

STRESS INOCULATION TRAINING  
WITH SCHIZOPHRENIC BOARDING HOME RESIDENTS:  
A PILOT STUDY

by

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## ABSTRACT

The purpose of this study was to investigate the feasibility of using Stress Inoculation Training to teach schizophrenic persons to handle more effectively their daily stress. The 16 male and 14 female, voluntary subjects, were residents of psychiatric boarding homes from 3 catchment areas in the lower mainland region of British Columbia.

Subjects were assigned randomly to either treatment or discussion/placebo control groups. The treatment group participants were taught how to change hopeless, helpless self-statements to positive, constructive statements, as a strategy for handling stress effectively. The discussion/placebo participants discussed their experiences of stress and received no overt instruction in stress management. Dependent measures included two self-report measures, Spielberger's State-trait Anxiety inventory and Schwartz's Cognitive Somatic Anxiety Inventory, and a staff evaluation questionnaire developed specifically for this study.

Multivariate analysis of variance indicated the level of trait-anxiety for the participants of both groups changed significantly from pretreatment to posttreatment. No other significant changes and no differential effects were observed. The staff questionnaire indicated no observable

change in the daily functioning level of either group participants, even though positive changes had been reported earlier by staff and participants alike. This contradiction may be due to the insensitivity of the staff observation measure used and/or possible treatment delivery confounds.

In future field testing it is recommended that greater attention be applied to treatment fidelity through the use of scripts, observers and/or audio/video tapes. Further that in future placebo groups be activity oriented and that waiting list control groups be included. In conclusion it is recommended that the duration of the treatment be expanded, a fading component be added for the gradual and systematic removal of the treatment and that a follow-up period be initiated.

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## CHAPTER ONE

## INTRODUCTION

Persons diagnosed as schizophrenic are often caught in what has been called the revolving door syndrome. This syndrome refers to what occurs following their first admission and discharge from hospital. They face ongoing and repeated admissions to and discharges from the same or similar mental health institutions (Stull, Bradham, Roark, Karb & Seidenschnur, 1984, p. 1055).

Unfortunately this condition exists inspite the fact that within the last 25 years there has Zeen tremendous headway made via "the assiduous and artful use" (Jefferies, 1977, p. 199) of the phenothiazine, or antipsychotic, medications to keep "psychotic symptomatology under control" (Van Hassel, Bloom, & Gonzalez, 1982, p. 280). That these medications have been "able to induce a substantial remission in almost all patients" (Jefferies, 1977, p. 199) is clear, but it has not followed that the remission of psychotic symptomatology has also alleviated the difficulties which the schizophrenic experiences "in managing his or her life" (Van Hassel, et al., 1982, p. 280) outside the institution.

## The Problem

Jefferies (1977) claim of a substantial remission in psychotic symptomatology gives rise to the question: "If schizophrenics are in fact no longer psychotic why are they not well"? (Jefferies, 1977, p. 199). It may be that the answer to this question does not lie solely in the establishment of the etiology of schizophrenia but rather, in the exploration of treatment programs that are designed to enhance the daily functioning of schizophrenic patients.

One dimension in the examination of treatment programs may be in what research has shown to be three predisposing factors relating to schizophrenia. These factors include: "(a) the preschizophrenic high anxiety level, (b) hypersensitivity to anxiety-arousing stimuli, and (c) slow rate of recovery from anxiety" (Serban, 1975, p. 397). Given these predisposing factors, it is not surprising that Serban, (1975) and others, have found that chronic schizophrenic patients experience higher levels of stress in dealing with life events than do acute patients or normal subjects (Serban, 1975). In fact, stress as both a precipitating and an on going factor in schizophrenic symptomatology is widely recognized in the literature. (Schless, Reichman, Mendels & DiGiamon, 1977; Schofield & Balaan, 1959; Schwartz & Meyers, 1977; Serban & Woloshin, 1974; Serban, 1975; TARRIER, Vaughn,

Lader & Leff, 1979). Today schizophrenia is seen by many people not as a "discrete pathological entity but, rather, the end result of a continuum of causality that begins in early life and reveals itself as schizophrenic illness when a certain threshold of accumulated stresses have been crossed" (Seeman 1982, p. 109). These findings lend support to Van Hassel et al's (1982) observation that ineffective stress management may offer a central explanation for many symptoms of schizophrenia.

#### Rationale

Given Serban's observation, it is surprising that there have been so few attempts on the part of researchers to initiate stress management training procedures for schizophrenics, even though the need for such training has been recognized. Reasons for the lack of this type of research appear to be related to two factors -- the nature of the disorder itself and the attitude commonly held toward schizophrenics.

First, "Psychological research on schizophrenia has consistently shown this disorder to be a disturbance of cognitive processes such as attention, discrimination, information processing and information retrieval" (Adams, Malatesta, Brantley & Turkat, 1981, p. 460). It is possible that the nature of this disorder alone has disqualified the

schizophrenic, in the mind of many researchers and practitioners, from any stress management training. Yet, given the fact that "the interrelationship between thoughts, feelings, and actions are now receiving deserved attention" (Novaco, 1980, p. 135) with normals, one is forced to ask why these have not been considered important treatment variables with schizophrenics?

The second reason, appears to relate to the pervasive but rarely acknowledged attitude toward schizophrenic individuals. Watson (1972) summarizes this attitude in the following statement.

Traditionally, the schizophrenic has been viewed as an extremely ineffectual and helpless individual--a passive victim of his environment, unable to perform maturely in interpersonal situations or effectively influence his future. Moreover, he is viewed as an irrational, illogical man whose intrapsychic disturbances preclude efficient use of his mental faculties. (p. 452)

It may not matter whether or not these factors are accepted widely as the deterrents to the development of stress management procedures with schizophrenics. What does matter is that there has been a lack of effort to isolate a stress management training procedure that could be applied to schizophrenics, which (given the success of such training

with normals) could enable them to be better able to handle their daily stress.

In an attempt to address this deficit a pilot study was conducted to examine the effectiveness of one stress management procedure, Stress Inoculation Training (SIT) with a group of schizophrenic boarding home residents. The procedure incorporated in this pilot study was Stress Inoculation Training (SIT) as developed by Meichenbaum & Cameron (1973, as cited in Novaco, 1980, p. 156). The main emphasis of SIT is the alteration of cognitive self-talk patterns so that they are more self-supportive and less stress inducing. The aim of this work is to explore the degree to which a cognitive approach to stress management is feasible with schizophrenics.

### Overview

Chapter I of this thesis provides an overview of the problem addressed in this study and the need for investigation. Chapter 2 reviews the relevant literature, sets the parameters of the research, provides the definitions, and is presented in four sections: the etiology and characteristics of schizophrenia; concepts relating to stress; stress management treatments applied to schizophrenia; and an elaboration of Stress Inoculation Training procedure. Chapter 3 presents the methodology,



Chapter 4 the results and Chapter 5 a discussion of the findings, conclusions, and implications of this study.

## CHAPTER II

## REVIEW OF RELATED LITERATURE

The major sections in this chapter include a discussion and a definition of schizophrenia, the etiological models of schizophrenia, and stress. A review of stress management treatments in relationship to schizophrenics will be offered along with the presentation of Stress Inoculation Training, a procedure which has demonstrated success with a wide variety of populations. Finally the hypotheses will be presented.

Schizophrenia

Schizophrenia is a relatively common and severe illness (Jefferies, 1977, p. 199). Problems associated with case definition and identification of date of onset of the illness make estimating the true incidence of schizophrenia in a population difficult to obtain. (Cancro, 1985, p. 644) "Historically, about 1 percent of the population was diagnosed schizophrenic" (Cancro, 1985, p. 631). Further, international studies have shown that a similar incidence of schizophrenia occurs in different countries today. (Arana, 1978, p. 128). For example, "life time prevalence rates of schizophrenia have been found to range from 1.9 to 9.6 per 1,000 in European studies and from 2.1 to 3.8 per 1,000 in Asian studies. Also, rates of 1.1 and 1.9 per 1,000 were obtained in two North American studies" (Cancro, 1985, p.

647). Chronic schizophrenia results in grave social difficulties in spheres of accommodation, employment, and social contact. Schizophrenia in its acute form presents problems of medical management and treatment which are most effectively solved by admitting the patient to hospital (Spielberger & Sarason, 1975, p. 4). Schizophrenia cannot be described explicitly in the same way that other disorders such as rheumatoid arthritis or manic-depressive illness can be defined (Meltzer & Liberman, 1982, p. 435). Schizophrenics are not a distinct, well-established, and easily recognizable nosographic group (Arana, 1978, p. 124). The Diagnostic and Statistical Manual of Mental Disorders (1983) defines schizophrenia as a group of disorders all of which share "the presence of certain psychotic features during the active phase of illness, [and] characteristic symptoms involving multiple psychological processes." (p. 183). Basically the disorder involves the occurrence of hallucinations, thought disorders, and delusions all or any of which occur in a state of wakeful consciousness (Romano, 1978, p. 1). In addition it has been observed that schizophrenic patients may suffer also from depression (Jefferies, 1977; Serban & Gedyński, 1979). In short, schizophrenia is a psychotic disorder with severe premorbid trait deficits and a progressively downhill course

characterized by varying degrees of persistent psychotic symptoms, impoverished social and vocational attainment, and a progressive waning of emotional breath and initiative. Given all these factors it is easy to see how this disorder remains the most frequent and devastating of the psychoses (Arana, 1978, p. 124).

#### Historical overview

Schizophrenia is a relatively new term which has displaced the earlier one of dementia praecox. Eugen Bleuler (1911, cited in Lidz, 1968) is credited with coining the term schizophrenia. He thought this term emphasized more efficiently the splitting of the psychic functions (intellectual, affective, and cognitive) than did the earlier label of dementia praecox (Lidz, 1968, p. 43). Besides coining the term schizophrenia Bleuler (1911, cited in Lidz, 1968) favored the theory of a hereditary etiology for the disorder (Lidz, 1968, p. 43). His position followed that formulated by his predecessor Kraepelin (1896, cited in Lidz, 1968) who theorized that the disorder which Kraepelin called dementia praecox was a disease entity for which a specific structural pathology or causative agent would be found (Lidz, 1968, p. 43).

In contrast to these theories Meyer (1896-1937, cited in Lidz, 1968) considered schizophrenia to be a reaction type

that could be brought on by faulty habit patterns including habits of thinking and relating (Lidz, 1968, p. 43). A more recent theory and one which has stimulated considerable debate, although minimal research, has been put forward by R.D. Laing. Laing (1969, cited in Smith, Sarason & Sarason, 1978) theorized that schizophrenia is "a normal reaction to an abnormal situation [and that] it is not a disease but the product of deteriorated social relationships." (Smith, Sarason & Sarason, 1978, p. 487). In keeping with his position Laing sees the family unit as the most important factor in deteriorated social relationships. Another recent theory developed by Zubin & Spring (1977) suggests that particular predispositions combined with particular environmental factors can result in a vulnerability toward schizophrenic episodes. As can be appreciated there are numerous theories of schizophrenia. The most prevalent of the current etiological theories of schizophrenia are discussed in more detail below.

### Etiological Models

As has been suggested earlier there are numerous etiological theories and models pertaining to schizophrenia. However, it is possible to group contemporary theories into broad categories depending upon the specific focus of each. The broad categories are: (a) field theory models, focusing

on forces emanating from the organism's external environment - the ecological niche occupied by each individual; (b) behavioral/psychological models focusing on the experience of the organism through development and learning; and (c) biological models, focusing on the organism's internal milieu: genes, bio-chemistry, and neurophysiology (Zubin & Spring, 1977, p. 105). Following the presentation of the themes associated with the traditional models a fourth model which embraces the components of the original three, will be presented. This fourth model is called Vulnerability/Stress model.

Field Theory Models. Field theory models view the health or illness of people as being dependent on the physical, social, cultural, educational, and economic parameters of the ecological niche occupied by any individual (Zubin & Spring, 1977, p. 105). One popular view of the etiology of severe personality disruption holds that the seeds of schizophrenia and other mental illnesses are to be found in the life experience of the individual (Schofield & Balaan, 1959, p. 216). From this perspective external factors impinging on a person are thought to have a bearing on the amount of pressure experienced by that person, and in turn, that these experiences correlate with the individual's state of well being.

This idea is widely accepted in both medical and lay communities alike, in that, physicians and patients frequently assume a causal connection between life events and subsequent episodes of psychiatric illness (Hudgens, Robins & Delong, 1970, p. 635). At a commonsense level, it is not surprising that an illness, which is to some extent manifested by maladaptive emotions, could be caused in part by emotion-producing events (Hudgens et al., 1970, p. 635). Research and theory supporting a correlation between the presence of external factors, and resulting episodes of schizophrenic disorders is extensive. (Laing & Esterson, 1964; Lehmann, 1975; Lidz, 1984; Spielberger & Sarason, 1975; Tarrrier, Vaughn, Lader & Leff, 1979). The study most frequently cited to illustrate that life events can have a formative role in a schizophrenic episode is that of Brown & Birley (1968). Using retrospective interviews with hospitalized patients and their families Brown and Birley (1968) found that 46 percent of the patients had experienced at least one independent stress inducing life event in the 3-week period before symptom onset compared to only 14 percent of the normal subjects involved in the study during the same time period. Birley and Brown (1970) repeated this study and found an even higher percentage (60%) of the patients having experienced at least one life event which on

common sense grounds could be considered potentially stress producing. Likewise in this second study they found that a mere 14% of normal subjects experienced such events in the same time period.

Following a similar approach, Serban & Woloshin (1974) found that schizophrenics experience more stress producing events in their youth, adolescence, and adult years than do normals. They based these findings on the analysis of data collected from 516 chronic schizophrenics, 125 acute schizophrenics, and 95 normal subjects. The categories examined in their study included the following: (1) trouble getting along with parents, (2) difficulty relating to opposite sex, (3) sexual problems, (4) difficulty getting through school, (5) difficulty getting or holding a job, (6) difficulty making friends (feeling lonely), (7) difficulty relating to people in general, (8) getting in trouble with authorities, (9) dislike of or change in personality, (10) problem-drinking or drug abuse, (11) major physical problems, and (12) death of someone very close parent, sibling, lover, spouse, friend (p. 509). Further support comes from the results of an extensive review of research conducted by Lukoff, Snyder, Ventura & Neuchterlein (1984) relating to similar life events, subsequent stress, and the occurrence of schizophrenic episodes. As a result of their review they



concluded that "schizophrenic patients seem to be highly stress-prone." (p. 284)

Another position which acknowledges the importance of external factors, is that put forward by Schofield and Balaan (1959). Following a comparison of the personal life histories of 178 hospitalized schizophrenics and 150 normals these researchers suggested that "the patterning of life experience may be more crucial than [the] occurrence or absence of specific psychic stresses." (p. 225). In short, they suggest that it is not an abundance of demanding life experiences or the sensitivity toward such events which triggers schizophrenic episodes, but rather, the order or sequence in which the events occur.

Even though there is considerable evidence supporting the notion that the quantity of external factors play a decisive role in the occurrence of schizophrenia, there also exists research suggesting that this is not the case. For example, after comparing the results and findings of five separate studies, Rabkin (1980) concluded schizophrenics reported no more life events than did other groups of subjects. These findings led her to suggest that those persons who become schizophrenic may be exceptionally sensitive to life events and that "psychotic episodes may follow situations not ordinarily regarded as objectively

stressful or hazardous." (p. 411). Other researchers who suggest that stress is not related to the occurrence of schizophrenia are Hoffer & Osmond (1966). These researchers claim that the occurrence of schizophrenia "through good times or bad strongly suggests that stress has no relation to schizophrenia" (p. 13).

To summarize, from the perspective of field theory schizophrenia can result from various factors, namely: an excessive quantity of stressful life events; a condition of increased sensitivity to life events; or the order in which life events have occurred. Research stemming from field theory models has produced substantial evidence indicating that external events do correlate with the occurrence of schizophrenia. However, field theory models insufficiently illuminate the chief causal agents in the onset of schizophrenia.

#### Behavioral/psychological models.

Behavioral/psychological models typically focus on development or learning for an explanation of how schizophrenia develops (Zubin & Spring, 1977, p. 105), as well as encompassing phenomenological/existentialistic theories which are more common in Europe and Japan than in North America (Arieti, 1974, pp. 695-696). Like the field theory models, these models also pay close attention to

external factors which affect schizophrenia. However behavioral/psychological models also address endogenous factors that are thought to affect an individual's progression through maturational phases and hence contribute either to buffering illness, or fostering the development of a propensity to become ill (Zubin & Spring, 1977, p. 105/6). In short, these models pay attention to patterns of interaction that prevent, elicit, or sustain psychopathological behaviour (Zubin & Spring, 1977, p. 106). These patterns can include early traumatic experiences, both within the family setting or in the outer world (Coleman, 1976, p. 321). Such trauma may be the loss of a parent at an early age or other various forms of deprivation. Poor or inappropriate adolescent peer interactions have also been identified as precursors to schizophrenia (Lidz, 1968; Seeman, 1982; Serban & Woloshin, 1974, p. 508). For example, Watt & Lubensky (1976) found that preschizophrenic boys were abrasive and antisocial, whereas preschizophrenic girls were introverted and socially insecure (pp. 363-375). Other patterns of interaction which have been examined include specific diseases, perinatal complications and family experiences (Zubin & Spring, 1977, p. 109). As well as affecting developmental progress, such experiences have been assumed to be linked with the learning of faulty

communication patterns, with inauthentic and defective roles, and ultimately with the development of schizophrenia (Arana, 1978, p. 126). From the vantage of a phenomenological/existentialistic orientation Minkowski (1953, cited in Arieti, 1974, p. 696) stated that the crucial point of the schizophrenic syndrome is the loss of vital contact with reality. He suggested that the contact can be reestablished as a result of therapy, however he did not give instructions as to how this could be brought about (Arieti, 1974, p. 696).

Behavioral/psychological models also pay particular attention to factors such as family dynamics and communication patterns. The notion that disordered family relationships play a significant role in the subsequent development of schizophrenia is not new (Goldstein, Rodnick, Jones, McPherson & West, 1978, p. 487). In fact, the Greek physician Hippocrates too, believed in the importance of environment, and not infrequently removed his patients from their families (Coleman, 1976, p. 28). More currently the family came under close scrutiny during the 1950's out of an attempt to understand schizophrenia, (Laing, 1964; McFarlane, 1983, p. 1).

Two particular factors relating to family dynamics have received considerable attention, namely the interactions

between parents of schizophrenic children and the children themselves, and communication abnormalities and speech patterns in such interactions (Arana, 1978, p. 126). For example the dominant, overprotective, and hostile behavior demonstrated by the mothers of schizophrenic children has been thought to be particularly debilitating influences on the maturational processes including developmental and learning processes of the children involved (Arana, 1978, p. 126). Although such characteristics have frequently been identified in association with mothers of schizophrenic children, such behaviors are not always present. In fact, McFarlane (1983) has offered that this behavior on the part of a mother, when present, may be the result of the child's disorder as opposed to the cause of the disorder. For example McFarlane suggests that when mothers are seen to be dominant and overprotective toward their offspring it is because of their desire to protect rather than manipulate the children, and that the hostility is as a result of frustration in not being able effectively to help the children. Conversely Laing (1964) suggests that schizophrenia is not an illness but a label for a certain kind of problematic behavior. Laing suggests that behavior labelled schizophrenic is a strategy developed by a person who is forced to live in an unlivable situation (p.186). In

short, it is not at all clear which came first: the maladaptive maternal behavior resulting in a disordered child, or the schizophrenic child resulting in maladaptive maternal behavior.

Other theories relate to excessive parental disharmony between the parents of schizophrenic children compared to the parents of normal children; to binding behavior in the form of overprotection, or to expelling behavior on the part of parents toward their children. These can be equally dangerous and can be factors in children becoming schizophrenic (Arana, 1978, p. 127). In short, the behavioral/psychological theories have placed considerable emphasis on family dynamics.

By placing emphasis on communication styles Singer, Wynne & Toohey (1978) found that disordered styles of communication are a distinguishing feature of families with young schizophrenics (p. 499). Parental communication disorders include subtle and damaging communication patterns involving contradicting or undermining the child's statements and conclusions, so that he or she is left confused and devalued as a person (Coleman, 1976, p. 162). These maladaptive styles of communication have a debilitating effect on both the development and learning stages experienced by those persons who are later called

schizophrenic.

Another aspect of maladaptive communication which has received considerable attention is called expressed emotion (Tarrrier & Barrowclough, 1984). High expressed emotion communication patterns refer to parents who are overinvolved and intrusive, and who constantly attempt to monitor and protect children from themselves or their environment; or who are frustrated, angry, rejecting, and withdrawn from both the children and the systems that treat the children (Anderson, 1983, p. 101). Most specifically the importance of high expressed emotion in the homes of schizophrenic individuals has been shown to be particularly important in relapse patterns. For example, Tarrrier, et al., (1979) found in their study that when patients were categorized as coming either from a high expressed emotion or low expressed emotion home, more high expressed emotion patients relapsed (58%) than did low expressed emotion patients (16%) over a nine month period (p. 311). Findings such as these have led to the suggestion that high expressed emotion or other forms of "parental communication disorder may be a necessary but not sufficient condition for the development of both serious coping problems in mid-adolescence and also of subsequent schizophrenia spectrum disorders in adulthood." (Goldstein, et. al., 1978, p. 497).

At a logical level it is relatively easy to accept the theory that disordered family dynamics and/or disordered communication patterns may be causal factors in the subsequent occurrence of schizophrenia. Yet, this is not always the case. For example, Kringlen (1978) studied 121 offspring of 45 couples each of whom had been hospitalized and discharged with a diagnosis of functional psychosis as classified in Scandinavia: schizophrenia, reactive psychosis, and manic/depressive illness (p. 10). He found that more than 70% of the offspring of the 45 couples involved did not develop schizophrenia (p. 23). These findings are interesting in that poor housing conditions, miserable economy, and a chaotic homelife with "crazy" rearing practices often have befallen these children (p. 17).

In summary the behavioral/psychological models have shown: (a) that both endogenous and exogenous events may interfere with normal maturation, development and learning and (b) that unproductive/inappropriate/maladaptive family interactions and deviant communication styles may be contributing factors in the occurrence of schizophrenia. Nevertheless, behavioral/psychological models have not provided conclusive evidence of the causal factors involved in schizophrenia. Basically, even though family research studies have been plentiful, such studies have not



demonstrated a consistent causal relationship between the abnormality of interactions in the family and the development of schizophrenia (Arana, 1978, p. 126). Further, no causal patterns have been identified linking developmental stages or learning to schizophrenia, although, correlations do exist.

Biological Models. Biological models contend that health and illness are predicated on the genetic equipment a person is born with (e.g., physiological sensitivities to various stimuli). Biological models purport that the roots of human illness are to be sought in the metabolism, body fluids, and body chemistry in general (Spring & Zubin, 1977, p. 106). These models attempt to explain the phenomena of schizophrenia in the language of physiology, neurology, biochemistry, and genetics; and they are based on the premise that structure determines function (Coles, 1982, p. 170). Although primarily focused on biological functions, the experience of stress is also thought to be an important variable within biological perspectives. This recognition of stress has resulted in considerable effort being made in an attempt to isolate measures of physiological arousal. These measures of arousal have been generally confined to pulse rate, blood pressure, muscle tension, galvanic skin-resistance, and breathing rate (Levi, 1967, p. 70). The resulting reports of such measures in schizophrenia are

relatively consistent in spite of studies using either medicated or nonmedicated subjects. For example, heartrate is consistently higher in schizophrenics, and schizophrenics also differ from normal persons in exhibiting more spontaneous (nonspecific) skin conductance responses and slower habituation (TARRIER, et al., 1979, p. 315). The evidence points in the direction of higher tonic levels of those ANS indexes thought to reflect arousal under basal or resting conditions, diminished Autonomic Nervous System response to stress, and slow habituation of electrodermal orienting responses to stimulation in schizophrenics as compared with normal persons (Zahn, Carpenter Jr. & McGlashan, 1981, p. 251). In addition to higher tonic levels Bernstein, Taylor, Starkey, Juni, Lubowsky & Paley (1981) found a difference in "bilateral skin conductance, finger pulse volume, and EEG orienting response to tones of different intensities in chronic schizophrenics and normals." (pp.513-528). These consistencies have lead to the suggestion "that autonomic activity in schizophrenics is determined relatively more by endogenous factors than by external stimuli" (Zahn, et al., 1981, p. 251). Thinking such as this harkens back to Kraepelin's (1896) earlier idea that schizophrenia is a disease entity for which a specific structural pathology would be found, and the notion that

schizophrenia may be the result of an organic brain defect. However, this position has been refuted by some. For example, Richman (1957) argues that schizophrenia cannot be an organic brain defect since normal perceptual functions persist in most schizophrenics and memory is unaffected. Richman points out that language and thought functions may be badly affected when emotionally loaded subjects are being discussed, often in mundane discussions no disturbance is noted (p. 95). Therefore, the theory suggesting that schizophrenia is a disease involving a specific structural pathology is greatly weakened.

Research and investigation concerned with the chemical contents of the brain and the synthesis of such contents has been disappointing at times and dramatically effective at other times. A hypothesis put forward by Osmond and Smythies (1952, cited in Smythies, 1984) suggested that schizophrenia might result from the production in the brain of psychotomimetic methylated derivatives of catecholamines or indolealkylamines. However, years of intensive search have failed to provide evidence to support this theory (Smythies, 1984, p. 45).

Successes pertaining to the management of schizophrenia relate to the identification and isolation of antischizophrenic medications. These medications include the

phenothiazines and butyrophenothiazines, all of which share antischizophrenic action (Freedman, Kaplan, & Sadock, 1976, p. 61). The successes achieved through medication in controlling schizophrenic episodes provide an all but unassailable argument that some very critical part of the problem is biological (McFarlane, 1983, p. 6).

In spite of these successes, psychopharmacological intervention has not completely proven to be the answer because even with psychotic symptomatology under control via antipsychotic medication, schizophrenics still experience significant difficulty in managing various aspect of their lives (Van Hassel et al., 1982). Not only can individuals continue to experience considerable difficulty in their lives, they may remain schizophrenic in their ideation and feelings (Coleman, 1976, p. 328). In recognition of this, several investigators have reported that drug therapy actually appears detrimental for certain patients - particularly those who have evidenced a relatively good adjustment prior to an acute onset of symptoms (Coleman, 1976, p. 328). One possible explanation for medication appearing to be detrimental to persons who in theory should have a good prognosis, relates to the often physically numbing side effects of the medication. It is possible that if such individuals were prepared through an educational

process for the differences in their feeling states they would be better able to adjust than is currently the case.

Another perspective within the biological camp is one which suggests that some genetically transmitted factor plays an important role in the etiology of schizophrenia (Lidz, 1968, p. 46). The basis for such thinking stems from the high familial incidence of schizophrenia. In fact, early twin studies which reported high concordance rates for schizophrenia in identical twins (86%) than in same sexed fraternal twins or siblings (17%) fanned the fires of enthusiasm in the direction of genetic causation. Unfortunately, the findings of these early studies have not been replicated and as a result there has been considerable skepticism about genetic causal factors. Once again attention may be drawn to Kringlen's (1978) findings that more than 70% of the offspring of two schizophrenic parents do not develop schizophrenia despite a double risk genetically and environmentally (p. 23). To add to the disfavor of genetically based theories is the fact that none of the chromosomal abnormalities thus far observed have appeared to be directly related to schizophrenia or other psychoses (Coleman, 1976, p. 141).

In summary, the biological models have shown: (a) schizophrenics demonstrate consistently high measures of

physiological arousal; (b) schizophrenics do show some chemical imbalances; and (c) schizophrenia (or at least schizophrenic symptoms) can be controlled in many individuals through the use of antipsychotic medication.

It would seem that biological models have failed to show definite biological causal patterns in schizophrenia. Nevertheless the biological models have made progress in the management of schizophrenic symptoms via the identification and isolation of the antipsychotic medications. However the etiology and pathogenesis of schizophrenia are still unknown. Unfortunately, "even the mechanisms by which some pharmacologic agents ameliorate schizophrenic symptoms remain obscure." (Barchas, Elliott & Berger, 1978, p. 126).

Vulnerability/Stress Model. The Vulnerability/Stress model developed by Zubin & Spring (1977) incorporates the pooled wisdom of all the traditional models (Braden, 1984, p. 71). Within this model there is an acknowledgement of a transactional exchange between the areas focused on by the traditional etiological models of schizophrenia and the individual. The traditional factors are referred to as vulnerability factors by Zubin & Spring, (1977). Vulnerability is thought to include two major components, the inborn and the acquired. Inborn vulnerability is a reflection of an individual's genetic makeup, made manifest

through the internal environment and neurophysiological functioning of an individual. Acquired vulnerability is thought to be due to the influence of traumas, specific diseases, perinatal complication, family experiences, adolescent peer interactions, and other life events that either enhance or inhibit the development of a subsequent disorder (Zubin & Spring, 1977, p. 109). Within this model, stress is an individual's psychological and physiological response to situations that approach or exceed the person's perceived ability to cope with that situation. It is through cognitive appraisal that a situation is judged to be irrelevant, within the person's coping ability, or stress-inducing (Pollack, 1984, p. 1). Individual differences in perception of demands and coping ability, along with their vulnerability in demanding situations, account for the differences in individual responses to different situations.

The Zubin & Spring model proposes that each of us is endowed with a degree of vulnerability that under suitable circumstances will express itself in a schizophrenic episode (Zubin & Spring, 1977, p. 109). For example,

"An individual's vulnerability to any illness determines the ease and frequency with which suitable challenges to homeostasis will catapult him [or her] into disorder.

The highly vulnerable person is one for whom numerous contingencies encountered in daily living are sufficient to elicit an episode. Others have such a low degree of vulnerability that nothing short of a rare and probably catastrophic event would induce an episode and even then only a very brief one." (Zubin & Spring, 1977, p. 109).

It is apparent from the above statement that vulnerability to schizophrenia can be so high that the condition becomes a relatively permanent, enduring trait, where as, low vulnerability can result in episodes of schizophrenic disorder, which are waxing and waning states depending on the individually perceived severity of any given situation (Zubin & Spring, 1977, p. 109).

For example Steinberg & Durell (1968) showed how a stressful situation, such as induction into the US Armed Forces could, for some individuals, precipitate the occurrence of schizophrenic symptoms. They found that hospitalization rates were highest during the initial period of service, probably because the initial period produced the greatest demand for effective social adaptation and the accompanying psychological and emotional stress. Even though many of the recruits showed a predisposition for schizophrenia, the researchers thought it highly unlikely that such a large proportion of these people would have



become psychotic if they had not been inducted into the army (Steinberg & Durell, 1968, p. 1104).

A comparable piece of research was conducted by Wallis (1972), who examined the mental health of 512 Royal Navy personnel in Britain whom had served between the years 1947 & 1956, all of who had been diagnosed as schizophrenic during their service and had subsequently been discharged. It was found that following discharge and return to civilian life 121 of the servicemen experienced no recurrence of schizophrenic symptoms. These findings support Zubin & Springs' contention that schizophrenic episodes need not always result in enduring symptoms and underscore the notion that higher degrees of vulnerability coupled with increased stress can precipitate schizophrenic episodes.

Further support for the idea of vulnerability comes from the findings of Rabkin (1980). She suggested that schizophrenics seems to be exceptionally sensitive toward life events. Those persons who have worked extensively with schizophrenics know that these patients are very easily hurt by behavior that would hardly be noticed by a person of normal sensitivity and if noticed, certainly would not lead to traumatic experiences, such as frequently happens with schizophrenics (Lehmann, 1975, p. 891).

One strength of the Vulnerability/Stress model is that

individual differences in response to environmental or psychological stressors can be accounted for. This is done through the recognition that some individuals' perceptions of their abilities to cope are so low that many situations result in a stress reaction even though most people would consider the situation benign (Hiebert, 1984, p. 4). Another strength of this model relates to the emphasis on the complex interplay between the individual and the situation that determines onset, magnitude, duration, and quality of the stressful episode (Meichenbaum & Jaremko, 1983, p. 117). As a result, this model may resolve many of the problems inherent in the more traditional models of schizophrenia. However, because of the central role that stress plays in the Zubin & Spring model it becomes appropriate to examine the construct of stress more fully.

### Stress

Stress is a concept used to explain a number of human experiences, most of them negative (Meichenbaum, 1983, p. 13). Historically stress has been conceptualized in three ways: (a) as an environmental event, (b) as an individual response or (c) as a transaction between the environment and the person. (Hiebert, 1985; 1983; Meichenbaum, 1983)

### Environmental models

These models focus on conditions within the environment

or life events experienced (job changes, weather, change of residence, etc.) which are perceived to be inherently stress-inducing (Hiebert, 1985). The underlying assumption within these perspectives is that the environment is stressful in varying degrees. A list of environmentally based stress-inducing events can be found in Holmes & Raye's (1967) The Social Readjustment Rating Scale. The assumption on which this scale is based is that too many life-change units in a single year will lead to an individual becoming ill (Wetzel, 1984, p. 97). Although these measures do have a value in quantifying pressures and individual experiences, these measures can often be meaningless. The reason for this relates to the negation of individual differences in coping styles. "No allowance is made for the fact that different people respond in different ways to the same situation" (Hiebert, 1984, p.3). As the old adage says -- one man's meat is another man's poison -- and environmental models fail to recognize this truism.

#### Response models

Within response models, stress has been defined as the "non-specific response of the body to any demand" (Selye, 1974, p.14). Selye also suggested that over time this nonspecific response becomes a characteristic pattern of somatic, psychological, or physiological symptoms (Hiebert,

1985, p.3). Psychosomatic or idiosyncratic behaviours develop as a result of the continued responses.

The response models of stress have at least two major deficits. For example, stress from the response model perspective is equated with arousal. However, some situations such as achieving a goal, gaining recognition or even falling in love are all situations in which an individual is aroused but not necessarily stressed per se. As Selye (1974) has said, pleasant stress may be identified as eustress (p.128). The second deficit of the response models pertains to their failure to address individual differences in response to various situations. For example the idea of riding a roller coaster for some people is exciting, and for others terrifying. Many of the problems associated with response models and environmental models are resolved by transactional models.

#### Transactional models

These models offer a broad, integrative framework for the study of stress and have built on the work of Richard Lazarus and his colleagues (Meichenbaum & Jaremko, 1983, p. 117). Basically, transactional models integrate the environmental and response models of stress while recognizing the importance of psychological attitudes, and cognitive behavior in relationship to any experience. Stress from this

perspective is seen as neither an environmental stimulus, nor a response, but a balance between demands and the power to deal with them without unreasonable or destructive costs (Coyne & Lazarus, 1980, p. 145). In short the transactional models of stress are explicitly cognitive-phenomenological, emphasizing how the person appraises what is being experienced and uses this information in coping to shape the course of events (Coyne & Lazarus, 1980. p. 145). This position has resulted in the general acceptance of the idea that higher cortical functions, namely cognitions, play a major role in the inhibition or modification of the stress reaction (Jantz, Huffer & Freedenburg III, 1978, p. 438). And a growing body of research evidence indicates that cognitive events can mediate human action and that cognitive behaviors can be modified in the same manner as overt behavior (Meyers, Mercatoris & Serota, 1976, p. 480).

Inherent to the transactional perspective is the notion that stress is more dependent on mediating cognitive factors such as primary and secondary appraisal (Froelich, 1978, p. 104). For example a demanding situation arises with the primary appraisal that a situation requires an effective response to avoid or reduce physical or psychological harm; this is then followed by a secondary appraisal that no adequate response is available (Meichenbaum & Jaremko, 1983,

p. 117). In other words, a stressful situation occurs when individuals appraise a situation or event as threatening and beyond their ability to cope adequately. Conversely, if the demand decreases or if the coping attempts are perceived to be succeeding the person feels less stressed. Given this, there is then, an on going series of appraisals, responses, and situational transformations (Meichenbaum & Jaremko, 1983), all of which result in an altered perception of the situation faced by the individual.

A main strength of the transactional models is that they are able to account for individual differences in response to stressors be the stressors environmental or psychological. This is achieved through the recognition of differences in individual's perceptions of their abilities to cope in different situations. In short, these models emphasize a complex interplay between the individual and the situation that determines onset, magnitude, duration, and quality of the stressful episode (Meichenbaum & Jaremko, 1983). These models successfully resolve many of the problems inherent in environmental and response models of stress.

Factors such as changes in the environment, job changes, moves; or situations which demand that individuals react, such as being hit or loss of employment, all are potential stressors. The reader's attention is drawn to the failure to

distinguish between terms like "stress" and "stressor". This blending of terms has led at times to an equivocal usage of the concept of stress as referring to both an agent and a result (Novaco, 1980, p. 137). In the interest of clarity this dual usage must be guarded against. A stressor is an activator, whereas stress is the result of an activator.

Zubin and Spring (1977), have adopted a transactional definition of stress in their vulnerability/stress model of schizophrenia. They have defined stress as involving a discrepancy between the demands impinging upon a person - whether those demands be external or internal, whether challenges or goals - and the way the individual perceives his or her potential response to these demands (p. 110). This lays the foundation for the following definition of stress:

Definition. Within this thesis "stress is an individual's psychological and physiological response to a situation that approaches or exceeds the person's perceived ability to cope with that situation" (Hiebert, 1983; 1984).

#### Stress Management Programs

Although many approaches to stress management are advocated currently (Beck & Emery, 1985; Hiebert, 1983; Pelletier, 1977) one procedure that has received abundant support with a variety of client groups is Stress Inoculation

Training (Holroyd, Appel & Andrasik, 1983; Meichenbaum, 1985; Meichenbaum & Cameron, 1973).

The purpose of Stress Inoculation Training (SIT) is to enhance the development of individual competency in adapting to stressful events or situations in such a way as to reduce the experience of stress and to enhance a person's coping repertoires. The procedure works by exposing, or inoculating the client to manageable doses of a stressor that arouse, but do not overwhelm, his or her defenses in much the same way as does medical inoculation (Novaco, 1980, p. 147).

SIT was originally developed by Meichenbaum & Cameron (1972) for use in the treatment of phobic patients. Initially SIT referred to a relatively specific set of operations (Meichenbaum & Jaremko, 1983, p. 115). Today, SIT is a generic term referring to a group of operations which are modified depending on the population being treated (Meichenbaum & Jaremko, 1983, p. 116). Although the treatment operations are subject to modification, the overall framework remains constant. The treatment procedure no matter to which population it is applied will include first; an educational phase, second, a skills training and acquisition phase; followed by a skills application phase. The educational phase emphasizes a conceptual framework for stress; the skills acquisition phase emphasizes the learning



of specific techniques; and the last phase emphasizes the implementation of the new skills into real life situations.

### Educational Phase

During the educational phase the client is provided with a plausible conceptual framework for understanding the experience of stress. This framework is based on Schachter's (1964) model of emotion in which stress is seen as a cycle of physical arousal, automatic appraisal, and negative self-statements (Jaremko, 1979, p. 43). Therefore, in this phase the client is shown how a self-perpetrating cycle is formed in which physical symptoms are interpreted as anxiety, which in turn leads to self-depreciating self-statements, followed by further arousal (Jarmeko, 1979, p. 43). In short, the client is encouraged to view the experience of stress, not as an automatic fear response, but rather, as a series of stages over which it is possible to gain control. This awareness is accomplished through various means such as didactic teaching, Socratic discussion, cognitive restructuring, problem solving, and relaxation training, along with behavioral and imaginal rehearsal, self-monitoring, self-instruction, self-reinforcement, and efforts at environmental change (Meichenbaum, 1985, p. 39).

During this phase the client is explicitly made aware of the stages involved in a stress reaction. For example the

subjects' attentions are drawn to their physiological reactions and to their self-statements in each of the following stages: preparation for a stressor; confronting the stressor; being overwhelmed by the stressor; and self-reinforcement for having coped (Jaremko, 1979, p. 37). This compartmentalization of stress reactions has the effect of both normalizing the reaction and of providing the client with a new found sense of control over such reactions.

#### Skills Training Phase

In this phase the client is taught coping skills to deal with the stages of stress. This is done by collaborating with the client in identifying negative self-statements, assisting in the generation of positive coping statements in place of the old negative ones and by providing a forum for the rehearsal of the new positive self-statements.

The initial negative self-statements are recognized to a large degree through self-monitoring techniques. Self-monitoring assists the client in identifying low-intensity cues that signal the onset of a stressful transaction (Meichenbaum, 1983, p. 125). Such self-monitoring may be carried out via interview and imagery reconstruction, through the use of open-ended diaries, the recording of details pertaining to specific types of reactions, the rating of particular behaviors or through the

use of checklists (Meichenbaum, 1983, p. 125). Once the client becomes aware of a state of arousal he or she is then taught coping strategies in the form of altered self-statements. In some cases these skills have been augmented with such techniques as deep muscular relaxation and deep breathing in conjunction with the new coping self-statements (Jaremko, 1979, p. 38). Although physical relaxation and deep breathing have been frequently used in tandem with cognitive restructuring, it has been found such techniques offer nothing more than a practice area in which to demonstrate to the client that he or she can learn to cope with something (Jaremko, 1979, p. 39). Therefore such relaxation techniques are not seen to be a necessary part of the overall procedure. Whereas the cognitive restructuring strategies are deemed by most researchers to be the potent ingredient in SIT (Jaremko, 1979, p. 39).

In short, the components of the training phase involve self-awareness, followed by the cognitive restructuring of self-statements related to each of the stages of stress. Therefore, once the client becomes aware, through self-monitoring techniques, of his or her reaction patterns, such as physical arousal, and the related demeaning self-statements associated with any given state of arousal he or she can then be coached in the development of new and more

constructive self-statments. Not only is the client encouraged to develop new self-statements in relationship to preparing for, or facing a stressor, he or she is taught congratulatory self-statements for having coped with the stressor. Once the new self-statements have been established imagery-rehearsal is begun in conjunction with ongoing self-monitoring to assess if further modifications are necessary. At this stage rehearsal is intended to nurture the client's confidence in producing responses flexibly and appropriately in "real-world" situations (Meichenbaum, 1983, p. 139).

#### Application Phase

Once the client has developed the capacity to respond effectively in imagery situations, the next step is to apply these new coping skills in real life situations. There are two objectives in this phase of the training procedure. One is to have the client bring about his or her own changes in day-to-day situations, and the second is to maximize the probability of generalized, enduring change (Meichenbaum, 1983, p. 129). At this juncture a plan for follow through sessions can be arranged, with the aim to thin out sessions during a transitional period (Meichenbaum, 1983, p. 129). This is not a mandatory part of the overall procedure but nevertheless in ideal situations this stage would be

incorporated.

#### Research Support For SIT

Stress Inoculation Training (SIT) has been applied successfully to a wide range of problems and divergent population groups. The following examples will demonstrate some of the versatility of SIT. Examples of SIT being used as a treatment for physical pain management, emotional distress, anger control and other psychological conditions involving a variety of populations will be presented.

Wernick (1980) conducted a pain management treatment program using SIT with patients from the Burn Unit of the Medical University of South Carolina. A total of 16 subjects were assigned randomly to a Stress Inoculation (SI) or No Treatment (NT) group. Nine dependent measures were used to assess the potential efficacy of the treatment which involved seeing the SI subjects for 5 consecutive days, for 30 - 40 minute treatment sessions each of which followed the standard three phases common to SIT: education phase, skill acquisition, and application phases. Subjects in the NT group received the usual services provided to burn patients (e.g., psychiatric consultations and pain medication). The results showed that there were no pretest differences in either demographic composition or baseline levels on dependent measures between the SI and NT groups. However the

data did indicate that subjects in the SI group changed significantly on each measure from pretreatment to posttreatment. Significant differences were found on 5 of the nine dependent measures for the treatment group subjects. Further, these treatment effects for the ST group were maintained at follow-up, three days later. Although the follow-up period was very short, it is useful as burn patients are in constant pain; therefore the fact that the treatment effects were maintained for this period of time is noteworthy. As a result of this success Wernick (1980) concluded that SI demonstrated efficacy for the management of clinical pain with burn patients.

Rybstein-Blinchik (1979) examined the effects of cognitive strategies on chronic pain of a different sort. Involved in this study were 44 rehabilitation patients with a variety of diagnoses involving chronic pain (e.g., amputation, spinal cord injury, rheumatoid arthritis). Patients were assigned to one of four groups: (a) somatization - in which the subjects were encouraged to replace the term pain with a feeling and instructed to concentrate upon the sensation; (b) irrelevant cognitive strategy - subjects were instructed to replace thoughts accompanying their experience of pain with new thoughts pertaining to important events in their lives; (c) relevant

cognitive strategy - involved instruction in reinterpretation of the experience, a technique central to Stress Inoculation; (d) control - subjects shared their personal pain experiences. The results showed that the relevant cognitive strategy (SIT) group used significantly fewer and milder words to describe their pain and manifested fewer pain behaviors after treatment than did the three other groups. Additionally, this group's pain intensity ratings were significantly lower than those of the somatization and control groups.

Within an area of psychological distress SIT has been applied to rape victims. Veronen and Kilpatrick (1980), while involved with the Sexual Assault Research Project (SARP) in Charleston, South Carolina, developed a Stress Inoculation Training (SIT) package for presentation to victims whose rape was at least 3 months prior to treatment onset. By Oct. 1, 1980, more than 150 victims and 100 non-victims had participated in the on-going project. Although the final analysis is not available pre and posttreatment evaluation on the first 6 subjects completing the treatment program tend to suggest there exists a high rate of efficacy in using SIT as a treatment for rape victims. Examination of the mean symptom profiles of the six victims, at pre and posttreatment indicates that victims

improved on all scales. The largest improvements were observed on the phobic anxiety, hostility, and anxiety symptom scales.

Using the same treatment procedure and a subject from the same population, Veronen and Kilpatrick (1980) have reported a case study involving a subject who they have identified as A.D. A.D. had been raped by a black man who had forced entry into her house one night while her husband was at work, a year prior to treatment. Following the attack she became unable to remain alone at night, experienced considerable discomfort entering and leaving her house, was afraid of blackmen, and became physically ill on seeing a depiction of rape or physical violence against women on television or in the movies. The targeted areas for treatment were: (1) being alone at night; (2) being approached by blackmen; and, (3) observing someone being confined, restricted, or made helpless. SIT was conducted using a standard format: (1) Preparing for a stressor; (2) Confronting and handling a stressor; (3) Coping with feelings of being overwhelmed; and, (4) Reinforcing self-statements. Her pretreatment profile was characterized by an extremely high score on the phobic anxiety scale. After treatment, decreases were apparent on several scales, most notably Anxiety and Phobic Anxiety Scales. Examination of data



obtained three months after treatment revealed that the treatment effects were maintained and even improved in some cases. These findings lead Veronen and Kilpatrick (1983) to suggest that SIT with A.D. appears to have been highly successful. They also suggested, based on the subjects evaluation of the treatment and the varied changes in her behavior that SIT teaches general problem-solving and coping skills that can be used to deal with a variety of problems.

In doing research pertaining to chronic anger Novaco (1976) conducted a study, comparing cognitive and relaxation treatments with 34 male and female subjects ranging in age from 17 - 42, who were both self-identified and assessed as having anger problems. The experiment consisted of four treatment conditions: self-instruction combined with relaxation training, self-instruction alone, relaxation training alone, and an attention control condition. Analysis of variance and selected contrasts performed across anger measures and provocation conditions found that the combined treatment resulted in a striking improvement in the ability to regulate and manage anger. Self-instruction alone also showed a significant improvement over the control group. Although no follow-up data were made available Novaco (1976) interpreted the results as an endorsement for the continued development of cognitive self-control procedures for the

regulation of anger states.

In keeping with his enthusiasm, Novaco (1977) used SIT the following year with a 38 year old male who had been admitted to the psychiatric ward of a community hospital with a diagnosis of depressive neurosis, as well as having a history of anger control problems. Prior to treatment the subject would explode with a verbal barrage of epithets, curses, and castigation at work when a conflict arose and, at home was impulsively aggressive, frequently resorting to physical means and threats of force toward his 6 children. Treatment sessions were conducted three times a week for 3 1/2 weeks prior to discharge. Following discharge, follow-up sessions were conducted bi-weekly for a 2 month period. Pretreatment assessment of the patient's proneness to provocation by means of the anger inventory resulted in a total score of 301. At discharge, the inventory was readministered and a total score of 258 was obtained. This decrease of 43 points represented a decrease of one standard deviation based on accumulated results on chronic anger clients involved in previous reserach. At each subsequent evaluation the subject's coping abilities steadily improved as judged by observations of a clinical psychologist, 4 psychiatric nurses and self reports done by the subject. Among the most apparent and important behavioral changes

achieved was the reduction of impulsive aggression as a punitive response to disruptive behavior by the children. As a result of this and previous successes Novaco (1977) stated that Stress Inoculation Training has been shown to be effective with someone having a severe psychological disturbance.

A case study involving the treatment of anger and impulsivity in a brain damaged patient was carried out by Lira, Carne & Masri (1983). In this study the 22 year old male brain-damaged patient evidenced severe impairment in vocational and social spheres concomitant with low frustration tolerance and violent anger outburst and was treated with a Stress Inoculation Training program. Major gains were evidenced by reduction in anger outbursts during the 6 week hospitalization and significant improvement in overall functioning 5 months following discharge. These results led the researchers to suggest continued use of Stress Inoculation Training as an approach in working with the patients who demonstrate impulsivity, poor judgement, and emotional lability in social situations.

Cognitive therapy, another way of describing Stress Inoculation Training, has been successfully used as a treatment procedure for persons experiencing test anxiety. Holroyd (1976) conducted research using 48 test anxious

volunteers who were assigned randomly to one of two therapists, who provided (a) cognitive therapy, (b) systematic desensitization, (c) a combination of cognitive therapy and systematic desensitization, and (d) a pseudotherapy control procedure. Test anxiety was assessed both on self-report measures and in an analogue testing situation prior to treatment, at the completion of treatment, and at a 1-month follow-up. At the time of posttest the results showed the cognitive therapy group obtained lower State Anxiety scores than the systematic desensitization, combined, or pseudotherapy groups ( $p < .05$ ). These results indicate that cognitive therapy was more effective in reducing anxiety than the other treatment and control procedures. The posttest State Anxiety scores of the systematic desensitization, combined, and pseudotherapy groups did not significantly differ. These results have been interpreted by Holroyd (1976) as providing support for a cognitive treatment approach to test anxiety.

Given the range of successful application with non-traditional client groups and the range of presenting problems discussed above it is not unrealistic to examine the possibility that Stress Inoculation Training may potentially be a valuable method by which stress management training may be offered to schizophrenics.

### Stress Management With Schizophrenics

Research on stress management as applied to schizophrenics has been scarce (Van Hassel et al., 1982, p. 280). Only one piece of research was found by this author which was directed explicitly at stress management training with schizophrenics. This work was done by Van hassel et al. (1982) in which schizophrenic outpatient subjects were trained in Anxiety Management Training (AMT) and Applied Relaxation Training (R). Van Hassel et al., (1982) gathered 37 male and 2 females volunteers all of whom had been diagnosed schizophrenic. These volunteers were assigned randomly to one of three experimental groups: Anxiety Management Training (AMT), Applied Relaxation Training (R) and nontreated Waiting List (WL). Each training group met once a week for 45 minutes for 6 weeks.

The AMT consisted of three stages of training. In the first stage, patients were taught standard deep muscle relaxation. Next, patients imagined stressful situations and were encouraged to pay attention to exactly where and how the tension was registered. Third, patients were taught to reduce tension via cue-controlled relaxation. The R group began with training in deep muscle relaxation identical to the AMT group. They continued to practice this form of relaxation and discussed how to apply the techniques to life

stresses. The major difference between the R group and the AMT group was that with the R group no stressful imagery was used, nor were subjects encouraged to attend to anxiety cues. Persons assigned to the Waiting List (WL) group were met with once to complete pretraining assessment scales and to have the goals and procedures of the training explained to them. Following this they were told their training would start in six weeks time.

The results showed significant reductions in anxiety scores as measured by the State Trait Anxiety Inventory for both the AMT and R groups compared to the WL group. These results suggest that after having received anxiety management training or relaxation-training, subjects in the treatment group were better able to deal effectively with their daily anxiety. Unfortunately no follow-up data were given to attest to the duration of treatment effects.

### Cognitive Treatments

Several studies investigated cognitive approaches to the treatment of schizophrenic behaviors. These studies showed that, in spite of the fact that cognitive disorders are a component of schizophrenia, schizophrenic subjects can benefit significantly from cognitive interventions aimed at altering the amount of stress experienced by subjects.

Meichenbaum and Cameron (1973) conducted two studies.

Study one was an exploratory study designed to determine the feasibility of training schizophrenics to self-instruct (initially aloud and subsequently covertly) by means of cognitive rehearsal. The first study involved 9 male and 6 female schizophrenics divided into three groups: self-instructional training (SIT), practice control (PC) which afforded an index of behavioral changes due to factors associated with the experimenters' presence and exposure to training materials, and the assessment control (AC) group. The SI group were seen twice, individually, for an hour of training. The AC received the same time with the therapist as did the SI, but they did not receive any modeling or self-instructional training. The AC received only the pre and posttreatment assessments.

The results showed that the schizophrenics who received self-instructional training showed the most improvement. Although the follow-up period was short these results suggested that a self-instructional training program can alter the attentional behavior of schizophrenics.

A second study involved 10 male schizophrenics. Again all subjects were receiving medication, and none had any indication of CNS (central nervous system) pathology. The subjects were assigned to either self-instructional training (SIT) or yoked practice control (PC). Each subject was seen

for eight, 45 minute trainings sessions, over a three week period. The results indicated a consistent picture of the efficacy of SIT in improving and maintaining the schizophrenic subjects' attentional performance as measured by proverbs interpretations, conceptual tasks as measured by Inkblot test and language tasks as measured by the decrease in the presence of sick talk. As with the previous study, the improved functioning was maintained at the 3-week follow-up. These studies draw attention to the benefit of teaching schizophrenic patients to use their private speech for orienting, organizing, regulating and self-rewarding functions, which in turn, results in greater self-control for the patients.

Another case pertaining to the modification of cognitive processes involved a 25 year old schizophrenic male (Adams, et. al.,). The subject received five 50 minute training sessions. As a result of this training the subject displayed substantial improvement in attending/focusing ability as well as elimination of crazy thoughts at posttreatment. He reported greater ability in following as well as responding to others' conversations while ignoring extraneous stimuli, increased self-confidence and less anxiety in social situations, and found that others were responding to him more than ever before in his life and were commenting on his



Increased social effectiveness. This improvement was maintained and, in fact, improved over time as measured at the 1st, 3rd and 6th month intervals following treatment. As the result of his improved state the subject was able to successfully obtain a part-time job.

The success of this case study suggests that schizophrenic behaviors and the related cognitive impairments may be treated effectively via cognitive intervention techniques. In combination with the other studies cited above, this study indicates that a cognitive approach may be promising and that through modifying cognitions and attitudes large strides may be possible in the rehabilitation of some schizophrenics. Based on this limited evidence it seems feasible that a cognitive treatment for stress might have some potential utility for treating schizophrenics.

Summary. In this chapter schizophrenia and the traditional etiological models were discussed. This was followed by the presentation of a Vulnerability/Stress model for schizophrenia and a discussion and definition of stress. The discussions have shown that stress appears to play a major role in the symptomatology of schizophrenia. Further, there is some evidence showing that cognitive intervention techniques are not only possible but may be potentially very productive, when applied to this population. The research

carried out by Van Hassel et al., (1982), which addressed explicitly anxiety management training with schizophrenics, and other studies involving cognitive training tend to support the potential efficacy of cognitive interventions. A SIT procedure was elaborated, and some indication given of the flexibility of the procedure and the diverse populations with whom this procedure has demonstrated success.

#### Hypotheses.

The purpose of this pilot study was to determine if cognitive stress management training procedures would be effective in teaching stabilized schizophrenics to enhance their coping strategies in dealing with their daily stress. Specifically, the following hypotheses were addressed:

(1) Participants receiving SIT will demonstrate significant reduction State and Trait Anxiety as measured by the Spielberger Trait Anxiety inventory than will discussion/placebo subjects from pretreatment to posttreatment.

(2) Participants receiving SIT will demonstrate significant reduction in Cognitive and Somatic Anxiety as measured by Anxiety Questionnaire than will discussion/placebo subjects from pretreatment to posttreatment.

(3) Participants in SIT will demonstrate a significant increase in daily functioning, as indicated by staff

evaluation questionnaires directed at observing the participants' performance of daily routines, whereas the daily functioning of participants in dicussion/placebo group will remain stable.

## CHAPTER 3

METHODOLOGY

This Chapter will include a description of the subjects and their selection as well as presenting the dependent measures used to assess treatment effectiveness. The third section will be devoted to describing the procedures which will include the setting for the treatments carried out in this pilot study.

Subjects

The sample consisted of 30 volunteer subjects drawn from psychiatric boarding homes in three separate catchment areas (catchment: the term assigned to a specific geographical area, or zone, for which a mental health team is responsible) of the lower mainland of B.C: Maple Ridge, Port Coquitlam, and New Westminister. The project was described to residents of each home at a general house meeting by this researcher in a standard fashion. (Appendix B) The information sheet included the requirements for joining the program, which were as follows:

1. They be over 19 years of age.
2. They permit access to their medical records in order to gather information relative to this study.
3. They attend all 10 sessions.
4. They permit the taping of some sessions.

5. They be willing to be assigned to one of two groups.
6. They be willing to fill out pre and post test questionnaires.
7. They have the diagnoses of schizophrenia. (This was dropped from the presentation after the first presentation although the diagnosis remained a requirement of participation for all subjects. The reason for dropping reference to schizophrenia was that not all residents were aware of their diagnosis as such knowledge depended on individual house policy. The mention of the disorder upset some residents, many of whom had been diagnosed as schizophrenic but they themselves either did not know it, or did not want to acknowledge it.)

To establish the reliability of the diagnosis, the medical records of each subject were examined to ensure no less than 2 independent psychiatric evaluations and diagnoses of schizophrenia had been recorded. In the majority of cases there were numerous such diagnoses.

The presentation was followed by a request for volunteers. Persons expressing an interest in being part of the program were then given consent forms to sign. (See Appendix B) Prior to starting the program and making the random assignment each subject's files were checked to ensure

that they had indeed been diagnosed schizophrenic and that they did not suffer from any organic brain syndrome or severe retardation. Ethics approval for this was provided by Simon Fraser University Ethics Review Committee, October 17, 1984 (See Appendix A). Access to the subject's files was provided through the permission of the three Mental Health Units involved upon the presentation of signed consent forms. (See Appendix B for a copy of the consent form).

After the initial presentations a total of 34 persons (18 males and 16 females) volunteered for the program. Of the 34 initial volunteers, 30 persons (16 males and 14 females) or 88.24% of the volunteers completed the program. The four persons (2 males and 2 females) who volunteered for the program have not been included in the final analysis for the following reasons. One female returned to hospital following the first session of her group while the second female did not meet the criteria of diagnosis. One male subject was expelled from a boarding home because of unruly conduct. Because data was lost on the second male subject, he was disqualified even though he did complete the program. Once the volunteers were gathered in each home they were assigned randomly to either a treatment group or a discussion/placebo group by pulling names from a hat. The resulting distribution was as follows:

Table 1  
Subject distribution

GROUP	HOUSE	MALE	FEMALE	AGE RANGE	MEAN AGE
TREATMENT	A	2	2	42-78	60.25
	B	0	2	62-72	67
	C	3	0	31-34	32.66
	D	0	2	33-58	47.33
	E	3	0	24-26	24.60
TOTAL		8	6	24-78	45.42
DISCUSSION/ PLACEBO	A	0	3	50-82	71.33
	B	1	2	36-62	53
	C	3	1	21-24	22.5
	D	1	1	59-71	65
	E	3	1	22-35	28.25
TOTAL		8	8	21-82	43.25
GRAND TOTAL		16	14	21-82	44.27

### Dependent Measures

The dependent measures used to determine pre and posttest levels of anxiety included two self-report questionnaires to be completed by all subjects, the State-Trait Anxiety Inventory (STAI) (Spielberger & Gorsuch, 1964) and the Cognitive Somatic Anxiety Questionnaire (CSAQ) (Schwartz, Davidson & Goleman, 1978) and one Staff Evaluation Questionnaire (SEQ) which was completed by staff members at each house. All three of these questionnaires were used in a pre and posttest fashion.

#### STAI

The STAI consists of two separate self-report anxiety scales. One of which measures state anxiety (A-State); the other measures trait anxiety (A-Trait). The instrument was originally developed as a tool to investigate anxiety in "normal" adults but it has since been found useful when measuring anxiety in a wide group of subjects including neuropsychiatric, medical, and surgical patients." (Spielberger, Grosuch & Lushene, 1970, p.3)

Reliability on the STAI has been ascertained through test-retest procedures, conducted at intervals of 1 hour - a 20 day and 104 day, involving 88 male and 109 female undergraduate students. Between the initial test and retest situations the students were exposed to the following



experimental conditions: (a) a brief period of relaxation training; (b) a difficult IQ test; (c) and a film that depicted accidents resulting in serious injury or death.

The correlations from these three test-retest conditions ranged from .73 - .86 for males on the A-Trait and .76 - .77 for females on the A-Trait. Correlations for A-State ranged from .33 - .54 for males and .16 - .31 for females. As can be seen, "the test-retest correlations for the A-Trait scale were reasonably high, ranging from .73 - .86" (Spielberger et al., 1970, p.9). These high correlations signify that the A-Trait scale is an accurate measure of trait anxiety. Whereas "the low r's for the A-State scale were anticipated....because a valid measure of A-State should reflect the influence of unique situational factors existing at the time of testing" (Spielberger et al., 1970, p.9).

In order to provide a more reliable picture of the A-State scale then offered by the test-retest situation, "measures of internal consistency such as the alpha coefficient" (Spielberger et al., 1970, p.9) were also computed. "These reliability coefficients, ranged from .83 - .92 for A-State...Thus, the internal consistency for both STAI subscales is reasonably good" (Spielberger et al., 1970, p.10)

Additional support for the internal consistency of the

STAI scales was provided by the computation of item-remainder correlations tabulated on the same high school and college students. "The median A-State item-remainder correlation was .55 for high school student, .45 for the college freshmen, and .55 for the college undergraduates. The corresponding A-Trait item-remainder correlations were .54, .46, and .53, respectively" (Spielberger et al., 1970, p.10). In light of the above finding it is reasonable to state that "both the A-Trait and A-State scales have a high degree of internal consistency" (Spielberger et al., 1970, p.10).

Evidence of the concurrent validity of the STAI A-Trait scale has been ascertained by comparing the STAI with two other scales, the IPAT as developed by Cattell & Scheier in 1963, and the Taylor Manifest Anxiety Scale (TMAS) developed in 1953 (Spielberger et al., 1970, p.10) which also regarded as measure of trait anxiety. The comparisons were carried out with 126 female college students, 80 male college students and 66 patients. The correlations were as follows. STAI A-Trait vs IPAT .75 for females, STAI A-Trait vs IPAT .70 for males, STAI A-Trait vs IPAT .77 for patients. Likewise the correlations of STAI A-Trait vs TMAS for females was .80, for males .79 and .83 for patients. "Since the intercorrelations among these scales approach the scale reliabilities, it is reasonable to conclude that the (two) scales can be

considered as alternative measures of A-Trait" (Spielberger et al., 1970, p.10)

Construct validity was ascertained via a sample of 977 Florida State University undergraduates. The "students were first administered the A-State scale with standard instructions (Norm conditions)" (Spielberger et al., 1970, p.10). Having completed this, "they were then asked to respond according to how they believed they would feel just prior to the final examination (Exam condition) in an important course" (Spielberger et al., 1970, p.10).

Analysis of the differences between normal and exam conditions showed that "the mean score for the A-State scale was considerably higher in the Exam condition (males 54.99, females 60.51) compared to the Norm condition (males 40.02, females 39.36)" (Spielberger et al., 1970, p.10).

#### CSAQ

The CSAQ was developed by the selection of various items from well-known questionnaires that three independent judges unanimously agreed reflected cognitive or somatic anxiety. (Schwartz et al., 1978) It was through these means that reliability was established. In total there are 14 questions, 7 of which reflect cognitive anxiety the remainder reflect somatic anxiety. (See Appendix C.)

Validity for the CSAQ was ascertained by comparing it to

the STAI. A sample of 78 nonexercisers were given both the CSAQ and the STAI. "It was observed that separate correlations between the cognitive and somatic scales of the CSAQ with the STAI were both highly significant  $r=0.67$  and  $r=0.40$ , respectively," (Schwartz et al., 1978, p.325). Further "correlations between the cognitive and somatic scales of the CSAQ for the entire sample was  $r=0.42$ " (Schwartz et al., 1978, p.325). This shows a modest correlation between the cognitive and somatic scales "and that their shared variance is sufficiently low to allow for patterning of results as a function of different training techniques" (Schwartz et al., 1978, p.325).

### SEQ

The Staff Evaluation Questionnaire (SEQ) was composed in part from questions taken from the Burkes Prepsychotic Inventory and suggestions by psychiatric professionals, who have considerable contact with psychiatric boarding home residents. (See Appendix D.) The purpose of the SEQ was to identify possible changes in levels of daily functioning on the part of the program participants. Daily functioning within this study refers to such behaviors as (1) completing one task before starting another, (2) displaying anger, (3) becoming frustrated easily, (4) losing emotional control, (5) depreciating and distrusting ones own

abilities, or (6) socializing freely with other residents as opposed to withdrawing, and (7) demonstrating a willingness to lend a helping hand when necessary. In short, the 10 questions forming the SEQ were designed to gauge overall patient functioning. Questions 1,2,5,7,9, & 10, all focus on initiative, concentration and self concept. Questions 3,4,6, & 8, focus on social ability and emotional stability. (See Appendix D.)

Three staff members at each of the homes were asked to fill out the SEQ on each of the subjects. Unfortunately, because of a staff change at House D, only two of the original three staff members there were able to complete the SEQ.

The staff members who filled out this form required no specific training or prior experience to qualify for their present job. Three of the staff who completed the questionnaires were house operators, who owned the business as well as functioned as a staff members. Of the 14 staff members who filled out the SEQ, 4 were male the remainder were female. Examples of the SEQ, the STAI and the CSAQ may be found in Appendix C & D respectively.

#### Treatment Setting

The settings for the delivery of the programs varied according to the facilities available at each home. As will

be noted, staff members were sometimes present, particularly at the first sessions. At no time did a staff member physically join a group nor did they interact with subjects in any way. Although the effect of staff presence was not formally measured, personal observation satisfied the therapist that the presence of the staff member in no overt way affected the behaviour of the subjects.

House A: Sessions took place in a combined dining-living room area. During the designated meeting times subjects, appropriate to each group, sat around one of the three dining room tables. While the sessions were being conducted all other residents were denied access to this area. At least one staff member attended all sessions, but sat apart from the group, at another table.

House B: Sessions took place around a large table, in a room of a house which was separate from the formal residence but still on the property. Again, only the subjects involved in any particular session were present. One staff member joined both groups for the first 3 sessions. Following this the therapist met with the subjects alone.

House C: Sessions were held in the staff kitchen-cum-coffee area around a large table. While the

sessions were in progress this area was off-limits to other residents. At the first session of each group, a staff member was present. Following this the therapist met with the subjects alone.

House D: Sessions were conducted in the living room of this residence. No table was available therefore chairs were placed in a circle. While sessions were in progress this area was off-limits to the other residents. At no time was a staff member present at the sessions conducted at this house.

House E: Sessions were conducted in a room which, during the day, was used as an office. This afforded complete privacy for the sessions. Subjects seated themselves in a circle, on the couch or easy-chairs. At no time was there a staff member present at the sessions conducted at this house.

### Therapist

The therapist for this study was female, working on completing her Master's degree. Her qualifications for conducting such a study with this particular population include: (a) BA in psychology, (b) in excess of 600 hours (unsupervised) on an acute ward at a Provincial Mental Hospital, (c) the completion of a supervised internship (in excess of 800 hours) functioning as a therapist at the Maple

Ridge Mental Health Center.

### Procedure

Subjects from both the treatment group and the placebo group were met twice a week for approximately forty-five minutes per session for a total of ten sessions for each group, over a period of 5 weeks. Sessions 1 & 10, with each group, involved having the subjects fill out both the STAI and CSAQ questionnaires. At this time as well, three staff members at each home were given staff evaluation forms to complete on each subject.

Sessions 2-9 involved giving the treatment and homework, as dictated by the protocols appropriate to each group and session. The reader is referred to Appendix C for details concerning session content and homework assignments. A summary of sessions 2-9, first for the treatment group followed by the disscussion/placebo group, follows. Complete treatment protocols can be found in Appendix E.

Treatment group Treatment subjects received a SIT program modeled after Meichenbaum & Cameron (1973). The review of previous curriculum development attempts with other client groups (Cormier & Cormier, 1979; Veronen & Kilpatrick, 1980; Wernick, 1983) resulted in a 10 session program. (See Appendix E, p. 99).

Session 2 involved providing the verbal set and giving



the subjects an overview of what would be involved in the treatment. Emphasis was placed on showing the importance of cognitive behaviour when faced with a stressor. Homework appropriate to the main theme of the session was given.

Session 3, following a review of session 2 and a discussion of the homework, focused on their cognitions and the practice of listening to self-talk. This was carried out via a game which the therapist first modelled. The game involved overtly sharing all her cognitions while playing the game. The subjects then followed her example, sharing their cognitions overtly. Homework emphasizing continued practice in listening to self-talk was given.

Session 4, following a review of session 3 and a discussion of the homework, focused on the therapist modelling coping thoughts for use in the three stages of stress, (Before, During and After) encountered in any activity or event. All subjects then followed suit with examples of the stages involved in events or situations which were personal to them. Homework which emphasized continuing practice with these stages was given.

Session 5, following a review of session 4 and a discussion of the homework, focused on the acquisition and practice of recognizing and recording explicit negative self-statements patterns. To reinforce this, homework

relating to the theme of this session was given.

Session 6, following a review of session 5 and a discussion of the homework, focused on the acquisition and practice in using positive self-statements in place of the negative self-statements commonly used. Homework relating this session was given.

Session 7, following a review of session 6 and a discussion of the homework, emphasized the need to acquire and practice using congratulatory self-statements. Homework relating to congratulatory self-statements was given.

Session 8, following a review of session 7 and a discussion of the homework, focused on the application of all the newly learned coping skills. Homework relating to the recording of these new skills in both stressful and non-stressful situations was given.

Session 9, following a review of session 8 and a discussion of the homework, concentrated on reviewing all the skills learned with emphasis on the continued practice and use of the skills. The final homework reinforced the alteration of negative self-statements to positive self-statements.

Discussion/Placebo group. The purpose of the discussion/placebo group was to control expectancy variables which may have confound the treatment. In order to keep the

thrust of the sessions held with the discussion/placebo group separate from the treatment group, the discussions avoided cognitive factors relating to the experience of being stressed. Sessions 1 & 10 with this group were devoted to completing the pre and posttests. A break-down of the discussion/placebo group sessions 2-9 follows. (See Appendix F for the session plans on p. 138)

Session 2 involved providing the verbal set and giving the subjects an overview of what would be involved during their sessions. The emphasis was on discussing physical reactions to stressful situations and the physical effects of being stressed. These subjects were given homework emphasizing physical effects of stress.

Session 3 began with a review of session 2 and a discussion of the homework. The emphasis of this session was on physical reactions to being stressed, such as rashes, stomach aches, etc. The therapist initially offered examples then requested each subject to share their personal experiences. Homework centering on the effect of prolonged stressful conditions was given.

Session 4 began with a review of session 3 and a discussion of the homework. The topic of discussion for this session centered around examining how other people

could affect or increase the stress of any personally experienced situation. Homework focusing on this theme was given.

Session 5 began with a review of session 4 and a discussion of the homework. How other people could lessen the stress felt by each subject encountering a stressful situation was the focus of this session. Homework which addressed this question was given.

Session 6 began with a review of session 5 and a discussion of the homework. During this session the question of how stressful experiences effect behavior was discussed. Homework focusing on this question was given.

Session 7 began with a review of session 6 and a discussion of the homework. The discussion topic relating to how stressful experiences can effect a persons sleep and hygiene was followed by homework addressing this question.

Session 8 began with a review of session 7 and a discussion of the homework. A discussion of how stressful experiences can affect leisure activities was followed by the presentation of homework centering around this topic.

Session 9 began with a review of session 8 and a

discussion of the homework. The focus of this last session centered around the establishment on the part of each subject, of a personal plan which could help them effectively cope with stress in the future. Homework emphasizing the establishment of such a plan was given.

## CHAPTER IV

## DATA ANALYSIS

In this chapter the results of the data analysis will be presented in conjunction with the hypotheses. A discussion of these findings will be offered in chapter 5.

Hypotheses #1 and #2Statement

Participants receiving SIT will demonstrate greater reduction in STAI-S, STAI-T, CSAQ-C, CSAQ-S scores from pretreatment to posttreatment than discussion placebo subjects.

Results

The data pertaining to hypotheses 1 and 2 are presented in Table 2 (see p. 75). A multivariate analysis of variance for repeated measures was conducted to test these hypotheses. There were no statistically reliable group effects  $T = .77$ ,  $p = .56$  nor were there statistically reliable interaction effects  $T = 1.91$ ,  $p = .14$ . However, there was a statistically reliable time effect  $T = 3.75$ ,  $p = .02$ . The subsequent univariate test revealed a significant reduction in STAT-T scores from pretest to posttest,  $F(1,28) = 4.66$ ,  $p = .04$ . The remaining univariate test results showed no significant

reduction from pretest to posttest scores.

Table 2  
Mean scores and standard deviations for schizophrenic outpatients\*

Dependent Measure	Group	n	Time		Marginal
			Pretest	posttest	
STAI-S	Treatment	14	47.62 (9.36)	39.38 (11.38)	43.23 (9.14)
	Placebo	16	39.38 (11.03)	41.13 (12.85)	40.26 (11.97)
	Marginal	30	43.23 (11.13)	42.63 (11.13)	
STAI-T	Treatment	14	51.00 (9.28)	45.00 (7.97)	48.00 (9.02)
	Placebo	16	42.00 (11.31)	42.00 (12.96)	42.00 (11.96)
	Marginal	30	46.20 (11.20)	43.40 (10.85)	
CSAQ-C	Treatment	14	16.93 (5.15)	18.64 (5.90)	17.79 (5.90)
	Placebo	16	16.63 (4.56)	16.19 (6.15)	16.41 (5.33)
	Marginal	30	16.77 (4.76)	17.33 (6.06)	
CSAQ-S	Treatment	14	17.14 (5.01)	16.00 (7.14)	15.57 (6.08)
	Placebo	16	15.25 (3.21)	13.50 (4.52)	14.38 (3.96)
	Marginal	30	16.13 (4.18)	14.67 (5.92)	

\*Note. Standard deviations are in brackets.



### Conclusion

There were no differential treatment effects for the treatment and control groups across time on any of the dependent measures. The sample as a whole demonstrated a significantly lower STAI-T score at posttest however, no other significant changes were observed. Therefore Hypotheses 1 & 2 are not supported.

### Hypothesis #3

#### Statement

Participants in SIT will demonstrate increases in daily functioning, as measured by staff evaluation questionnaires, whereas the daily functioning of participants in discussion/placebo groups will remain unchanged.

#### Result

The results of the staff evaluation questionnaire means and standard deviations are presented in table 3 (see p. 77).

Table 3

Mean scores and standard deviations for staff evaluations\*


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		Treatment		Control		
Evaluator	N	Pretreat	Posttreat	N	Pretreat	Posttreat
1	14	23.57 (6.93)	23.71 (6.18)	16	27.63 (5.91)	26.19 (6.53)
2	13	22.15 (6.90)	23.15 (5.64)	16	25.00 (4.75)	26.25 (4.31)
3	14	23.57 (6.93)	23.71 (6.18)	16	27.63 (5.91)	26.19 (6.53)

---

Note: Standard deviations are in brackets.

To test this hypothesis the data generated by the staff evaluation questionnaire were tabulated by hand marking in preparation for analysis. A statistical analysis of the SEQ data was not conducted because the scores were virtually identical at pretest and posttest. A visual comparison of pretreatment and posttreatment staff evaluation questionnaire scores suggest that no meaningful change took place over time, in the behavior of either group. The pre and post-ratings of the staff evaluators were correlated in order to establish interrater reliability of the the observations. The correlations coefficients ranged from  $r = .70$  to  $r = .84$  with a mean correlation of  $r = .79$  (table 4, see p. 79). All correlations were significant at .01 level or less suggesting a high degree of agreement between staff ratings.

### Conclusion

The staff evaluation questionnaire was used reliably by the staff raters but the ratings showed no improvement in such daily activities as finishing tasks, social behavior, or self-depreciating behavior.

Table 4

Pearson Correlation Coefficients for Staff Evaluation\*

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	SE11	SE12	SE21	SE22	SE31	SE32
SE11	1.00	.81	.81	.68	.84	.88
SW12	.81	1.00	.84	.70	.82	.77
SE21	.81	.84	1.00	.77	.88	.84
SE22	.68	.70	.77	1.00	.70	.83
SE31	.84	.82	.88	.70	1.00	.82
SE32	.88	.77	.84	.83	.82	1.00

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\* All probabilities are less than .01.

## CHAPTER V

## DISCUSSION OF RESULTS, RECOMMENDATIONS AND CONCLUSIONS

The topics to be addressed in this final chapter will include a discussion of the significance of the findings relating to Hypotheses #1 and #2 followed by those associated with Hypothesis #3. The nature of the instruments and the similarities of treatment, the factors relating to the Staff Evaluators, recommendations for future testing and research will be offered, followed by a final conclusion.

Hypotheses #1 and #2

Overall the results show there was a significant change in trait-anxiety over time by participants in the treatment group but no differential treatment effects. The task now is to postulate what factors account for these findings. Several possibilities seem plausible.

The Nature of the Instruments

One explanation for the findings may be in the nature of the instruments. The CSAQ-C, CSAQ-S, and STAI-S all measure conscious awareness of immediate states, whereas, the STAI-T measures the enduring personality disposition (Spielberger,, et al., 1970, p. 12). One possible explanation for why the CSAQ-C, CSAQ-S, and STAI-S scores did not change while the STAI-T scores did is that although subjects perceived themselves to be less anxious people (i.e., they had lower

STAI-T scores) transitory environmental demands (e.g., Christmas, the treatment program ending) were leaving them feeling stressed at the moment. Alternatively, the STAI-T could be more sensitive to change with this type of client.

### Treatment Similarities

Although designed as two separate and distinct treatment programs it is possible that in reality the programs were more similar than intended. Potentially factors relating to the behavior of the therapist or the similarities in treatment content may have resulted in making the treatment programs less distinct than initially thought. These considerations are elaborated below beginning with factors associated with the therapist followed by an examination of program similarities.

Therapist Factors. The therapist was personally committed to ensuring a safe environment for all the participants: allowing them to be sufficiently comfortable to share their thoughts and experiences as well as being prepared to risk attempting new behaviors. In short, she provided both positive regard and positive reinforcement to each participant. Behavior involving positive regard and reinforcement is widely considered to be beneficial in all inter-personal interactions specifically those involving teaching and therapy (Carkhuff & Berenson, 1977; Gazda, 1977;

Rogers, 1961; Truax & Carkhuff, 1967). It is possible that the therapist's behavior may have overshadowed conceptual differences in the lesson plans,, thereby resulting in more similarity in treatment delivery than was intended.

Similarities of Treatment. Both treatments were initially presented to the participants as strategies which, once learned, could assist them in gaining greater control over their own lives. Although the treatments were conceptualized as different, the potential to achieve personal control and power was a common theme presented to both groups. There was little didactic teaching in either group. The participants of both groups were actively encouraged to share their personal experiences, beliefs, and opinions. Thus, each session was guided by the input of the participants. Another aspect which both groups shared was the assignment of homework following each session.

Although the main topic of each group was the same, namely stress management, the approach was different in each group. For example, the treatment group participants were taught how to handle stress via cognitive restructuring techniques, whereas the discussion/placebo group participants were merely given the opportunity to talk about stress, and how it seemed to affect everything a person did. The homework for the treatment participants focused on developing

an awareness of negative self-talk in conjunction with the practice of changing negative and limiting self-talk to more positive and liberating self-talk. The homework assignments for the discussion/placebo group merely continued the topic of discussion taken up during each session and usually dealt with how the experience of stress seemed to affect various areas of their lives. In retrospect it seems that this discussion approach may have had the unexpected effect of stimulating cognitive restructuring on the part of the discussion/placebo group participants.

For example, discussion/placebo group participants frequently made comments like: "My cheek started to jump today so I knew I was getting mad so I went and played the piano and the bad feeling went away"; and "I take my bath at night now and it helps me sleep better". These sorts of statements indicate that some discussion/placebo participants had begun to explore and use some coping strategies that they had not used before. Further, the discussion/placebo group participants seemingly developed increased awareness of stress as a common experience. Typical responses in groups sessions included things like: "Your hands get cold too eh"; "Here I thought I was the only one who felt nailed to the floor"; and "The next time I see you doing that I'll try to help you relax". Statements such as these show a positive



cognitive awareness on the part of some of the discussion/placebo group participants and suggests that some spontaneous cognitive restructuring may have taken place..

Some of the discussion/placebo homework assignments, for example assignment #8, might have sparked some cognitive restructuring. Assignment #8 reads: for homework please write down some of the ways you have put your new plan into action and also write about some of the effects the plan had for you. In retrospect it is apparent that cognitive activities were required to complete this assignment. Some of the participants' responses include: Walking; knitting and needlework; tending the bird; going to the Do-nut House. It makes you relaxed and satisfied; My new plan is to brush my teeth before breakfast and then after about seven in the evening. It works out well.

Examples of spontaneous (or unplanned) cognitive restructuring also exists in the literature. For example, a study carried out by Holroyd & Andrasik (1978, as cited in Wernick, 1983) involved treating 39 subjects all of whom suffered chronic tension headaches. These researchers used four groups. A cognitive self-control group in which participants focused on altering manipulative cognitive responses by using cognitive reappraisal, attention diversion, and fantasy. A cognitive self-control plus

relaxation group which received the same instruction as the first group plus training in muscle relaxation. A discussion group group which simply focused on the historical roots of headache symptoms and while these subjects were taught to monitor their responses no strategies for coping were provided. The final group was a waiting list control. The results of this study revealed that the three treatment groups all showed significant improvement at posttest and at the 6 week follow-up assessments. "The authors of this study noted that all but one participant in the discussion group reported devising cognitive self-control procedures for coping that were similar to those taught to the participants in the two self-control groups" (p.200). Given the subjects' responses in the current study and the unintended, but similar content of some of the treatment sessions and homework assignments, it is reasonable to suspect that spontaneous cognitive restructuring like that observed by Holroyd & Andrasik (1979), took place.

It is possible that yet other similarities existed. For example it is possible that the treatment protocols were not followed sufficiently closely and that the treatment ended up being more similar than intended. Audio tapes were made during sessions in the attempt to monitor treatment fidelity, however the quality of the tapes did not permit any

definitive analysis of the extent to which the programs were enacted as intended.

Another possible explanation for a lack of treatment effect is that the subjects did not learn what was intended in the treatment groups. In future some measure or measures of subject skill acquisition should be built into the program, to determine the extent to which the subjects learn what the program purports to teach. Finally, similarities in treatment delivery, or treatment content, or perhaps expectancy variables or the Hawthorne effect may account for the lack of differential treatment effects.

#### Hypothesis #3

Hypothesis #3 stated: Participants in SIT will demonstrate increases in daily functioning, as measured by staff evaluation questionnaires, whereas the daily functioning of participants in discussion/placebo group will remain unchanged. The analysis of the SEQ scores has shown that in both treatment groups the participants did not demonstrate an increase in SEQ scores. However, anecdotal reports by the staff seems to contradict this finding. Throughout the duration of the program various staff members made a point of sharing with the therapist their observations and opinions regarding the effect the treatments appeared to be having on the behavior of the participants. In all cases

these informal reports were positive.

One change in behavior involved a female participant in the SIT group. Prior to treatment this female's mobility was severely hampered because of hallucinations which occurred whenever she found herself entering the laundry area of the residence or when entering a store. By the third session this subject reported altering her self-talk to chase the hallucinations away and thereby get on with where she wanted to go or with what she wanted to get done. This change in behavior was recognized and applauded by the staff involved. (Three months following the completion of the program it was reported by a staff member that the new behavior was being maintained.) However, this change was not indicated by any staff member when completing the posttreatment staff evaluation questionnaire. Possible reasons why this above change in behavior, and other changes in behavior, did not show up on the final analysis of the Staff Evaluation Questionnaire may be that the measure was not sensitive to the changes or simply that the right questions were not asked on the questionnaire.

A similar situation occurred with a male subject, also in the SIT group, who was able to assert himself both with staff members and at house meetings as well as having increased his social interactions with other residents following the

implementation of treatment. This change in behavior was identified and acknowledged during the course of treatment. Again the staff evaluators did not acknowledge this change on the posttreatment SEQ.

Recognition of behavior changes were not limited to treatment participants. For example, in the discussion placebo group, the behavior of a 32 year old male who has spent over half his life institutionalized, displayed very positive behavior change. As the staff frequently noted, this fellow became more outgoing, helpful, and most specifically was less concerned with the state of his health than he had been prior to the treatment. Again, these changes did not show up on the posttreatment SEQ. To summarize, it would seem that some behavior change was verbally acknowledged during the program but the SEQ did not record the change.

#### Recommendations

In retrospect a variety of shortcomings in the overall design of this study have come to light. Therefore the following recommendations will be made. It is hoped that these recommendations will serve to be beneficial to future researchers and practitioners utilizing similar treatment procedures.

### Treatment Procedure

Although the data do not support the hypotheses it is, nevertheless, recommended that the study be replicated and that the essence of the treatment protocol remain the same -- that is, that the educational, skill acquisition, and skill application phases be retained. Examination of the treatment protocol suggests the treatment programme is similar to what was used in other studies that obtained positive results, and therefore it is reasonable to assume that it should have had a similar effect in this case. However, some expansion of the programme would likely make it more effective with this client group. Some suggestions are given below.

If further field tests are conducted with this participant group the duration of the program should be increased to provide more opportunity for the skills to be learned and internalized, and more practice in transferring the skills into the daily environments of the participants. Further, a fading schedule should be set up to allow for the gradual withdrawal of the treatment. Systematic follow-up procedures should be implemented as well. These recommendations are very similar to those offered by the participants at the conclusion of the study.

Another recommendation pertaining to the overall treatment procedure is that active elements from both

proptocols used in this study be combined. For example, many of the discussions in the discussion/placebo protocols proved to be valuable fodder for self-understanding and the enchancement of individual coping skills. Also, the processes of discussion alone appears to facilitate cross subject learning.

Also, it is recommended that within the treatment procedure specific and observable benchmarks denoting skill acquisition be included. This would involve specifying the discrete skills that clients would be expected to learn at each stage of the treatment program and developing a system whereby clients would have to demonstrate the skills for one level of the program before proceeding to the next stage in the treatment program. Such a system would ensure that all subjects completing the program had acquired and could demonstrate the skills that the program purports to teach.

Overall duration recommendations. Approximately 2 months following the completion of the program the therapist was asked by various staff members to come back as the behavior of some subjects had regressed to that displayed prior to treatment. This gradual decline in the behavior of some of the participants might be due to the insufficiency of the training period. i.e., the participants had not practiced long enough to have the new behaviors become habits, or that

the treatment was terminated too soon. Therefore, future field tests should ensure that more booster sessions and follow-up procedures are built into the program.

Summary To summarize, it is recommended that progress through the program be skill driven, based on demonstrated progress, rather than time driven. A future treatment schedule might be carried out over a flexible period of time depending upon the speed with which individual subjects achieved each stage. The various stages may be terminated once subjects have demonstrated, through verbal and/or written reports and actual behavior in simulated or real situations, the satisfactory achievement of skills associated with each stage.

The first stage should involve the identification of specific goals and an heightened awareness of both physiological and cognitive reactions to a variety of stressors. The second series of sessions may focus on the identification of habitual cognitive responses to various stressors. The third series of session could focus on the development of new self-statements. The fourth series could then focus on the demonstrated application of the new self-statements. The sixth series could involve the generalization of the new skills to situations and stressors outside the instructional setting, and other than those



initially identified as problem areas at the onset of treatment. Once subjects have attained a pre-determined level of mastery, they will then be ready to enter the phase-out stage during which the booster sessions would decrease from bi-weekly to weekly for a period of approximately one month, twice monthly for a period of approximately 2 months followed by one or two monthly booster sessions.

#### Research design recommendations

To avoid the possibility of spontaneous cognitive re-structuring taking place as a result of discussing stress-related issues it is recommended that future studies include an activity oriented placebo group (rather than a discussion/placebo group) and a waiting list control group. For example the activity placebo group could be a physical fitness group or simply a handicraft activity session. Either way an activity approach with the placebo group would avoid potential confusion in context with the treatment group.

#### Treatment fidelity recommendations

Although audio taping was carried out through this study the quality of the tapes were inadequate to allow analysis of treatment fidelity. In future it is recommended that a higher calibre of audio equipment and more strategic

placement of microphones etc. be employed to prevent the discarding of potentially valuable data. Although video taping would be a valuable means of insuring treatment fidelity the obtrusive nature of this technique makes it undesirable for this population. Some thought might be given also to the use of trained observers to assess treatment fidelity.

A further recommendation is that in future studies the treatment protocol be more completely scripted before implementation. Scripts would heighten the probability of treatment fidelity, especially if scripts were used in conjunction with trained observers.

#### Conclusion

This pilot study was designed to explore the degree to which a cognitive approach to stress management training is feasible for use with stabilized schizophrenic psychiatric boarding home residents. Although other interpretations are possible, it would seem that a cognitive approach such as SIT has some potential for teaching stress management techniques to stabilized schizophrenics. This conclusion is based on informal observations and reports from the staff evaluators; on the seemingly spontaneous occurrence of cognitive coping strategies developed by the discussion/placebo participants; and on the significant change in trait-anxiety scores

demonstrated by participants in the study. In short, this study has taken an initial step toward showing that if schizophrenics are treated with respect and dignity, and offered systematic treatment, some positive changes in affect and behavior may follow.

APPENDIX A

SIMON FRASER UNIVERSITY

ETHICS REVIEW COMMITTEE

APPROVAL



October 17, 1984

Ms. Phyllis Porter  
Faculty of Education  
Simon Fraser University  
Burnaby, B. C.

Dear Ms. Porter:

Re: A Stress Inoculation Training Program  
for Chronic Schizophrenic Psychiatric  
Boarding Home Residents.

Please be advised that the above application has been approved by  
the Simon Fraser University Ethics Review Committee.

Yours sincerely,

Marilyn L. Bowman, Chairman  
University Ethics Review Committee

c.c. Dr. Bryan Hiebert, Faculty of Education

APPENDIX B

PARTICIPANT INFORMATION SHEET

AND

CONSENT FORM

### Information Sheet

I have developed a stress management training program for boarding home residents that I hope to field test with your co-operation. This will be achieved by comparing my program with a more typical program also aimed at providing stress management training. Because this is a new program there are certain requirements which each subject must meet in order to be included in this program.

1. must be over 19 years of age.
2. willing to permit me access to their medical records in order to obtain information relevant to this project.
3. be willing to meet with me for 10 sessions, each of which will last approximately 45 minutes during which we will spend our time discussing stress and how it affects our lives.
4. be willing to be assigned to one of the two groups which will be involved.
5. be willing to allow me to tape each session if necessary.
6. be willing to complete two questionnaires, once before the program begins and again following the completion of the program.

All of the data gathered in the project will be confidential, but any individual may access his/her own data at any time. Participation in the field test is voluntary and participants will be free to withdraw from the study at any time if they so choose.

If you have any concerns about the program you may contact Ms. Porter at 298-2637 or Dr. Rendle at 474-4147 or Dr. Hiebert at 291-3389 or 291-3395.

If you are interested in participating in the project, please sign the attached consent form.

## CONSENT FORM

I, \_\_\_\_\_ have read the enclosed information sheet and would like to participate in the stress management training program.

As part of my participation in this project I authorize to release to Ms. Phyllis Porter any information contained in my medical record.

I understand that all data collected will be confidential and that I can receive a copy of my results when the program is finished.

I also understand that I can withdraw from the program at any time if I change my mind, without penalty.

If I wish, I can receive a copy of the final report of the program by contacting Ms. Porter at the above address.

If I have any concerns about the program or any questions, either before or during the program I can contact Ms. Porter at 298-2637 or Dr. Rendle at 467-4147 or Dr. Hiebert at 291-3389 or 291-3395.

Signed \_\_\_\_\_



APPENDIX C

COGNITIVE SOMATIC ANXIETY QUESTIONNAIRE

CSAQ-C

Please answer each question by marking one of the appropriate columns.

Cognitive

1. I find it difficult to concentrate because of uncontrollable thoughts
2. I worry too much over something that doesn't really matter.
3. I imagine terrifying scenes.
4. I can't keep anxiety provoking pictures out of my mind.
5. Some unimportant thought runs through my mind and bothers me.
6. I feel like I am losing out on things because I can't make up my mind soon enough.
7. I can't keep: anxiety provoking thoughts out of my mind.

CSAQ-S

Please answer each question by making a mark in the appropriate column,

Somatic

1. My heart beats faster.
2. I feel jittery in my body.
3. I get diarrhea
4. I feel tense in my stomach.
5. I nervously pace.
6. I become immobilized.
7. I perspire.

APPENDIX D

STAFF EVALUATION QUESTIONNAIRE

## STAFF EVALUATION

Please answer each question by marking one of the appropriate columns.

1. Jumps from one thing to another.
2. Finishes tasks begun.
3. Becomes angry quickly.
4. Is quickly frustrated and loses emotional control.
5. Appears physically lethargic.
6. Depreciates and distrusts own abilities.
7. Is easily frustrated and gives up.
8. Mixes with other patients.
9. Needs help in dressing.
10. Needs help in making his/her own bed.

APPENDIX E

COMPLETE TREATMENT PROTOCOL

Overview of Training Sessions For Treatment Group

1. Information giving -- Educational phase.  
Verbal set  
Overview  
Information giving -- Three major components of stress  
Review  
Closure
2. Recognition and practice in listening to self-talk -- Educational phase.  
Review  
Overview  
Recognition and practice  
Closure
3. Three phases of coping -- Educational phase.  
Review  
Overview  
Modelling of coping thoughts for use in the three stages.  
Closure
4. Acquisition and practice of recognizing and recording explicit negative self-statement patterns.-- Skill acquisition phase.  
Review  
Overview  
Aquisition and practice of recognizing and recording explicit negative self-statement patterns.  
Closure

5. Acquisition and practice in using positive self-talk. -- Skill acquisition phase.

Review

Overview

Acquisition and practice in using positive self-talk.

Closure.

6. Developing and practice of congratulatory statements. --Skill acquisition phase.

Review

Overview

Developing and practice of congratulatory statements.

Closure.

7. Application of all coping skills in vivo. --Application phase.

Review

Overview

Application of all coping skills in vivo.

Closure.

8. Additional practice in vivo. -- Application phase.

Review

Overview

Additional practice in vivo.

Closure.



Training Session 1

## Introduction

Greet everyone and settle in.

## Verbal set:

Sometimes we are all faced with situations or tasks which seem to overwhelm us. What you will be learning here are ways to recognize stress and ways to cope with stress which will help you more readily manage your daily lives.

## Overview:

First you will learn about what stress is. Next you will learn how to recognize that you are in fact experiencing stress. Then you will learn new skills which will help you to cope effectively with stress, and also with being stressed. Basically there are three phases to coping with stress and before this program is over we will deal with each phase, but for the time being I will just tell you what the three phases are.

First there is the "before" or "preparation" phase. This has to do with what we tell ourselves about what we have to do.

Secondly there is the "during" phase, in other words, what we say to ourselves while we are actually trying to perform a task or be in a specific situation.

Next is the third and final stage that relates to what we say to ourselves "after" we have completed a task or left a particular situation. Does that make sense?

I'll give you an example of what I mean. Until a few years ago I was terrified of slugs. If someone had told me then, that I would have to walk past a slug I would panic. Before I even got into sight of the slug I could feel my body tightening up, my stomach used to knot, my hands would be wet and I'd feel like I was close to tears. When that happened I used to say the darnedest things to myself like "I'll never do it", "I can't walk by it", "my legs won't move", "This time it will get me" and my cheeks would itch. As you can see even the thought of a slug would make me feel stressed. That is what I mean by the before stage.

Then when I was actually in the presence of a slug I'd was a mess. I would want to run but felt that my legs wouldn't move. In reality they did because I went like the wind, according to other people but it sure didn't seem that way to me. My heart would beat so fast I have often wondered that it didn't stop, my clothes would be wet because I would be cover in sweat. I'd be catastrophizing the situation like crazy saying such things to myself as "This time its going to get me", "I'm going to fall and I'll land on it" and be darned if I didn't feel like I actually was falling. I'd get so scared I couldn't see anything but that slug and it was a given that I would be in tears. This is an example of what I mean by the during phase. Make sense?

Next, is the last or after stage. After I escaped from the presence of one of those charming creatures it would take as much as half an hour for me to calm down. By that I mean to have my heart stop racing, and the colours of the world come back along with the crawling sensation to leave my skin.

Do you see what I mean about the three phases of coping? Can you all relate to such an idea? Any questions?

In this program you will learn to identify the before, during and after stages of being stressed and you will learn new ways to deal with such situations. Once you have learned new ways to cope with stress we will set up some pretend situations which may make you feel stressed or anxious. During these pretend situations we will then practice using the new skills which you will have learned. How does this sound? Any questions?

#### Information Giving:

Basically this program will address three major components, they are:

1. educating you about the nature of stressful reactions;
2. having you learn to recognize stress physiologically, cognitively and behaviorally then rehearse various coping skills, and;
3. helping you apply these coping skills during

stressful situations.

The first stage concentrates on educating you about reactions to stress and the second stage, having you rehearse various cognitive coping skills, are the two most important stages and will be the ones we spend the most time on.

It is important that you realize that understanding your emotional reaction to stress by itself will not cure the problem, but it will help you view the situation from a more manageable angle.

First, let's define stress. Stress is defined as a complex reaction to a situation that exceeds a person's self-perceived ability to cope with that situation. Stress does not just land on us, it is not like a big blanket which suddenly covers us. It just seems that way to us some times because we are caught off guard. Remember that stress is something each of us experience in varying degrees, at different times.

So what is involved in a reaction to stress? Basically there are three components in a reaction to stress, physiological, cognitive and behavioral. The first component of stress is where we experience such things as increased heartbeat; our palms become moist; we feel like we have the jitters. The second component involves our saying negative things to ourselves like "I can't do it", or "This is too much for me" etc. And in the third or behavior component, we can simply sit down and refuse to even try to deal with a situation.

These symptoms are important, in fact they are warning signals, or cues, which can help us to recognize that we are under stress. Another important thing to remember is that each one of us have our own personal set of warning signals. Once you become aware of your own signal system you will then be able to enlist the coping skills you will learn through this program to help yourself deal with whatever the situation is.

Any questions so far?

Let's get started on a journey of self discovery.

Remember earlier I told you that everyone experiences stress at some time or another. The fact that we do

experience stress is normal but how we experience it and the things that cause us to experience it are different for all of us.

Even animals experience stress. And animals like humans experience it differently one from another. For example, you all know how cats are supposed to be afraid of dogs, and some cats are but not all cats. So the cats that are not afraid of dogs do not feel stressed when in the presence of a dog but can you imagine the stress which must be experienced by most cats in the presence of a dog? Boy that must really be something for them. The point is that even with cats, some things stress some cats, but not others. It's the same with people too.

Let's spend the rest of our time discussing some of the different things that have caused us stress in the past and how we reacted in those situations. Because it is so important for us to be able to recognize the various things, or situations, which result in us feeling stressed, you will be asked to repeat what we are going to do here, for your homework.

I'll start first by telling you about a very stressful situation which happened to me and how I reacted, or behaved, because of it. Then you can each share your stories.

The first time I took a statistics exam at school I was so scared that I wouldn't be able to do the test that I was unable to read the questions. I remember looking at the exam sheet and it may as well have been written in Greek for all I could tell. My hands were wet and shaking, I thought I was going to throw up, my stomach was so upset and all I wanted to do was cry. I was in such a bad shape that I had to leave the room and drop the course. It would be fair to say that I was hitting the third stage of stress when I ran out of the room. Believe me that was horrible because I had to face taking that course again if I wanted to continue my education. When I ran out of the room I was saying a whole bunch of negative things to myself like, "I'm stupid", "I'll never learn", "Everyone will laugh at me", "Everyone else in the world can do this simple task except me because I'm so dumb". Boy, even remembering this is making me feel stressed. Anyway it wasn't fun, I was not

being nice to myself at all! Then I found out that I wasn't alone, I wasn't the only person in the world who was afraid of statistics, there were other people who were just as scared as me. I also found out that there were ways for me to overcome my fear and ways for me to be able to successfully turn my stress around to help me instead of hindering me.

Just so we can keep track of everyone's experiences and to see how many different reactions there are I am going to make a list which we can all look at later.

Who wants to be next and tell their story?

#### Review:

Today we have learned a number of new things. Let me review them.

1. We learned that stress is normal.
2. That everyone experiences it.
3. That the things which we find stressful may not be stressful to everyone else.
4. We learned that there are stages to stress.
5. We learned that we each have our own personal warning systems.

#### Closure:

Next time we will learn some more things about stress and how we can identify it by being aware of own own personal alarm systems. Then we will be in a better position to learn new skills which will help us deal with stress effectively.

When ever we are learning new skills practice is very important. It is through practice that we make the new skills a habit. So, in keeping with that lets plan some homework for next session.

I am going to give you a sheet of paper on which I would like you to write about some of your stressful

experiences much in the same way that we have discussed today. Maybe you will be able to think of some more examples of how you think and feel in a stressful situation. Try to identify some of the things you said to yourself, something about your behavior and something about how you felt physically.

Remember you don't have to write a whole bunch but do write enough so that you can recall the situation. Please bring your recording sheet to the next session with you. OK we are finished for today. Do any of you have any other questions?

Homework for Training Session 1

Write about some past stressful experiences. Try to identify some of the things you said to yourself, something about your behaviour, something about how you recall feeling immediately after the particular situation.

Remember you don't have to write a whole bunch, but, do write enough so that you can recall the situation.

Training Session 2

## Introduction:

greeting everyone and settling in

collect recording sheets

discuss the recording sheets

give praise

## Review:

Last time we talked about stress and the levels of stress. We also shared some personal experiences. We learned one simple way of helping ourselves feel better and gain composure when we start to feel anxious or tense.

## Overview

Today we are going to learn something new about ourselves. We are going to learn how we all talk to ourselves. This trait is one of the most valuable ones we have when it comes to coping successfully with stress. We will work at becoming acquainted with this behavior and will learn how normal it is. Then we will begin to learn the importance of listening to ourselves.

## Recognition and practice in listening to self-talk:

To learn about our self-talk we will play a game.

GAME

Present three different decks of playing cards, have 5 coloured toothpicks relating to the colours or scenes on the back of each deck of cards.

Request each subject to select the deck they would most like to play with and then pick up the corresponding toothpick.

Model this request by making the first selection.

Pass the tray for each subject to select a toothpick.

Ok, now we each have made a selection. Lets examine, out loud, all the stages we went through to make our selection. I



will show you what I mean.

Let's see, what do I have to do right now?

Oh yes, I told everyone that I would say out loud all the stages I went through to make my choice of one deck of cards.

I had better get on with it.

First I have to look at all the colours. Yes I see the colours.

Which one do I want?

Let me see, what is available.

There is one deck which has a picture of a bridge. That bridge reminds me of Stanley Park. I like Stanley Park.

Whoops, I better get back on task.

There is a deck with a orange dot pattern.

That dot pattern would get boring after a while. But then maybe it isn't so bad. What else is there?

There is a pretty fuzzy kitten on the other deck. Oh he looks so cute. I'd like to have a kitten some day. Kittens are really a laugh when they play. Oops, I'm off track again, better get back.

What is it I have to do again? Oh yeh. I have to decide on selecting one deck.

I like the bridge and I like the kitten.

I wonder which one I like best?

The bridge reminds me of sunshine and walking in the park. The kitten reminds me that right now I can't have a kitten and that makes me feel sad.

I'll pick the bridge picture. Now what do I have to do?

Oh yeh, I'm supposed to pick up a toothpick. Not just anyone but the toothpick which corresponds to the deck of cards which have the picture of the bridge on them.

There, I'll take that one. See I did it, I made my choice. I'm happy with my choice.

Now who would like to be next? (A refusal to play will be dealt with positively. Everyone will be given an opportunity to re-enact their decisions.)

Let's put the cards away because they have served their purpose. I only used them because I wanted a simple way to demonstrate to you this very important and normal behavior which we all engage in--talking to ourselves.

As I just said, we all talk to ourselves and that it is normal behavior. But what is even more important is this task has shown how readily we listen to what we say to ourselves. In short, not only do we listen to ourselves, but, we do what we tell ourselves to do.

This topic might be a bit stressful for some of us right now because we have all been told at one time or another that talking to ourselves is a sign we are crazy. But it isn't, everybody does it!

Just to be on the safe side, let's all take a couple of deep relaxing breaths and if there is any stress or tension present it will go away after we give ourselves a moment to relax by breathing deeply.

#### Closure:

Remember all the things we said to ourselves when we selected the deck of cards? The things we say to ourselves are not always as practical as that. Some times we say terrible things to ourselves. Remember all those terrible things I said to myself when I left the exam room. We don't only say bad things or only practical things to ourselves, we can also say positive things.

Learning to listen to what we say to ourselves is another way of recognizing when we are feeling stressed or anxious. When that happens we can change what we are saying. We are going to learn to say positive things to ourselves.

Saying positive things to ourselves is another way of learning how to cope with stress.

For our homework today let's practice listening to ourselves.

On your recording sheet try to write down some to the things you hear yourself saying to yourself. Remember if at any time you start to feel edgy or jittery about doing this take a deep breath, wait a minute or two until you feel better, then continue to write on your recording sheet.

At the next session we will learn about things which we can say to ourselves, things that will help us cope with stressful situations and performing various tasks.

How does that sound? Any questions?

Practice breathing and listening to yourself. Again, please bring your recording sheet to the next session.

Homework for Training Session 2

For homework please write down some of the things you say to yourself and then if you repeat a statement put a tick beside it so you can recall how frequently you did say it.

### Training Session 3

#### Review:

Last session we learned that we all talk to ourselves. We learned that this is very normal and natural behaviour. We also learned that we listen to what we say to ourselves and that we do what we tell ourselves to do.

Let's take some time right now to look at and discuss the homework. Before we do that though, I want to emphasize the importance of everyone doing their homework. The main reason for homework is so that you have the opportunity of really learning some new coping skills for handling stress. Any theory in the world is useless to us unless we make the effort to incorporate the essence of the theory into our behaviour. Then and only then does a theory have value for us. Does that make sense to everyone?

Now let's look at the homework. Let's see if we can find some patterns in the self-talk which we have recorded.

#### Overview:

Today we are going to learn about stages or phases which relate to everything we do and what we will start to examine some of the things we say to ourselves at each of these stages.

#### Three phases of coping:

What are the three phases of coping? First there is the before or preparation phase. This has to do with what we tell ourselves about what we have to do.

Secondly there is the doing phase, in other words, what we say to ourselves while we are actually trying to perform a task or be in a specific situation.

Next is the third and final stage that relates to what we say to ourselves after we have completed a task or left a particular situation. Does that make sense?

#### Modeling of coping thoughts for use in the three stages:

I am going to model a task for you and I will say out loud everything I say to myself to prepare for the

task, perform the task, and what I will say after I finish the task.

I will model this the first time in a positive way, a way that will make the task easy or at least easier than it might otherwise be for me.

I'll use something that we all have to do and that something can cause us alot of stress if we let it. How about getting out of bed and getting dressed?

**BEFORE:**

Picture me awake lying in bed. "Oh I have to get up and get dressed but I'd rather stay in bed, but I can't. It looks like it is raining out so it might be cold today. Well if I sit up and put my housecoat on right away I'll be warm, then I can go wash up. Maybe I will take my clothes with me and dress in the bathroom. Lets see, I think I will wear my warm sweater today and my warm pants. Yes, I'll get dressed before I make my bed, I might even have breakfast before I do that. I'll wait and see how I feel after I get dressed. Well I can't put off getting up any longer, I better prepare myself for the shock, I'll just take a couple deep breaths first then I'll jump up."

**DURING:**

"Oh I was right it is cold I better get my housecoat on. There that feels better. Wearing my warm clothes was a good idea. Will I get my clothes before I go to the bathroom or after? Oh, after, I want to go to the bathroom first, then I won't have to rush getting my clothes. (In the bathroom) While I am here I may as well wash up then I can get dressed as soon as I go back to my room and I won't have to stand in a line up. That's a good idea kid! What will I do first? I'll brush my teeth then my mouth will taste fresh and that always makes me feel better. Then I'll wash my face. Good now I can go get dressed. Hey, I'm feeling pretty good and I still have lots of time before breakfast. Just to be on the safe side I'll get dressed right now. Let me see. I thought I would like to wear my warm clothes, there they are. I'll just hurry and put them on so I don't get cold. Oh there that feels

good. Oops, I forgot to comb my hair I'd better do that now. Gosh I'm hungry and I need a coffee. I'm going to breakfast first then I'll come back and tidy my room."

AFTER:

(On my way to breakfast) "Good for me, I feel great this is going to be a good day."

There, that sounded pretty easy didn't it? Do you see how what I said to myself affected my behaviour? Before I actually got up I made a rough plan of what I was going to do.

While I was carrying out my plan I continued to speak to myself, then when I finished dressing I congratulated myself. The point I am making is that we do talk to ourselves all the time and that what we say to ourselves is important.

As a contrast I'll model the same situation, only this time I will say different things to myself.

BEFORE

(Picture me lying in bed again) "Oh damn it's raining and it will be cold I'll freeze if I get up, well I'm not going to. I don't want to get cold. I can't force myself to get up! I'm just too tired. (The clock ticks on and a staff member comes in and says get up) No, I can't! I'm tired, and it's cold." (Soon the staff member is back demanding I get up)

DURING:

"Alright, alright, I'll get up--oh it's cold, I'm freezing. I sit up and pull a blanket around my shoulders and stagger off to the bathroom muttering about the terrible world, but there is a line up. Damn! Now the staff member is saying I must get dressed. What am I going to wear? I've got no clothes. I don't want to get dressed. Oh, I'll put something on. Oh this isn't going to be warm enough! Boy I'm stupid sometimes, I'll never learn.

AFTER:

Oh there is the last call for breakfast. This is going to be a horrible day. I feel terrible. Now I have to wait for coffee, I feel uncomfortable. I wish I had got up earlier, sleeping in was dumb of me. (As I go to the kitchen I growl at everyone cause I'm in a bad mood.) I say such things to myself as "Oh I'm stupid for not getting up sooner, my mouth tastes like the Russian army camped in it last night. I say to myself "I just can't do everything, it's just too much for me. This is going to be another horrible day".

There. Do you see the difference? Which person would you rather be?

For practice in understanding the stages of coping with any situation or task let's each try and recall some things which we have said to ourselves before, during, and after the performance of a task.

To help you recall a situation maybe you can select one from your recording sheet which you described earlier.

To really make sure we understand this idea, let's try making up what an imaginary person could say to themselves before, during and after doing a washing.

I'm going to write down the things we decide on and put each statement in the appropriate category so we will have a record which I can read aloud when we are finished. Let's start with the before stage then we will go on, who would like to start?

(discussion)

From these examples we have learned that there are very definite stages that surround every task. What else have we learned from these examples?

(discussion will be pointed toward the notion of active participation and personal responsibility).

Closure:

Today we learned that what we say to ourselves really can make a difference and that it is important that we find out just what some of the things are which we say to ourselves. Next time we will concentrate examining



what some of our self-statements are and will see if there are some changes which we can make in what we tell ourselves.

For homework write down some of your before, during and after statements surrounding any task or event you wish. Write down as many as you like. Naturally you won't be able to write each one down but what you can do is put a tick on your sheet for each time you practice really listening to yourself.

Do practice every chance you get, and remember to bring your recording sheet with you to the next session.

Any questions?

Homework for Training Session 3

For homework write down some of your before, during and after statements surrounding any task or event you wish. Write down as many as you like. Naturally you won't be able to write each one down, but what you can do is put a tick on your sheet for each time you practice really listening to yourself.

Training Session 4

## Review:

Last session we learned that there are definite stages associated with everything which we do. And that although what we say to ourselves changes slightly at each stage our self statements nevertheless affect our behaviour and our attitude at any given point in time.

## Overview:

Today we are going to spend most of our time looking at our homework, and we will discuss some of the things which you have learned about what you say to yourselves. Then we will make a list of your most frequent self statements.

Acquisition and practice of recognizing and recording explicit negative self-statement patterns.

Let's spend some time talking about some of the things, positive or negative, which you have discovered that you say to yourself.

(Have each resident present their list of self statements and have them identify if the statements were used in the before, during or after phase.)

Now that you have some idea of the type of things you say to yourselves I want to focus on how those statements make you feel.

Let's play a game which will demonstrate what I mean. Would one of you say something bad to me like "You're stupid" or something like that, and I'll tell you how I feel as a result of what you said to me.

(I feel bad, my heart seems to be beating faster, I don't feel so welcome in this group, I feel like I should just quit what I am doing and go home.)

Now will someone say something nice to me like "You're OK, or "Your doing a good job" and again I'll tell you now I feel as a result of what you said to me.

I feel optimistic, almost cheerful and most welcome. It makes me think that what I am

doing is really going to work out.

There, do you see, or understand, how what was said to me seemed to affect my feelings? Exactly the same type of reactions occur when we talk to ourselves. If what we have said is negative and a put-down, we naturally feel put-down. Conversely, if we say positive, up things, to ourselves we feel up and positive.

Do you understand what I am talking about? Can you give me some examples of both the negative and the positive things you say to yourselves. I'll write your statements down and then you can use them as a start on your homework.

Alright, who would like to begin sharing some of their self-statments and I will write them down in the appropriate places for you.

Before you start telling me what some of your statements are I want to talk about the homework you will be requested to do. I've already told you that I will write down your statements and I will put them in the appropriate category eg: before, during or after statements. Then for homework I would like you to monitor yourselves to see how many times you use any specific statement and when you catch yourself doing so put a tick or X beside the phrase. This way we will develop a record of how many times we say something as well as having a record of how it resulted in you feeling.

Let's do an exercise which will demonstrate to you what I mean for you to do in your homework.

From this deck of cards select two black Kings and two red Queens. As you do this say everything aloud and as you use one of your before, during or after statements I will check it off, thereby developing a frequency count of your statements. Who wants to go first?

Give praise for their participation and new found awareness.

losure:

Now that you are aware of what you say to yourselves and you have a list of the more frequent statements which

you use you are a step close toward helping yourselves deal with daily stress. The ability to really listen to yourself is so important for the next stage in your development that you must concentrate on continuing to listen to your self-statements for homework.

Once again, write your self statements in the appropriate place on the sheet which I will give you. Put a tick beside a statement each time you catch yourself using it. If you like, include the statements you discovered from your last set of homework too. In short, I am asking you to really keep alert to yourself. The next time we will learn some ways to change what we say to ourselves.

But, before we go, let's review what we have learned so far about ourselves.

- 1) we know we talk to ourselves.
- 2) we know we listen to ourselves.

Have fun doing your homework and do remember to bring your recording sheets to the next session.

Homework for Training Session 4PositiveBEFORENegativeBEFOREPositiveDURINGNegativeDURINGPositiveAFTERNegativeAFTER

Training Session 5

## Review:

Last time we became aware that we have certain self statements which we repeat frequently to ourselves. For homework we continued listening to ourselves, taking note of how frequently we use the same statements.

## Discussion of homework:

Let's concentrate now on some of our negative self statements.

## Overview:

Today we are going to learn how to change the things we can say to ourselves in order to help us feel less stressed.

## Acquisition and practice in using positive self-talk.

Now, would each of you take a situation that is fresh in your mind and think of some before, during and after statements surrounding the situation. As each of you recall the statements you may either write them down yourself or I will do it for you. Either way, let's make a list of both positive and negative self-statements. When each of you have written your self-statements then we will examine them, looking for high frequency themes which run through them.

Let's spend some time talking about some of the things, positive or negative, which you have discovered that you say to yourself.

(discussion)

Now let's concentrate on making up some new statements which can replace those you have said to yourselves that are self-downers, or negative self-statments. Once you have identified some new self-statements you will practice saying them until you feel comfortable with them. Then we will put these new statements on a sheet and you can use them for a bases for your homework. But, first, we have to decide on some new self-statements. Remember they will probably be somewhat different for each of you. Then we will say these new statements out loud 6-8 times so you really become comfortable with them.

I'll show you what I mean. Let's pretend that one of my negative self-statements was something like "I can't do anything right". When I say that to myself I naturally feel stressed so now I'll make up a new self-statement. "If I go slowly and check my facts I can do nearly anything I want to." The I will practice it, just like you are going to do. (I'll repeat this 6+ times, each time strengthening the emphasis.)

Now how would each one of you like to look at your lists of most common negative self-statements and select 2 or 3 which you would like to change. After you have each done this, start practicing how you can change them into positive self-statements. When you think you have made up a really good positive statement tell me about it, or write it and show it to me and we will talk about it for a moment to make sure that it really is a positive self-statement. After you have decided on a new statement I want to hear you practice saying it out loud, just like I did earlier, until you feel comfortable saying it. The you can go on and change the next negative self-statement and so forth until you all have new self-statements, which you have practiced 5-6 times and no longer feel uncomfortable with. Any questions?

Again make a list on your personal homework sheet of your old negative self-statement and your new positive self-statement. For homework you will be asked to try and catch yourself using your old statement and then immediately saying your new statement. Whenever you do catch yourself, put a tick or a cross-mark beside the appropriate statement and make some notation of where you were or what you were doing when you caught yourself using the old statement. Any questions?

Let's get started building new self-statements to replace the negative ones. (Each resident will do this 6-8 times until they are comfortable saying their new statement.)

#### Closure:

Now you have learned another step toward helping yourselves deal with potentially stressful situations by changing what you say to yourselves, and you have practiced how to do it.



As I said before, the homework will be to practice catching yourself using the old statements and then correcting yourself by using the new statement. Put a tick on your recording sheet each time you do this. Secondly, practice saying your new statements 8-10 times each day while you are in a safe non-stressful situation. Chart when and/or where you did this practice. These excercises will help you turn these new positive statements into a habit.

Next time we will learn about another very important thing which we can do for ourselves which will go along way toward helping us deal with stress.

Homework for Training Session 5

For homework try and catch yourself using your old self-statements and then immediately say your new self-statement. Whenever you do catch yourself, put a tick beside the appropriate statement and make some notation of where you were or what you were doing when you caught yourself using the old statement.

Old Self-statement

New Self-statements

Put a tick for each time you practiced your new self-statements.

Training Session 6

## Review:

Last session we developed some positive self-statements for use in place of our earlier negative self statements. Recall we practiced saying these new statements aloud during our last session and you were asked to continue this practice, in a non-stressful situation for homework. Another point which came up last time is the "oops" phase or in other words the phase where you correct yourself. Remember that is where you must listen to what you say to yourselves, so that when you say negative statements you are able to say "oops" and correct yourselves by saying your positive self-statement.

## Review of Homework:

Now let's examine the homework. Does anyone have any questions? (discussion)

## Overview:

Today we are going to learn the value of self congratulation and we are going to practice using self congratulatory statements.

## Developing and practice of congratulatory statements:

You have all agreed that positive self statements make you feel better about yourselves, well so will statements in which you congratulate yourselves, in short, when you acknowledge your own efforts.

In much the same way that we developed positive self-statements we are going to develop some self-congratulatory statements. Self-congratulatory statements will probably be slightly different for each of us but that is as it should be because we are all different.

Think now, about some things which you can say to yourselves that are "a real pats on the back" for you. Again, as you say these things I will write them down so that we can all review them later. After we create a list of really good congratulatory statements I want each of you to select 2 or 3 statements that really feel comfortable to you. Then one at a time, each of you can

say the statements you've selected for yourself, aloud. Again this is so that you will begin to feel comfortable with the statements. Any questions?

Who wants to start? (Make a list of their suggestions for self-congratulatory statements.)

Putting it all together:

Now you are going to do another exercise. First, say aloud one of your positive self-statements followed by one of your self-congratulatory statements. Please repeat these sentences four or five times each, remembering to do it aloud.

Closure:

For homework this time practice putting everything together. First catching yourself saying a negative self-statement then switching to a positive statement followed by saying your congratulatory statement. Just to be on the safe side let's practice doing this a couple of times in preparation for your homework.

Just like every other time you have done homework we must make a record this time too. I am going to give you a separate sheet right now, to use as a guide for the homework this time. (see attached homework guide)

See, the sheet is divided into two parts, one part is for practice in non-stressful situations and the second part is for practice in real situations.

On the non-stressful side there is a space for you to write about where you were when you practiced putting all three stages together while you were in a non-stressful situation.

On the real situation side there is a place to write about where you were and then there is a place to say when, or what time of day it was that you did it. Also there is a place which asks how it felt. Fill in this space only when you practice putting everything together in a real situation. Do try to do this homework in a real situation at least 4-5 times before the next session. Then, just to complicate the show, grade the real experience according to the 0-5 scale which is explained on your sheet.

Once again remember to bring your recording sheets to the next session.

Homework for Training Session 6

For homework practice catching yourself when you say a negative self-statement then switching to a positive statement followed by saying your congratulatory statement. Do this in both non-stressful situations and in real or stressful situations.

Training Session 7

## Review:

At the last session you united, for the first time, all the parts of everything you have been learning, all your new coping skills. And, you practiced doing this during the session.

## Homework Review:

I bet you were all really busy getting your homework finished. Now I would like to hear your comments on it, if any.

## Overview:

Today you are going to practice the stages of uniting your new coping skills again in preparation for doing a real life task. I'll tell you about the task after you do some more practice of your coping skills.

## Application of all coping skills in vivo.

Today we are each going to make a picture. Here is a pile of magazines, some scissors, paste, and board to put the pictures on. Now I am going to make the task even harder, so that you have more practice using your new skills. You will have to cut out one woman, one man, one child, one plant and one piece of food. Then you will have to paste the pictures on the board.

The reason I am doing this is because so many of our daily stresses are because we have to do things we don't want to do. Now you have a bunch of new skills that can help you take alot of aggravation out of your daily tasks and lower the amount of stress that you experience. So here is an opportunity to really practice using your new skills. Remember go slowly and listen to what you say to yourself at each stage.

Lets get started.

Now you are going to practice using all your new skills, the before, during and after statements while imaging yourself in or doing one of the scenes/tasks which you identified at the beginning of this program as being stressful. But first let's do some more practice in uniting the coping skills. (Have each resident repeat

their combined statements 3-4 times.)

To help you remember I will give you a copy of the situations which you identified at that time. What I would like you to do is read your sheet and then say aloud your new statements as you prepare in your imagination for the event and as you experience the event and what you would say to yourself after it is over. Who would like to go first.

(once everyone has had an opportunity to complete this exercise query each resident about their current attitude toward their identified stressful situation.)

Give praise when each person is finished.

#### Closure:

Today you all had an opportunity to practice your new skills while getting prepared for and performing a task that none of you probably wanted to do. But it's behind you now and you can justifiably feel good for having done something that when you first started may have caused you some stress because you didn't really want to do it. And, each of you have imagined a situation and dealt with it in a different manner than you have in the past, a manner that has proved less stressful for you.

Next session we are going to spend our whole time talking about what you have learned, what you think about it and where you think you can use your new skills.

Again, I will give you a sheet on which to continue to keep record of the number of times you apply your new skills, the situations where you apply them and how you find that they have helped you. If you notice, the homework sheet is exactly the same as the one you had last week. Please bring your recording sheet and recording sheets to the last session. Any questions? See you next time.



Homework for Training Session 7

For homework practice catching yourself when you say a negative self-statement then switching to a positive statement followed by saying your congratulatory statement. Do this in both non-stressful situations and in real or stressful situations.

Training Session 8

## Review:

You are finished now and you have learned alot. You have learned that:

- 1) everyone talks to themselves and that doing so is normal.
- 2) you have learned to listen to yourselves.
- 3) you learned there are stages to doing things;
  - a) preparing for a task
  - b) performing a task
  - c) completing the task and congratulating yourself for having done it.

You have learned a lot. These new skills won't make your lives perfect but the skills will help remove some of the daily stresses you face because you now know how to make potentially stressful situations more manageable.

## Overview:

Recall I said last time that today I want to hear from you? What you think about this program? What you have learned? Plus I hope you will each share with all each other some of your successes.

## Discussion.

Let's practice the new statements some more and then we can make a plan for future homework that you can continue to do in the years to come. You have all worked very hard and you have made great headway. Now that you have new self-statements it is important that you remember to keep using them so that they become second nature.

Rather than me setting up pretend situations to practice your before, during and after statements, this time I would like you to do it. What I mean is that each one of you can think up a situation and then ask each one of us to tell you what we would say to ourselves if we were in that situation. How does that sound? Let's do it now,

who would like to start?

(Congratulate and praise everyone)

Now let's develop some different homework techniques which you can all share so that you will have some constant reminders of ways to rehearse your hard earned skills in the future, as you cope with daily stress. Does anyone have any idea of what sort of thing would help accomplish this goal? Please share it and again, I will write it down then later I will give you each a copy of the list so that in future you can have something to refer to.

(discussion and praise)

Closure:

For homework this time, continue to keep record of when you catch yourself using the old negative statements and switching to the new positive statements. Plus, should you think of any way other than the ways we have discussed tonight to be able to continue practicing in the future, write those down as well.

I want to congratulate all of you for all of the work you have put into this program. For next week which is our last session be prepared to give your opinions and suggestions about this program. You may be sure that I will listen to each of you.

Do your homework, bring your recording sheets with you again and I'll see you soon for our last meeting.

Homework for Training Session 8

For homework practice catching yourself when you say a negative self-statement then switching to a positive statement followed by saying your congratulatory statement.

New ways to practice in the future.

APPENDIX F

COMPLETE DISCUSSION/PLACEBO PROTOCOL

Overview of Training Sessions For Placebo Group

## 1. Verbal set.

Overview

Information Giving

Physical effects of stress.

Review

Closure

## 2. Review

Overview

Other reactions.

Closure

## 3. Review

Overview

The role of other people.

Closure

## 4. Review

Overview

How other people can lessen your stress.

Closure

## 5. Review

Overview

How do stressful experiences effect your behaviour?

Closure

## 6. Review

Overview

How do stressful experiences effect your sleep and hygiene?

Closure

7. Review

Overview

How do stressful experiences effect your leisure activities

Closure

8. Review

Overview

Developing a plan to cope with stress.

Closure

Training Session P1

## Introduction

Greet everyone and settle in.

## Verbal set:

Sometimes we are all faced with situations or tasks which seem to overwhelm us. What you will be learning here are ways to recognize stress and you will have the opportunity to develop a plan which will help you more readily manage our daily lives.

## Overview:

Today we are going to discuss some of our physical reactions to stressful situations.

I'll give you an example of what I mean. Until a few years ago I was terrified of slugs. If someone had told me then, that I would have to walk past a slug I would panic. Before I even got into sight of the slug I could feel my body tightening up, my stomach used to knot, my hands would be wet and I'd feel like I was close to tears.

Then when I was actually in the presence of a slug I'd be a mess. My heart would beat so fast I have often wondered that it didn't stop, my clothes would be wet because I would be covered in sweat. After I escaped from the presence of one of those charming creatures it would take as much as half an hour for me to calm down. By that, I mean to have my heart stop racing, and the crawling sensation to leave my skin, Can you all relate to this type of experience? Any questions?

## Information giving:

It is important that you realize that understanding your emotional reaction to stress by itself will not cure the problem, but it will help you view the situation from a more manageable angle.

First, let's define stress. Stress is defined as a complex reaction to a situation that exceeds a person's self-perceived ability to cope with that situation. Stress does not just land on us, it is not like a big



blanket which suddenly covers us. It just seems that way to us some times because we are caught off guard. Remember that stress is something each of us experience in varying degrees, at different times.

So what is involved in a reaction to stress? That question is what we are going to concentrate on throughout this program. We will be looking at the physical responses to stressful reactions as well as examining how reactions to stress effect our interpersonal relationships and general behaviour.

Any questions so far?

Let's get started on a journey of self discovery.

Remember earlier I told you that everyone experiences stress at some time or another. The fact that we do experience stress is normal but how we experience it and the things that cause us to experience it are different for all of us.

Even animals experience stress. And animals, like humans, experience it differently one from another. For example, you all know how cats are supposed to be afraid of dogs, and some cats are but not all cats. So the cats that are not afraid of dogs do not feel stressed when in the presence of a dog, but can you imagine the stress which must be experienced by most cats in the presence of a dog? Boy that must really be something for them. The point is that even with cats, some things stress some cats, but not others. It's the same with people.

Physical effects of stress:

Let's spend the rest of our time discussing some of the different things that have caused us stress in the past and how we reacted physically in those situations. Like any other learning situation you will have some homework after each session. This time you will be asked to repeat what we are going to do here, for your homework.

I'll start first by telling you about a very stressful situation which happened to me and how I reacted, or behaved, because of it. Then you can each share your stories.

The first time I took a statistics exam at school I

was so scared that I wouldn't be able to do the test that I was unable to read the questions. I remember looking at the exam sheet and it may as well have been written in Greek for all I could tell. My hands were wet and shaking, I thought I was going to throw up, my stomach was so upset and all I wanted to do was cry. I was in such a bad shape that I had to leave the room and drop the course. Believe me that was horrible because I had to face taking that course again if I wanted to continue my education.

Just so we can keep track of everyone's experiences and to see how many different reactions there are I am going to make a list which we can all look at later.

Who want to be next and tell their story?

#### Discussion

(Each resident will be given the opportunity to tell their own story.)

#### Review:

Today we have learned a number of new things. Let me review them.

1. We learned that stress is normal.
2. That everyone experiences stress.
3. That the things which we find stressful may not be stressful to everyone else.

#### Closure:

Next time we will discuss some more things about our reactions to stressful situations. Now I am going to give you a sheet of paper on which I would like you to write about some of your stressful experiences and how you felt physically while enduring them, much in the same way that we have discussed today. Maybe you will be able to think of some more examples of how you react physically in a stressful situation.

Remember you don't have to write a whole bunch but do write enough so that you can recall the situation. Please bring your recording sheet to the next session

with you. OK we are finished for today. Do any of you have any other questions?

Homework for Training Session P1

Write about some past stressful experiences. Try to identify some of the ways you felt physically.

Remember, you don't have to write a whole bunch, but do write enough so that you can recall the situation.

Training Session P2

## Review:

Last time we talked about stress and how we experienced it physically.

Let's look at your homework now and discuss it.

## Discussion

## Overview:

Today we are going to discuss some of the other kinds of reactions you can experience when in a stressful situation for a long period of time.

## Other reactions:

I'll give you an example of what I mean by other reactions.

Sometime when I have been in a stressful situation for a long time I seem to get a rash on my hands. I know that some people get hives and things like that. Now I would like all of you to tell me about some of the things that you experience. Let's talk about them for a while.

## Discussion

Everyone will be encouraged to tell their stories.

## Closure

Today we have learned that there are numerous ways to experience stress.

For homework this time, make a list of some of the ways that prolonged stress seems to affect you. I'll give you a recording sheet on which you can keep track of your thoughts on this matter. Please bring your recording sheet to the next session.

Homework for Training Session P2

For homework please write down some of the ways that prolonged stress seems to effect you.

Training Session P3

## Review:

Last time we discussed how prolonged stress effects our reactions.

Let's look at your homework now and discuss it.

## Discussion

Everyone will be given an opportunity to contribute.

## Overview:

Today we are going to discuss how other people could affect, or increase, the stress you feel in various situations.

## How other people can affect our stress.

For example, when I am tired and other people are making alot of noise it bothers me. Another example is when people are late for appointments or dates, I don't like that and it increases my stress.

Let's spend the rest of our time talking about things which other people do, or don't do, that causes you to experience more stress.

## Discussion

Each person will have an opportunity to contribute.

## Closure

Today we learned that the behavior of other people can increase our stress.

For homework try to think of some more examples, like the ones we have talked about today.

Homework for Training Session P3

For homework please write down some examples of how other people seem to play a role in your reactions to stressful situations.



Training session P4

## Review:

Last time we discussed how other people affect our reaction to stressful situations.

Let's take a look at the homework and review some of the examples you have come up with and discuss them.

## Discussion of homework:

Everyone will be given an opportunity to contribute.

## Overview:

Today we are going to discuss how you think other people could lessen the stress you feel in various situations.

How other people can lessen our stress.

For example, when I am really busy and my husband tells me he wants a cup of coffee I feel alot more stressed because I think he should let me get on with my work and not bother me. If he went and got his own coffee he would be helping to lessen my stress.

Do you all see what I mean? Can each of you recall situations that are like the one I have just described?

Let's spend the rest of the time discussing how other people can lessen your reactions to strsss. Who would like to go first?

Again I will keep a list of the various situations so we can all examine it later.

## Discussion

Each person will have an opportunity to contribute.

## Closure

Today we learned that the behaviour of other people can effect how we experience stress.

For homework try to think of other examples of how people can lessen our stress.

Homework for Training Session P4

For homework please write down some of the ways that other people can lessen stress for you.

Training Session P5

## Review:

Last time we discussed how other people could lessen the amount of stress that we are exposed to.

Let's look at your homework now and discuss it.

## Discussion

Everyone will be given an opportunity to contribute.

## Overview:

Today we are going to examine how stressful experiences effect your behaviour.

How do stressful experiences effect your behavior?

As I have done in the past I will start our discussion by giving you an example of how I find that stressful experiences effect my behavior.

For one thing when I am feeling stressed I often want to go to sleep. How about the rest of you? How does stress effect your behavior?

Again I will keep a list of the various ways you find stress can effect your behavior, so we can look at it later near the end of our discussion.

## Closure

We have learned today that stressful situations often result in a change in our behaviour.

For homework please write down some of the ways that you find the experience of stressful situations can result in a change in your behavior.

Homework for Training Session P5

For homework please write down some of the ways that stressful experiences effect your behaviour.

Training Session P6

## Review:

Last time we discussed how stressful experiences affect our behaviour.

Let's take some time now to look at the homework and discuss what some of the changes in behaviour are that you found are related to the experience of stress.

Let's spend some more time discussing these.

## Discussion

Each person will have an opportunity to contribute.

## Overview

Today we are going to examine how stressful experiences affect your sleep and hygiene.

How do stressful experiences affect your sleep and hygiene?

As I have done in the past I will start our discussion by giving you an example of what I mean.

When I am experiencing stressful situations I often find that I have strange dreams, also I don't seem to care about how I look when I am feeling stressed.

How about the rest of you? How does stress affect your sleep or hygiene?

Again I will keep a list of the various things you come up with, so we can look at it later near the end of our discussion.

## Discussion

Each person will have the opportunity to contribute.

## Closure

We have learned today that stressful situation often result in a change in our sleep and how we take care of ourselves.

Homework for Training Session P6

For homework please write down some of the ways that stressful experiences affect your sleep and hygiene.

Training Session P7

## Review:

Last time we discussed how stressful experiences affect our sleep and hygiene.

Let's take some time now to look at the homework and discuss what some of the changes are in sleep and hygiene that you found are related to the experience of stress.

Let' spend some more time discussing these.

## Discussion

Each person will have an opportunity to contribute.

## Overview

Today we are going to examine how stressful experiences affect you leisure activities.

How do stressful experiences affect your leisure activities?

As I have done in the past I will start our discussion by giving you an example of what I mean.

When I am experiencing stressful situations I often find that I have no interest in doing some of the things which I normally find enjoyable, such as reading or watching TV.

How about the rest of you? How does stress affect your attitude toward leisure activities?

Again I will keep a list of the various things you come up with, so we can look at it later near the end of our discussion.

## Discussion

Each person will have the opportunity to contribute.

## Closure

We have learned today that stressful situations can affect how we experience our leisure activities.

For homework please write down some of the ways that you find the experience of stressful situations can result in a change in your leisure activities.



Homework for Training Session P7

For homework please write down some of the ways that stressful experiences affect your leisure activities.

Training Session P8

## Review:

Last time we discussed how stressful experiences effect our leisure activities.

Let's take some time now to look at the homework and discuss what some of the changes are in your attitude toward your leisure activities when you experience stress.

Let' spend some more time discussing these.

## Discussion

Each person will have an opportunity to contribute.

## Overview

Today we are going to develop a plan that will help you effectively cope with stress.

## Developing a plan to cope with stress.

As I have done in the past I will start our discussion by giving you an example of what I mean.

When I am experiencing stressful situations I often find that I take a hot bath, it helps me handle things easier.

How about the rest of you? What do you think would be a good plan for managing daily stress?

Again I will keep a list of the various things you come up with, so we can look at it later near the end of our discussion, The you can each select the plan which you think will work best for you.

## Discussion

Each person will have the opportunity to contribute.

## Closure

We have learned today that it is possible to make a plan to handle stress and we have each selected on that we

think will work for us. Now all we have to do is put our new plan into action.

For homework please write down some of the ways that you have put your new plan into action and also write about the effect the plan had for you.

Homework for Training Session P8

For homework please write down some of the ways you have put your new plan into action and also write about some of the effects the plan had for you.

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