Chapter 2

Review of Literature
In this chapter an attempt has been made to recapitulate the researches which have been conducted in the area. Since it is humanly impossible to list all the work that has been done, therefore important milestones and major studies which provide perspective of the present work are being put forward.

We first examine the studies regarding neuroticism studied in relation to depressive and anxiety disorder. Since both genetic and social factors are thought to contribute to neuroticism, therefore studies dealing with both aspects will be highlighted.

Longan, Phillips, Hooe (2003) studied the relationship of positive affectivity (PA) and negative affectivity (NA) (which is component of neuroticism) to anxiety and depression in children. In this longitudinal study of 270, fourth to eleventh grade children [mean age = 12.9 years SD=2.23] confirmatory factor analysis supported a 2-factor orthogonal model of children’s self reported affect and revealed that the concurrent relation of NA and PA with anxiety and depression. Structural equation modelling demonstrated moderate cross-time stability of trait PA and NA consistent with a temperament view of these factors, as well as partial support for the role of PA and NA in the development of anxiety and depression symptoms in children.

Gamble, Talbot, Duberstein and Conner (2006) examined neuroticism’s role in the association between childhood sexual abuse and
severity of depressive symptoms. It was observed that neuroticism partially accounted for the association between severe childhood sexual abuse and depressive symptom severity. Self-consciousness, a facet of neuroticism conceptually related to shame, also partially accounted for that relationship. These findings suggest that neuroticism may be one way in which childhood sexual abuse contributes to depressive symptoms in later life.

Ellenbogen and Hodgins (2004) conducted study on parents with bipolar disorder, with major depression, and those with no mental disorder and their 146 children between 4 to 14 years of age. High neuroticism in parents was associated with internalizing and externalizing problems among the children as assessed by parents and teacher rating on the Child Behaviour Check List and clinician ratings. The results suggest that high neuroticism in parents with major affective disorder is associated with inadequate parenting practices and the creation of stressful family environment.

Findings of Scalzo, Williams, and Grayson (2005) indicate that mothers with poorer self-assessed health respond with more negative emotions, more extensive caretaking behaviours, tolerated more extreme sick role behaviours from the child, and rated their child’s overall health more poorly. Maternal neuroticism was found to be related to negative affect.
Another study was undertaken by Davila, Karney, Hall, Bradbury and Thomas (2004), with the objective to examine within subject association between depressive symptom and marital quality over time to address gender differences in the magnitude and direction of these associations, and to determine whether neuroticism moderates the strength of these associations. Hierarchical linear model confirmed the existence of bidirectional within subject association between marital satisfaction and depressive symptoms. Gender difference was not significant, although neuroticism strengthen the effect of marital distress among husbands.

Gallant and Connell (2004) examined the mediating role of health behaviours in the relationship between neuroticism and depressive symptoms among spouse caregivers. Path analysis was used to test model of the caregiver stress process among 233 caregivers of people with dementia. Results indicate that neuroticism has a significant direct effect on depressive symptoms and also indirectly influences depressive symptoms through health behaviours and perceived stress.

Wupperman and Neumann (2006) examined the relations between biological sex, socialized masculinity, rumination, neuroticism, and depressive symptoms in a large sample of young adults (N=589). Structural equation modelling revealed that rumination with sadness
predicted neuroticism and depression, whereas rumination—in general predicted only neuroticism.

Similar findings were obtained by Muris, Roelofs and Rassin et al (2006). In a sample of 73 undergraduate students support was found for a mediational model in which neuroticism was associated with cognitive factor of worry and rumination, which in turn is related to anxiety and depression.

Jorm, Christensen, Henderson and Jocomb et al(2000) in a longitudinal study of college students, found that high neuroticism and low extraversion had a synergistic effect in predicting anxiety and depression. Three years later researchers replicated their finding using data from 2 community sample in which subjects were followed over 3-4 years. Both studies found that neuroticism predicted anxiety and depression but there was no neuroticism x extraversion effects.

Watson, Gamez and Simms (2005) examined relations among neuroticism/negative emotionality (N/NE), extraversion /positive emotionality (E/PE) and mood and anxiety disorders. They found E/PE (Inversely) correlated most strongly with anhedonia/depressed affect and social anxiety. Similarly N/NE is a general predictor of psychopathology; it correlate more substantially with subjective distress and dysphoria than with other types of dysfunction.
Oldehinkel, Van den Berg, Bouhuys and Ormel (2004) examined the validity of the vulnerability-accumalation model of depressive episode in later life. Several psychosocial vulnerabilities indicators were assessed premorbidly, during the depressive episode and after remission. High level of psychological distress, low life satisfaction, chronic somatic disease high neuroticism, low scores on extraversion, mastery and self efficacy appeared to be predictors of depression in this sample.

Zobel, Barkow, Schulze and Von et al (2004) conducted a study in which elevated neuroticism, depressive temperament and dysfunctional regulation of the hypothalamic–pituitary adrenocortical (HPA) system are considered as risk factors for unipolar depression. It was concluded that this constellation may propose that HPA dysregulation is the endocronological basis for both neuroticism and depressive temperament.

Sen, Nesse, Stoltenberg and Li et al (2003) explored the possibility that variation in the brain-derived neurotrophic factor (BDNF) gene is, in part responsible for the population variation in neuroticism. A community sample of 441, 20-40 year-old subjects were studied, genotyping a G-A single nucleotide polymorphism (SNP) responsible for a valine–methonine substitution in the pro domain of BDNF. The less common conserved Met allele was associated with significantly lower mean
neuroticism scores. It is concluded that this study provides further evidence and one possible mechanism linking BDNF to depression.

Roy (2003) examined whether early childhood adversity may be a determinant of neuroticism. The result indicates that there was a significant relationship between childhood trauma scores and neuroticism scores. There were also significant relationships between childhood trauma questionnaire sub scores with emotional abuse, physical abuse, sexual abuse, emotional neglect and physical neglect.

Role of neuroticism was observed in other psychopathologies also. Cervera, Lahortiga, Martinaz, Gual and et al (2003) assessed the role of neuroticism and low self esteem as risk factors for eating disorder (ED) in a representative sample of girls 12-21 years old from Navarre, Spain. Girls who were free from any ED in 1997 were followed up for 18 months and were used to examine association between neuroticism and low self esteem and incidence of ED. Results provide prospective evidence supporting the role of neuroticism and low self esteem as major determinants of ED.

In a study conducted by Miller, Schmidt, Vaillancourt Trancy, Mc Dougall Patricia et al (2006) Eysenck Personality Questionnaire (EPQ), Eating Disorder Inventory (EDI) and The Eating Attitude test (EAT-26) were completed by 196 first-year undergraduate females. It was found that high neuroticism was related to high scores on the EAT-
26 measure, replicating previous work. Thus a combination of neuroticism and introversion may be a risk factor for symptoms of eating disorder in a non clinical sample of university women.

Goodwin and Hamilton (2002) sought to determine the relationship of panic attacks, cigarette smoking and neuroticism. Data suggest that neuroticism may reflect a shared vulnerability for the co-occurrence of cigarette smoking and panic attacks.

Muris (2006) examined the effects of neuroticism and effortful control on broad range of psychopathological symptoms in youth. Non clinical adolescents aged 12-15 years (N=173) completed questionnaire for measuring neuroticism, effortful control and psychopathological symptoms. Results showed positive correlation between neuroticism and symptoms, whereas, interactive effect of neuroticism and effortful control on psychopathological symptoms was found. In particular the combination of high level of neuroticism and low level of effortful control was associated with high level of psychopathological symptoms.

In a study by Krabbendam, Janssen, Bank, Bijl et al (2002) a population sample of 3929 individuals (aged 18-64) with no lifetime evidence of psychosis were interviewed with the Composite International Diagnostic Interview(CIDI) and were administered the Groningen Neuroticism Scale and the Rosenberg Self-Esteem Scale at the baseline and 1 and 3 years later. Baseline neuroticism and self esteem predicted
first ever onset of psychotic symptoms at year three. When adjusted for each other and level of anxiety and depression, neuroticism was the strongest independent predictor for onset of psychotic symptoms.

The ultimate goal which human beings strive for is well being. Sense of well being is a logical consequences of both physical and mental health. It affects one’s perception of the world. (i.e. peoples evaluation of their lives and life realities). Neuroticism is one personality variable which inversely affects this sense of well being. When some problem is there, then the presence of neuroticism leads to perceive that problem in exaggerated form. Most strategies used by therapists and counsellors aim to enhance sense of well being by motivating clients to re-perceived and place their problems within realistic domain. This permits management and constructive handling of problems. Many researches have brought out the relationship of neuroticism with subjective well being.

Harris and Lightsey (2006) tested whether constructive thinking (CT) mediated the relationship between both neuroticism and extraversion and subjective well being component. Measure of each construct was administered to 147 undergraduate volunteers twice over 4 weeks. In analyses, subjective well being and constructive thinking fully mediated the relationship between neuroticism (inversely) with positive effect and happiness.
Libran and Howard (2006) examined the association between personality dimensions (extraversion and neuroticism) and subjective well being. A total of 368 students from the university of Rovira i Virgili completed the extraversion and neuroticism subscales of the revised Eysenck Personality Questionaire, the Satisfaction With Life Scales and the Positive and Negative Affect Scale. Regression analyses revealed the personality variable of neuroticism as one of the most important correlates of subjective well being.

In a study by Williams, O’Brien and Colder (2004) the effect of neuroticism (N), Extraversion (E) and their interaction on a variety of self-assessed health and health cognition variables were examined in 66 male and 69 female participants. Neuroticism was found to predict poorer health behaviour self-efficacy, particularly in the presence of low E. E was related to health behaviour outcome expectancies and likelihood estimates for positive health outcomes. The finding suggests that N and E are reliable predictors of health – relevant cognition.

Johnson (2003) found neuroticism widely documented to reflect an exaggerated reporting of physical symptoms, due to an over sensitive focus on internal stimuli in individuals high in this traits. Their study scrutinized the responses to 409 retrospective health reports to see if negative affect (NA), (indicating neuroticism), was differentially related to different types of physical complaints. The role of other personality
risk factors, related to neuroticism and coping styles was also examined. The findings show that high NA was uniquely related only to disease of tension type, such as high blood pressure, migraine, or neck pain. Of the other factors, which all correlated with NA, hostility, self – critical attitude, and coping were uniquely related to these same complaints. It is concluded that neuroticism has a more genuine venerability potential to disease.

Jang, Mortimer, Haley and Chisolm et. al (2002) conducted a study to explore the factors that influence older individual’s subjective perception of hearing problems. In addition to objectively screened hearing ability, non auditory factors such as stressful life conditions, visual impairment, chronic disease, disability, recent stressful life conditions were studied. Neuroticism, and social resources were hypothesized to be predictors of self – perceived hearing problems. A significant interaction was observed between neuroticism and screened hearing, indicating that the combination of poor hearing and high neuroticism increased the level of self – perceived hearing problems.

Williams, Colder, Lane and McCaskill et al (2002) examine the relationship between neuroticism(N)and physical symptoms reports. Ninety four individuals (aged-31-82 years ) with type 2-diabetes, monitored diabetes related symptoms, rated positive and negative affect (NA and PA)estimated their blood glucose(BG)levels, and tested their
actual BG levels with a glucometer 4 times per day for 7 days. There was a evidence that N was related to overestimation of BG. Results are discussed with respect to potential effects of N on the processing of negative self-relevant information and on self-regulatory behaviour in health contexts.

Neuroticism has been found to detrimentally affect individuals performance in various spheres. Work place is a situation to which each person is exposed for a considerable phase of life span. The following studies demonstrate that although negative mood states are hedonically unpleasant, they can be beneficial in some ways for individuals high on neuroticism.

Tamir (2005) demonstrated that when driven by performance goals, people can be motivated to experience unpleasant affect because of its instrumental benefits. In 4 studies, individuals high on neuroticism were more likely than those low in neuroticism to choose to increase their level of worry, as indicated by self reported preferences (study 1) and by behavioural choices in experimental settings (studies-2-4). As predicted, such preferences were evident when expecting to perform demanding tasks but not when expecting undemanding tasks (study-2). Study 4 suggests that such preferences for short – term unpleasant affect may be beneficial to performances.
Tamir and Robinson (2005) found that individuals high on neuroticism were faster to make evaluations when in a negative mood state like sadness. They presented studies involving both naturally occurring and manipulated mood states and demonstrated a trait consistent interaction within the context of neuroticism and negative mood states.

Smilli, Yeo, Furnham and Jackson (2006) evaluated a model suggesting that the performance of highly neurotic individuals, relative to their stable counterparts, is more strongly influenced by factors relating to their allocation of attentional resources. First an air traffic control simulation was used to examine the interaction between effort intensity and scores on the anxiety subscale of Eysenck personality profiler. Overall effort intensity enhanced performance for highly anxious individuals more than for individuals with low anxiety. Second, a longitudinal field study was used to examine the interaction between office busy-ness and Eysenck Personality Inventory. Changes in office busy-ness were associated with greater performance improvement for highly neurotic individuals when compared with less neurotic individuals. These studies suggest that highly neurotic individuals outperform their stable counterparts in a busy work environment or if they are expending high level of effort.
Robinson, Wilkowaski and Mier (2006) hypothesized that a greater degree of stimulus – response variability could either serve an adaptive or maladaptive control purpose, depending on level of neuroticism. Specifically, a more variable relation between stimulus and response may be emotionally beneficial if such flexibility is used to support neurotic forms of self – regulation. As hypothesized, greater stimulus- response variability tended to be associated with less distress among individuals low in neuroticism but more distress among individuals high on neuroticism.

Murray, Allen and Trinder (2003) conducted study to advance understanding of mood variability by longitudinally investigating the personality correlates of variability in Positive Affect (PA) and Negative Affect (NA). A substantial random community sample (n = 303 adults) gave mood report twice a week for a 2 year period. Consistent with earlier research, the general vulnerability trait N emerged as the sole significant predictor of mood variability.

Cox, Luz, Swickert and Hitter (2004) manipulated workload levels to test Eysenck's theory of neuroticism by examining individual’s differential response to the stress of sudden shifts in workload. Multiple regression analyses were conducted and results indicated that higher level of neuroticism were associated with decreased reaction time in both conditions neuroticism evidenced fewer correct response in Low-to-
Highload conditions Results of this study are generally consistent with Eysenck’s theory of neuroticism.

Unsal and Caliskur (2005) wanted to understand whether highly neurotic people’s evaluation of job candidates substantially differed from those who were low on this personality dimension. The students were shown a video film displaying three job candidates (qualified, unqualified or ambiguously qualified) applying for a student counseling job. They were then asked to evaluate the candidates on a number of aspects. The results showed that high–neurotic participants evaluated more negatively, and significantly differed from their low neurotic counterparts in their evaluation of the qualified candidate. Those in the high – neurotic group were also much more negative in their judgment of the hire ability of the qualified candidates. These findings highlight the importance of selector’s personality in the selection of personnel.

Gaddard, Patton and Geed (2004) investigated the ability of neuroticism to explain variance in burnout scores obtained from a sample of Australian case managers who work with individuals experiencing unemployment. In a series of hierarchical regression analyses, neuroticism added significantly to the explanation of variance in all 3 Maslach Burnout Inventory (MBI) scales after summary scores describing work stress and work relationships had been entered at an earlier step.
Elovainic, Kivikaki, Jahera and Virtanen et al (2004) examined whether hostility and neuroticism moderated the effect of organizational justice perception of short – term sickness absence. It was observed that low relational justice perceptions were a greater risk for sickness absence for male employees with higher neuroticism than for their colleagues with lower neuroticism.

Some other important researches in this area which throw light to understand this variable are mentioned here.

Shurgot, and Knight (2006) assessed the new transactional stress and social support model, postulating the role of neuroticism, ethnicity, familism, and social support in perceived burden in dementia caregivers. Results corroborated the model, focusing on neuroticism and quality of social support in modelling, perceived burden in family caregivers. Findings call attention to the role of presumably long standing individual differences in neuroticism that influence caregiver appraisals of stress and social support.

Zhang and Huang (2002) conducted a study to investigate the relationship between thinking style and big five personality dimension in a sample of 408 (149 males and 259 females), aged 17-30 years. As predicted, the more creatively – generating and more complex thinking styles were related is the extraversion and openness personality
dimension, and the more norm-favouring and simplistic thinking styles were related to neuroticism.

Stability of neuroticism was examined by De Gucht (2004). They examined the temporal stability of neuroticism and alexithymia in patients presenting to their primary care physician with medically unexplained symptoms and compared this to the stability of negative and positive affects, anxiety and depression. A total number of 318 patients were assessed at base line and 6 month follow up. Whereas the affective state dimension changed significantly over the follow-up periods neuroticism and alexithymia were substantially stable.

Gamer (2003) in a study of 155 participants, found evidence of both stability and change in Big five personality traits for both men and women. The use of the defense mechanism of denial, projection and identification at early adult hood was found to be related to early adult personality traits, and to predict change in personality traits in middle adulthood and late middle age. Significantly, the importance of defense mechanisms for predicting personality change increased with age, while the importance of IQ decreased. The use of immature defenses of denial and projection predicted increased neuroticism, decreased Extroversion, and decreased Agreeableness. However, in interaction with IQ, defense mechanism were found to have a compensatory effect, in that low IQ in
combination with strong defense use predicted a more favourable personality outcome.

Klonowicz (2003) examined the concept of unrealistic optimism by assessing (1) intra individual differences in unrealistic optimism across various types of events and (2) the effect of situational and individual factors on unrealistic optimism. Unrealistic optimism was operationally defined as a person’s tendency to underestimate the relative probabilities of negative events. Result show unrealistic-optimism depends on the context (threat), neuroticism, and socio-economic factors.

COGNITIVE INTERVENTION

Cognitive intervention is a fast growing form of psychotherapy. Its claims of effectiveness for depression is backed up by well developed research projects of Beck’s work. But there was skepticism with regard to the approach’s effectiveness when applied to a wider range of problems. Certain researches are cited here to demonstrate its applications to a wide range of problems successfully.

Echeburua, de corral, Zubiarreta and Sarasua, (1997) compared the effectiveness of 2 therapeutic modalities in the treatment of chronic posttraumatic stress disorder (PTSD) in victims of sexual aggression: (1) self – exposure and cognitive restructuring and (2) progressive relaxation training. A multi group experimental design with repeated measures was used. Most treated patients improved, but the success rate was higher in
all measure in the exposure and cognitive restructuring group immediately on post treatment and at follow up.

Dehlen and Deffenbacher (2000) conducted study on high-anger undergraduates. They were assigned to 8 group sessions of Beck’s full cognitive therapy (FCT) focusing on both cognitive and behavioral change, cognitive restructuring only (CRO) focusing only on cognitive change, or a no-treatment control. Treatment groups, while not differing from each other showed reduction in trait anger, cognitive, emotional and behavioral components of anger, the individual’s greatest ongoing source of anger, and anger-related physiological arousal. Compared with controls, CRO reduced trait anxiety and depression.

In a study by Carter, Marin and Murrell (1991) a sample of 24 high anxiety – sensitive college students were randomly assigned to receive either five consecutive trials of voluntary hyperventilation or five consecutive trials of hyperventilation with cognitive restructuring instructions. As expected, high anxiety sensitive participant evidenced significant decreases in anxiety symptoms when habituation was accompanied by cognitive restructuring. Hofman et al (2008) found cognitive behavioral therapy efficacious for anxiety disorder.

Steigerwald and Stone (1999) discuss alcoholism as a thought disorder and cognitive restructuring as an effective model of treatment. The benefits derived from participation in Alcoholics Anonymous (AA) as a
therapeutic strategy of cognitive restructuring are presented. This cognitive intervention is defined and examined in terms of its effectiveness with various populations in general, and specifically, with alcoholics. Therapeutic gains are discussed in areas of participation in the 12-step program such as meetings, sponsorship, and working the 12 – steps (of AA). Cognitive restructuring occurs in therapy and in AA. It can, therefore, be the bridge that encourages understanding and cooperation between the 2 factors influencing recovery.

An article by Otto (1999) on cognitive–behavioral therapy for social anxiety disorder has emphasized cognitive restructuring and exposure interventions, delivered alone or in combination, in either individual or group formats as strategies for change and improving outcomes. Treatment programs emphasizing these interventions are associated with both acute improvements and longer term maintenance of treatment gains.

Henry and Wilson (1990) conducted a study on 54 Ss (aged 35 -83 years) with chronic distressing tinnitus. These were randomly allocated to 1 of 4 treatment conditions: 1 attention control and imagery training (ACI); (2) cognitive restructuring (CR); (3) combined ACI plus CR; and (4) a waiting list control (WLC). The three treatment conditions (combined) were associated, with improvements in tinnitus–related distress, reductions in tinnitus–related cognitions and an increase in the frequency of use of coping strategies.
Thompson (1999) in a single case study examined the treatment of blood–injury–injection (BII) phobia in a 14 year old female. Thirteen one-hour sessions of cognitive behavioral therapy were conducted. The intervention included a combination of exposure, tension and cognitive restructuring in an effort to produce clinically significant reduction in anxiety and fainting in response to BII stimuli. Result shows dramatic reduction in subjective distress in BII situation from baseline to post treatment. In contrast to baseline, fainting did not occur during treatment. The subject rated cognitive restructuring as the most effective treatment component for the latter half of therapy.

Baro (1999) examined the effects of a cognitive restructuring program called “Strategies for Thinking Productively” (STP) on inmate institutional behavior and disciplinary infractions. Although research suggests that cognitive restructuring programs reduce recidivism, little is known about the effects of such programs on institutions behavior. The STP program consists of 2 phases. Phase 1 consists of an orientation to the program, and a series of 14 lessons designed to teach basic concepts and techniques (over an eight week period). Phase 2 provides an opportunity to put into practice the lessons learned in Phase 1. Inmates complete writing assignments and “thinking reports” and participate in group treatment. This study compared randomly selected inmates who participated in other self-help programs and randomly salted inmates.
who participated in Phase 1 of STP with inmates who had been in Phase 2 of STP for at least 6 months. The total sample size was 123. The follow-up period was one year. The findings suggest that participation in the phase 1 appears to reduce refusals to obey a direct order, whereas participation in the Phase 2 appears to reduce assaults.

Sinha and Jalan (2001) studied the combination as well as the specific efficacy of relaxation, exposure and cognitive restructuring in regard to treatment of social phobia. The use of relaxation in the treatment of social phobia has not received much importance despite it being very effective in managing autonomic systems. In this study of a 42-year-old man with social phobia, the combination of therapies was very effective in reducing symptoms of social phobia.

Master and Jellinck (2005) found that during a psychiatric hospitalization of 5 to 10 days, cognitive-behavioral therapy (CBT) strategies can be used for the management of inpatients and to support the transition to outpatient treatment. CBT was taught from manuals and because of time limitation the focus was on basic concepts of cognitive restructuring. This appears to provide a productive approach for treating patients in a crisis inpatient setting.

Pavlin (2005) presence views that emphasize cognitive restructuring as a critical component in couples therapy. Pointing out that systems and cognitive behavioral perspectives share ‘an emphasis on
multidirectional, reciprocal influence’ the author views cognitive restructuring as directive approach with its focus on restructuring the core beliefs or ‘schemas’ which shape people’s perceptions of their experiences.

Datliiio (2005) presents a case study as an example of how cognitive - behavioral strategies, namely, cognitive restructuring of couples schema and the use of specific homework assignments, may be integrated into the course of couple therapy. The article suggests that all therapeutic modalities, regardless of their theoretical orientation, embrace some form of cognitive restructuring and behavioral instruction as a primary agent of change.

Bryant, Molds, Gutheric, Dang et al (2008) investigated the extent to which providing cognitive restructuring (CR) with prolonged imaginal exposure (IE) would led to greater symptom reduction than providing IE alone for participants with posttraumatic stress disorder (PTSD). Treatment involved 8 individual weakly sessions with considerable homework. Results showed, IE / CR participants had greater reduction in PTSD and maladaptive cognitive styles than IE participants at follow up. These findings suggest that providing CR in combination with IE may enhance treatment gains.

Kemp, Young, Szulecka and de pavw. (2003) present the case of a female (aged 45 years) with paraprosopia, (that is the experience of
seeing faces sometimes distorted in grotesque and threatening ways). The subject underwent neuropsychological testing and cognitive behavioral treatment. Treatment focused on relaxation training, exposure, and cognitive restructuring. Ratings of subjective distress, self-reports, and mood rating scale data were collected throughout the 8-week treatment period and at 6-week and 6-month follow-ups. Results show a reduction in the frequency of seeing the face and a substantial reduction in associated distress.

Fitch and Marshall (2002) argue to use cognitive restructuring technique as a supervision tool for counselor educators. Students in counseling practicum courses experience many self-defeating thoughts and anxieties. It is contended that these worries can impede their performance as new counselors and can have a negative impact on the supervision process.

Ehde and Jensen (2004) conducted a study to determine the feasibility of cognitive restructuring intervention relative to an education intervention for treatment of pain in persons with chronic pain, secondary to disability. Participants in the cognitive groups reported greater pre-to post-treatment decrease in pain than those in education group. Findings support the feasibility of conducting intervention trials in persons with disability, related to chronic pain.
Grunert, Smucker, Weis and Rusch (2003) present a detailed cognitive-behavioral analysis of two industrial victims suffering from PTSD who failed to benefit from PE (prolonged exposure) alone, but who subsequently made a quick and lasting recovery when imagery based, cognitive restructuring components were added to their exposure treatment. A comparative analysis is given by the researcher of the theoretical underpinning and treatment components of the behavioral and cognitive treatment used with the subjects in this study – PE and imagery receipting and reprocessing therapy (IRRT). PE is a behavioral treatment based upon theories of classical conditioning that relies on exposure, habituation, desensitization, and extinction to facilitate emotional processing of fear. By contrast, IRRT is cognitive therapy applied in the context of imagery modification. In IRRT, exposure is employed not for habituation, but for activating the trauma memory so that the distressing cognitions can be identified, challenged, modified, and processed.

Willson, Boufford and Mackenzie (2005) have presented reviews and meta–analysis that have supported the hypothesis that offender rehabilitation programs based on cognitive behavioral principles reduce recidivism. This article quantitatively synthesizes the extent of empirical evidence on the effectiveness of structural cognitive–behavioral programs delivered to groups of offenders. The evidence summarizes supports the claim that these treatments are effective in reducing criminal behavior.
among convicted offenders. All higher quality studies reported positive effects favouring the cognitive – behavioral treatment program. Specifically, positive reductions in recidivism were observed for moral resonation therapy; reasoning and rehabilitation, and various cognitive – restructuring programs. The evidence suggests the effectiveness of cognitive skill and cognitive restructuring approaches as well as programs that emphasize moral teachings and reasoning.

Jaycox, Zoellner and Fao (2002) described a case example of a young female rape survivor. Her prior substance dependence and intense shame are also highlighted. A CBT based therapy (prolonged Exposure) was presented that entails education about common reactions to trauma reminders and cognitive restructuring. The therapy was successful in reducing the clients symptoms of PTSD, as well as her depressive symptoms and these gains were maintained at a 1 year follow up assessment.

In his article, Datilio, (2006) suggests the use of cognitive – behavioral techniques, namely cognitive restructuring combined with family – of – origin sessions, for reconstructing intergenerational family schemas. A case example portrays the use of the techniques as an effective intervention for addressing ingrained schemas such as in the case of spousal abuse.
Grey, Young and Holmes (2002) describe a distinct clinical approach to the treatment of Posttraumatic Stress Disorder (PTSD). It is theoretically guided by recent cognitive models of PTSD and explicitly combines cognitive therapy techniques within exposure / reliving procedures. A clinically pertinent distinction in made between the cognitions and emotions experienced at the time of trauma and, subsequently, in flashback experiences, and secondary negative appraisals. The term peritraumatic emotional “hotspot” is used to describe moments of peak distress during trauma. It is argued that a focus on cognitively restructuring these peritraumatic emotional hotspots within reliving can significantly improve the effectiveness of the treatment of PTSD, and help explain some treatment failures within traditional prolonged exposures. An approach to the identification and treatment of these hotspots has been detailed for a range of cognitions and emotions not limited to fear.

Hecker, Christene, Vogeltanz, Thorpe (1998) studied the relative efficacy of cognitive restructuring and interceptive exposure procedures for the treatment of panic disorder, as well as the differential effects of the order of these interventions. In a crossover design half of the participants receive four sessions of exposure therapy followed by cognitive therapy and for half the order was reversed. There was a one-month follow up period between the 2 interventions and after the second
intervention. The order in which treatment were presented did not influence outcome. Participant’s tended to improve with first intervention, and maintain improvement across the follow – up periods and subsequent intervention. The findings suggest that cognitive restructuring is effective in the treatment of panic disorder.

It may be noted that the studies quoted have brought out the role of cognitive restructuring on anxiety and other disorders without reference to the specific term neuroticism. It has already been pointed in chapter one that after DSM-II, the term neuroticism has been replaced by other terms like anxiety disorders (which include disorders like Generalized Anxiety Disorder, Panic Disorder, Post Traumatic Stress Disorder etc.) and somatoform disorders. Since most of the studies quoted are fairly recent, the term neuroses and neurotic disorder are not given, instead contemporary terminology has been used.

MEDITATION

Meditation is a very vast discipline in itself. It is practised in almost all religions in different forms, but whatever the form we adopt, the state of deep trance, which is the basis of relaxation, is common to all forms of meditation. It is studied by clinical psychologists both theoretically and practically and the result of this work could be one of the most important contributions to enhancing sense of well being and total health (physical, mental and spiritual). Its effectiveness ranges from
handling simple stress to crime prevention, rehabilitation and management of various forms of psychopathologies.

Gillani and Smith (2001) presents a study in which an attempt was made to map the psychological effects of Zen meditation among experienced practitioners. Fifty nine Zen meditators with at least 6 yrs of experience practised an hour of traditional Zazen seated meditation. A control group of 24 college students spent 60 min silently reading popular magazines. Before relaxation, all participants took the Smith relaxation Status inventory (SRSI), the Smith Relaxation Dispositions/Motivations Inventory, and the Smith relaxation Beliefs inventory. After practice, participants again took the SRSI and post session analyses reveal that meditators showed greater increment in the relaxation states. Mental quiet, love and thankfulness, and prayerfulness, as well as reduced worry. The authors contend that the results support. J.C. Smith’s ABC relaxation theory.

Bhushan and Sinha (2002) examined the effect on anxiety and hostility of yoga nidra meditation, a psychic sleep in which the body sleeps and the mind remains awake. Twenty seven individuals (aged 19-50 yrs) completed questionnaires concerning hostility, and hyper symptomatic, predisposing and trait anxiety before and after practising yoga nidra 1 hr daily for a 15 day period. Results show significant reduction in anxiety for those Ss experiencing hyper anxiety; no reduction
was observed for those experiencing little anxiety. The effects of yoga nidra meditation on hostility were similar to those for anxiety. It is concluded that yoga nidra is a useful technique of relaxation that can be used to manage emotional problems.

Cortese, Silenzio et al (1998) explore the way of silence and meditation as the human path to transcendence and transformation and a way of attaining universal consciousness through liberation from the shackles of the individual self. The ways of meditation are many, although they all start from a self induced state of open, expectant relaxation. Meditation modes addressed include Zen, Taoism (Lao Tzu’s “negative way”) and Kundalini Yoga. Today’s meditators are motivated by the need for regaining something that belongs to humankind, but had been seemingly lost, i.e., silence as a necessary return to the core of their being. Meditation, as a psychic experience is universal but the modality chosen for it is an individual choice.

Rausch, Grambling and Auerbach (2006) conducted a study on 387 undergraduates students. The subjects were exposed to 20 minutes of either meditation, progressive muscle relaxation (PMR) or control conditions, followed by 1 minute of stress induction and another 10 minute each of intervention. Findings demonstrated that participants in the meditation and PMR group decreased more in cognitive, somatic and general state anxiety than controls.
Waelde, Thompson and Gallagher (2004) conducted a study on 12 older female dementia patient family caregivers who participated in a six-session manualized yoga-meditation program designed to help caregivers cope with stress. Pre-post comparison revealed statistically significant reduction in depression and anxiety and improvement in self-efficacy. Average minutes of weekly yoga-meditation practice were significantly associated with improvement in depression. The majority of caregivers found the intervention useful and reported subjective improvement in physical and emotional functioning. These findings suggest that inner resources may be a feasible and effective intervention for family caregiving and may improve affect, coping, physical well being, and stress management.

Sagula and Rice (2004) observed that losses in relationship, work, and other areas of life often accompany the physical discomfort of chronic pain. Often the depth and intensity of the grief associated with chronic pain are overlooked or possibly misdiagnosed and treated as depression. The investigators used an 8-week mindfulness meditation program to determine its effectiveness in addressing the grieving process among 39 patients diagnosed with chronic pain. 18 patients volunteered to be in comparison group. The study was conducted in a regional hospital's pain clinic and patients completed Response to Loss Scale (measuring grief), the Beck Depression Inventory, then State Trait
Anxiety Inventory. Results indicated that the treatment group advanced significantly more quickly through the initial stages of grieving than the comparison group. In addition, the treatment group demonstrated significant reduction in depression and state anxiety.

Tacon, Me Comb, Caldera and Randolph (2003) assessed the effectiveness of mindfulness-based stress reduction programme to reduce anxiety in women with heart disease. Measures included the State-Trait Anxiety Inventory, the Courtauld Emotional Control Scale, The Problem-Focused Styles of Coping measures, and the Multidimensional Health Locus of Control scale. The intervention was providing for 2 hrs each week, for 8 weeks. A post-intervention analysis provides support for beneficial effects of this program.

Walton and Levitsky (2003) presented an article which suggest that both chronic and acute stress can cause long-lasting abnormalities in the neuroendocrine systems mediating adaptation. These abnormalities, in turn are thought to contribute to psychological disturbances such as anxiety, depression and hostility, and to behaviours such as substance abuse, violent aggression, and criminal acts. The article reviewed evidence for neuroendocrine abnormalities in aggression and crime, defined stress as it relates to adaptation and behaviour, discussed stress-induced abnormalities in neuroendocrine systems, and reviewed evidence that the Transcendental Meditation (TM) program may reduce aggression.
and crime in part by removing these stress-induced abnormalities. The (TM program) appears to reverse or remove both the physiological and psychological disturbances arising from stress, thus strengthening the individual coping abilities and restoring a sense of well-being. These normalizing effects of Transcendental Meditation program are expected to enhance an individual's resilience and to promote the ability to fulfill desire in socially responsible ways.

Kulik and Szewezyk (2002) studied two major modes of meditation that prevail that is, the Christian and the Oriental trend. Both forms have elements that are common but those that also diverge. The question of whether these forms can be combined and which of them carries meaning of life was investigated. Twenty eight young people voluntarily pursuing the Christian form of meditation (Light-life Movement) and twenty three young people pursuing the oriental form (Transcendental meditation) participated. The following methods were used in the research; the “Purpose in Life Test” the “Hostility- Guilt Inventory”. The Hoplessness Scale and “The I.P.A.T. Anxiety Scale”. Persons pursuing the Christian or the Oriental form of meditation revealed no significant differences with regard to the intensity of the sense of meaning of life. The study has revealed a distinct decrease in aggressive tendencies, level of anxiety, resistance towards frustrations
and slight decrease in sense of hopelessness. It shows that both forms of meditation exert a similar influence on the emotional reactions.

Speca, Carlson, Goodey and Angen (2000) assessed the effects of participation in a mindfulness meditation-based stress reduction program on mood disturbance and symptoms of stress in cancer outpatients. Ninety patients (aged 27-75 yrs) completed the profile of Mood States and the Symptoms of stress Inventory both before and after the intervention. The intervention consisted of a weekly meditation-based stress group lasting 1.5 hours for 7 weeks plus home meditation practice. The group was heterogeneous in type and stage of cancer. Pre-intervention mean scores of patients on dependent measures were equivalent between groups. After the intervention, patients in the treatment group had significantly lower scores on total Mood disturbance and subscales of depression, anxiety, anger and confusion and more vigor than control.

Shapiro (2005) presents literature that is replete with evidence that the stress inherent in health care negatively impacts health care professionals, leading to increased depression, decreased job satisfaction, and psychological distress. In an attempt to address this, he examined the effects of a short-term stress management program, mindfulness-based stress reduction (MBSR), on health care professionals. Results from this prospective randomized controlled pilot study suggest that an 8-week
MBSR intervention may be effective for reducing stress and increasing quality of life and self-compassion in health care professionals.

Reibei Gressson, Brainard and Rosenzweig (2001) examined the effects of mindfulness-based stress reduction (MBSR) on health-related quality of life and physical and psychological symptomatology in a heterogeneous patient population. 136 subjects (aged 23-76 yrs) participated in an 8 weeks MBSR program and were required to practice 20 min of meditation daily. Pre-and post intervention data were collected by using the short-Form Health Survey (SF-36), Medical Symptom Checklist (MSCL) and Symptom Checklist-90 Revised (SCL-90-R). Health-related quality of life was enhanced as demonstrated by improvement on all indices of the SF-36 including vitality, bodily-pain, role limitations caused by physical health, and social functioning. Alleviation of physical symptoms was revealed by a 28% reduction on the MSCL. Decreased psychological distress was indicated on the SCL-90-R by a 38% reduction on the Global Severity Index, a 44% reduction on the anxiety subscale and a 34% reduction on the depression subscale. One-year follow-up revealed maintenance of initial improvement. It is concluded that a group mindfulness meditation training program can enhance functional status and well-being and reduce physical symptoms and psychological distress in a heterogeneous patient population and that the intervention may have long-term beneficial effects.
Snaith (1998) surveyed those forms of psychotherapeutic practice in which meditation (i.e. the induction of a trance state) plays a central role. The order in which they are reviewed follows approximately the temporal sequence of their appearance. Autogenic training (J H. Schultz, 1932; W. Luthe, 1963 and W. Linden, 1990), the relaxation response (H. Benson and M. Zipper, 1976; Benson et al. 1974). Technique of anxiety control (Snaith, 1981, 1991; Snaith et al, 1992) training are described. All reviews of the topic point to benefits reported in reduction in anxiety. The advantages of self-management, by meditation or other means, include the abbreviation of therapist time; perceived self-efficacy; and the importance to the individual of the realization that he or she has played the major part in improvement, with consequent increase in self-esteem having wide implications for generalization of the beneficial effect.

Meditation is an approach that allows the individual to automatically activate the physiological and behavioural transformation necessary to produce law-abiding behaviour and also to rediscover the inner-self as a silent, peaceful state of being. Certain studies are cited here to show that meditation is an effective technique for preventing crime.

Anklesaria and King (2003) have presented a paper describing background and establishment of “Enlightened Sentencing Project”, origined by Judge David C. Mason, a Missouri circuit court Judge. The project initiated by Judge Mason is a pioneering, community based
rehabilitation program in which probationers are sentenced to learn the Transcendental Meditation (TM) technique and its benefits. Thus far, in this program six Judges in Missouri have sentenced over 100 probationer's whose offenses range from drunkenness driving to manslaughter. Results have been remarkable, with offenders reporting a wide range of benefits.

Hagelin (2003) presented a special issue of Journal of Offender Rehabilitation entitled. “The Transcendental Meditation Program in Criminal Rehabilitation and Crime Prevention”. This offers a profound and holistic approach to solving the problem of crime. It addresses the epidemic of stress and describes solutions based on restoration of natural laws in the life of the individual and society. This highly practical knowledge of living in accordance with natural law-the same organizing intelligence that governs the universe-have been revived from the ancient Vedic tradition of India and reformulated into a systematic scientific framework by Maharishi Mahesh Yogi.

Bowen, Witkiewitz, Dillworth, Chawla et al (2006) found that despite the availability of various substance abuse treatments, alcohol and drug misuse and related negative consequences remain prevalent. Vipassana meditation (VM), a Buddhism mindfulness-based practice, provides an alternative for individuals who do not wish to attend or have not succeeded with traditional addiction treatments. In this study the
authors evaluated the effectiveness of a VM course on substance use and psychosocial outcomes in an incarcerated population. Results indicate that after release from jail, participants in the VM course, as compared with those in a treatment as usual control condition, showed significant reduction in alcohol, marijuana, and crack cocaine use, alcohol-related problems psychiatric symptoms as well as increase in positive psychosocial outcomes.

Orme (2003) view crime as a multidimensional problem that is best prevented by programs that strengthen informal social control, which is the internalized propensity of the individual to find rewarding behaviour patterns within the law. Orme introduced the theory and research on crime prevention through the Maharishi effect, a powerful mechanism of increasing informal social control by increasing coherence and decreasing stress in the most holistic level of society, its collective consciousness. A review of 15 published studies conducted on city, state, National, and international levels found strong evidence that crime is reduced and quality of life is improved when 1% of a population practice the Transcendental Meditation (TM) program.

Similar finding were obtained by Alexander, Walton and Goodman (2003) who presented a cross-sectional study of 160 maximum-security prisoners. Inmates who had practised the TM program for an average of 20 months had improved scores relative to controls on 3 factor-analytic
component derived from 14 individual test scales. Differences were highly significant for all three components (development, consciousness and psychopathology), when TM group members were compared with nonmembers. These findings provide evidence that this program promotes improvements in both mental and physical health that support law-abiding behaviour.

Mason (2003) discussed the effectiveness of Transcendental Meditation (TM) in criminal rehabilitation and crime prevention. While there are several programmes designed to help rehabilitate criminal offenders, their success is inhibited by their failure to provide the essential element of effective rehabilitation which should be helping people who are at risk for developing something from within so that they can avoid committing the next crime. According to the author, stress dealing with feelings of personal inadequacy, demands of parents and children, demands of peers, the demands of society, together with the helplessness of poverty is the root cause of criminal behaviour. The Transcendental Meditation program reduces stress and it does so more effectively than any other technique available. It is an excellent means to help someone achieve self-esteem, self-control, and resiliency from within. It fosters more coherent thinking and it focuses the mind on life's more constructive possibilities. Transcendental Meditation has been
demonstrated to be an effective way to help an offender resist the temptation to re-offend.

Hawkins (2003) presents an article that reviews research on the Transcendental Meditation (TM) program relevant to the treatment and prevention of criminal way and substance abuse. Over the past 30 yrs, 36 studies have been conducted on the rehabilitative effects of the TM program. These studies have involved various populations including at-risk youths participant in treatment programs and incarcerated offenders. A few studies examined the effects of the TM program in the general population on use of alcohol, cigarette and non prescribed drugs. Longitudinal random-assignment studies with objective measures confirm the result of retrospective studies and other earlier research. Incarcerated offenders show rapid positive changes in risk factor associated with criminal behaviour, including anxiety, aggression, hostility, moral judgment, in-prison rule infractions and substances abuse studies, taken together, indicate that the TM program reduces substance use as well as number of the risk factors that underlie substance dependence, particularly anxiety, depression, neuroticism and other forms of psychological distress.

Leung and Singhal (2004) were interested to know whether Qigong Meditation has a relationship with personality. They administered Eysenck Personality Inventory (EPI) to eighty Qigong Meditation
practitioners and seventy four non-practitioners. The results showed that the number of Qigong practice was negatively correlated with neuroticism, but there was no relationship with extraversion. Even after controlling for age, gender and education level, the practitioners were significantly less neurotic that the non-practitioner. The study of Qigong Meditation and personality may lead to a greater understanding of the various disorders characterized by high neuroticism and may provide a viable treatment option for long-term health.

Sense of well being is enhanced by meditation technique. Certain studies have cited here to demonstrate it.

Kumar and Ali (2004) have employed concentrative meditation on 67 students of 12th class. The subjects were randomly distributed into two groups, the first group was the experimental and the second was the control group. The possible changes that may occur due to meditation practice on well-being were assessed using subjective well-being scale, (SUBJECTIVE WELL-BEING SCALE) The experimental design involve administering the instrument just mentioned to control group, administering simplified Kundalini yoga for the experimental group and assessing well being of two group after a period for forty days. Statistical analysis reveals significant enhancement in the subjective well-being of the students who had undergone training on meditation.
Duncan and Weissenburger (2004) tested hypothesis that brief meditation practice daily over a short period of time would increase individuals well being and decrease their susceptibility to loneliness. Twenty graduate students in a transpersonal psychology course served as participants in the study, 13 of the students practiced a brief meditation program, while 7 student in the same classes formed on untreated group who did not meditate. This progress was measured by comparing their pre-post scores on the Outcome Questionnaire-45 (OQ-45) and the UCLA Loneliness Scale. Results indicate that the brief meditation program contributed to a decrease in feelings of loneliness. Exposure to the transpersonal psychology class and meditation, however, contributed to positive change in their feeling of well being.

On the basis of empirical evidence, the researcher postulated the following hypotheses:-

1. Neuroticism scores of subjects undergoing cognitive intervention will be reduced after intervention.

2. Problems perceived by the subjects undergoing cognitive intervention will be reduced after intervention.

3. Neuroticism scores of subjects undergoing meditation will be reduced after meditation.

4. Problems perceived by subjects undergoing meditation will be reduced after meditation.
5. There will be greater reduction in neuroticism scores of subjects undergoing both cognitive intervention and meditation than group undergoing only cognitive intervention.

6. There will be greater reduction in problems perceived by the subjects undergoing both cognitive intervention and meditation group than group undergoing only cognitive intervention.

7. There will be greater reduction in neuroticism scores of subjects undergoing both cognitive intervention and meditation than group undergoing only meditation.

8. There will be greater reduction in problems perceived by the subjects undergoing both cognitive intervention and meditation than group undergoing only meditation.

9. There will be no difference in the initial neuroticism scores and scores obtained after three months amongst control group.

10. There will be no difference in perceiving the problems initially and after three months amongst control group.

Note: The period of three months has been indicated in hypothesis 9 and 10 because three months was the period for which interventions were conducted.