CHAPTER- II

REVIEW OF LITERATURE

REVIEW OF LITERATURE

The review of earlier studies conducted in related areas is of prime importance in any research to form an effective methodology. The literature pertaining to the research on, 'Management of stress and enhancement of self-efficacy in adolescents through Positive Therapy' has been reviewed and presented under the following categories.

- Stress in adolescents
- Correlates of stress in adolescents
- Assessment of stress in adolescents
- Stress and health in adolescents
- Effects of stress in adolescents

  Gambling

  Smoking

  Substance abuse
- Management of stress in adolescents
- Self-efficacy in adolescents
- Academic Achievement in adolescents
- Positive Therapy and stress

STRESS IN ADOLESCENTS

Adolescence is a time of change that can be both exciting and stressful. The research by Bootzin and Stevens (2005) focuses on the central role that disturbed sleep and daytime sleepiness occupies in interactions involving

substance abuse and negative health, social and emotional outcomes. As a means of improving sleep and lowering risk for recidivism of substance abuse, authors developed and implemented a six-session group treatment to treat sleep disturbances in adolescents who have received treatment for substance abuse. The components of the treatment are stimulus control instructions, use of bright light to regularize sleep, sleep hygiene education, cognitive therapy and mindfulness-based stress reduction. Preliminary evidence indicates that participants who completed four or more sessions in the treatment program showed improved sleep and that improving sleep may lead to a reduction in substance abuse problems at the 12-month follow-up.

Govaerts and Grégoire (2004) conducted a study on, Adolescents' cognitive appraisal processes and their relationships with academic stress. A sample of 100 adolescents in the mean age of 16.9 years reported 145 academic stressful situations. Girls granted greater importance to the stressful situation, while boys perceived themselves as having more resources for coping with it. Five appraisal patterns were identified using cluster analysis. Subsequent analysis showed that the groups differed in their perceived degree of stress. One group was labeled at-risk appraisal group, demonstrating a high level of perceived stress and two groups showed a favourable appraisal pattern associated with low level of perceived stress.

Problems with conceptualizations of stress, variability in measurement of stressors and lack of theory driven research, led Grant et al (2003) to propose a general conceptual model of the relation between stressors and

adolescent psychopathology. The authors examine basic tenets of this general model by testing a specific model in which, negative parenting mediates the relation between economic stressors and psychological symptoms in young people.

Folkman and Lazarus's theory of stress and coping was used to develop a measure assessing the perceived stress within a bicultural context. Middle school students of Mexican descent (N = 881) reported their perceived stress from intergenerational acculturation gaps, within-group discrimination, out-group discrimination and monolingual stress. Although immigrant youths reported more total number of stressors, U.S.born youths reported more stress from needing better Spanish and impact of parents' culture. Immigrant youths reported more stress from needing better English in school. Higher stress was associated with more depressive symptoms for both U.S.born and immigrant youths. Although this study has identified some elements of stress, it has not identified positive coping mechanisms of the bicultural context for Latino youths (Romero and Roberts, 2003).

Andrew et al's (2003) study aims to elicit the needs of adolescents in higher secondary schools in Goa, India, in 1999–2000. The objective was to generate information, which could guide the development of adolescent-friendly health services by integrating the health, needs identified by adolescents themselves. The study began with free listing, followed by focus group discussions and in-depth interviews to elicit areas of concern. Then, a survey of 811 students with a self-report questionnaire was carried out. The

findings demonstrate that there is clearly an unmet need for information about sexual and reproductive health but also a large, unmet need for psychosocial support for health issues ranging from violence in schools to poor relationships with parents, stress-related health complaints and educational difficulties, which are often perceived by adolescents to be of primary importance. Integrating these issues into programmes is likely to be an essential element in developing health services and programmes which can reach out to the majority of adolescents in school settings in India.

Associations between stress and dietary practices were investigated by Cartwright (2003) on a sample of 4320 school children, 2578 male and 1742 female in the mean age of 11.83 years. Pupils completed questionnaire measures of stress and 4 aspects of dietary practice (fatty food intake, fruit and vegetable intake, snacking and breakfast consumption). Multivariate analyses revealed that greater stress was associated with more fatty food intake, less fruit and vegetable intake, more snacking and a reduced likelihood of daily breakfast consumption. These effects were independent of individual (gender, weight) and social (socioeconomic status, ethnicity) factors. Stress may contribute to long-term disease risk by steering the diet in a more unhealthy direction.

Hall's (1904) view that adolescence is a period of heightened 'storm and stress' is reconsidered in light of contemporary research by Jeffry (2002). The authors examined 3 key aspects of this view: conflict with parents, mood disruptions and risk behaviour. In all 3 areas, evidence supports a modified

storm-and-stress view that takes into account individual differences and cultural variations. Not all adolescents experience storm and stress but storm and stress is more likely to occur during adolescence than at other ages. Adolescent storm and stress tends to be lower in traditional cultures.

Lassarree (2002) analyzes the difficulties of relations inside schools and reveals the points of view of the students as well as of their parents, teachers and the public authorities. Several models of stress episodes are presented in order to approach and understand the situation experienced by the students. The expectations and disappointments of the students and families are discussed briefly in order to situate the origins of the stress those students face in their schools.

To successfully negotiate the developmental transition between youth and adulthood, adolescents must maneuver this often-stressful period while acquiring skills necessary for independence. Certain behavioural features, including age-related increases in social behaviour and risk-taking/novelty-seeking, are common among adolescents of diverse mammalian species and may aid in this process. Pubertal increases in gonadal hormones are a hallmark of adolescence although there is little evidence for a simple association of these hormones with behavioural change during adolescence. Prominent developmental transformations are seen in prefrontal cortex and limbic brain regions of adolescents across a variety of species, alterations that include an apparent shift in the balance between mesocortical and mesolimbic dopamine systems. Developmental changes in these stressor-sensitive regions, which are

critical for attributing incentive salience to drugs and other stimuli, likely contribute to the unique characteristics of adolescence (Spear, 2000).

CORRELATES OF STRESS IN ADOLESCENTS

Xie et al (2006) conducted a study to investigate weight perception and related psychological factors in Chinese adolescents, in which, 6863 middle and high school students completed a questionnaire on weight perception, academic performance, stress, hostility and depression. Results show that overweight perception was related to school-related stress and depression in both girls and boys ($P<0.01$) and to hostility in boys ($P<0.01$). Perceived over-weight was related to lower GPA in girls ($P<0.05$).

Nottelmann et al (2006) conducted a study on 'Developmental processes in early adolescence, relationships between adolescent adjustment problems and chronological age, pubertal stage and puberty-related serum hormone levels'. Relations between adolescent psychosocial adjustment problems and markers of biologic development were examined in 56 normal boys and 52 normal girls, aged 9 to 14 years. Overall, findings were stronger, consistent and more generalized for boys than for girls. Adjustment problems in boys were associated with characteristics of late maturation and higher chronological age, which included problems like relatively low sex steroid levels or lower pubertal stage and relatively high adrenal androgen levels. Adjustment problems for girls were relatively high levels of gonadotropins, relatively low levels of dehydroepiandrosterone sulfate and relatively high levels of androstenedione on their own or in conjunction with lower pubertal stage. Higher levels of

androstenedione, a steroid particularly responsive to stress were associated with adjustment problems in both boys and girls. This relation reflects the stress in later maturation, which could result from environmental factors, such as adolescent self-comparisons with same-age peers or endogenous effects of hormones.

The study by Matthews et al (2006) compares emotional intelligence and the personality factors of the Five Factor Model as predictors of task-induced stress responses. Participants (N = 200) were randomly assigned to 1 of 4 task conditions, 3 of which were designed to be stressful. Results confirmed that low emotional intelligence was related to worry states and avoidance coping, even with the Five Factor Model statistically controlled. However, emotional intelligence was not specifically related to task-induced changes in stress state. Results also confirmed that neuroticism related to distress, worry and emotion-focused coping and conscientiousness predicted use of task-focused coping.

The study by Fishbein (2006) examined a sample of adolescents (N=125) considered to be at high risk for stress exposures and drug use by virtue of their environment and low income levels to identify possible neuro-cognitive and social competency mechanisms that may mediate this relationship. Risky decision-making and poor social competency skills were related to previous stressful experiences; however, only social competencies mediated the effect of stressors on reports of past year marijuana, alcohol and poly drug use. Interventions that directly address the effects of stress on social

competencies may be especially important for children who have experienced adversity including those exposed to parental divorce, parental psychopathology, neglect or abuse, parental death and poverty.

The factorial validity and dimensionality of a dispositional measure of stress appraisal was examined in the study by Rowley et al (2005). Using a multiethnic adolescent sample, both exploratory and confirmatory factor analyses resulted in a three-factor representation of appraisal. The three factors included two primary appraisal dimensions (Threat and Challenge) and one secondary appraisal dimension (Resources). Thus, these findings suggest that the cognitive appraisals made by adolescents are less complex or differentiated than those of adults. Moreover, these findings suggest that dispositional measures are relevant for adolescent sample and should be incorporated into stress and coping paradigms.

Parker et al (2005) examined the generalizability of the youth form of a widely used self-report measure of emotional intelligence in a sample of 384 aboriginal youth from several rural areas in Canada (mean age = 12.5 years). This sample was matched (by age and gender) with a second rural Canadian sample of non-aboriginal youth (N= 384). The four-factor model for the measure, namely, interpersonal, interpersonal, adaptability and stress management abilities was tested using confirmatory factor analysis with both samples. Multiple goodness-of-fit indicators revealed that the model had good fit to the data from both sample. The aboriginal respondents were found to core

significantly lower on the interpersonal, adaptability and stress management dimensions compared to the non-aboriginal children.

Storksen et al (2002) investigated the long-term effects of parental divorce on adolescent psychological adjustment and well being. The sample included 8984 adolescents (13-19 years) and their parents. Outcome variables were symptoms of anxiety and depression, subjective well-being and three areas of school problems. Parental divorce was found to be associated with adolescent problems. Divorce and parental distress contributed independently to adolescent distress. The prevalence of adolescents with substantial distress symptoms was 14% among those with non-distressed non-divorced parents and 30% among those with divorced and distressed parents. Long-term effects of divorce on symptoms of anxiety and depression were stronger among girls than among boys.

Larson and Ham (2002) conducted a study on the relationship of distressed affect in early adolescence to the experience of stressful life events. A sample of 483 students from 5th to 9th grades provided experience-sampling reports on their daily emotional states. Data on recent major events in the child's life were obtained from the child and a parent. Findings indicate that older students in this age range encountered more negative events than younger ones, including more peer, school and family events and that experience of multiple negative events had a stronger association with daily negative affect. These findings suggest that the higher rates of daily distress in adolescence

may be partly attributable to the greater number of negative life events in youths.

Compas (2002) conducted a study on 'Stress and life events during childhood and adolescence'. Cross-sectional studies have found a consistent, although modest, correlation of stressful events with psychological, behavioural and somatic problems. However, recent prospective studies provide greater support for the role of chronic strains and daily stressors than major life events in the development of psychological and behavioral difficulties during adolescence.

Rowlison and Felner (2002) conducted a study on major life events, hassles and adaptation in adolescence confounding in the conceptualization and measurement of life stress and adjustment. Of particular concern in their work were (a) the source and method of assessment (b) conceptual overlap between life stress and resource items and symptoms of disorder and (c) induced response bias through the instructional sets of the stress measures. A second goal was to extend the understanding of life stress adjustment linkage in groups for whom little data of this type exist. By using multi-trait-multi-method procedures, they found that both distal major life events and proximal daily stressors had important degrees of unique and shared variance with adaptive functioning, whereas the effects for social support were inconclusive.

The study by Cynthia (1999) was to investigate the relationship of source, recency and degree of stress to the suicide ideation of high school students. Probability sampling was utilized. Students were randomly selected

from five Knoxville, Tennessee schools, from the ninth through twelfth grades to ensure equal representation of all age groups The composition of the sample was 52% male and 48% female. The results reveal that overall recency of stress and percentage of students experiencing each stressor within the past month and the most recently occurring stressors involved being tired, family conflict, parental expectations regarding school and making new friend. The highest ranked stressors involved conflict with parents and siblings. The study calls for the need for parent workshops that focus on how to reduce family problems and developmental issues of adolescence.

Conger et al (1996) conducted a study on 'Economic stress, coercive family process and developmental problems of adolescents'. The authors propose a model of family conflict and coercion that links economic stress in family life to adolescent symptoms of internalizing and externalizing emotions and behaviour. The study included 180 boys and 198 girls from an area characterized by economic decline and uncertainty. These adolescents and their parents were interviewed each year for 3 years. The theoretical model proposed that economic pressure experienced by parents increases parental dysphoria and marital conflict as well as conflicts between parents and children over money. High levels of spousal irritability, coupled with coercive exchanges over money matters was expected to be associated with greater hostility, in general, by parents toward their children. These hostile/coercive exchanges were expected to increase the likelihood of adolescent emotional and behavioural problems.

ASSESSMENT OF STRESS IN ADOLESCENTS

Byrne et al (2006) tried to develop a Stress Questionnaire for adolescents. They sought information on the nature of adolescent stressors, building on a previous instrument developed by the first author to ask adolescents themselves to inform the development of a pool of new items reflecting stressor experience. This pool of items was then administered as a self-reported questionnaire to a large sample of school-age adolescents (N>1000) together with a scale to assess the intensity of distress arising from stressor occurrence. Scales constructed from this principal components analysis related positively to measures of anxiety and depression and negatively to a measure of self-esteem, suggesting that they were valid measures of adolescent stress. The resultant Adolescent Stress Questionnaire is therefore suggested to have potential for the measurement of adolescent stress in both research and clinical contexts.

Ewart et al (2002) attempted to measure stress coping capabilities of adolescents. They developed the Social Competence Interview (SCI) and tested it in 4 samples of African American and White adolescents in low-income neighbourhoods of two large U.S. cities. The SCI is a 10-min social stressor that assesses physiological and social-emotional responses to a recurring real-life problem. A new behavioural coding system using audiotapes permits reliable and valid assessment of components of social competence, including Interpersonal Skills (expressiveness, empathy), Goal-oriented Strivings in Coping (self defense, social acceptance, competitiveness, stimulation-pleasure, approval, self improvement) and Social Impact (high vs. low affiliation /

control). High SCI expressiveness and self-defensive striving create a critical-aggressive social impact, which is correlated with increased hostility and anger.

STRESS AND HEALTH IN ADOLESCENTS

Murberg and Bru's (2006) study investigated the role of neuroticism and perceived school-related stress in somatic symptoms among a sample of 327 (167 females and 160 males) students in two Norwegian junior high schools. The results suggest that the role of neuroticism on somatic symptoms may be overestimated and that the role of stress may be underestimated if neuroticism, stress and somatic symptoms are measured at the same time. In this study, both neuroticism and perceived school related stress were found to be significantly associated with somatic symptoms.

Wingate and Joiner (2006) examined model of stress generation in depression in a black adolescent population. The longitudinal sample of 1,766 participants entered the study at ages 13 to 18. Stressful events and depressive and other symptom occurrence over a 1-year period were analyzed. Results supported the stress generation model. Depressive symptoms were associated with an increase in negative stressful events. In addition, the study supported the symptom specificity of stress generation to depression versus anxious and conduct disorder symptoms.

Duffy et al (2005) examined the structure of negative mood states among young adolescents. Students (N=216) aged 11–15 years from a secondary school in Melbourne, Australia, completed the Depression, Anxiety and Stress Scales. Confirmatory factor analyses (CFA) failed to find support

for a three-factor model. Further analyses suggested that items from the Depression, Anxiety, Stress Scales were best represented by two factors, namely a generalized negativity factor and a factor comprising items indicating physiological arousal.

The study by Goodman et al (2005) theorized that race/ethnicity and low socio-economic status reflect social disadvantage, which is the underlying factor in the development of stress-related illness and examined how social disadvantage influences adolescents' stress. The sample included 1209 non-Hispanic black and white 7th–12th graders. Linear regression analyses determined the influence of race/ethnicity and socio- economic status to stress. Results shows that stress was higher among black students, those from lower socio-economic status families and those with lower perceived socio-economic status. The study concluded that social disadvantage is associated with increased stress, regardless of whether disadvantage is defined in terms of race or socio-economic status.

Gender differences in the buffer-effect of social support in the relation between stressful circumstances and the development of depression and anxiety disorders are widely assumed, but few studies address this three-way interaction between gender, stress and support. Peeters (2004) collected data from the baseline assessment of the Adolescents at Risk for Anxiety and Depression study in 502 adolescent and young adult children of 356 parents in the Netherlands with depression, panic disorder and/or obsessive-compulsive disorder. Results indicate that the daughters benefit more from social support

than the sons when problems in parent-offspring communication are high but that this effect holds only for depression symptoms and particularly in relation to problems in father-offspring communication. Social support does not seem to play a role in the development of anxiety.

The stress-buffering model posits that social support mitigates the relation between negative life events and onset of depression but prospective studies have provided little support for this assertion. Burton et al (2004) sought to provide a more sensitive test of this model by addressing certain methodological and statistical limitations of past studies with prospective data from 496 adolescent girls. Deficits in peer support predicted increases in depressive symptoms and negative life events predicted onset of depressive pathology. However, none of the 14 prospective tests provided support for the stress-buffering model despite sufficient power. Results provide scant support for the stress-buffering model and suggest that it might be time to shift attention to alternative multivariate models concerning these risk factors.

An anonymous survey was conducted with 323 (120 male and 203 female) public secondary school students from Canberra, Australia. As expected, the study found that a higher level of neuroticism was associated with a greater amount of threat appraisal and a higher level of depressive symptoms, while a higher level of extroversion was associated with a greater amount of challenge appraisal and a lower level of depressive symptoms. Regression analysis revealed neuroticism as the strongest predictor of depressive symptoms, followed by threat and challenge appraisals. The effect

of gender on depressive symptoms disappeared when individuals' neuroticism was taken into account. Challenge appraisal was found to mediate the effect of extroversion on depression, although threat appraisal did not mediate the effect of neuroticism on depressive symptoms (Mak et al, 2003).

Daley et al's (2002) study examined 2 models of the relationship between personality disorder symptomatology and depression, incorporating life stress as an intervening variable. In a community sample of late adolescent women, symptoms of Cluster B disorders predicted interpersonal chronic stress and self-generated episodic stress over 2 years, controlling for initial depression. Cluster A symptoms also predicted subsequent chronic interpersonal stress, over initial depression. Cluster C pathology did not predict subsequent stress. Personality disorder symptomatology was also associated with partner-reported relationship dissatisfaction. Support was found for a mediation model whereby women with higher levels of initial personality disturbance in Clusters A and B generated excessive amounts of episodic stress and interpersonal chronic stress in the next 2 years, which, in turn, increased vulnerability for depressive symptoms.

Bruce et al (2002) conducted a research using depression as a key factor of consequence of stress and coping processes during adolescence. Based on their research, it was hypothesized that exposure to and appraisals of interpersonal stress combine with aspects of biological development and the use of maladaptive coping strategies to account for the emergence of

significant gender differences in depression and other forms of psychopathology during adolescence.

Waligora (2002) conducted a study on 'Influence of social support by parents and peers on physical complaints in students'. The mechanisms mediating the connection between school-specific stressors and physical complaints, indicating psychosocial strain, are still unclear. Assuming that social support is an important part of the coping process, it is hypothesized that different sources of social support may have varying effects on the degree of physical complaints. The sample consisted of 326 students (182 girls and 144 boys) in grades 6 and 8. On average, female adolescents reported physical symptoms to a greater extent than did male adolescents. Confronted with school-specific stressors, girls showed a higher willingness to make use of peer-support. For boys and girls a high degree of anticipated peer-support was linked to a higher extent of physical complaints. Parental support buffered the effect of bad grades regarding the extent of physical complaints only for girls.

Koval and Peterman (1999) tested the diathesis stress predictions regarding the onset of adolescent major depression and non mood disorders. A sample of 1507 adolescents were assessed for dysfunctional attitudes and negative attribution style, as well as current depressive symptoms, current depressive and no depressive diagnoses and past and family histories of psychopathology. Approximately one year later, participants were reassessed on all measures. Findings were suggestive of a threshold view of vulnerability

to depression; for those who experienced negative life events, depressive onset was related to high dysfunctional attitudes.

The study by Cloeman (1998) investigated the relationship between daily life event stress and total cholesterol levels among 104 high school students. The contributions of health-related behaviours, such as dietary patterns, physical activity, smoking and television viewing, were also examined. Hierarchical multiple regression analyses showed that scores on a scale of daily life events explained a significant portion of the variance in cholesterol measurements. However, when the sample was stratified by gender, this effect remained significant for adolescent female but not male. Overall, female reported a greater degree of negative health behaviours than did male.

EFFECTS OF STRESS IN ADOLESCENTS

Gambling

The central variables of stress, coping and gambling severity were examined in the adolescents. Ranging from 11 to 20 years of age, 2,156 high-school students completed instruments assessing gambling involvement, gambling severity, stressful life events and coping styles. Results indicated that, overall, adolescents with gambling-related problems reported more negative life events relative to social gamblers and non-gamblers. When negative life events were further separated into major and minor events, results revealed that problem gamblers reported more major negative life events but not more minor negative life events relative to others. Adolescents with gambling-related problems used less task-focused coping and more avoidance-

focused coping. Male who experience gambling-related problems reported using more emotion-focused coping strategies. Finally, emotion-oriented coping was found to mediate the relationship between negative life events and gambling severity (Bergevin et al, 2006).

Smoking

Wills et al (2005) attempted to derive predictor variables were derived from stress coping theory, social influence theory and problem-behaviour theory. In addition to groups of abstainers and experimenters, cluster analysis of smoking data indicated 3 groups who showed onset either in 7th grade (early onset), 9th grade (intermediate onset) or 10th grade (late onset). Almost all study variables discriminated the smoking groups from the abstainers. The onset groups were discriminated by Group X Time interactions showing differential changes in predictors (increases in risk factors and declines in protective factors), which occurred just prior to onset. The results generally support a contextual model of the onset process.

Finkelstein et al (2005) conducted a study that examined whether the relation between social status and perceived stress that could explain the association between lower social status and increased risk of smoking. Data was collected from 1021 adolescents. Hierarchical logistic regression estimated the effects of parental education, subjective social status and stress on smoking risk. At baseline, students from families without a college-educated parent were at greater risk of current smoking in high school. Subjective social status decreased risk of current smoking. Stress increased smoking risk. There was no

evidence that the effects of parental education were mediated through stress. These findings indicate that higher stress and lower social status increase risk of smoking but that stress does not explain the association between lower social status and smoking.

Adolescent stress has been retrospectively associated with various measures of smoking behaviour in school-aged samples. The present study sought to extend this to a prospective investigation in order to examine the possibly formative influences of stress on the onset of smoking in adolescents. A 12-month follow-up study related sources and degree of adolescent stress measured at study commencement with the onset of smoking behaviour 12 months later in a large cohort of adolescents attending Australian secondary schools. Results show that the adolescent stress was only weakly related to smoking onset in adolescent males and even this could possibly be explained by other factors. In adolescent girls, however, prospective associations were stronger and more broadly represented across the various domains of adolescent stress, suggesting that stress may exert a formative influence on smoking onset for girls. Management strategies for adolescent stress may be an affective target for smoking prevention programs among adolescent girls (Byrne, 2003).

This study by Liu (2003) investigated a sample of 1360 Chinese adolescents. About 31% of boys and 3.7% of girls reported ever smoking. Smokers experienced more life stress than non-smokers. Smoking was associated with increased risk for internalizing and externalizing behavioural

problems but the association was markedly reduced after controlling for life stress.

Wills et al (2002) conducted a comparative test of the hypotheses that stress is an etiological factor for smoking and cigarette smoking causes increases in stress. Participants were a sample of 1,364 adolescents, initially surveyed at mean age 12.4 years and followed at 3 yearly intervals. Measures of negative affect, negative life events and cigarette smoking were obtained at all 4 assessments. Latent growth modeling showed that negative affect was related to increase in smoking over time; there was no path from initial smoking to change in negative affect. Comparable results were found for negative life events, with no evidence for reverse causation.

Adolescent cigarette smoking is increasing health risk behaviour in many societies. The reasons why adolescents commence smoking are patently complex, thought it has been suggested that young people take up this behaviour as a means of stress reduction during the difficult and challenging time of adolescence (Byrne et al, 2000).

Smoking uptake by adolescents is best studied by following a cohort of children as they proceed through adolescence. In the analysis of the first stage of such a study by Koval and Peterman (1999), several hypotheses about psychosocial factors that may modify the initiation of smoking in were examined in 1,552 adolescents aged 11-12 years from a school system in Scarborough, Canada. Investigation of the stress-coping hypothesis and other possible effect modifiers as they relate to ever-smoking revealed that stress

(measured by number of life events) was important for both male and female. However, the mechanisms underlying smoking appear to be different for male and female, even at the young age. In models adjusting for several factors simultaneously, rebelliousness was found to be the most important factor, followed by attitudes toward the effect of second-hand smoke for male, whereas for females, mother's smoking was the most important factor followed by rebelliousness.

Substance abuse

A community sample (N = 1380) of 12, 15 and 18 year old male and female were initially tested and 95% were retested at the ages of 15, 18 and 21 by Bates et al (2002). Stable, moderate and changing personality groups were identified. Repeated measures revealed that male with substantially changing personalities experienced significantly more stress due to a perceived lack of personal and social competence and self-acceptance than others. They also reported reliably greater involvement in all substance use behaviours than did those who maintained relatively stable personality needs. In contrast, no relation between personality needs stability, stress and substance use was found for female.

Wagner (2002) examined the relationship between delay of gratification and substance use in middle adolescence. Predictor variables included impulsivity, delay of gratification, stress and perceived peer substance use. Multiple regression path analysis supported the hypotheses that impulsivity, emotion-focused relief-oriented coping, stress and peer substance use are each

related to adolescent substance use. Delay of gratification and problem-focused coping were unrelated to substance use. Neither coping nor impulsivity was significantly related to substance use and peer substance use proved to be the most powerful predictor of adolescent substance use followed by perceived stress.

The study by Butters (2002) estimates the direct impact of family stressors on the progression to problem cannabis use, as well as their indirect effects via the youth's school experience among adolescents in Ontario. The results suggest that family stressors have direct and indirect effects increasing the probability of cannabis use outcomes. The implications of these more complex associations between factors believed to influence adolescent drug use trajectories are discussed.

MANAGEMENT OF STRESS IN ADOLESCENTS

Hampel and Peterman (2006) conducted a study to investigate age and gender effects on perceived interpersonal stress, coping with interpersonal stressors and psychological adjustment among early and middle adolescents. The sample included 286 Austrian adolescents aged 10 to 14 years who attended the fifth to seventh grade. Self-report data on perceived stress, coping as well as, emotional and behavioural problems, were assessed. The results show that V graders scored lower on maladaptive coping strategies and externalizing problems and reported more adaptive coping strategies than sixth and seventh graders. Compared with boys, girls evaluated a higher amount of perceived interpersonal stress and used more social support. Additionally, girls

scored higher on maladaptive coping strategies and emotional distress and scored lower on distraction than boys. Problem-focused and emotion-focused coping were negatively related to emotional and behavioural problems, whereas perceived stress and maladaptive coping was positively associated with adjustment problems. These relations were stronger in female than in male adolescents.

The purpose of Suzuki's (2006) study was to explore the cognitive process in selection of stress coping behaviour. A sample of subjects were 182 undergraduate students, who were asked to answer the questionnaire about their own stress experience and coping behaviour. Factor analysis showed that the cognitive process in selection of coping behaviour included four factors: Expectation of positive outcome, Expectation of emotion regulation, Selection of habitual coping and Selection in the elimination. Regression analysis showed that the score of Expectation of positive outcome was negatively correlated with stress response whereas the score of Selection in the elimination was positively correlated with stress response. Furthermore, interaction between the individual differences of cognitive process and coping behaviour was found. People who engaged in emotion focused coping style with elimination thinking felt more stressful than the others.

Zeegers et al (2005) evaluated the effect of school programmes targeting stress management or coping skills in school children. The standardized mean differences between baseline and final measures were computed for experimental and control groups. Experimental groups were groups that either

received an intervention of relaxation training, social problem solving, social adjustment and emotional self-control and a combination of these interventions. The overall pooled effect size was calculated and the pooled effect sizes of improvement on stress coping, social behaviour and self-efficacy by random effects meta-analysis. It was tentatively concluded that school programmes targeting stress management or coping skills are effective in reducing symptoms and enhancing coping skills.

In a clinical project, a combination of Tai Chi and mindfulness-based stress reduction was used as an educational program. The 5-week programme demonstrated that sustained interest in this material in middle school–aged boys and girls is possible. Statements that the boys and girls made in the process suggested that they experienced well-being, calmness, relaxation, improved sleep, less reactivity, increased self-care, self-awareness and a sense of interconnection or interdependence with nature. The curriculum is described in detail for nurses, teachers and counselors who want to replicate this type of instruction for adolescent children. This project infers that Tai Chi and mindfulness based stress reduction may be transformational tools that can be used in educational programs appropriate for middle school aged children (Wall, 2005).

A study was carried out by Liu (2004) to describe the strategies used to cope with stress and to explore the association between coping strategies and behavioural/emotional problems in a community sample of adolescents. Results indicated that Chinese adolescents often used multiple coping strategies

when faced with stress. Principal factor analysis followed by oblique rotation revealed two dimensions of coping strategies in Chinese adolescents, active coping and avoidant coping. A series of logistic regression analyses showed that avoidant coping was significantly associated with increased risk for internalizing and externalizing problems but active coping was associated with reduced risk. These findings provide evidence of the association between coping and mental health problems in Chinese adolescents.

Rural/urban differences were studied in self-reported stress such as life events, daily hassles and conflict, coping and behavioural problems in a community sample of adolescents by Elgar et al (2003). Despite challenging socio-economic conditions in rural areas, levels of stress and ways of coping were similar in rural and urban adolescents. However, urban male reported more conflict and externalizing behaviours than female and rural male. Stress, coping and behavioural problems were interrelated but approach coping did not moderate the influence of stress on psychological functioning. Results suggest that adolescents may utilize many coping strategies that serve little benefit in terms of behavioural outcomes.

Hampel's (2003) study aimed to evaluate a multimodal patient education programme carried out during inpatient rehabilitation. The efficacy was examined in comparison to an education programme without stress management. A total of 68 patients aged between 8 and 16 years were included in the post-treatment and 46 patients in the 6 months follow-up assessment. The experimental treatment elicited significant improvements in adaptive

coping in adolescents, aged from 14 to 16 years. In contrast, substantial effects were not yielded for the control treatment. The results suggest that the multimodal patient education training has beneficial effects on stress management in adolescents with asthma.

Torsheim and Wold (2003) investigated the relationship between shared psychosocial school environment and subjective health complaints. A representative sample of 1585 Norwegian grade VIII students (Mean age = 13·5 years) from 82 school classes completed scales on health complaints, academic stress, teacher and classmate support scale, decision control, noise and disturbance in class. Multilevel analysis revealed that level of health complaints varied across school classes. School class differences in psychosocial environment accounted for 40% of the between-school class variance in health complaints. Tests of cross-level interaction showed a statistically significant interaction between mean school class-level of classmate support and individual level of academic stress. Findings suggest that shared school class contextual factors may have main and stress-moderating effects on adolescent health complaint.

Patterson and McCubbin (2002) conducted a research with the aim to answer the following questions: Do coping strategies vary according to age and gender? And do relationships between coping and mental health vary according to age? Participants in this study consist of a community sample (N = 140) 73 girls and 67 boys, 11 through 15 years of age. The population was divided into two groups: a sub sample of 70 subjects with a mean age of 12.25 years (early

adolescents) and a sub sample of 70 subjects with a mean age of 13.75 years (mid-adolescents). Findings show that there are less family-oriented coping strategies and more relaxing strategies in mid-adolescents compared to early adolescents. Girls more often use social relationships as well as ventilating feelings and self-reliance, whereas boys more often use leisure. It appears that coping strategies are more useful in mid-adolescents. The buffer hypothesis is confirmed in this latter group, but not in the early-adolescent group.

The main purpose of Gogen and Anshel's (2002) investigation was to examine sources of acute stress and related coping processes following stressful events in competitive sport for 65 adult (37 male and 28 female) and 74 adolescent (39 male and 35 female) athletes. MANOVA indicated that stress intensity was a function of the type of stressful event. Male and adults experienced significantly higher acute stress intensity than female and adolescents, respectively, following performance-related stressors (e.g., making a physical or mental error). However, female reported higher stress intensity than male for the stressor, social evaluation; adolescents were more stressed than adults due to events related to the actions of others (e.g., coach and parents hassling or criticizing, spectators booing). Chi-square analyses indicated significant age and gender differences in the frequency with which selected coping strategies were used as a function of the stressor. For example, male preferred problem-focused coping and female used emotion-focused coping after the stressors, experiencing pain and injury, being intimidated by opponents and parental criticism. However, emotion-focused coping was more

common among adolescent male than adolescent females in response to a cheating opponent.

Plancherel and Bologmini (2002) conducted a research on mental health and protective factors in early adolescence. Coping strategies and its relation with mental health was evaluated. The sample consisted of 276 adolescents. Significant relations between coping strategies and mental health were found, which are different according to gender: girls invest more in social relations, express more negative feelings and more commonly adopt consumption habits such as shopping or eating; boys often use sense of humour or practice a hobby or sport. Many of these strategies protect girls and boys from distress, some others, like expressing negative feelings, are associated with an increase of difficulties (sleeping problems, depressive mood or anxiety).

Shulman (2002) attempted to study the role of close relationships during adolescence and their contribution to individual coping. Data from a series of studies conducted mainly on early adolescents show that the availability of family and peers combined with support of a youngster's independence contributes to individual adaptive coping. In addition, data show the contribution of close relationships to coping differs for male and female. It is suggested that though close relationships are crucial for coping with stress, their significance changes across context (family, peers) and gender during adolescence.

Meijer et al's (2002) study examines the way coping styles and locus of control contributes to the prediction of psychosocial adjustment in adolescents

with a chronic illness. Psychosocial adjustment of 84 adolescents aged 13–16 years with a chronic illness was assessed with measures of social adjustment, global self-esteem and behavior problems. Linear regressions were performed with demographic factors (age and gender) and stress-processing factors (coping style and locus of control) as predictor variables. Results indicated that coping styles were related to most aspects of social adjustment. The coping styles 'seeking social support' and 'confrontation' were important predictors for positive social adjustment, the coping style 'depression' was a predictor for poor adjustment, viz. low social self-esteem and high social anxiety. Avoidance and locus of control were not strongly associated with psychosocial adjustment.

Levit et al (2002) conduced a study on the effects of social support in childhood and adolescence at three grade levels (1–2, 4–5, 8–9) from a multiethnic public school population. Measures of social support, life stress, loneliness and academic self-concept were included. Support was related to achievement both directly and indirectly through self-appraisal but specific effects varied by grade level. Support effects strengthened and stress effects declined in significance at adolescence, suggesting increased ability to utilize support resources in coping with stress.

A psychological perspective on the development of caring in children and youth: the role of the family was studied by Lansdale (2002). The construct of 'caring' has not been a top priority as a programmatic line of research, field of inquiry or way of thinking about youth. While the study of caring is a newly emerging field within psychology, a number of related areas of research enable

us to develop a definition and draw conclusions about how families promote the development of caring individuals. First, the precursors to caring in adolescence are examined through the emergence of psychological components during infancy, early and middle childhood. Families are instrumental in the promotion of caring through processes such as attachment, peer relationships, pro-social behaviour, empathy, agency and self-control. Second, caring behavior in adolescence is explored focusing on the influence of parenting styles, gender differences and caring on adolescent well-being. At this stage, family patterns that have promoted caring should continue, yet they should be transformed so that adolescents emerge as separate young adults with reciprocal and close affect ional ties with their families.

The degree to which coping with stress in romantic relationships is related to relationship development was examined longitudinally in a sample of 107 early adolescents by Nieder et al (2002). Repeated measures ANOVAs revealed a significant decrease in romantic stress over time, while at the same time, active coping with romantic stress increased. Concurrently, the quality of romantic relationships changed towards greater intimacy and affection. The results provide some support for recent theories of a developmental sequence in romantic relationships, according to which, relationships progress from a more casual initial stage towards a more committed affection phase. In addition, the study illustrates that romantic activity can serve multiple functions at different stages of development, accompanied by various types of stressors.

Adolescence has been described as a period where normal developmental stresses are dealt with depending on past experiences and current demands. Foster care inherently brings with it many additional stresses, which must be dealt with at a period where many young people find even normal developmental tasks overpowering. Bryant and Coleman's (2002) study examines problem disclosure and coping strategies in 21 foster adolescents. Highly significant results indicate that teenagers who have experienced crisis foster placements were more likely to disclose concern over parent and authority control over their lives. Additionally, these young people seemed more likely to use non-productive coping strategies when dealing with everyday problems.

In the study by Tordheim et al (2001), a representative sample of 1592 grade VI, 1534 grade VIII and 1605 grade X students completed measures on sense of coherence, school-related stress and subjective health complaints. A test of nested structural models revealed that both stress-preventive stress-moderating and main health-enhancing effects of sense of coherence were consistent with the data. Age-group comparisons revealed that the association between sense of coherence and stress grew weaker with age whereas the direct association between sense of coherence and health complaints grew stronger. The main effect of sense of coherence accounted for between 39% (11 year olds) and 54% (15 year olds) of the variance in subjective health complaints. Findings indicate that sense of coherence may potentially be an autogenic factor in adolescents' adaptation to school-related stress and that relationship

between sense of coherence and healthy adaptation may be evident in younger age-groups than previously anticipated.

The study by Krenke et al (2001) compares stress perception and coping style in 77 early and late adolescents differing in psychological health. Coping with two normative, age-specific stressors, namely, school-related stressors and conflicts with parents was investigated via the Coping Process Interview, which assesses coping immediately after an event has happened. Both stressors were not perceived as structurally similar events. Differences were obtained with respect to the appraisal of the stressor, causal attribution, amount of thoughts, feelings and actions in order to cope with these stressors, but not achieved effects and reappraisal. Clinically referred adolescents, independent from diagnosis, experienced higher levels of school-related stress and family stress and also exhibited a more dysfunctional coping style when dealing with both types of stressors.

Williams and Lissi (2000) examined the coping strategies used by male and female students in early, middle and late adolescence when they were coping with two different types of stressors: daily hassles and major life events. Older adolescents used a greater variety coping strategies and used methods that directly reduce the impact of the stressor and involved a cognitive component (e.g., planful problem solving; reappraisal) more often than younger adolescents. Adolescents in all age groups varied their strategies in relation to the type of stressor, but there were no significant gender differences. The findings suggest that significant changes during a relatively short period during

adolescence may affect adaptive processes and have implications for intervention efforts aimed at reducing the negative effects of stress during this period of development.

Chandra and Batada (2000) conducted a study on exploring stress and coping among African American adolescents. The purpose of the study was to explore perceptions of stress, sources of social support and use of coping strategies among urban African American ninth graders. The sample consisted of 26 students. Results show that in contrast with existing literature that emphasizes the influence of violence and neighbourhood factors on stress among teens, teens prioritized other sources of stress, particularly from school, friends and family. For support, they relied on different individuals, depending on the source of the stress-friends for romantic relationship stress and family for job, school and family stress. Girls reported more frequent use of support-seeking and active coping strategies than boys.

Bowker et al (2000) were interested to study how adolescents cope with peer hassles and coping varies as a function of peer status and social behaviour. A total of 249 VII graders reported on their experiences with peer hassles (e.g., peer conflict), their coping behaviours and the degree of control they felt they had over these events. Additionally, subjects were asked to rate each of their participating peers in terms of various social behaviours (i.e., aggressive vs. socially withdrawn behaviour) and in terms of how much they like each person. The authors found that withdrawn adolescents, particularly girls, were more likely to use coping strategies aimed at minimizing the emotional impact of the

event (e.g., avoidance) versus active problem-focused (e.g., negotiation to reach agreement) or negative coping (i.e., negative actions towards others). Aggressive and unpopular adolescents were also more likely to use negative coping strategies. Interestingly, for girls, higher levels of aggression were associated with greater use of active problem-focused coping and this relationship was stronger at high levels of popularity. Greater perceived control in aggressive subjects was related to more frequent use of negative coping.

Wagner et al (1999) conducted a study on stress coping model of addiction. Their study used a sample of 332 public high school students. Results supported the model that stress coping and temptation coping, each accounted for statistically unique and significant variance in teenagers' substance use. In addition, substance abusing adolescents reported engaging in significantly more avoidance stress-coping and significantly less temptation-coping than demographically matched non substance abusing adolescents.

Printz et al (1999) tested a conceptual model of adolescent stress and coping and determine the relationships between the key components of the model. Four factors were investigated such as students' perceptions of stress, both major life events and daily hassles, self-reported problem solving, perceptions of social support and psychological adjustment. A total of 122 high school students participated in the study. The results of the study support the notion that an accumulation of stressful experiences significantly increases an adolescent's vulnerability to negative outcome. The results also indicated that available coping resources, including social support and problem solving,

significantly buffer the effects of stress on maladjustment. In looking at the influence of support from family and peers, family support appeared to be more critical for healthy functioning than support from friends. In respect to problem solving, an adolescent's appraisal of how effective he or she is at solving problems appeared to have a greater buffering effect than actual problem-solving skill.

The study by Shatl and Petersen's (1999) explored the direct and interactive effects of coping, family relations and control-related beliefs on depressive symptoms during adolescence. The sample included 471 adolescents who were surveyed in VI grade and again in VII grade. Analyses revealed that negative life event, active coping, family relations and control beliefs all correlated with concurrent reports of depressive symptoms. Control beliefs buffered the effects of stress on adolescents' reports of depressive symptoms. Both control beliefs and family relationships significantly predicted depressive symptomatology at Time 2, even after controlling for symptoms at Time 1.

SELF-EFFICACY IN ADOLESCENTS

Kumar and Lal (2006) conducted a study on 'The role of self-efficacy and gender difference among the adolescents'. A random sample of 200 students (100 boys and 100 girls) was selected from different college of the city of Chandigarh. General Self- efficacy developed by Jerusalem and Schwarzer (19) was used to classify subjects. Analysis of variance was applied and the F-

ratio revealed significant effect of self-efficacy. Significant gender differences were also found, where female scored higher than their male counterparts.

Creed et al (2005) conducted a study on antecedents and consequences of career decisional states in adolescence. This longitudinal study tested students in Grade 8 and again in Grade 10 on career (maturity, barriers, indecision, decision-making and self-efficacy), well-being (self-esteem, life satisfaction and coping) and social (school achievement, paid work experience) variables. The study revealed that the undecided students had poorer career, well-being and social outcomes than the decided students. The undecided group was also less likely to report having paid work experience and to be over represented by female. Students who were undecided fared poorer than students who were decided and students who changed decision status. Female were more likely to be continuously undecided, although continuously undecided male were more complacent and more likely to use maladaptive strategies than female.

Nash et al (2005) conducted a study to examine the relationships among family environment, peer influence, stress, self-efficacy and adolescent alcohol use. Data was obtained from questionnaires completed by a sample of 2573 high school students participating in a longitudinal study of substance use and other problem behaviours. Results show that the family environment exerted significant indirect effects on adolescent alcohol use through peer influence; self-efficacy and stress and parental expectations significantly moderated all structural paths. Parental expectations of adolescent alcohol use significantly

moderated all structural relationships and greater parental disapproval was associated with less involvement with friends and peers who use alcohol, less peer influence to use alcohol, greater self-efficacy for avoiding alcohol use and lower subsequent alcohol use and related problems.

Blustein (2004) conducted a study on the role of goal instability and career self-efficacy in the career exploration process. This study sought to ascertain why individuals engage in exploratory activity in late adolescence and early adulthood. A review of the relevant career development and human motivation literatures suggested that goal-directedness and career self-efficacy beliefs would be predictive of environmental and self-exploration. Measures of goal instability, career decision-making self-efficacy and environmental and self-exploratory activity were administered to 106 college students. A canonical analysis was conducted, yielding one significant canonical root that accounted for 37% of the variance between canonical composites. A close examination of this root suggested that self-efficacious beliefs about career decision making and to a somewhat lesser extent, goal-directedness are associated with environmental and self-exploration.

The research on ability of self-efficacy beliefs to predict psychosocial outcomes was undertaken by Caprara (2003), who examined a group of 489 Italian young adolescents with respect to three indicators of adjustment: peer preference, academic achievement and problem behaviour. Self-efficacy beliefs proved to predict psychosocial outcomes even after controlling for self-

reported global personality dispositions. Adolescents' perceptions of self-efficacy for regulating their actions in accord with personal norms, when they are faced with peer pressure for engaging in antisocial conduct were particularly influential, predicting psychosocial outcomes across all three domains.

Pinquart et al (2003), in the longitudinal study, investigated whether academic self-efficacy beliefs and grades in school at the ages of 12–15 would be associated with unemployment and job satisfaction at the age of 21. It was found that individuals with high self-efficacy beliefs and better grades were less likely to become unemployed and more likely to be satisfied with their jobs. The relationship between high self-efficacy and unemployment was mediated by higher career-related motivation and by less perceived application stress, measured at the time of vocational training at the age of 18. The relationship between self-efficacy and job satisfaction was primarily mediated by higher vocational congruence and less application stress.

Shahar et al (2003) examined a theoretical model linking interpersonal relatedness and self-definition and negative and positive life events in adolescence (N = 860). They hypothesized that motivational orientation would mediate the effects of interpersonal relatedness and self-definition on life events. Self-criticism, a maladaptive form of self-definition, predicted less positive events, whereas self-efficacy, an adaptive form of self-definition, predicted more positive events. These effects were fully mediated by the absence and presence, respectively, of autonomous motivation. Controlled

motivation, predicted by self-criticism and maladaptive neediness, did not predict negative events. Results illustrate the centrality of protective, pleasure-related processes in adaptive adolescent development.

The study by Smith et al (2002) examined the relationship of ethnic identity to self-esteem, perceived self-efficacy and prosocial attitudes. The sample included 100 male and female early adolescents, ranging from 11 to 13 years old, from different racial/ethnic backgrounds. Structural equations modeling were used to examine the latent structure of the multi-dimensional constructs and their interrelationships. Self-esteem and ethnic identity factors emerged, which were related and which evidenced efficacy-mediated effects upon prosocial attitudes. The findings suggested that ethnic identity and self-esteem are distinct but related contributors to young people's perceptions of their ability to achieve academically, to find meaningful careers and to value prosocial means of goal attainment.

Patterns of career choice and career decision-making self-efficacy was conducted by Gianakos (2002). This investigation examined the relationship between four patterns of career choice development during later adolescence. The subjects whose career choice development reflected a stable or multiple trial pattern, reported significantly greater levels of career decision-making self-efficacy than did persons whose career choice development reflected a conventional or unstable pattern. Further, persons in the stable pattern group were significantly more likely to nominate professionals in their chosen fields

as important career role models than were persons with conventional and unstable career patterns.

ACADEMIC ACHIEVEMENT IN ADOLESCENTS

Gilman and Anderman (2005) conducted a study on the relationship between relative levels of motivation and intrapersonal, interpersonal and academic functioning among older adolescents. Using cluster analysis to combine specific adaptive measures related to mastery motivation such as intrinsic motivation, self-adequacy and locus of control, a sample of 654 high school students were placed into distinct adaptive motivation groups. Results showed that youth in 'high adaptive' motivation group reported significantly higher global and family satisfaction, self-esteem, interpersonal relations, grade-point average and school belonging and significantly lower depression, anxiety and social stress than youth in other two motivation groups. Peer-reported prosocial and academic behaviours were significantly related to higher levels of adaptive motivation.

Catheline (2005) conducted a study on 'Academic problems and school failure in adolescence'. Success at school increases self-esteem. Any difficulty will have consequential effects on the psychological health of the subject. The conditions now prevailing in the educational institutions oblige the teenager to submit to teaching methods and to the school system. School can reveal the subject's personal problems like anxiety, phobia or depression, but may equally create pathology by not recognizing the heterogeneity of individual development and differences in cognitive functioning. In adolescence, the ego

is particularly vulnerable. Anything that may induce its instability can create behavioural problems (instability, aggressiveness, inhibition) or problems of thought (anxiety links, difficulties in abstraction). In order to cope with such a haemorrhage of the ego, the adolescent may have recourse to certain behaviours (e.g. use of drugs leading to dependence). So it is important the know well the links between school failure and behavioural problems or drug consumption because, in one way or another, by their sanction or by lack of motivation, these situations will lead very quickly to school disengagement, which in turn leads to the breakdown of the ego.

Keogh et al (2005) conducted a study on, 'Improving academic performance and mental health through a stress management intervention: outcomes and mediators of change'. A sample of 209 pupils were randomly allocated to either a cognitive behaviorally based stress management intervention (SMI) group or a non-intervention control group. Mood and motivation measures were administered pre and post intervention. Standardized examinations were taken 8-10 weeks later. As hypothesized, results indicated that an increase in the functionality of pupils' cognitions served as the mechanism by which, mental health improved in the SMI group. In contrast, the control group demonstrated no such improvements. Also, as predicted, an increase in motivation accounted for the SMI group's significantly better performance on the standardized, academic assessments that comprise the United Kingdom's General Certificate of Secondary Education. Indeed, the magnitude of this enhanced performance was, on average, one-letter grade.

Lien (2004) conducted a study on 10th-grade pupils from in Oslo, Norway. The objective of this study was to test the hypothesis that relatively younger adolescents in the multiethnic population of Oslo have poorer school performance and more mental health problems than their relatively older classmates within the same school year. The results show that the youngest one-third of pupils had significantly lower average school grades than the middle one-third and oldest one-third of their classmates. Of the mental health problems identified in the questionnaires, the groups differed only on peer problems; the youngest one-third reported significantly more problems than the middle and oldest groups.

Tockle et al (2000) analyzed the effect of several health behaviours and health-related variables on grade point averages of a random sample of 200 students living in on-campus residence halls at a large private university. The set of variables included exercise, eating and sleep habits, mood states, perceived stress, time management, social support, spiritual or religious habits, number of hours worked per week, gender and age. Of all the variables considered, sleep habits, particularly wake-up times, accounted for the largest amount of variance in grade point averages. Variables associated with the 1st-year students' higher grade point averages were strength training and study of spiritually oriented material. The number of paid or volunteer hours worked per week was associated with lower average grades. Later wake-up times were also associated with lower average grades.

The relationship between achievements on the basis of IQ alone was investigated by Parsons (1996) in a group of 374 boys in Grades 9, 10 and 11. Separate partial correlation analyses for each of the three-year levels showed that three of the coping strategies, Work and Achieve, Solve the Problem and Social Support positively correlated with overachievement at all three levels. It was concluded that overachievement may be better regarded as approaching one's full potential by the use of optimal coping strategies and avoidance of alternative responses to stress, which appear to be non-productive.

POSITIVE THERAPY AND STRESS

Rajakumari and Natesan (2006) conducted a study on 'Management of stress in nurses through Positive Therapy'. Out of 60 registered female nurses from Ramakrishna Hospital, Coimbatore, Tamil Nadu, 30 were assigned to experimental group and 30 to control group. Initially, stress was high in both the groups. After the administration of the Positive Therapy for ten sessions in five weeks, there was a significant reduction in the mean stress of the experimental group; there was also significant reduction in their symptoms and negative emotions. Whereas no such improvement was found in the control group.

Uma Maheshwari and Natesan (2006) conducted a study on 'Management of stress in bank employees through Positive Therapy'. From Bank of Baroda, Coimbatore, 30 officers and clerical staff, were selected. There were 18 male and 12 female in the age range of 26-56 years. Using S.I. (Stress Inventory, Revised, Hemalatha Natesan and Nandini Manon, 2005), it

was found that 60% had 'High' stress and 3% had 'Very High' stress. The remaining 37% had 'Moderate' stress. Positive Therapy was used as the psychological intervention for six sessions, spread over for two weeks, on alternate days. Results showed that after the administration of Positive therapy 47% had 'Low' stress, 50% had 'Moderate' stress and only 3% had 'High' stress.

In the study, 'Management of stress in accident patients through Positive Therapy' by Prashanthi and Natesan (2006), 30 accident patients (20 male and 10 female), in the age range of 20-80 years from Rex Ortho Hospital, Coimbatore, were assessed using S.I. (Stress Inventory Revised Hemalatha Natesan and Nandini Menon, 2005). Initially, the entire sample had 'High' or 'Moderate' stress. Positive Therapy was given for one hour, on alternative days for 2 weeks. After the administration of the Positive Therapy, stress had reduced drastically to 'low level' in the entire sample.

'Management of stress and enhancement of general well being in recovered alcoholics through Positive Therapy' was conducted by Suchitra and Natesan (2006). From Bangalore, 46 recovered male alcoholics, 37 with 'High' stress and 9 with 'Moderate' stress were selected. They were in the age range of 24 to 47 years. After the administration of Positive therapy for ten sessions in two weeks, stress had reduced remarkably in most of the subjects. The mean stress, which was 'High', had reduced to 'Low'. The general well-being had also improved in most of the sample, and the mean, which was 'low' initially

has increased to high general well being, indicating the beneficial effects of Positive Therapy.

Latha and Rohini (2006) conducted a study on 'Management of stress in wives of alcoholics through Positive Therapy', in which, 35 wives of alcoholic patients from Krishna Rehabilitation Centre for Alcoholics, Coimbatore, Tamil Nadu, served as the sample. The sample was in the age range, 30-50 years. Results revealed that initially, majority of the sample (51%) had high stress. But after the administration of Positive Therapy for 2 weeks, for 6 sessions of one hour each, on alternate days, there was a significant reduction in the mean stress from 'High'(M=19.09) to 'Low' (M=4.09).

Yogatha and Gayatri Devi (2006) conducted a study on 'Management of stress in stress-induced diabetes through Positive Therapy'. The subjects were 50 diabetes patients (15 male and 35 female) in the age range of 25-65 years, from SKY Spiritual Trust, Coimbatore. Using Stress Questionnaire (Latha Sathish, 1984), it was found that the entire sample had 'High' level of stress. The subjects were provided with the psychological intervention called Positive Therapy for one hour per session, three times a week, for one month. Results showed that Positive Therapy had reduced stress to 'Low' level in 10% and to 'Very Low' level in 90% of the sample.

Kavitha and Natesan (2005) conducted a study on 'Management of stress and enhancement of general well being in haemodialysis patients through Positive Therapy'. From K.G Hospital, Coimbatore, 36 haemodialysis patients, in the age range of 20-65 years, served as the sample. Initially, the entire

sample had 'High'/'Very High' stress. Positive Therapy was administered for one hour per session, on alternate days for two weeks. Results revealed that after the administration of Positive Therapy, the mean stress of the sample came down to 'Low' level.

Praveena and Natesan (2004) conducted a study on 'Assessment and management of stress in working women through Positive Therapy'. Out of 100 women from the selected small-scale industries in Coimbatore, Tamil Nadu, 60 women who had 'Very High'/ 'High' stress, aged between 17 and 50 years were selected for the research. Out of them, 30 were assigned to the experimental group and 30 to the control group. Positive Therapy was given in groups of 10 members for one hour per session; 6 sessions were given over a period of three weeks. Results proved that Positive Therapy had helped to bring down the mean stress from 'Very high' / 'High' to 'Moderate' / 'Low' levels in the experimental group. There was a significant difference in the mean stress of the experimental group before and after treatment. The mean stress of the control group had increased slightly in the re-test and continued to be 'High'.

Dhara and Natesan (2003) conducted a study on 'Management of stress in primary school teachers through Positive Therapy'. Out of 60 female teachers selected, in the age range of 25-36 years, from Mani Feeder's School and Vivekalaya School in Coimbatore, Tamil Nadu, 30 were assigned to experimental group and 30 to control group. Initially, mean stress was 'High' in both the groups. Positive Therapy was given in two groups of 15 subjects in each group for 6 sessions on alternate days; the duration of each session was 40

minutes. Results revealed that Positive Therapy had helped in bringing down the mean stress significantly to 'Low' level in the experimental group, whereas in the control group, the mean stress continued to be 'High'.

Menon and Natesan (2002) conducted a study on 'Management of stress in IT professionals through Positive Therapy'. From Bangalore, Karnataka, 60 Information Technology (IT) professionals, 30 male and 30 female, in the age range of 23-36 years served as the sample. All the subjects had 'High' stress initially. Administration of Positive Therapy for seven days, involving two sessions per day, for 35 minutes, had proved to be effective in reducing the level of stress, symptoms of stress and negative emotions of the selected IT professionals.

The literature reviewed clearly indicates that a number of researches have been conducted on adolescence – stress in adolescents, correlates of stress in adolescents, effects and management of stress, stress and health, self-efficacy and academic achievement in adolescents. The researches on management of stress through Positive Therapy ~~and stress~~ have also been documented.

All these studies throw light upon the need for management of stress and enhancement of self-efficacy and academic achievement in adolescents. Hence, in the present action research, an attempt will be made to administer Positive Therapy on selected adolescents to help them manage their stress and enhance their self-efficacy.