If you do not do so, you will die."

To them it is very difficult for a person not to do it at first. But if they ignored it once and they do not die, it becomes easier for them to ignore the instruction of the voices the next time the phenomenon occurred and the tension that came with each subsequent auditory hallucination reduced. But ignoring the voice did not always seem a good solution. The effort spent on ignoring often led to a curtailment in the scope of activities. According to Romme and Escher (1989), the most fruitful strategy described by people who hear voices is to select the positive voices to listen to and ignore the negative voices

'Other ways of coping' with auditory hallucinations reported by the subjects included the use of distractive tasks. The distractive tasks used by subjects were as follows:

- . Listening to the radio (22.5%)
- . Humming a song (11%)
- . Singing a song (9%)
- . Speaking (7.5%)
- . Holding one's nose (12%)
- . Murmuring some words (7.5%)
- . Shouting (10.5%)
- . Dressing always (6%)
- . Joining a friend (13%)
- . Reading a novel and for one patient, masturbation. (1%)

All these are distractive in nature. The question of importance is what is a distractive task? Distractive tasks can take one's attention off a particular task or thing. For example humming may provide an auditory distraction that interferes with hallucinations. This finding (subjects' reports of the use of a distraction to cope with auditory hallucination) is consistent with previous studies such as that of Hustig, Tran, Hafner, and Miller (1990) who found that listening to both relaxing and stimulating audio-tapes reduced the amount of distress caused by auditory hallucinations. This finding also is consistent with the study of Green (1989), who discovered that humming did reduce the amount of time subjects reported hallucinations.

Subjects' reports of the use of a distraction to cope with auditory hallucination also supports the finding of Green and Kinsbourne (1989) in terms of sub-vocalisation theory which says that humming might have successfully overridden the sub-vocal speech by engaging its output mechanism and hence reducing the hallucinations. It is therefore consistent with the report given by the subjects that says that humming, singing, listening to the radio, etc, help them to cope with auditory hallucinations.

Green and Preston (1980) used various methods to disrupt hallucinatory experience. One of the strategies was to make subjects say, "Stop" and ask them to name objects around them whenever they start hearing voices. And this was

effective. The act of saying, “stop” and naming objects around you can be compared to that of reading a novel which was reported by some subjects.

This finding is however inconsistent with the study of Chiu (1994), who used two behavioural techniques to treat a 34-year-old woman with schizophrenia. One of the techniques was the use of earplugs and the other technique a visuo-verbal activity (naming objects and reading). To them the earplugs were very effective while the visuo-verbal activity (naming objects and reading) was insignificant.

The finding of this study is also consistent with the findings of Erickson and Gusstafon (1968) which stated that humming and gargling could help patients control voices.

Those who respond to the voices as a ways of coping with their auditory hallucinations reported that they return insult for insult and blow for blow. Some of them also said that they respond when they hear their names being called. And when the voices commanded them, they never had peace until they had obeyed the instruction of the voices. This group of subjects are the ones seen talking to themselves and often engaged in other bizarre behaviours. They are often very dangerous to themselves and others and must be monitored closely so as to prevent them from hurting themselves and others.

Some of the subjects (1%) reported using medication to cope with their auditory

hallucinations. They claimed they rely on the medicines prescribed by their psychiatrists to help them cope with the auditory hallucinations. They hoped that one day their auditory hallucinations would all cease.

There was another group of subjects (1%) who reported that they used escape to cope with their auditory hallucinations. These subjects believed that the voices came from invisible entities in that particular place where they heard voices. These subjects therefore always ran away from the place where they began hearing voices. And to them, the voices ceased almost immediately. In other words, when they changed their place, they stopped hearing voices. This group always avoided the voices and never waited for the voices to finish what they were saying. This can be an inconvenient coping strategy. What if you are chairing a meeting and you start hearing voices, do you leave the meeting? It therefore has a lot of limitations and so cannot be used in many situations.

The hypothesis, *the coping strategies adopted by males and females will differ* was not confirmed. Using Chi Square, gender did not influence the type of coping strategies adopted to cope with auditory hallucinations, neither did it influence the level of coping of the subject or other ways subjects coped with auditory hallucinations. This finding is consistent with findings of Burley and Kim (1994) who examined relationships among gender, coping, and anticipated work-family conflict for 136 female and 120 male university students. Contrary to their expectation, coping strategies did not mediate the relationship between gender and

work-family conflict. This is not consistent with findings by Roberts and Gotlib (1988) who found out that females reported higher levels of depressive symptoms and neuroticism than did males, and were more likely to have a lifetime history of episodes of dysphoria, but males were more susceptible to the adverse effects of early childhood loss. Probably it is because this study is focusing on coping and not a study that is directly relative to that of Robert and Gotlib (1988). This finding is also not consistent with the findings of Bowling and Browne, 1991; Jagger, Clarke and Cook 1998; Nowlin, 1974; Stroebe and Stroebe, 1983; and Walker, 1987 who realised that gender also contributes to levels of personal disturbance and influences both subjective and objective health, disability, the likelihood of bereavement, and economic and social deprivation. They also found out that women have significantly higher levels of disability than men, especially in very old age and that women are significantly more economically and socially disadvantaged than men and also men are affected more severely by bereavement than women.

The next hypothesis was *'The young and old will differ in the strategies they adopt for coping with their auditory hallucinations.'* This was confirmed. The age of the subjects did affect the type of coping the subject has adopted to cope with auditory hallucinations. It also affected the degree of coping. This is not unusual because people from the same cohort groups tend to do things in similar ways than people from different cohort groups. The sample was divided into two groups; young and old people. It was discovered that the ways of coping reported

by the older subjects were different from that of the young ones. Using Chi Square test, the hypothesis was confirmed. The Contingency Coefficient was further used to find the degree of association between the variables. It was realised that the degree of association between age and type of coping was not a strong one ($C = 0.22$). Again, age and level of coping influenced each other using the Chi Square test. The Contingency Coefficient indicated a moderate relationship (0.319) between the variables age and level of coping. In conclusion, it can be said that there is an age difference in hallucinatory experiences.

The data collected did not support the hypothesis that, *there will be age differences about how people report the intensity of auditory hallucinations* [$\chi^2_{(4)} = 1.90$, p was not significant]. The age of the subject did not affect one's report about the power of auditory hallucinations. That is to say, whether one is 'young or old' did not influence one's report about the extent to which his or her auditory hallucinations controlled him or her. The fifth hypothesis was thus not confirmed.

The hypothesis, *the level of education of the subject will affect one's report about the intention of the voices heard* was also confirmed. Subjects' level of education affected their beliefs about auditory hallucinations [$\chi^2_{(3)} = 9.259$, $p < .05$]. A further analysis with the contingency coefficient indicated a moderate association between the variables ($C = 0.30$). For example, the level of education of the subjects' affected their report about the intention of the voices heard and their report about the power of the voices they hear. In other words the level of a

person's education determined whether a person would say the voice is powerful or not and also determine what the person's interpretation of the voices will be. This is not surprising since highly educated and the not so highly educated give different interpretations to the same thing. This is because one group (highly educated) is better informed than the other (not so highly educated). This led to the confirmation of the sixth hypothesis.

This hypothesis: *the extent to which voices are repetitive will influence subjects' affect* was not confirmed. Using the Chi Square, the repetitive nature of auditory hallucinations did not affect subjects' affect. This is surprising because normally, the more the voices repeated themselves, the more disturbed the subjects became and the more they interpreted the voices as powerful. Any stressful stimuli elicit more stress when it is "replayed" over and over again. For example, if you fear something like thunder, you will definitely panic anytime you hear it until you are desensitised. You may even have a nervous breakdown should you experience it more than you can bear. It is therefore surprising when the study found out that the repetitive nature of the voices did not affect one's affect. Probably they learn to be helpless.

'Beliefs about the intention of the voice will affect one's affective response to auditory hallucinations was the next hypothesis.' This was confirmed. The belief subjects had about their auditory hallucinations influenced their affective response to auditory hallucination [$\chi^2_{(1)} = 40.913, p < .01$]. The Contingency Coefficient (C

= 0.53) indicated a fairly strong association between the variables (beliefs about the intention of the voices and one's affective response). When one apprehends an event as dangerous, it causes him or her to tense up. When one perceives something as being dangerous it will definitely affects one's feelings about it. An event may not be dangerous, but if it is perceived as dangerous by someone, it affects his/her attitudes towards it, his/her feelings towards it and how he/she behaves towards it. No wonder the belief subjects had about their auditory hallucinations influenced their affective response. This was very significant and it confirmed the hypothesis.

The antecedent events to auditory hallucinations will determine one's affective response was the next hypothesis. This was not confirmed. The antecedent to auditory hallucinations and subject's affective response to auditory hallucinations did not influence each other. What happens just before one starts hearing voices was not enough to influence one's affect to the auditory hallucinations. This did not confirm this hypothesis.

5.1 SUMMARY AND CONCLUSIONS

When the data collected was analysed it was realised that auditory hallucinations occur spontaneously to most of the subjects and also there was no specific moment when they heard voices. Others said they start hearing voices when they are meditating/fasting/praying or engaged in some specific task. Some also reported that it is only when they are idle that they start hearing voices.

As to the time of day on which voices are heard, most subjects said that they heard voices regardless of the time of day. They hear voices anywhere in any place. Again, most subjects reported there was no particular antecedent to hearing voices.

Those who reported that auditory hallucinations were repetitive in nature were 55.5% of the sample. That is the voices keep repeating its content. For example,

"Scream, scream, scream."

One subject reported hearing voices over and over till she could not do anything but scream (that is obeying the voice's command). Thirty-five percent (35%) reported not having repetitive auditory hallucinations. The content of their auditory hallucinations changes every now and then. It can therefore be concluded that most people who experience auditory hallucinations experience it in a repetitive form.

Also, 67 of the sample attributed their auditory hallucinations to the supernatural and so use prayers to cope with their voices. This was influenced by their cultural and religious backgrounds.

The results also suggested that for this sample of patients they used several coping strategies and these were influenced by their cultural background. There was also no gender difference in the coping strategies adopted for coping with auditory hallucinations but age difference did occur.

To conclude, psychologists must consider the cultural background of a client before diagnosing and instituting an intervention programme for patients who suffer from auditory hallucinations. This is because if someone thinks his or her experience of auditory hallucinations is a consequence of a curse or a punishment, he/she might not comply with treatment. It is for the psychologists to explain to the person the following:

- . What auditory hallucinations are,
- . Their nature,
- . The causes and
- . Also, tell the patient how some people have been able to cope with their auditory hallucinations.

Psychologists can then move on to assist the patient to develop his or her own coping strategies. The psychologist can then do a follow up on how the patient's coping strategies are helping him or her. If they are not too effective, the psychologist can then help the person adopt new coping strategies.

Psychologists must also not be too surprised when patients attribute their auditory hallucinations to the supernatural world. Our culture and religion are what have moulded us to believe that the cause of any misfortune or sickness has its root in the supernatural.

5.2 LIMITATIONS OF THE STUDY

This study had some limitations. Since the subjects were schizophrenic and experiencing auditory hallucinations, any schizophrenic patient who did not report auditory hallucinations was exempted from the study.

Furthermore, because the questionnaire could not be translated into the local language due to limitations of time, the subjects who could participate had to have reached a certain minimum level of education.

5.3 RECOMMENDATIONS

To strengthen this methodology, next time an expert should translate the questionnaires into one or two of the local languages. And also, the number of subjects should be increased to about 500. The other mental hospitals in the country must be included in such a study so that it would be easier for one to generalise the findings of such a study.

It is not only schizophrenic patients who experience auditory hallucinations so next time all the other mental conditions which produce the experience of auditory hallucinations should be included in the study.

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APPENDIX

1. CONSENT FORM

FOR QUESTIONS ABOUT THIS STUDY, CONTACT: Evelyn Bentil c/o Psychology Department. Box 84, Legon, Email Lynnevebentil@hotmail.com.

DESCRIPTION OF THE STUDY: You are invited to participate in a research study that tries to understand the ways in which people cope with auditory hallucination.

RISKS AND BENEFITS: there are no risks associated with this study, nor should you expect any direct benefit from participation in this study.

TIME INVOLVEMENT: Your participation in this experiment will take approximately 30 minutes.

SUBJECT'S RIGHTS: If you have read this form and have decided to participate in this project, please understand your participation is voluntary and you have the right to withdraw your consent or discontinue participation at any time without penalty. You have the right to refuse to answer particular questions. Your individual privacy will be maintained in all published and written data resulting from the study.

If you have questions about your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact anonymously, if you wish - the Psychology Department, UNIVERSITY OF GHANA, LEGON.

I give consent to be part of in this research. Yes.....No.....

SIGNATURE.....DATE.....2000

2. SCREENING QUESTIONNAIRE

Name of Subject

No of Subject

Diagnosis

Can you write and speak English? Yes No

Do you hear voices (Auditory Hallucinations)? Yes..... No.....

3. GLOBAL ASSESSMENT OF FUNCTIONING (GAF) SCORING SHEET

Ask the patient the questions below and then record the answers on a plain sheet of paper with the patient's name on it. Then use these responses to help you assess the patient's level of functioning on the GAF.

1. How are you? Do you feel better or not?
2. What signs of illness are you still experiencing?
3. Are these signs severe, mild or they do not bother you?
4. In a day, what do you do at home?
5. Are you able to work at all and earn money to look after yourself? Or attend school and concentrate?
6. Are you meeting with friends?
7. Is everything OK at home with the relatives? Or are there numerous quarrels?
8. Do you have thoughts of killing yourself, or do you have any plans to do this?

GAF Score =

4 GLOBAL ASSESSMENT OF FUNCTIONING SCALE (GAF SCALE)

Consider psychological, social and occupational functioning on a hypothetical continuum of mental health/illness. Do not include impairment in functioning due to physical (or environmental) limitations.

Code

100 Superior functioning in a wide range of activities, life's problems never seem to get out of hand, is sought out by others because of his

91 many positive qualities. No symptoms.

90 Absent or minimal symptoms (e.g. mild anxiety before an exam), good functioning in all areas, interested and involved in a wide range of activities, socially effective, generally satisfied with life, no more than everyday problems or concerns (e.g., an occasional argument with

81 family members).

80 If symptoms are present, they are transient and expectable reactions to psychosocial stressors (e.g. difficulty concentrating after family argument); no more than slight impairment in social, occupational, or

71 school functioning (e.g., temporarily falling in schoolwork).

70 Some mild symptoms (e.g., depressed mood and mild insomnia) OR some difficulty in social, occupational, or school functioning (e.g., occasional truancy, or theft within the household), but generally

61 functioning pretty well, has some meaningful interpersonal relationships.

60 Moderate symptoms (e.g., flat affect and circumstantial speech, occasional panic attacks) OR moderate difficulty in social, occupational,

51 or school functioning (e.g. no friends, unable to keep a job).

50 Serious symptoms (e.g., suicidal ideation, severe obsessional rituals, frequent shoplifting) OR moderate difficulty in social, occupational or

41 school functioning (e.g., no friends unable to keep a job).

40 Some impairment in reality testing or communication (e.g., speech is at times illogical, obscure, or irrelevant) OR major impairment in several areas, such as work or school, family relations, judgement, thinking, or mood (e.g., depressed man avoids friends, neglects family, and is unable to work; child frequently beats up younger children, is defiant at

31 home, and is failing at school).

30 Behaviour is considerably influenced by delusions or hallucinations OR serious impairment in communication or judgement (e.g., sometimes incoherent, acts grossly inappropriately, suicidal preoccupation) OR inability to function in almost 21 all areas (e.g., stays in bed all day; no

21 job, home, or friends).

- 20 Some dangers of hurting self or others (e.g. suicide attempts without clear expectation of death, frequently violent, manic excitement) OR occasionally fails to maintain minimal personal hygiene (e.g., smears faeces) OR gross impairment in communication (e.g., largely incoherent
- 11 or mute).
- 10 Persistent danger of severely hurting self or others (e.g., recurrent violence) or persistent inability to maintain minimal personal hygiene
- 1 or serious suicidal with clear expectation of death.
- 0 Inadequate information.

5. WAYS OF COPING CHECKLIST (FOLKMAN AND LAZARUS 1988)

When we experience stress in our lives, we usually try to manage it by trying out different ways of thinking or behaviour. These can be called ways of "coping". Sometimes our attempts are successful in helping us solve a problem or feel better and other times they are not. The next set of items is on the ways of coping you may have used in trying to manage the stress of auditory hallucination. Please read each item below and indicate how often you have tried this in the past few weeks in attempting to cope with auditory hallucination. It is important that you answer every item as best you can. Please answer them as genuinely as possible.

Q. How stressful has Auditory hallucination been for you in the past few weeks?

1. Extremely stressful
2. Stressful
3. Somewhat stressful
4. Slightly stressful
5. Not stressful

HOW OFTEN DO YOU DO ANY OF THESE WHEN YOU EXPERIENCE AUDITORY HALLUCINATION?

1. I talk to someone who could do something concrete about the situation. (State whom e.g. pastor friend relative e.t.c.).....

Does not Apply/never	rarely	sometimes	often	very often
0	1	2	3	4

2. I hope a miracle would happen.

Does not Apply/never	rarely	sometimes	often	very often
0	1	2	3	4

3. I just concentrate on what I have to do next, the next step.

Does not Apply/never	rarely	sometimes	often	very often
0	1	2	3	4

4. I try to analyse the situation in order to understand it better.

Does not Apply/never	rarely	sometimes	often	very often
0	1	2	3	4

5. I try to maintain a positive attitude about the problem.

Does not Apply/never	rarely	sometimes	often	very often
0	1	2	3	4

6. I try to keep my feelings about the problem to myself

Does not Apply/never	rarely	sometimes	often	very often
0	1	2	3	4

7. I believe I will change or grow as a person in a good way in the end

Does not Apply/never	rarely	sometimes	often	very often
0	1	2	3	4

8. I make a plan of action and try to follow it

Does not Apply/never	rarely	sometimes	often	very often
0	1	2	3	4

9. I realised I brought the problem on myself

Does not Apply/never	rarely	sometimes	often	very often
0	1	2	3	4

10. I prepare myself for the worst

Does not Apply/never	rarely	sometimes	often	very often
0	1	2	3	4

11. I daydream or imagine a better time or place than the one I was in.

Does not Apply/never	rarely	sometimes	often	very often
0	1	2	3	4

12. I ask a relative or friend I respect for advice. Please state who.....

Does not Apply/never	rarely	sometimes	often	very often
0	1	2	3	4

13. I try to make myself feel better by overeating, drinking smoking or using drugs or medication. Please tick one.

Does not Apply/never	rarely	sometimes	often	very often
0	1	2	3	4

14. What other ways do you cope with auditory hallucinations?

.....

.....

.....

.....

.....

6. THE COGNITIVE ASSESSMENT QUESTIONNAIRE

This questionnaire is aimed at collecting data on patient's beliefs about auditory hallucination and the main content of the voices.

1. No of subject.....
2. Gender
3. Age
4. Level of education.....
5. Religion.....
6. Occupation.....

7. PATIENT'S DESCRIPTION OF VOICES

- i. How many different voices do you hear?.....
- ii. How frequent is it?.....
- iii. Is the voice you hear that of a man or a woman or both?.....
- iv. Is the voice a familiar one or not?
- v. Are the voices you hear repetitive?
- vi. What is the content of the voices you hear?
-
-

8 PATIENT'S BELIEF ABOUT THE PURPOSE OF THE VOICE

- i. What is the intention of the voice you hear? Does it want to do you good or harm.....
- Please explain

.....

.....

ii. Why do you think you hear voices?

- a. It is a punishment.
- b. It is a curse.
- c. God is speaking to me.
- d. It is part of the sickness I am suffering.

iii Is the voice you hear powerful?

9 ANTECEDENTS TO HEARING VOICES

i. When do you hear voices?.....

.....

ii. What time of day do you hear voices?.....

iii. Do you hear voices when you are in the company of others?.....

iv. Do you hear voices when alone? Yes/No.....

v. Where do you normally hear voices?.....

.....

vi. What happens just before you hear voices?.....

.....

.....

10 AFFECTIVE RESPONSE

Please describe how you feel on hearing the voices

.....

.....

TABLE A1

LEVEL OF EDUCATION

EDUCATIONAL LEVEL	FREQUENCY	PERCENTAGE
Junior Secondary	24	12
Middle School	85	42.5
Senior Secondary, O' level, A' level	50	25
Vocational school	15	7.5
Tertiary	18	9
Post Secondary	8	4
Total	200	100

TABLE A2

OCCUPATION

OCCUPATION	FREQUENCY	PERCENTAGE
Self-employed	77	38.5%
Unemployed	45	22.5%
Student	25	12.5%
Others	12	6.0%
G E S	9	4.5%
Typist/Clerk	9	4.5%
Financial institutions	6	3.0%
Entertainment centre	6	3.0%
Soldier/security service	4	2%
Health care centres	3	1.5%
Journalist	2	1.0%
Communication/business centers	2	1.0%
Total	200	100%

TABLE A3

RELIGION

RELIGION	FREQUENCY	PERCENTAGE
Christians	89	44.5%
Moslem	89	44.5%
Others	22	11%
Total	200	100%

TABLE A4**GENDER AND TYPE OF COPING**

Gender	Type of coping			
	Emotion-focused	Problem-centred	Both	Total
Males	81	14	5	100
Females	83	13	4	100
Total	164	27	9	200

TABLE A5**GENDER AND LEVEL OF COPING**

GENDER	LEVEL OF COPING			
	Low Coping	High Coping	Medium Coping	Total
Males	41	7	52	100
Females	53	6	41	100
Total	94	13	93	200

TABLE A6**GENDER AND OTHER WAYS OF COPING WITH VOICES**

GENDER	OTHER WAYS OF COPING WITH VOICES			
	Pray	Nothing	Obey	Distraction
Males	27	33	17	23
Females	40	26	19	15
Total	67	59	26	38

TABLE A7**AGE AND TYPE OF COPING**

AGE	TYPE OF COPING			
	Emotion-focused	Problem-centred	Both	Total
Old	43	14	5	62
Young	115	17	6	138
Total	158	31	11	200

TABLE A8**AGE AND LEVEL OF COPING**

AGE	LEVEL OF COPING			
	Low Coping	High Coping	Medium Coping	Total
Old	34	0	28	62
Young	46	9	83	138
Total	80	9	111	200

TABLE A9**AGE AND OTHER WAYS OF COPING**

AGE	OTHER WAYS OF COPING WITH VOICES				
	Pray	Nothing	Obey	Distraction	Total
OLD	20	18	13	11	62
YOUNG	47	41	23	27	138
TOTAL	67	59	36	38	200

TABLE A10**AGE AND POWERFUL NATURE OF VOICE**

AGE	POWERFUL NATURE OF VOICES		
	NOT POWERFUL	POWERFUL	TOTAL
OLD	26	36	62
YOUNG	44	94	138
TOTAL	70	130	200

TABLE A11**INTENTION OF VOICES AND LEVEL OF EDUCATION**

Intention Of The Voices Heard	Level Of Education			
	J.S.S/Middle school	S.S.S.	Vocational School/Post Sec. School	Tertiary schools
Good	60	22	4	7
Bad	56	23	19	9
Total	116	45	59	13

TABLE A12**REPETITIVE NATURE OF VOICES AND AFFECTIVE RESPONSE OF SUBJECTS**

REPETITIVE NATURE OF VOICES	AFFECTIVE RESPONSE OF SUBJECTS TO THEIR VOICES		
	SAD	HAPPY	TOTAL
REPETITIVE	83	54	137
NOT REPETITIVE	37	26	63
TOTAL	120	80	200

TABLE A13**AFFECTIVE RESPONSE AND INTENTION OF VOICES**

AFFECTIVE RESPONSE	INTENTION OF VOICE		
	Good	Bad	Total
Sad	43	84	127
Happy	59	14	73
Total	102	98	200

TABLE A14**AFFECTIVE RESPONSE AND ANTECEDENT EVENTS**

AFFECTIVE RESPONSE	ANTECEDENT EVENTS				
	Random	Engaged in task	Idle	Pray	Total
Sad	94	13	20	3	130
Happy	50	6	8	6	70
Total	144	19	28	9	200