

**AN INVESTIGATION INTO THE
BEHAVIOURAL PROBLEMS OF PLUS TWO STUDENTS
WITH A VIEW TO DEVELOP AN INTERVENTION PLAN**

Thesis
Submitted for the Degree of
Doctor of Philosophy
in
Psychology

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CERTIFICATE

Certified that this thesis entitled ‘AN INVESTIGATION INTO THE BEHAVIOURAL PROBLEMS OF PLUS TWO STUDENTS WITH A VIEW TO DEVELOP AN INTERVENTION PLAN’ submitted to the University of Calicut for the award of the Degree of Doctor of Philosophy in Psychology is a bonafide record of the research work carried out by Mrs. S. Anitha, under my supervision and guidance. No part of this has been submitted earlier for any other purpose.

Dr.C. Jayan
(Supervising Teacher)

DECLARATION

I, S. Anitha, do here by declare that this thesis, 'AN INVESTIGATION INTO THE BEHAVIOURAL PROBLEMS OF PLUS TWO STUDENTS WITH A VIEW TO DEVELOP AN INTERVENTION PLAN' is a bonfide record of the research work doen by me under the guidance of Dr.C. Jayan, Professor, Department of Psychology, University of Calicut. I further decalare that this thesis has not previously formed the basis for the award of any degree, diploma, associateship, fellowship or other similar title of recognition.

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Appendix

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CHAPTER 1

INTRODUCTION

- Need and Significance of the study
 - Statement of the problem
 - Broad objectives
 - Specific objectives
 - Hypotheses
 - Organization of the report

More than 2000 years ago Greek Philosophers like Aristotle and Plato wrote about the problems and characteristics of adolescents or post pubertal youth, the founding of adolescent psychology as an academic discipline is generally dated from 1904. In that year Granville Stanley Hall, who is credited with establishing the discipline, did initiate the scientific study of adolescence by identifying a number of issues, processes and developmental phenomena familiar to most contemporary students of adolescence. As Aristotle and Plato wrote of the problem of adolescence and G. Stanley Hall underscored the turmoil and stress of adolescence, a view of *strum and drang* was promulgated (Adams & Berzonsky, 2006). Clearly there are individual differences in the amount of stress and tension accompanying the adolescent transition . Research indicates that during adolescence states of all –consuming anxiety and conflict or severe problem behaviours are neither inevitable nor normative.

The past several decades have witnessed a remarkable invigoration of theoretical and empirical work on adolescent behaviour problems – behaviours that can directly or indirectly, compromise the well-being, the health and even the life course of young people. Knowledge about problem behaviours has expanded almost geometric progression in recent years, and it has become far more coherent and systematic than before. Today’s conceptualization encompass a wide array of causal domains, from culture and society on one side to biology and genetics on the other; they also convey, at the same time, a hard- earned awareness of complexity and a renewed respect for developmental processes. This invigoration and, indeed, transformation of work on adolescent problem behaviour is obviously part of larger and more far-reaching trends in social inquiry as a whole, trends that taken together have been labelled “ developmental behavioural sciences”(Jessor, 1993).

Adolescence is a period of transition when changes in their attitude and behaviour are most rapid. It is a crucial period when the individual attains maturity physically, intellectually, emotionally, socially and sexually. The growth achieved, the experience gained, the responsibilities felt and the relationships developed at this stage determine the future of an individual. This is the time when the individual is striving to wean himself from the family in order to become a self sufficient and independent person.

In the past, adolescence has been claimed to be a period of “storm and stress”, and this has been related to the marked biological changes associated with puberty which could cause such disruption. A different perspective about storm and stress has been provided by psychoanalysts and those interested in social processes which suggest that issues about identity formation are a key feature of adolescence. Undoubtedly, adolescence is a period of change and challenge. There are many new tasks to be negotiated. Thus, adolescence differs from earlier years both in the nature of challenges encountered and the capacity of the young person to respond effectively to these. It is a particular phase of life stimulating and requiring adult like patterns of coping with behaviours in relation to various tasks, in creating opportunities to ‘try out’ strategies and to experiment in relatively supported contexts and hopefully in giving young persons the skills with which they can confidently start their journey through adult life.

During adolescence emotional tension generates from the physical and glandular changes. The emotionality during adolescence is mainly attributed to the fact that the individual finds himself exposed to new social situations for which there were no preparation during his/her earlier childhood. He/She feels insecure as he/she has to make adjustments to new patterns of behaviour and to new social expectations (Sen., 1989).

Many adolescents experience an emotionally uncomfortable time before setting into adulthood. There is an increase in the incidence of depression during adolescence; the emotion during adolescence are often intense, uncontrollable and somewhat irrational. The adolescent has a lower threshold to all things affecting the verification of the past, the events of the present and the possibilities of future. The impulsive urge to immediate actions often leads to a risk taking behaviour (Sen., 1994).

The feelings of helplessness and worthlessness that can accompany adolescence, along with disturbance in sleep or appetite, can fuel a downward spiral of health and grades. It is vital that help is sought because studies have shown that teens who are feeling depressed or who are abusing substances are at high risk for suicide. Suicide is the third leading cause of death among young people in the age range 15-24 years. Young women attempt suicide four times more frequently than men do (Sinha, 1999).

The inflated mood is somewhat destructive, as it undermines the psychological image of adolescents' parents and other adults, resulting often in open confrontation with parental ideology, way of life, their belief system and the discipline they impose. This causes depression and doubt about percepts and beliefs received from parents. There are marked changes in adolescent's social interest, new patterns of social grouping, new values in the selection of friends and leaders and characteristics that lead to social acceptance and rejection. Adolescents spends more time with the peer group who exerts a great influence on their attitudes, values and behaviour than his/her own family.

Biological changes that the adolescent experience in the body leads to a heightened interest in body image and becomes conscious about their body. Attitudes towards the body are closely related to self-concept which has a direct impact on the psychological adjustment and happiness in later years. The changes in the body image brings not only a sense of grandiose about the self, but also a kind of ego-centrism that involves an imaginary audience and a personal fable about being unique and in destructive (Santrock, 1989).

The concept of personal growth and identity are relevant to adolescence. This is because many people consider that identity formation is a central task of adolescence and that at the heart of personal growth, lies identity and the associated notions of self-awareness, self-concept and self esteem.

Self understanding is adolescent's cognitive representation of the self, the substance and content of adolescent's self conceptions. Dimensions of adolescents self understanding include abstract and idealistic, differentiated, contradictions within the self, real and ideal, true and false selves, social comparison, self conscious, unconscious, and self integrative. The increasing number of selves in adolescence can vary across relationships with people, social roles, and socio-cultural contexts (Santrock, 2007).

Since personal growth requires conscious choice in the order that emotional development can be enhanced, it necessarily demands a degree of self-awareness. Consequently, for personal growth to occur, people must have a concept of themselves- the self-concept. The development of self-concept is a continuous process which has begun by the end of the first year, but which becomes pronounced during adolescence. Once adolescents are able to think about themselves, theories of the self suggest that everyone

evaluates either positively or negatively – the self esteem. Self esteem is the global evaluative dimensions of the self, and also is referred to as self worth or self image. According to Harter (1999), self concept involves domain specific self evaluations. It can be said that self-esteem provides the impetus for personal growth in that the need to think themselves positively is likely to make people want to enhance their emotional development and relationships. The ways in which people reflect on their selves is central to the notion of identities. All these can be considered as ‘building blocks’ of personal growth. Any problem that affects personal growth can lead to different behaviour problems in adolescence.

Behaviour problems of adolescent’s is perhaps best seen as a loose collection of characteristics, the first and probably most common is the interaction between personal characteristics of students and environmental factors, some of which are located within students; others which are disorders of the environment in which the adolescent operates.

The array of manifestations that might fall into any of these categories is enormous. Adolescents’ problems may manifest themselves in terms of extreme withdrawal from social involvement, leading to social isolation within school. At another level, the adolescent with behaviour problems may simply be preoccupied with emotional concerns to the extent that this interferes with the learning process. Adolescents with such difficulties may also engage in attention-seeking behaviours, which can involve activities that attract the positive or negative attention of others. The energy that is devoted to such behaviour is often at the expense of ‘legitimate’ classroom behaviour, and consequently tends to attract the negative attention of teachers in the form of reprimands and punishments. To the attention-seeking behaviour, negative attention is a desirable alternative to ‘no attention’ at all.

The other forms of behavioural disturbance in classrooms take the form of unauthorized student talk, disturbance for other students in the class, and other forms of behaviour that interfere with teaching and learning such as the use of verbal and non-verbal interventions, as well as forms of student behaviour that directly challenge the authority of the teacher (Cooper, 1999). Rare, but more severe, manifestations include hyperactivity, bullying, sexual problems and damage to property. Less disturbing, but evidently 'disturbed', behaviours include extreme inattentiveness, socially withdrawn behaviour, and phobic and obsessive patterns of behaviour (Blau and Gullotta 1996). Of related concern is a group of problems that, whether or not they are enacted in the academic environment, are often related directly or indirectly, to dysfunctional conduct or performance in the academic setting.

In the educational setting behaviour problems can be linked to other forms of special educational need, in that they interfere with the learning process. Additional particular characteristics of behaviour problems are that they may interfere with the teaching process and also the learning of students other than those exhibiting the problems. Behaviour problems often manifest themselves in the classroom in the form of non-cooperative or oppositional behaviour, and thus present a personal threat to the authority and sense of competence of the teacher. This threat can be a major source of stress to teachers. This can lead to circumstances which exacerbate the original difficulties, and so lock teacher and pupils into a downward spiral of failure. A particular feature, therefore, of effective responses to behaviour problems is the practical recognition of the needs of teachers as well as those of students.

Although the educational institution is often the public site for the expression of behaviour problems., the same problems occur in the family situation too. Like teachers, parents are also found incompetent and become ashamed of their failure to cope with. The adolescent whose behaviour problems are the focus for these problems in turn often becomes the object of dislike and resentment to those around him or her. The low opinion that others have of the individual becomes internalized and soon the children, and those with whom he or she interacts, unwillingly cooperate to maintain and increase the behaviour problems

Adolescence is a difficult time for many young people. During this period, they must contend with physical changes, pressure to conform to current social trends and peer behaviour, and increased expectations from family members, teachers, and other adults. They must also contend with the pressures of conflicting messages from society, peers, teachers and parents on performance, achievement and belonging. The usual challenges of adolescence are compounded by the presence of difficult family situations, inadequate school systems, disintegrating family systems and exposure to alcohol or other drugs. Without support and guidance, these young people are at high risk to develop problems in the emotional, academic, social behavioral realms.

It is important to understand that contrary to what is popularly subscribed to, adolescence is not a period of raging hormones or rebellious disrespect. It is a period when, young people begin to take risks and experiment. They do so because they are moving from a family-centered world to the larger community within which they will begin to define their own identity. Any interaction with an adolescent will have to take off from his premise.

Adolescence is a time for acquiring new skills, attaining mastery over environment, learning to handle new responsibilities and gaining control over one's emotions and thoughts. It is believed that emotional and behavioural difficulties may clear up completely with an adequate support system. During this period, all pass through phases of temporary maladjustment. If ignored these can seriously impair the learning process.

In adolescence, pervasive depressive symptoms might be manifested in such ways as tending to dress in black clothes, writing poetry with morbid themes, or a preoccupation with music that has depressive themes, sleep problems, lack of interest etc. Surveys have found that approximately one third of adolescents who go to mental health clinic suffer from depression. Generally, depression often goes undiagnosed in adolescence. According to conventional wisdom, normal adolescents often show mood swings, ruminate in introspective ways, express boredom with life, and indicate a sense of hopelessness. Thus parents, teachers and other observers may see these behaviours as simply transitory and not reflecting a problem but rather normal adolescent behaviours and thoughts.

There can be many different causes for these difficulties: biological, psychological, social etc. Furthermore, the extent to which a particular manifestation can be seen as a 'difficulty' will often depend on the perspective of the observer, and as such can be seen as a product of a particular, culturally defined, way of looking at things. This cultural perspective is particularly important, because it reminds us of the possibility that behaviour that is unacceptable in one context may not only be tolerated but actually valued in a different context.

Every generation has its own issues to address in addition to the general complexities of life, which for many young people are characterized by changing value systems in the family and in society and growing options with regard to careers, beliefs, and lifestyle choices. Issues which play an important role in determining the quality of parent-adolescent interactions today include, media of entertainment, the internet, academic pressures, single child families, role of father, working mothers, the dissolution of the extended family and academic pressures. Most of these were not significant issues a few generations ago. This increases the dilemmas of adolescent life and enhances the risk of troubles. There is an emergence of various transient lifestyles owing to the prevailing environment of social change. This in turn can lead to an isolated lifestyle, changing family and community bonding and a decreased sense of “belongingness”. Today, therefore, youth need greater self-direction and poise than ever before to successfully move from adolescence to adulthood.

It becomes an obligation on society to provide supportive resources to help adolescents to take on adult roles. Helping to move to independence requires understanding of healthy adolescent development and how to find the resources that can help them when the youngster goes “off track.” Parenting of adolescents can be frustrating, tiring and often unsuccessful if directive and instructive processes are used. It might be more beneficial to use discursive and narrative elements in parenting an adolescent.

Successful intervention with such problems is often dependent on an appreciation of this complex interplay of personal and social factors. A major factor unifying the various approaches is the recognition that behaviour problems are often subtle forms of communication. What the adolescents are communicating when they act out or withdraw is that

something is wrong in their world and that they want or need help to sort the problem out. Ironically, this cry for help often appears to take the opposite form, and comes out as antagonism, rejection of or withdrawal from the people who are best placed to help. In these circumstances the adolescent is sometimes pushing those around him or her to the limit of their tolerance and patience, possibly because experience has told them that everyone ultimately rejects them, and that it is better to get it over now than to run the risk of forming attachments that will end in disappointment and dejection. Yet one of the primary needs is for attachment to, and connection with, others. Successful intervention is therefore, always focus on creating the circumstances in which such attachments and connections can safely be made. This might be possible through adjusting the adolescent's environment, changing the ways in which significant others see and interact with them, and through helping the adolescent to see him or her and others in new ways.

Adolescence is not a time of rebellion, crisis pathology and deviance. A far more accurate vision of adolescence is a time of evaluation, of decision making, of commitment, of craving out a place in the world. Most of the problems of today's youth are not with the youth themselves. What adolescents need is access to a range of legitimate opportunity and long term care, support and understanding.

Researchers are increasingly finding that problem behaviours in adolescence are interrelated. In addition to understanding that many adolescents engage in multiple problem behaviours, it also is important to develop programmes that reduce adolescent problems. Intense individualized attention, community wide multi agency collaborative approach, and early identification and intervention are the major

components of any successful intervention programme. Of which the individualized attention is the most effective one in addressing the adolescent behaviour problems.

1.1 NEED & SIGNIFICANCE OF THE STUDY

The traditional processes of growing up means having to cope with the sociocultural effects of fairly dramatic bodily changes. Adolescence brings a number of first experiences, and everybody feels uncomfortable and can experience low-self esteem in new situations until the necessary coping skills are learned.

What makes adolescence special is that it is an important period in one's life and thus can be decisive for the way the remaining years may be managed. The way the problem is tackled the very first time it occurs and influences further problem solving. Coping-skills once learned can be repeated in similar situations and failed attempts to solve problems create potential for subsequent failure. As a teenager, one has greater possibilities to experiment and fail occasionally and "childish" attempts to tackle a problem are tolerated to some extent. Once adult, the society expects its members to tackle their problems in a fairly independent, competent fashion. Thus adolescence is a period which provides an opportunity to learn and be helped to learn essential life skills in a relatively supportive environment.

Adolescence is that period in one's life when intelligence is at its peak, setting of permanent personality traits begins, decision regarding future profession is made, and also a period marked by extreme emotional instability. This is a period of identity crisis, physical, sexual and spiritual.

The young child is trying to cope up with the rapid changes in body growth and maturation and becomes comfortable with his/her own emerging sexuality against a backdrop of societal norms and parental expectations.

Making one's way through adolescence is like maneuvering a minefield: each mine representing something that can throw adolescence off the track. While multiple paths lead to safety and normal development, other passages lead to psychosocial problems.

Earlier 'classical' theories of adolescence established certain trends, emphases and biases which seem still to be reflected in modern views. Lloyd (1985) outlined a number of key historical theories which have helped to create public 'images' of adolescence. Among earlier theories Hall's view of adolescence as being a time of "Storm and Stress", still maintains currency in the public's mind.

For the last several years, researchers have tried to demonstrate that children and adolescence think in qualitatively different ways from adults (Pine 1999), that they have different moral values (Kohlberg, 1969), that they are egocentric and most of all, that is a normal feature of development, they are subject to psychosocial stresses (Kohnstamm, 1996). They are seen to have problems in school, with their self-identity and sexuality and particularly with becoming socialized into society – as if, they were not yet a part of that society (Qvortrup, 1994). This view of adolescents as immature troublemakers has been used to justify treating them as an underprivileged group in society without any influence in the decision-making processes of the adult world. (Jones & Wallace 1992)

Researchers have come to conclusions like, opening up the possibility of concentrating research on young people's potential for development instead of on their claimed problems and shortcomings. In other words, creating them as 'human beings' instead of 'human becomings' (Qvortrup, 1994).

Understanding adolescence and solving the problems related to psychosocial aspects of adolescence have been taken care of in developed countries decades ago. In a developing country like India, the very concept of adolescent care needs to be propagated right from inception. The exact magnitude of psychological problems among Indian children is not known. It is believed that about 3-5 million children suffer from severe emotional and behavioural problems. In spite of the vast technical and scientific advancement of medical and healthcare system, strong traditional culture and high moral standards, and the so called emotional tie up between the members of the family, Kerala too is facing alarming rate of adolescent problems. If the children are the future of our nation, then we should devote our sincere attention to their psychological needs.

All of us have vague ideas as to what the adolescents must be thinking about themselves, based on our own past experiences and hence the investigator thought it worthwhile to do an in-depth study of the adolescent mind in order to identify the daily hassles related to them and to develop an intervention plan to reduce their behavioural problems.

The dynamic nature of adolescent development, which results in ongoing and interacting influences across a diversity of domains (eg: biological, psychological, cognitive and social) contributes to unique health care needs of this population.

Successful intervention of behavioural problems found in the educational institutions, family and clinical setting, is often dependent on an appreciation of the complex interplay of the personal and social factors. It should always be focused on creating the circumstances in which attachments and connections can safely be made. This can be done through adjusting the adolescent's environment, changing the ways in which others see and interact with the adolescent, through helping the adolescent to see him or herself and others in new ways, and by developing new social and cognitive skills (Gaines & Barry, 2008; Gowers, 2008; Kerfoot, 2009; Neil et al, 2009; Richardson et al, 2009; Squire, 2005; Shirk et al, 2009).

Though a series of studies have been conducted in the western countries and a few studies in India, to the best of researcher's knowledge, there wasn't any attempt to make a comprehensive assessment of the behavioural problems of adolescents in Kerala. Moreover, to develop a successful intervention plan, it is essential to have a clear understanding of the existing behaviour problems of adolescence, particularly in our context. Among all, researcher's experience as a teacher in a plus two school for the last several years gave an opportunity to understand and experience the depth of various behavioural problems faced by the students and that inspired the researcher to take up the study. The present study is an attempt to find out the various behavioural problems of plus two students with a view to develop an intervention plan.

1.2 STATEMENT OF THE PROBLEM

“AN INVESTIGATION INTO THE BEHAVIOURAL PROBLEMS OF PLUS
TWO STUDENTS WITH A VIEW TO DEVELOP AN INTERVENTION
PLAN”

1.3 BROAD OBJECTIVE

1. To identify and explore the behavior problems of plus two students.
2. To develop an intervention plan to control those problems.

1.3.1 Specific Objectives

1. To identify the dimensions of personality, behavior problems, state and trait dimensions of anxiety, curiosity, anger and depression.
2. To construct standardized psychological inventory for assessing adolescent personality variables.
3. To study the nature and extent of relationships among the dimensions of personality, behavior problem, state and trait dimensions of anxiety, curiosity, anger and depression.
4. To identify those variables which predict behavior problems.
5. To explore the efficacy of Guided somato psychic relaxation in eliminating the behavior problems, personality variables, state and trait dimensions of anxiety, curiosity, anger and depression.
6. To explore the efficacy of Cognitive behavior counseling in eliminating the behavior problems, personality variables, state and trait dimensions of anxiety, curiosity, anger and depression.
7. To explore the efficacy of Guided somato psychic relaxation and Cognitive behavior counseling together in eliminating the behavior problems, personality variables, state and trait dimensions of anxiety, curiosity, anger and depression.

1.4 HYPOTHESES

Upholding the objectives mentioned above, the following hypotheses have been proposed.

1. There will be significant relationships between behavior problems and personality variables.
2. There will be significant relationships between behavior problems and state and trait dimensions of anxiety, curiosity and anger.
3. There will be significant relationships between behavior problems and depression.
4. There will be significant relationships between personality and state and trait dimensions of anxiety, curiosity, and anger.
5. There will be significant relationships between depression and personality variables.
6. There will be significant relationship between depression and state and trait dimensions of anxiety, curiosity and anger.
7. Emotional problems can be predicted by means of personality variables, state and trait dimensions of anxiety, curiosity and anger, and depression.
8. Academic problems can be predicted by means of personality variables, state and trait dimensions of anxiety, curiosity and anger, and depression.
9. Social problems can be predicted by means of personality variables, state and trait dimensions of anxiety, curiosity and anger, and depression.
10. Personal problems can be predicted by means of personality variables, state and trait dimensions of anxiety, curiosity and anger, and depression.

11. Family problems can be predicted by means of personality variables, state and trait dimensions of anxiety, curiosity and anger, and depression.
12. Sexual problems can be predicted by means of personality variables, state and trait dimensions of anxiety, curiosity and anger, and depression.
13. Health problems can be predicted by means of personality variables, state and trait dimensions of anxiety, curiosity and anger, and depression.
14. Overall behaviour problems can be predicted by means of personality variables, state and trait dimensions of anxiety, curiosity and anger, and depression.
15. There will be significant difference between before and after assessment of control group on personality variables.
16. There will be significant difference between before and after assessment of control group on state and trait dimensions of anxiety, curiosity, and anger.
17. There will be significant difference between before and after assessment of control group on behavior problems.
18. There will be significant difference between before and after assessment of control group on depression.
19. There will be significant difference between before and after intervention assessment of Experimental group 1 on personality variables.
20. There will be significant difference between before and after intervention assessment of Experimental group 1 on state and trait dimensions of anxiety, curiosity, and anger.
21. There will be significant difference between before and after intervention assessment of Experimental group 1 on behavior problems.

22. There will be significant difference between before and after intervention assessment of Experimental group 1 on depression.
23. There will be significant difference between before and after intervention assessment of Experimental group 2 on personality variables.
24. There will be significant difference between before and after intervention assessment of Experimental group 2 on state and trait dimensions of anxiety, curiosity and anger.
25. There will be significant difference between before and after intervention assessment of Experimental group 2 on behavior problems.
26. There will be significant difference between before and after intervention assessment of Experimental group 2 on depression.
27. There will be significant difference between before and after intervention assessment of Experimental group 3 on personality variables.
28. There will be significant difference between before and after intervention assessment of Experimental group 3 on state and trait dimensions of anxiety, curiosity and anger.
29. There will be significant difference between before and after intervention assessment of Experimental group 3 on behavior problems.
30. There will be significant difference between before and after intervention assessment of Experimental group 3 on depression.
31. There will be significant difference between the pretest scores of the Experimental groups and control group in the variables of personality.
32. There will be significant difference between the pretest scores of the Experimental groups and control group in the state and trait dimensions of anxiety, curiosity and anger.
33. There will be significant difference between the pretest scores of the Experimental groups and control group in behavior problem variables.

34. There will be significant difference between the pretest scores of the Experimental groups and control group in depression.
35. There will be significant difference between the post test scores of the Experimental groups and control group in variables of personality.
36. There will be significant difference between the post test scores of the Experimental groups and control group in state and trait dimensions of anxiety, curiosity and anger.
37. There will be significant difference between the post test scores of the Experimental groups and control group in behavior problems.
38. There will be significant difference between the post test scores of the Experimental groups and control group in depression.

1.5 ORGANIZATION OF THE REPORT

This report of the investigation is presented in six chapters. In chapter 1 a detailed introduction, need and significance of the study, statement of the problem, broad and specific objectives, and hypotheses are given. Chapter 2 contains review of related literature. Chapter 3 dealt with the details of sample, tools, variables, procedure for data collection and statistical techniques. Chapter 4 dealt with the details of tool development. Result and discussion presented in chapter 5 and summary and conclusion in chapter 6. This was followed by bibliography and appendix.

REVIEW OF LITERATURE

-
- Theoretical review
 - Definitions
 - The Changing adolescent
 - Perspectives on adolescents
 - Theories of adolescents
 - Related studies
 - Studies related to behaviour problems
 - Studies related to depression
 - Studies related to personality variables
 - Studies related to anxiety, anger and curiosity
 - Studies related to cognitive behaviour therapy / counselling
 - Studies related to other management / treatment approaches
-
-

The progressive growth of any scientific discipline is marked explicitly by its professional literature. For any worthwhile study in any field of knowledge, the investigator needs an adequate familiarity with the research materials already available in the area.

Research is a process of exploration; it is an investigation for something new, which has remained hidden or unnoticed. In other words, it is the process of gathering, recording and analysing relevant data about the problem in a selected branch of human activity. The researcher needs up-to-date information about what has been thought and done in the particular area from which he intends to take up the problem for research.

Knowledge of related research enables the investigator to define the frontiers of his field, and also to sharpen a nebulous idea. The development of a research design and the determination of the size and scope of the problem depend to a great extent, on the care and intensity with which the researcher has examined the literature related to his topic for investigation.

In short, the survey of related literature helps the researcher to find what is already known, what others have attempted to find out, what methods of attack have been promising, and what problems remain to be solved. It furnishes him with indispensable suggestions about comparative data, good procedures, likely methods and tried techniques. It also prevents repetition of research. Thus, the search for related literature is one of the most important steps in the research process. It is a valuable guide for defining the problem, recognising its significance, formulating hypothesis, suggesting appropriate research design, and source of data.

The present study carried out as two sections, an exploratory study to find out the behaviour and other problems of plus two students as the first part and developing an intervention plan based on the identified problem areas as the second part of the study. The review of literature is also presented as two sections, first section dealt with the theoretical aspects and the second section dealt with related studies.

2.1 THEORETICAL REVIEW

Adolescence is a fascinating period of life that marks the transition from being a dependent child to becoming an independently functioning adult. For some adolescence may begin at 13, the first ‘teen’ year, while for others it may be the start of secondary school. For those who prefer a physical marker, the commencement of puberty is the obvious start, yet puberty itself is a very complex phenomenon, with different elements – the growth spurt, menarche and so on – occurring at different times. For some girls, puberty starts as early as nine or ten years, for others it is delayed until they are 15 year old (Hendry & Kloep, 1999).

Determining when the adolescence ends is also a very difficult task. Some use status transitions as a marker: adulthood is reached when young people have left their parents home, found a job and started a family of their own. Yet today there are large intercultural and psychosocial differences in these status transitions.

Adolescence is a socially constructed phenomenon which is redefined by each succeeding generation and defined differently for different groups (Griffin, 1993). Additionally, adulthood becomes an equally problematic concept in an uncertain, complex changing society. Koops (1996) argues that the boundaries between adolescence and adulthood have become blurred to a degree that ‘adolescence will lose its most characteristic

meaning, namely being the bridge between childhood and adulthood'. Hence it can be concluded that the period of adolescence vary widely depending on the tradition, culture and social factors within each society.

2.1.1 Definitions

Any period of life tends to be characterized by a group of developmental problems that are biological, psychological, and social in origin and timing. Among these that typically but not necessarily occur during the second decade of life are adjustments in the areas of heterosexual relations, occupational orientation, the development of a mature set of values and responsible self-direction, and the breaking of close emotional ties to parents. In a sense, such developmental tasks define adolescence. Some of the prominent definitions are presented below.

Garrison (1956) : “ Adolescence may best be conceived as a product of the interaction of biological and cultural factors upon the individual as he moves from childhood into adulthood.”

Jersild (1963) : “ Adolescence denotes a period during which the growing person makes the transition from childhood to adulthood. It is not linked to any precise span of years, adolescence may be viewed as beginning roughly when young people begin to show signs of puberty and continuing until most of them are sexually mature, and have approximately reached their full mental growth as measured by Intelligence test”.

Webster’s New Collegiate Dictionary (1977) : “Adolescence refers to the process of growing up or to the period of life from puberty to maturity”.

Ingersoll (1989) : “ Adolescence is a period of personal development during which a young person must establish a sense of individual identity

and feelings of self-worth which include an alteration of his/ her body-image , adaptation to more mature intellectual abilities, adjustment to society's demands for behavioural maturity, internalizing a personal value system, and preparing for adult roles.”

Santrock (2007) : “ Adolescence is the developmental period of transition from childhood to early adulthood, that involves biological, cognitive and socio emotional changes”.

2.1.2 The Changing Adolescent

The development of adolescents is characterized by continuity and discontinuity. Physically, adolescents are still influenced by their inherited genes, but now the inheritance interacts with new social conditions with family, peers, school and friendships. Socially, an adolescent has already spent years interacting with parents, friends, and teachers. Now, though, new experiences arise and relationships take on a different form. The cognitive development of adolescents involves thought processes that are more abstract and idealistic. Finally, emotionally, the adolescents show frequent and large swings in mood. Brief descriptions of these changes are presented below.

2.1.2.1 Physical Development.

The physical changes that occur at the start of adolescence, which are largely a result of the secretion of various hormones, affect virtually every aspect of the adolescent's life. The most important feature of physical development during adolescence is puberty, a period of rapid changes during which individuals reach sexual maturity and become capable of

reproduction. At this time young people rather quickly shoot up several inches in height and gain weight. While this growth spurt occurs in both sexes, it starts earlier for girls than for boys.

During puberty the gonads or sex glands, produce increased levels of sex hormones, and the external sex organs assume their adult form. Girls begin to menstruate and boys start to produce sperm.. Boys develop facial and chest hair and their voice deepen. Girls experience breast enlargement and a widening of their hips; both sexes develop pubic hair. Physical maturity in the male produces larger muscle masses; in the female muscles tend to be incorporated in body contours. Acne appears to be a frequent malady of adolescents, and nearly every one develops it to some extent. Facial features, too, often change during puberty-characteristics associated with childhood give way to a more adult appearance.

2.1.2.2 Social development

Adolescent's social development depends on the range and quality of interactions, the characteristics of adolescent parent relationships. Adolescents have their primary social encounters with peers. Within these relationships, adolescents practice and improve a wide array of social skills (Berndt, 1992) and develop the capacity for intimacy- the capacity to share their innermost thoughts and feelings with another person. Friendships also play an important role in the quest for a personal identity. The concept of personal identity refers to a synthesis of values, roles, and aspirations that blends past identifications with a vision about oneself moving through the future. Adolescents may tryout various images of themselves, becoming temporarily committed to a number of life possibilities in order to discover which roles make a comfortable blend with personal competencies and values (Newman & Newman, 1979).

Family influences the social experiences of adolescents. Independence is related to how much parents permit adolescents to be involved in decision making, how often parents explanations for the rules they set, and whether or not parents value independent judgment in their children. Girls tend to express their independence by assuming more responsibility. Boys show independence by spending more time away from home and by resisting parental restrictions. In value areas, frequency of interaction and shared experiences tend to increase the similarity between the views of parents and adolescents.

2.1.2.3 Emotional development

Even though the body rapidly changes and grows into the adult form, emotional development takes longer to become stable. This means that though the body is capable of performing adult roles, the emotions may not be completely free from the pattern and reactions seen during early years. The people around and sometimes even the parents may not realize this. So, when the adolescent is worried about the various changes he /she is facing, the elders may interpret this worry as “moodiness”.

On the other hand, the adolescent may expect to be treated like a grown-up and even want to do things like grown-ups without realizing that it would be probably wiser to wait until he / she is an adult, so that the responsibilities and consequences of actions are understood better. During this time one may easily get upset when he / she is not treated like an adult and also rebel against anyone who questions him / her right to do so.

An adolescent expects to behave confidently like an adult, but loses confidence in oneself while trying to do so. As one grows older he / she will be emotionally more confident. Another important aspect of the emotional change faced by the adolescent is the realization that the

opposite sex is no longer irritating but attractive. Curiosity about sexual matters is a common part of growing up and essential part of preparing for adulthood. This is a time to treat members of the opposite sex with respect and dignity.

2.1.2.4 Cognitive development

During early adolescence, there is a gradual transition from concrete operational thought to formal operational thought. The concrete skills, including classification, conservation, and combinatorial operations remain central to later functioning. In this phase of development, however, adolescents begin to integrate these skills, to apply the skills to more abstract problems, and to approach complex problems more systematically. Formal thought including hypothesis raising and testing, probabilistic thinking, and more coherent view of the future, is fostered by expanded experiences in a variety of roles, increased self-awareness, and an awareness of the importance of future events.

Adolescents show tendencies toward egocentrism, assuming, rigidly, that no other views but their own can be correct. There is a preoccupation with one's own thoughts and an expectation that others are also focused on one's inner concerns. Research findings suggest that adolescents do not have a greater sense of invulnerability than adults to engage in high-risk behaviour.

The intellectual abilities continue to improve during early adolescence. Measures of both fluid and crystallized intelligence show continued growth. Memory span, the acquisition of information and problem solving abilities will also improve.

2.1.3 Perspectives on Adolescence

Adolescence was first investigated scientifically in the nineteenth century and today it is generally recognized that socialization must be understood in terms of physical development, cognitive growth, and cultural factors. There is a continuous interaction between the adolescent and his environment.

Earlier ‘classical’ theories of adolescence established certain trends, emphases and biases which seem still to be reflected in modern views. Among earlier theories Hall’s view of adolescence as being a time of “Storm and Stress”, still maintains currency in the public’s mind. For the last several years, researchers have tried to demonstrate that children and adolescence think in qualitatively different ways from adults (Pine 1999), that they have different moral values (Kohlberg, 1969), that they are egocentric and most of all, that is a normal feature of development, they are subject to psychosocial stresses (Kohnstamm, 1996). They are seen to have problems in school, with their self-identity and sexuality and particularly with becoming socialized into society – as if, they were not yet a part of that society (Qvortrup, 1994). This view of adolescents as immature trouble makers has been used to justify treating them as an underprivileged group in society without any influence in the decision making processes of the adult world. (Jones and Wallace 1992). Recently, researchers have come out with conclusions like, “opening up the possibility of concentrating research on young people’s potential for development instead of on their claimed problems and short comings.

2.1.4 Theories of Adolescence.

An attempt has been made to review the various theories with due focus on the key aspects and presented below.

2.1.4.1 Evolutionary theory of adolescence

Stanley Hall (1904) often considered the father of adolescent psychology, relates the life phases from childhood to adulthood and to the cultural evolution of human societies. Hall was intellectually committed to an evolutionary theory of adolescence. He believed that early and later adolescence were two distinct periods of psychological development, and the time of psychosocial development when the transition between the more primitive child and the truly human adult occurred. To him adolescence is a time of life when the sexual and intellectual capacities of the adult human emerged, just as they had in the evolutionary order. During this time individuals were capable of changing the course of their society. The capacity for personal and social change emerged as a result of a number of life events which occur simultaneously during adolescence. These include rapid physical growth, sexual maturation, increased emotional intensity and conflict, the achievement of hypothetico-deductive reasoning, and as awareness of complex moral, social and political concerns.

2.1.4.2 Normative Theories

Normative theories describe the average pattern of growth and change at each life stage. This theory provides a description of normal growth, which can be used as a guideline for the kinds of competences, and conflicts that are likely to occur at a given age.

Arnold Gesell (1956), a normative theorist, viewed adolescence as a prolonged period of patterned growth leading to maturity. He focused on nine areas of development including the total action system, or physical or motor growth, routine and self-care including eating, sleeping, bathing, and personal habits, emotions, the self-concept, interpersonal relationships,

activities and interests, school life, ethics and philosophic outlook. Gessel emphasizes a waxing and waning of inner and outer directed growth.

Table no: 2.1

Eight developmental tasks of adolescence and their goals proposed by the normative theorist

Sl No	Task	Goal
1	Achieving new and more mature relations with age-mates of both sexes	To learn to look upon girls as women and boys as men: to become an adult among adults
2	Achieving a masculine or feminine social role	To accept and to learn a socially approved adult masculine or feminine social role.
3	Accepting one's physique and using one's body effectively	To become proud, or at least tolerant of one's body.
4	Achieving emotional independence of parents and other adults	To become free from childish dependence on one's parents; to develop affection for one's parents without remaining dependent upon them.
5	Preparing for marriage and family life	To develop a positive attitude toward family life and having children.
6	Preparing for economic career	To organize one's plans and energies in such a way as to begin an orderly career; to feel able to make a living.
7	Acquiring a set of values and an ethical system as a guide to behaviour – developing an ideology.	To form a socio-politico-ethical ideology.
8	Desiring and achieving socially responsible behaviour	To develop a social ideology; to participate as a responsible adult in the life of the community; to take account of the values of society in one's personal behaviour.

Robert J. Havighurst (1962), another normative theorist, identified eight developmental tasks of adolescence and their goals. The details of which are presented in table no 2.1.

2.1.4.3 Psychodynamic Theories

Psychodynamic theories focus on changes in emotional and social functioning of adolescence. These theorists emphasize the consequences associated with the expression or inhibition of sexual and aggressive motives at each life stage. Freud saw adolescence as the final stage of personality development. During this stage, patterns of impulsive expression, defensive style and sublimation crystallize into a life orientation. Freud believed that the psychological conflicts which adolescents experienced were due to the failure to satisfy or express specific wishes during childhood.

Keeping in view of the theory of psychosexual development, Anna Freud viewed adolescence as a time of increased libidinal energy associated with biological maturation. The two ego defences which Anna Freud described as adolescents responses to increased instinctual forces are asceticism – a mistrust of instincts and a refusal to engage in any form of pleasurable activity- and intellectuality – a preoccupation with the abstract concepts of friendship, love marriage, or other conflict laden themes. According to her the threat of adolescence is that the ego may be overwhelmed by the quantity of instinctual forces which arise during puberty. The flow of contradictory behaviours, self centered and passionately loving, submissive and rebellious, light hearted and depressed, all reflect the struggle being waged to define and assert the ego as the dominant psychological force (Mischel, 1999).

2.1.4.4 Interpersonal Theories

Harry Stack Sullivan explains three phases of adolescence. They are (1) Pre adolescents – where a need for a close relationship with another person of the same sex, (2) Early adolescents – interests in heterosexual relationships, conflicts between needs for intimacy and needs for sexual gratification occurs, and (3) Late Adolescents- in which establishment of a mature repertoire of interpersonal relationships and the emergence of self respect occur.

Erik Erikson's (Hendry & Kloep, 1999) theory of identity formation states that development occurs around the basic personal and social tasks that need to be resolved at each stage of development. Usually, eight stages of development are postulated, which have to be passed in order to reach genuine maturity. At each stage, there is a characteristic crisis and the way in which the individual meets and solves the problem at each stage determines the kind of person they will become. Conflict is important for optimal ego development, so the individual has to pass through a series of identity crisis during his or her life span. Adolescence is a normative crisis focused on self-identity. He views adolescents is the time when a personal identity is formulated or identity achieved through experimentation, research and introspections, and competences and aspiration.

2.1.4.5 Cognitive theories

Cognitive theories provide explanations about the development of intellectual competencies. They focused on aspects of cognition, ie., knowing, conceptualizing, reasoning , thinking, and problem solving, as a key to understand human behaviour. They emphasize the changing qualities of intelligence from childhood to adulthood.

Jean Piaget explains the final stage of cognitive development as “formal operational thought”, which begins in adolescence and continues through adulthood. This level of thinking permits the person to conceptualize about many simultaneously interacting variables. Piaget suggests that adolescent’s thoughts are more abstract and are governed more by logical principles than by perceptions and experiences. The changes in conceptual development that occur during adolescence results in a more flexible, critical and abstract view of the world. The abilities to hypothesize about logical sequence of action, to conceptualize about change, and to anticipate consequences of action, all serve to make a sense of the future a real part of the cognitive space of the individual (Mischel, 1999).

Lawrence Kohlberg has elaborated cognitive theory to explain patterns of moral reasoning based on a growing appreciation of abstract principles of justice, intentionality and social contracts. Kohlberg views adolescence as a vitally important period in the emergence of a personal morality. During adolescence people first begin to evaluate the legitimacy of their society’s morality. Once the prevailing code has been questioned, there is always the possibility that a new, more compassionate, or more just ethic will emerge. In adolescence, individuals begin to contribute to the evolution of moral thought (Mischel, 1999).

Comparative Organismic theory of Heinz Werner is based on the following assumptions. (1) Any thought or behaviour must be understood in the context of its function for the organism, (2) all activity is directed to insure survival and growth, and (3) there is a natural tendency to move from global to more differentiated and integrated states. He explained the changes in cognitive functioning as a result of a dynamic interplay between forces toward differentiation and specialization and forces toward

integration and synthesis. Werner viewed adolescence in technological societies as a period of plasticity during which new conceptualization can prepare a person for a changing society (Mischel, 1999).

George Kelly (1955) extends the cognitive approach to a theory of personality that focuses on the concepts individuals use to define themselves and others. According to Kelly one of the central tasks of adolescence, could be a broad ranging evaluation and recreation of the personal construct system, bringing it more into line with logical thinking and adult experiences. Adolescence experiences anxiety if there is construct inadequacies and sometimes need new constructs to apply to the range of new experiences (Mischel, 1999).

2.1.4.6 Social Psychological Theories

Social psychological theories describe the importance of interaction with the social and psychological environment as a necessary component for growth.

Field theory of Kurt Lewin proposed the concept of psychological space as a primary determinant of a person's experiences. Lewin considered adolescent as a "marginal man" between childhood and adulthood. During adolescence, the life space is enlarged and unstable. He argued that the rapid expansion of regions and uncertainty about both the personal and environmental structure of the life space result in an emotional tension during the adolescent years. Characteristics of adolescent behaviours, including emotional instability, value conflicts, hostility toward group members, and radical changes in ideology are the result of the dramatic changes and persistent instability in the adolescent's life space (Mischel, 1999).

Bandura's (1989) Social learning theory states that development is seen as a continuous reciprocal interaction between the individual's behaviour and environment. Changes occur gradually through a life time of learning , and even development that seems to occur in stages need not be caused by biological maturation; age related changes in environment can produce age related changes in behaviour. Consequently, there is no 'normal' course of development, so instead of trying to describe the period of adolescence within this theoretical framework, one should concentrate on the mechanisms through which behaviour can change over time. This means applying basic learning principles to understand how specific individuals change in response to changes in their environment and how they change the environment as a consequence of their actions.

Ecological theories stress the dynamic interactions between the individual and the environment. Lerner (Hendry,& Kloep 1999) draws attention to the adolescent as a self-agent in three modes: as stimulus (eliciting different reactions from the social environment); as processor (in making sense of the behaviour of others); and as agent, shaper and selector (by doing things, making choices and influencing events).

In Bronfenbrenner's (Hendry & Kloep, 1999) terms, development is seen as an interactional process between the individual and various environmental systems, such as the microsystems (the actual settings- family or peer group), the mesosystem (the interrelations among contexts of the microsystems – parents relationship with the child's peers); the exosystem (settings that influence a child's development but in which the child does not play a direct role- the parent's work place) and the macro systems (the cultural and ideological pattern surrounding the child- religion).

Coleman and Hendry (1990) suggested that at different periods across adolescence particular sorts of relationship patterns come into focus. The fact that most adolescents do not usually have to cope with such crises at the same time, but can meet them sequentially using and developing their psychosocial skills, means that the majority of young people make the transition to adulthood in a relatively unproblematic way.

2.2. RELATED STUDIES

In terms of its consequences, adolescent behavioural problems are an area of great concern for all. The significance of behavioural problems during this phase of life is that, if not adequately coped with, it can produce a long lasting influence upon the individual, the costs of which include unnecessary anxieties and worries, low actualization of potentials, under achievement, inadequate coping styles which may be continued throughout later life, feelings of inferiority, poor self concept, low self esteem, deviant behaviours and increased risk for psychosocial pathologies. However by providing timely, needed support, the parents and teachers and at times with professional support, can help their adolescents in their healthy transition into adulthood. The preventive effect of support can be fruitfully utilized in overcoming the adverse effects of many behavioural problems in adolescence.

The review of related studies was broadly categorised into six sub headings.

- 2.2.1 Studies related to behaviour problems,
- 2.2.2. Studies related to depression,
- 2.2.3 Studies related to personality variables,

- 2.2.4 Studies related to anxiety, anger and curiosity,
- 2.2.5 Studies related to cognitive behaviour therapy,
- 2.2.6 Studies related to other management techniques, and

Studies were presented chronologically, giving importance for each study and followed by a consolidation at the end of each section.

2.2.1 Studies related to behaviour problems

Joronen and Astedt-kurki (1992) explored the familial factors contribute to adolescent satisfaction and ill-being. Semi structured interviews were conducted with 19 non-clinical adolescents from the 7th and 9th grades. The data were analysed using qualitative content analysis. Six themes concerning satisfaction arose from the analysis. Teenagers described familial contribution to their satisfaction in terms of experiences of a comfortable home, emotionally warm atmosphere, open communication, familial involvement, possibilities for external relations and a sense of personal significance in the family. Three themes related to ill-being emerged: familial hostility, ill-being or death of a family member, as well as excessive dependency. The findings expand our understanding of the diversity of familial contribution to adolescent life and subjective well-being. They challenge nurses to focus on the adolescent's self-perception of familial effects on well-being and on promotion of familial factors in adolescent health issues.

Relations among maternal depressive symptoms, family discord, and adolescent psychological adjustment were examined by Patrick and Michael (1997) in a sample of 443 middle adolescents and their mothers. Histories of maternal depressive symptoms, gathered at 3 occasions with 6-month intervals, were related to subsequent adolescent reports of depressive symptoms, conduct problems, and academic difficulties for girls

but not for boys. Mediational tests indicated that girls' greater vulnerability to family discord (e.g., marital discord, low family intimacy, parenting impairments) accounted for the impact of maternal depressive symptoms on their social and emotional adjustment. Analyses suggest that family discord is a strong mediator in the development of girls' conduct disturbances and a modest mediator of girls' depressive symptoms. Results are discussed within a framework that integrates interpersonal models of parental depressive symptoms with the gender intensification hypothesis

Sood and Neelam (1998) examined the role of family related variables in determining the incidence of problem behaviours among 375 children (201 boys and 174 girls) in the age group of 6-11 years. Results revealed a positive relationship between parental discord and aggression in children. An inverse relationship was found between hyper activity and aggression in children and reasoning used by parents in disciplining. Prolonged absence of the father was positively associated with aggression in children, particularly in the case of boys. Children from low- income families manifested anxiety, depression, and non- communicative and obsessive compulsive patterns. Although differences were not significant, boys experienced a greater number of problems than girls.

Identifying factors linked to underachievement is fundamental to understanding the associated academic difficulties and crucial to the development of effective intervention strategies. Underachievement in a number of academic domains has been shown to be associated with behavioural problems in the classroom but the nature of the association and direction of any causal link has yet to be clarified. Bevington et al (1999) explored the association between poor academic achievement and behavioural problems by examining the direct effects of peer presence on classroom performance in children with identified behavioural difficulties.

Specifically, it was hypothesised that independent performance on a cognitive task would decrease as number of classroom peers present increased. A total of 24 children attending two special schools for children with emotional and behavioural difficulties participated in the study. Age range was 9-14 years. A within-subjects design was used in which performance on a set of perceptual/conceptual matching tasks was assessed under three conditions: the child working alone, alongside one other peer, or within a group of six. Measures of non-verbal intelligence and academic attainment were collected, along with teacher ratings of the severity of each child's problem behaviour. Performance was found to be significantly influenced by peer presence, both in terms of number of correct responses and time taken to complete the matching tasks. Direction of effects on these two performance indicators differed according to number of peers present. Findings highlight the importance of contextual factors in determining classroom performance in children with behavioural difficulties.

Ferdinand et al (1999) designed a study to investigate associations between emotional and behavioural problems in adolescence and psychopathology in young adulthood. Seven hundred and six 11- to 16-year-olds from the Dutch general population were followed across a period of 8 years and 8 months. Subjects were initially assessed using the Child Behaviour Checklist (CBCL). At follow-up, a subsample of 131 subjects were assessed for DSM-III-R Axis 1 diagnoses with the SCAN (a semi-structured interview), while the Global Assessment of Functioning scale and the Groningen Social Disabilities Schedule were used to assess functioning in daily life. Scores on the CBCL scales Withdrawn, Anxious/Depressed, Somatic Complaints, Social Problems and Thought Problems in adolescence were associated with DSM-III-R symptomatology or dysfunctioning in young adulthood.

Monica (1999) examined New Zealand adolescent's perception of self and others. 1,799 adolescents (aged 12-18 years) compared themselves with their peers on the issues of happiness, amount of worrying, relationship with parents, peer pressure, and health problems. Results showed that female subjects were more likely than males to report that they worry more and have more health problems than most individuals of their age. Younger subjects were more likely than older subjects to report thinking they are under more peer pressure than most individuals of their age.

Eadaoin (2000) investigated the personal concerns and causes of difficulties perceived by Hong Kong adolescent students. A survey of 2,103 secondary school students indicated that both student's concerns and causes are multi-dimensional. Academic achievement was perceived as the most pressing concern, while problems at home and maladjustment behaviour were seen as lesser concerns. Students attributed their difficulties more to personal deficiencies, and least to family factors. Results also showed significant gender and age effects.

Eva et al (2000) examined the relationship between adolescent's perception of parenting styles and their personal and social maladjustment, as well as gender differences in these two kinds of maladjustment. Results indicated that adolescents who perceived their parents as using a more permissive or authoritarian educational style were the most personally and socially maladjusted; the educational style that had the greatest explanatory power of the degree of youth's personal and social adjustment was the democratic one; and girls showed greater problems of adaptation in the personal field than boys.

Longitudinal data from infancy onwards, a prospective study of the temperament and development, were examined by Prior et al (2001) to

identify predictors of psychological disorder at 11-12 years of age. Those children scoring in the at-risk range for psychological disorder according to parents, teachers and self-reports using the Child Behaviour Questionnaire were selected at 11-12 years of age for in-depth assessment and comparison with a group of children with no history of adjustment problems. Analyses of group differences using longitudinal data gathered from infancy to 12 years focused on parent and teacher reports on child temperament and behaviour, and various facets of home and school adjustment. The strongest predictors of adjustment at 12 years were previous behaviour problems, along with some specific temperament factors involving self-regulation capacities and mother's overall rating of child difficulty. Results based on parallel teacher data including peer adjustment, and social and academic competence measures were consistent with parent data. The research confirms the persistence of early appearing behaviour problems in a community sample and the longitudinal influence of temperament factors in childhood. The study supports the need for a focus on early intervention and prevention strategies in the child mental health field.

Ryan and Patrick (2001) investigated how students' (N = 233) perceptions of the social environment of their eighth-grade classroom related to changes in motivation and engagement when they moved from seventh to eighth grade. In general, prior motivation and engagement were strong predictors of subsequent motivation and engagement, whereas gender, race, and prior achievement were not related to changes in motivation or engagement. A higher-order classroom social environment factor accounted for significant changes in all motivation and engagement outcomes. Four distinct dimensions of the social environment were differentially important in explaining changes in various indices of motivation and engagement. In general, however, students' perceptions of teacher support, and the teacher

as promoting interaction and mutual respect were related to positive changes in their motivation and engagement. Students' perceptions of the teacher as promoting performance goals were related to negative changes in student motivation and engagement.

Botcheva et al (2002) investigated the effect of sociopolitical upheaval in Bulgaria on youths' adaptation and perceptions of supportive environments, focusing on the stability and change of schools as a protective factor in this process. High school students were surveyed twice 2 years apart about their perceptions of support and warmth in school, in their family, and with peers, as well as about their social maturity, optimism, depression, and problem behaviour. Multivariate and regression analyses revealed the following: (a) Youths perceived supportive environments as either stable (in the case of friends) or improved (in the case of family and schools); (b) they reported declines in their optimism, relative stability of depression and problem behaviour, and improvement in social maturity; (c) declines in perceptions of supportive environments were associated with deterioration in youths' adaptation; and (d) stability and especially the improvement of school cohesion moderated the effect of deteriorating family and peer environments on youths' adaptation.

A sample of 299 adolescents with economic disadvantage were asked to respond to instruments measuring their perceptions of parental qualities, psychological well-being, school adjustment, and problem behaviour. Measures of parental qualities included perceived parenting styles, support and help from parents, and conflict and relationship with parents. Results showed that perceptions of parental qualities were in general related to better adolescent psychological well-being (including existential well-being, life satisfaction, mastery, self esteem, and general psychiatric

morbidity), school adjustment(perceived academic performance and school conduct), and problem behaviour (substance abuse and delinquency). Related to maternal parenthood qualities, paternal parenthood qualities were found to have stronger relationships with measures of well-being and problem behaviour in adolescents with economic disadvantage (Daniel, 2002).

Sherin (2002) examined the role of parent-adolescent interactions on the academic achievement of African- American males in a sample of 179 male adolescents. Results indicated that a substantial proportion of the adolescents who perceived parent- adolescent interactions as positive and were identified as having a stable psychological well-being, were more likely to have average to above-average grade point averages, high Standard Nine scores and high achievement group membership, than those adolescent males who did not perceive parent-adolescent interaction as positive.

Katja et al (2003) conducted a study on adolescent subjective well-being and family dynamics in a sample of 239 pupils (51 % females) from seventh and ninth grades and found that adolescent's perception of high level of mutuality and stability in the family as well as male gender and lack of serious problems in family were predictors of adolescent global satisfaction.

Using a multimeasure approach, Burrow and Finley (2004) investigated 12 indices of academic, familial, psychological, and health outcomes for 4 groups of transracial and same-race adopted adolescents. A secondary analysis of the National Longitudinal Study of Adolescent Health data showed that Asian adolescents adopted by White parents had both the

highest grades and the highest levels of psychosomatic symptoms, whereas Black adolescents adopted by Black parents reported the highest levels of depression. Intriguingly, and by contrast, Black adoptees reported higher levels of self-worth than non-Black adoptees.

Collishaw et al (2004) assessed the extent to which conduct, hyperactive and emotional problems have become more common over a 25-year period in three general population samples of UK adolescents. The samples used in this study were the adolescent sweeps of the National Child Development Study and the 1970 Birth Cohort Study, and the 1999 British Child and Adolescent Mental Health Survey. Comparable questionnaires were completed by parents of 15-16-year-olds at each time point. Results showed a substantial increase in adolescent conduct problems over the 25-year study period that has affected males and females, all social classes and all family types. There was also evidence for a recent rise in emotional problems, but mixed evidence in relation to rates of hyperactive behaviour. Further analyses using longitudinal data from the first two cohorts showed that long-term outcomes for adolescents with conduct problems were closely similar. This provided evidence that observed trends were unaffected by possible changes in reporting thresholds.

Paul and Verity (2004) conducted a study to determine whether male and female adolescents experience different levels of stressful events and report different levels of internalizing symptoms over the age range from 11 to 20 years. The secondary goal was to determine whether females appraise events as more intensely stressful than males. Questionnaire measures of stress frequency and intensity, and internalizing (i.e., depression, anxiety, psychosomatic symptoms, and self-esteem) were obtained from 1,012 boys and 1,493 girls. Consistent with past studies, gender and age differences

were found in the self reported occurrence of everyday stressors and in levels of internalizing symptoms. Girls reported significantly more stressful events from age 12 to 17 than boys, and girls showed higher levels of internalizing from age 13. Girls also reported higher perceived stressor intensity than boys.

Sirin and Sirin (2004) explored psychological and parental factors in relation to academic performance. The participants were 336 middle-class African American students and their biological mothers. The findings suggest that for African American middle-class adolescents, educational expectations and school engagement have the strongest relation to academic performance. Self-esteem was not related to academic performance. The results also indicate that positive parent-adolescent relationships, not parents' educational values, were related to better academic performance. Implications for school counselors are discussed.

Cross-sectional data from 1359 boys and girls aged 10-14 years, Finkenauer et al (2005) investigated whether parenting behaviours are directly or indirectly (through building self-control) associated with emotional (depression, stress, low self-esteem) and behavioural (delinquency, aggression) problems among adolescents. Replicating existing findings, both types of problems were directly, negatively related to adaptive parenting behaviour (high parental acceptance, strict control and monitoring, and little use of manipulative psychological control). Extending existing findings, self-control partially mediated the link between parenting behaviour and adolescent emotional and behavioural problems. Contrary to earlier suggestions, there was no sign that high self-control was associated with drawbacks or increased risk of psychosocial problems.

Morrison et al (2005) tested a theoretical model linking financial strain, neighbourhood stress, parenting behaviour, and adolescent adjustment. The sample consisted of 305 African- American families living in inner city neighbourhoods. Of the families, 40% were living at or below the U.S. poverty threshold. The primary caregiver and a focal adolescent (mean age 13.5 years) were interviewed separately in each family. The results indicated that the income-to-need ratio was significantly related to financial strain and neighbourhood stress, both of which were positively associated with psychological distress in parents. Parent psychological distress was positively related to more negative and less positive parent-adolescent relations, which predicted a lower positive and higher negative adjustment in adolescents.

Schwartz et al (2005) investigated the role of identity in the relationship between family functioning and behaviour problems in a sample of Hispanic immigrant early adolescents and their families. The sample consisted of 181 Hispanic immigrant adolescents (92 males, 89 females) and their participating caregivers (who were mostly mothers). Identity was measured using adolescent reports, whereas family functioning and early adolescent behaviour problems were measured using both adolescent and parent reports. Correlational analyses indicated that previously obtained relationships among family functioning, identity, and behaviour problems were replicated in the present sample. Structural equation models indicated that 20% of the relationship between family functioning and behaviour problems operated indirectly through identity, and identity confusion partially mediates the relationship between family functioning and early adolescent behaviour problems.

Wong et al (2005) explored and compared the views of Hong Kong Chinese adolescents, parents and teachers on the same adolescent health issues. A total of 22 focus groups were conducted with Form 1 students (aged from 11 to 13) who attended the Basic Life Skills Training program. The program covered a wide range of topics including emotions, self-image, stress management, drinking, smoking and substance abuse, self-esteem and interpersonal skills. Responses from the three types of participants were somewhat different and inconsistent on the issues of changes during puberty, stress and stress management, smoking, drinking and substance abuse. Compared to the West, Chinese adolescents tended to report more stress from studying and under-report socially undesirable behaviour. The use of focus groups was recommended as an effective method of collecting qualitative data with Chinese populations.

Beena et al (2006) assessed the reproductive health problems and help seeking behaviour among urban school going adolescents. A sample of 300 urban school going adolescents between 11-14 years were chosen at random and assessed using four tools namely, self administered questionnaire : provision of adolescent friendly services; medical screening and focus group discussions. Seventy two percent girls and 56% boys reported health problems during survey with an average of 1.93 complaints per girl and 0.5 complaints per boy. Only 43% girls and 35% boys reported to the clinic voluntarily to seek help and only one fifth the amount of problems were reported at the clinic in comparison to the quantum of problems reported in survey, which probably reflects a poor health seeking behaviour. A medical check up with emphasis on assessment of reproductive health and nutritional status helped in detecting almost the same number of reproductive health problems as reported by them in survey. This intervention helped to increase the client attendance in

subsequent period of next one year from 43% to 60% among girls and from 35% to 42% among boys. The study shows that to increase help seeking behaviour of adolescents, apart from health and life skill education, their medical screening with a focus on reproductive health by trained physicians, parental involvement, supported by adolescent friendly centers (AFC) for counselling, referral and follow up are essential.

Har, et.al, (2006) examined the respective contributions of perceived support from parents, peers, and school to the psychological adjustment of 519 thirteen year old Asian adolescents from a middle school in Singapore. The findings suggested that positive supportive relationships with parents, peers, and the school were important contextual factors influencing the psychological well-being of these adolescents.

Cathy et al (2005) studied how the similarity in personality between 288 adolescents and their parents is linked to adolescent problem behaviour, and whether this link is mediated by warmth and control in the parent-child relationship and moderated by the personality type of the adolescent. Similarity in personality between adolescents and their parents was negatively related to internalizing and externalizing problem behaviour, both concurrently and over time. This relation was not mediated by the parent-child relationship.

Ingoldsby et al (2006) investigated patterns in the development of conduct problems (CP), depressive symptoms, and their co-occurrence, and relations to adjustment problems, over the transition from late childhood to early adolescence. This study investigates the manifestation and change in CP and depressive symptom patterns in a large, multisite, gender-and ethnically-diverse sample of 431 youth from 5th to 7th grade. Indicators of

CP, depressive symptoms, their co-occurrence, and adjustment outcomes were created from multiple reporters and measures. Hypotheses regarding gender differences were tested utilizing both categorical (i.e., elevated symptom groups) and continuous analyses (i.e., regressions predicting symptomatology and adjustment outcomes). Results were partially supportive of the dual failure model, with youth with co-occurring problems in 5th grade demonstrating significantly lower academic adjustment and social competence two years later. Both depressive symptoms and CP were risk factors for multiple negative adjustment outcomes. Co-occurring symptomatology and CP demonstrated more stability and was associated with more severe adjustment problems than depressive symptoms over time. Categorical analyses suggested that, in terms of adjustment problems, youth with co-occurring symptomatology were generally no worse off than those with CP-alone, and those with depressive symptoms alone were similar over time to those showing no symptomatology at all. Few gender differences were noted in the relations among CP, depressive symptoms, and adjustment over time.

Loukas and Roalson (2006) examined the independent and interactive relations of effortful control and two family environment variables (parent-adolescent conflict and negative family relations) on the subsequent conduct problems and depressive symptoms of 459 European American and Latino adolescents between the ages of 10 and 14. Hierarchical regression analyses showed that even after baseline levels of conduct problems were taken into account, lower levels of effortful control and poorer family relations were uniquely predictive of more conduct problems 1 year later. A three-way interaction among effortful control, negative family relations, and ethnicity indicated that among European Americans only, effortful control moderated the negative family relations effect. High

levels of effortful control protected European American adolescents living in homes characterized by negative family relations from elevated levels of subsequent conduct problems. Contrary to findings for the conduct problems outcome, only baseline levels of depressive symptoms predicted subsequent depressive symptoms.

Meira(2006) examined the relationship between multiple protective factors at the individual, social, and familial levels, and the resilience displayed in a large sample of Israeli adolescents. Participants included 453 adolescents, and the six protective factors examined were self-esteem, coping strategies, social support, social involvement, family cohesion, and parental stress. Resilience was measured using five scales representing both emotional well-being and effective functioning in the environment. Self-esteem emerged as a significant factor associated positively with resilience and made the highest independent contribution to resilience above all other variables. Coping strategies were found to have a significant negative relationship with resilience, that is, the less the adolescents reported on engaging in coping strategies, the more resilient they were. Parental stress emerged as the second most powerful predictor of resilience. The higher the adolescents perceived their parent's stress levels, the lower their levels of resilience. Social support, although not found to be statistically significant, was inferred to serve an important protective role. The prevalence of resilient individuals in this study (76%) support the growing view that resilience is a common trait rather than a rare trait held by extraordinary individuals, even in an intense, adverse situation and that it can be reached and enhanced through a variety of pathways

Since adolescents' psychosocial health problems may have major implications for adult morbidity and mortality, investigating their self-

perceived health deserves priority. In the lack of limiting illness, psychosocial health variables, e.g., psychosomatic health complaints or health behaviours, play a decisive role in determining adolescents' self-perceived health. Using data on adolescents from Hungary (n=1,114), Piko (2007) examined the relationship between adolescents' self-perceived health and a set of psychosocial health status measurements. Findings show that psychosomatic and depressive symptoms contributed significantly to adolescents' poor/fair perceptions of health. Findings also support the relationship between health behaviours and adolescents' self-perceived health. Among boys, drug use and the lack of physical activity are significant predictors. Among girls, smoking may act in a similar way. Diet control is significant in both cases. Besides academic achievement, SES self-assessment and non-intact family status are strong contributors to health perception. Overall, findings show that psychosocial health variables are important influences on adolescents' self-perceived health.

The association between family, school and subjective health was examined in a large representative sample of Greek children and adolescents ($N = 3034$). Karademas et al (2008) hypothesized that (a) family and school factors are associated with health, even after controlling for gender and economic status; (b) family and school factors are directly related to satisfaction with life and health complaints, but indirectly to self-rated health. According to the findings, family and school factors were related to subjective health, even though this relation was weakening with age. Family and school factors were associated with self-rated health through health complaints and life satisfaction.

Myrin and Lagerström (2008) investigated whether there was a relationship between sense of coherence and psychosocial factors among adolescents. A

cross-sectional study was conducted in a sample of pupils in year eight from comprehensive schools in Stockholm city, selected with regard to socioeconomic area. In the final sample of the study there were 383 pupils: 196 girls and 187 boys. Two questionnaires, the Sense of Coherence Scale and the Health Profile Scale measuring health behaviour, were used to collect data. Girls showed a significantly more negative outcome compared with boys, in eight psychosocial factors. The most pronounced difference between boys and girls was seen in feeling depressed: 17% and 54% respectively. Five factors proved to be associated with low SOC in the multivariate analysis: life dissatisfaction, feeling depressed, worries about family members, poor psychosomatic health and being a girl. The findings reveal domains where adolescents, especially girls, seem to be more vulnerable. Psychosomatic health and mental health are related to low sense of coherence.

Plunkett et al (2008) used dominance analysis to examine the relative importance of ninth grade, Mexican-origin adolescents' perceptions of academic support from significant others (i.e., mothers, fathers, teachers, and friends) in relation to aspects of academic success. Self-report and school record data were collected from 216 Mexican-origin adolescents living in intact families. The results revealed that teachers' academic support was the most salient predictor of academic satisfaction and grade point average for both female and male students. Academic support from the opposite-sex parent explained the most variation in academic motivation. Academic support from friends was least important in explaining academic outcomes.

Tabak et al (2008) analysed the relationships between social environment (school, family, peers) factors and distress of adolescents aged 18 years.

The questionnaire survey was carried out in the sample of 1379 pupils in the third grade of upper secondary schools; mean age of pupils 18.7 years. The questionnaire contained scale GHQ-12 (General Health Questionnaire) and questions from HBSC (Health Behaviour in School-aged Children. A WHO Collaborative Cross-national Study) survey, concerning school attitude, family structure, parental bonding, communication with parents and peers' relationships. Comparative analyses were done by chi square test. Odds ratio and multivariate logistic regression models were estimated for risk assessment. Over 40% of 18 year olds had a higher level of psychological distress, significantly more frequent among girls than boys ($p < 0.001$), and urban than rural adolescents ($p < 0.01$). Pupils from general upper secondary schools more often felt distress than pupils from basic vocational schools. Girls who reported not liking school and felt pressured by schoolwork had a higher level of distress. Significant relationships were found between worse parental bonding, difficulties in communication with parents and higher level of distress both in boys and girls. Lack of same-sex close friends and no time spent with them after school were predictors of higher distress mostly in boys. School problems, difficult family relationships and especially lack of same-sex friends and spending time with them outside school are risk factors for psychological distress of youth aged 18 years.

Informed by acculturation, ecological, and social capital theories, the study examined the contribution of parental acculturation, parental involvement, and intergenerational relationship to well-being in Southeast Asian American adolescents. Using data from the Children of Immigrants Longitudinal Study, 491 Southeast Asian American adolescents and their parents comprised the sample. Path analysis showed that parental involvement fully mediated the effect of parental acculturation on

intergenerational relationship, whereas intergenerational relationship mediated the effect of parental involvement on child outcomes (Ying and Han, 2008).

The World Health Organization defines mental health as a "state of well-being whereby individuals recognize their abilities, are able to cope with the normal stresses of life, work productively and fruitfully, and make a contribution to their communities." Applying such adult based definitions to adolescents and identifying mental health problems in young people can be difficult, given the substantial changes in behaviour, thinking capacities, and identity that occur during the teenage years. The impact of changing youth subcultures on behaviour and priorities can also make it difficult to define mental health and mental health problems in adolescents. Although mental disorders reflect psychiatric disturbance, adolescents may be affected more broadly by mental health problems. These include various difficulties and burdens that interfere with adolescent development and adversely affect quality of life emotionally, socially, and vocationally.

Chung et al (2009) employed a daily diary method to assess daily frequencies of inter parental and parent–adolescent conflict over a 2-week period and their implications for emotional distress across the high school years in a longitudinal sample of 415 adolescents from Latin American, Asian, and European backgrounds. Although family conflict remained fairly infrequent among all ethnic backgrounds across the high school years, its impact on emotional distress was significant across ethnicity and gender. In addition, parent–adolescent conflict significantly mediated the association between inter parental conflict and emotional distress. These associations were observed at both the individual and the daily levels,

providing evidence for both the chronic and episodic implications of family conflict for adolescents' emotional adjustment.

Parental and familial factors and their association with adolescents' mental health were examined by Dwairy and Dor (2009) among former Soviet Union (FSU) immigrants and nonimmigrants in Israel. Questionnaires regarding parental control, inconsistency, and rejection, in addition to adolescent-family connectedness and psychological disorders, were administered to 83 FSU immigrants and 106 nonimmigrant adolescents. According to the results, FSU adolescents are less connected to their families, experience their parents as less warm and more inconsistent in their childrearing behavior, report that their mothers subject them to a higher level of control, and the psychological disorders among them are more widespread than among nonimmigrant adolescents. Maternal control, maternal temporal inconsistency, and maternal and paternal rejection were associated with psychological disorders only among nonimmigrant adolescents. No such association was found among FSU adolescents, suggesting that FSU mental health problems are associated with immigration and cultural and social factors, rather than parental and familial factors. A comprehensive intervention program is required to provide support and assistance to help immigrants overcome their psychological distresses.

The clinical effectiveness of different parenting programmes for children with conduct problems: a systematic review of randomised controlled trials were conducted by Dretzke et al (2009). Conduct problems are common, disabling and costly. The prognosis for children with conduct problems is poor, with outcomes in adulthood including criminal behaviour, alcoholism, drug abuse, domestic violence, child abuse and a range of

psychiatric disorders. There has been a rapid expansion of group-based parent-training programmes for the treatment of children with conduct problems in a number of countries over the past 10 years. Existing reviews of parent training have methodological limitations such as inclusion of non-randomized studies, the absence of investigation for heterogeneity prior to meta-analysis or failure to report confidence intervals. The objective of the current study was to systematically review randomized controlled trials (RCTs) of parenting programmes for the treatment of children with conduct problems. Methods Standard systematic review methods were followed including duplicate inclusion decisions, data extraction and quality assessment. Twenty electronic databases from the fields of medicine, psychology, social science and education were comprehensively searched for RCTs and systematic reviews to February 2006. Inclusion criteria were: RCT; of structured, repeatable parenting programmes; for parents/carers of children up to the age of 18 with a conduct problem; and at least one measure of child behaviour. Meta-analysis and qualitative synthesis were used to summarize included studies. A total of 57 RCTs were included. Studies were small with an average group size of 21. Metaanalyses using both parent (SMD¹-0.67; 95% CI: -0.91, -0.42) and independent (SMD -0.44; 95% CI: -0.66, -0.23) reports of outcome showed significant differences favouring the intervention group. There was insufficient evidence to determine the relative effectiveness of different approaches to delivering parenting programmes. Parenting programmes are an effective treatment for children with conduct problems.

Giannakopoulos (2009) investigated the associations of some family characteristics with adolescents' self-reported emotional/behavioural problems. Questionnaires were administered to a Greek nation-wide random sample of adolescents aged 11-18 years and their parents (N = 973)

in 2003. The present analysis included the questionnaires completed by mothers and their offspring (639 families). Adolescents' emotional/behavioural problems, as measured by the Strengths and Difficulties Questionnaire, were assessed in relation to family socioeconomic status and residence type, parental marital status, educational attainment and subjective mental health, family cohesion and parent-child relations. The analysis showed that parental marital status other than being married, poor parent-child relations and low levels of maternal subjective mental health were independently correlated with significantly more adolescents' emotional/behavioural problems. Family factors are potential determinants of adolescent emotional/behavioural problems and therefore are potential targets for prevention and/or intervention.

A 15-year follow-up study was conducted by Honkinen et al (2009) to find out the association between childhood psychological symptoms and sense of coherence (SOC) in adolescence. Destructive behaviour at three years, attention problems and thought problems at 12 years, attention problems, anxiety/depression, delinquency and somatic complaints at 15 years predicted a poor SOC at 18 years. Problems reported by adolescents themselves explained a poor SOC much more often than problems reported by parents. The identification of early childhood behavioural problems helps us to identify children at risk of ill-being in adolescence since problems seem to persist unchanged until that period of life.

Lohaus (2009) addresses the development of health-related behavior during childhood and adolescence and the protective influence of an authoritative parenting style. The study is based on two samples followed from Grades 2 through 5 and from Grades 4 through 7. The first sample consisted of 432

second graders with a mean age of 7.9 years at the beginning of the study, while the second sample consisted of 366 fourth graders with a mean age of 10.1 years. Later health behavior showed substantial correlations to previous health behavior over a 3-year interval. Moreover, there was an increase of favorable health behavior during elementary school and a decrease in the subsequent age periods. The slope for negative health behavior showed an inverted pattern. The level of this general trend was significantly affected by the perceived maternal and paternal parenting style and by gender.

Morton and Chen (2009) assessed the relationships over time between school engagement and parenting practices and peer affiliation among sixth to ninth graders using latent growth models. Participants included 2,453 students recruited from seven public middle schools who were assessed five times between fall of sixth and ninth grades as part of a program evaluation study. School engagement and adjustment declined somewhat, whereas substance use, conduct problems, and problem-behaving friends increased and authoritative parenting practices declined. The significant, positive, over-time associations between school engagement and parent involvement, expectations, and monitoring were fully mediated by growth in problem-behaving friends. School adjustment mediated the relationship between school engagement and parent expectations. Findings suggest that authoritative parenting practices may foster school engagement directly and indirectly by discouraging affiliation with problem-behaving friends and facilitating school adjustment.

Milot and Ludden (2009) examined the effects of religious attendance, religious importance, and gender on well-being, substance use, and academic engagement among early adolescents ($N = 683$) from rural

schools. Results indicated that females viewed religion as more important than males, although the frequency of religious attendance did not differ for males and females. Hierarchical regression results revealed that religious importance was a more prominent protective factor than attendance against substance use even after accounting for parental support; however, no links were found between religiosity and depression or self-esteem. Adolescents who reported that religion was important in their lives reported lower school misbehavior and higher motivation, although those with high religious attendance had higher grades. Interaction effects indicated that religious importance was particularly salient for males compared to females in terms of enhanced school bonding and self-efficacy.

Stressful life events represent potent risk factors for the development of internalizing symptoms among adolescents. However the mechanisms linking stress to adolescent psychopathology remain inadequately understood. McLaughlin and Hatzenbuehler (2009) examined the role of emotion dysregulation as a mechanism linking stress to changes in internalizing symptoms among adolescents. This study used a short-term longitudinal design. Stressful life events were assessed in a large diverse sample of adolescents ($N = 1065$), and emotion dysregulation and symptomatology outcomes were assessed at two subsequent time points. Structural equation modeling was used to examine the role of emotion dysregulation as a mediator of the association between stress and subsequent changes in internalizing symptoms. Emotion dysregulation mediated the relationship between stressful life events and changes in internalizing symptoms over time. Sobel's test indicated a significant indirect effect of stressful life events on subsequent symptoms of depression ($z = 5.05, p < .001$) and anxiety ($z = 4.95, p < .001$) through emotion dysregulation. Stressful life events appear to disrupt the adaptive

processing of emotion among adolescents. Emotion dysregulation represents an intrapersonal mechanism linking stress to poor mental health outcomes.

Page and Suwanteerangkul (2009) studied whether the psychosocial functioning and health-related factors differ according to self-rated health in a school-based sample of Thai adolescents. The survey was given to 2519 adolescents attending 10 coeducational secondary high schools in Chiang Mai Province, Thailand and included measures of psychosocial functioning (loneliness, hopelessness, shyness, perceptions of social status, self-rated happiness (SRH), and perception of physical attractiveness) and certain health-related factors (height/weight, physical activity, eating breakfast, sleep). The proportion of boys (5.1%) reporting that they were not healthy was similar to the proportion of girls (4.6%) making the same rating. These adolescents showed a pattern of overall poor health risk. Compared to adolescent peers who rated their health as healthy or very healthy, they were less physically active, got less sleep, were more likely to be overweight, and scored lower on loneliness, shyness, hopelessness, and self-rated happiness. The present pattern of poor health risk warrants attention and supports the merit of using SRH in adolescent health assessment. SRH is easy to obtain and simple to assess and single-item assessments of SRH appear to be valid measures of health status in adults and adolescent. Interventions, such as health counseling, mental health counseling, and health education, can target adolescents who rate themselves as 'not healthy' or report poor health status.

Shumow et al (2009) examined characteristics of young adolescents who experience self-care, associations between self-care and academic achievement, and whether associations of self-care with academic adjustment vary by child, family, or community characteristics. Using data

from the nationally representative 1999 National Household Education Survey, hierarchical log-linear models assessed how self-care was associated with several academic and behavioral measures for 9- to 13-year-olds. Overall, more self-care was significantly associated with lower academic performance and with school behavior problems, although those associations varied by gender, parent-child communication, and whether young adolescents in self-care also participated in some supervised out-of-school activities. Findings are discussed in light of Bronfenbrenner's ecological systems theory.

Shaffer et al (2009) examined developmental pathways between childhood emotional maltreatment and adaptational outcomes in early adolescence. This study utilized a developmental psychopathology perspective in adopting a multidimensional approach to the assessment of different forms of emotional maltreatment and later adjustment outcomes. Specifically, emotional abuse (i.e., verbal criticism, hostility) and emotional neglect (i.e., psychological unavailability) were compared using a process-level analytic approach to examine if and how different forms of emotional maltreatment would contribute to adolescent adjustment via aggression and social withdrawal in middle childhood. The current study sample is drawn from a longitudinal, prospective study of a high-risk community sample (N=196), incorporating a multi-method and multi-informant design. Multiple mediator models were tested via bootstrapping regression techniques. Bivariate correlations revealed that both emotional neglect and emotional abuse were associated with increased aggression and social withdrawal in middle childhood, and lower ratings of socioemotional competence in early adolescence. The mediational model, which controlled for child gender and concurrent physical and sexual maltreatment, was only significant for the contribution of emotional abuse to lower adolescent competence via social

withdrawal in middle childhood. Post hoc analyses revealed that this association was only significant for boys. While social withdrawal in middle childhood significantly explained the observed relation between emotional abuse and decreased competence in adolescence, this process did not emerge as salient in understanding the relation between emotional neglect and adolescent adaptation. Furthermore, these developmental processes appeared to vary by gender.

Ansary and Luthar (2009) examined the relationship between externalizing (substance use and delinquency) and internalizing (depression and anxiety) dimensions and academic achievement (grades and classroom adjustment), as well as continuity over time in these domains, within a sample of wealthy adolescents followed from 10th to 12th grades ($n = 256$). In both parts of the study, cluster analyses were used to group participants at 10th grade and then group differences were evaluated on adjustment outcomes over time. In Part 1, problem behavior clusters revealed differences on academic indices with the two marijuana using groups--marijuana users and multiproblem youth--exhibiting the worst academic outcomes at all three waves. For Part 2, the two lowest achieving groups reported the highest distress across all externalizing dimensions over time. Stability across the three waves was found for both personal and academic competence as well as the associations between these two domains.

Duchesne et al (2009) examined how attachment to mother and father predicts worries about academic demands and relationships with teachers generated by the transition from elementary to middle school through its contribution to adolescents' emotional problems (depression and anxiety). The study sample includes 626 young adolescents (289 boys and 337 girls) in sixth grade who completed the Security Scale to assess security of attachment to their mothers and fathers. The results of analyses based on

structural equation modeling showed that attachment to mother predicts adolescents' teacher-academic worries about the middle school transition through anxiety symptoms. These results are discussed in light of the literature on attachment theory, emotional problems during adolescence, and the context of the middle school transition.

The review of related studies shows that adolescence in general experience a great lot of problem ranging from personal adjustment to drug/ sexual abuse. It can be concluded that the behaviour problems experienced by adolescents are varying in nature depending on the socio cultural and political environments. However, general arrays of problems are there which seems to be applicable to all adolescents irrespective of their citizenship. The commonly reported problems are personal problems, academic problems, health problems, sexual problems, social problems etc.

2.2.2 Studies related to Depression

Adolescence is a critical developmental period with long term implications for the health and well being of the individual and for society as a whole. The most significant factors to adolescents' health are found in their environments and in the choices and opportunities for health enhancing or health compromising behaviour that these contexts present. Depression in adolescence is a common and potentially life threatening health problem. Studies related to depression are presented in details.

Gunilla et al (1999) compared stressful life events among adolescents with depressive disorder with those of healthy controls. They interviewed 177 pairs of depressed adolescents (aged 16-17 years) and matched healthy controls about 21 events and conditions of stressful character. Results showed that depressed subjects generally had experienced more stressful events and conditions than controls. The most characteristic events

concerned the important relations of family and friends. The subgroup of subjects with co morbid conduct disorder was the most burdened and had much more illness, conflicts, and family changes than did controls. Those with long lasting depression reported more family conflicts as well. Those with dysthemia reported fewer life events than those with major depression.

Mahtani et al (1999) conducted a study on suicide ideation and its relationship to depressed mood in a community sample of adolescents in Hong Kong. A sample of 996 Chinese secondary school students (aged 14-17 years) in Hong Kong provided information about their suicide ideation. Their depressive symptoms were measured by the Chinese Beck Depression Inventory(C-BDI), and a broad range of stressors were also assessed as potential predictors to level suicide ideation. The stressors and C-BDI scores predicted 33% of the variance in suicide ideation. In boys, most of the prediction was attributable to C-BDI scores, suggesting that depression mediated the effects of stressors. In girls, C-BDI scores, perceptions of low parental caring, and high conflict with parents had additive effects in predicting level of suicide ideation.

Pillay and Moosa (2000) examined depression and its incidence among Black, 5-15 year olds referred to a paediatric outpatient department from a general hospital psychiatric unit, and identified common stressors, symptoms, and antidepressant treatment . Information collected from 38 low socio economic status patients who were diagnosed with depression and were from the African, Indian and Coloured communities in South Africa showed that the most common presenting symptoms were poor school performance and enuresis. The three most common stressors were family related: parent conflict, substance abuse by father, and physical or sexual abuse.

Ferguson and Woodward (2002) used longitudinal data to examine the extent to which young people with depression in mid adolescence (ages 14-16) were at increased risk of adverse psychosocial outcomes in later adolescence and young adulthood (ages 16-21). Data were gathered during a 21-year longitudinal study of a birth cohort of 1265 children. Measures included assessments of DSM-III-R major depression (at age 14-16); psychiatric disorders, educational achievement, and social functioning (at age 16-21); social, familial, and individual factors; and co morbid disorders. Results shows that thirteen percent of the cohort developed depression between ages 14 and 16. Young people with depression in adolescence were at significantly ($P<.05$) increased risk of later major depression, anxiety disorders, nicotine dependence, alcohol abuse or dependence, suicide attempt, educational underachievement, unemployment, and early parenthood. These associations were similar for girls and boys. The results suggested the presence of 2 major pathways linking early depression to later outcomes. First, there was a direct linkage between early depression and increased risk of later major depression or anxiety disorders. Second, the associations between early depression and other outcomes were explained by the presence of confounding social, familial, and individual factors. The study concluded that young people having early depression were at increased risk of later adverse psychosocial outcomes. There was a direct linkage in which early depression was associated with increased risk of later major depression and anxiety disorders. Linkages between early depression and other outcomes appeared to reflect the effects of confounding factors.

Abela and Sullivan (2003) tested the diathesis-stress component of Beck's cognitive theory of depression in a sample of early adolescents. The study also examined whether high levels of social support and self-esteem buffer

against depressive reactions in children with high levels of dysfunctional attitudes. At Time 1, 184 seventh graders completed measures assessing dysfunctional attitudes, social support, self-esteem, and depressive symptoms. Six weeks later, they completed measures assessing depressive symptoms and hassles. In support of Beck's theory, higher levels of dysfunctional attitudes were associated with higher levels of depressive symptoms. Contrary to hypotheses, however, dysfunctional attitudes served as a vulnerability to depressive reactions following negative events in children with high but not low levels of self-esteem. Similarly, contrary to hypotheses, dysfunctional attitudes served as a vulnerability to depressive reactions following negative events in children with high but not low levels of social support.

A longitudinal community study was carried out by Trine et al (2004) to understand the role of stressful life events in the development of depressive symptoms in adolescence. Depressive symptoms were measured in a cohort of community-based adolescents (N=163) at two time points, with one year intervening. At time 2, participants also answered a scale about past-year stressful life events. Depressive symptoms were significantly correlated with concurrent measures of recent stressful life events, but this relationship disappeared after controlling for previous depressive symptoms. Rather, previous level of depressive symptoms predicted stressful life events. This demonstrates that a unidirectional model of stressful life events as the cause of depressive symptoms in adolescents is too simplistic.

Nair et al (2004) find out the prevalence and pattern of depression among adolescents. Adolescents of age group from 13 to 19 belonging to school/college students and school dropouts were assessed using Beck's Depression Inventory (BDI) by a team consisting of a paediatrician,

psychologist and PGDCCD students. Findings indicate that 11.2% of school dropouts had severe and extreme grades of depression as against 3% among school going and nil among college going adolescents.

Chaplin et al (2006) examined whether a depression prevention program, the Penn Resiliency Program, was more effective for girls in all-girls groups than in co-ed groups. Within co-ed groups, the authors also tested whether there were greater effects for boys than for girls. Participants were (208) 11-to 14-year-olds. Girls were randomly assigned to all-girls groups, co-ed groups, or control. Boys were assigned to co-ed groups or control. Students completed questionnaires on depressive symptoms, hopelessness, and explanatory style before and after the intervention. Girls groups were better than co-ed groups in reducing girls' hopelessness and for session attendance rates but were similar to co-ed groups in reducing depressive symptoms. Co-ed groups decreased depressive symptoms, but this did not differ by gender. Findings support prevention programs and suggest additional benefits of girls groups.

Josephine et al (2006) tested the hypothesis that higher rates of depression in adolescent girls are explained by their greater exposure and reactivity to stress in the interpersonal domain in a large sample of 15- year olds. They found that adolescent girls experienced higher levels of total and interpersonal episodic stress, whereas, boys experienced higher levels of chronic stress (academic and close friendship domains). Higher rates of depression are found in adolescent girls and they were also more likely to become depressed to both total and interpersonal episodic stress. The findings suggest that girls experience higher levels of episodic stress and more reactive to these stressors, increasing their likelihood of becoming depressed compared to boys.

Sukjai (2007) conducted a study with the purpose of examining the effects of parental bonding, everyday stressors, self-esteem, and negative thinking on depressive symptoms among Thai adolescents. A random sample of 812 high school students participated in the study. The prevalence of depressive symptoms was found to be 20-21%. Negative thinking was best predictor of depressive symptoms in Thai adolescents. Negative thinking also mediated the effects of parental bonding, everyday stressors, and self-esteem on depressive symptoms.

Depression is a disorder that is uncommon in pre-adolescent children, but the rates increase during adolescence, with more girls than boys affected. Aetiological factors include genetic predisposition, and early and ongoing adversities. Although milder forms of depression often remit spontaneously, mild-to-moderate depression will be helped by psychological treatments such as cognitive-behavioural therapy and interpersonal therapy. Moderate to severe depression may require antidepressants such as fluoxetine. Suicidal behaviour may be associated with a range of psychiatric disorders such as depression, and with hopelessness, despair, and/or frustration (which may be of short duration). There is often a history of recent stress factors such as family and peer relationship problems, and, for a subgroup, long-standing relationship and adjustment problems. Management requires consideration of physical intervention for the self-harm, and then identification of the risk of future self-harm, treating any underlying psychiatric disorder and ameliorating relationship and other problems (Julia and Matthew, 2008).

Putnick et al (2008) assessed whether the stresses associated with parenting a child are indirectly related to adolescent self-concept through parenting behaviors. We examined longitudinal associations among mothers' and

fathers' parenting stress at age 10, children's perceptions of parenting at age 10, and adolescents' self-concept at age 14 in 120 European American families. Mothers' and fathers' parenting stress was related to children's perceptions of acceptance and psychologically controlling behavior, and psychologically controlling behavior (and lax control for fathers) was related to adolescent self-concept. We further examined which domains of parenting stress and perceived parenting behaviors were associated with adolescents' scholastic competence, social acceptance, physical appearance, and behavioral conduct. Parenting stress was related to specific parenting behaviors, which were, in turn, related to specific domains of self-concept in adolescence. Parenting stress appears to exert its effects on early adolescent self-concept indirectly through perceived parenting behavior.

Somesha, and D'sousa (2008) examined the influence of shyness on depression among adolescents (N=720) in Mysore city. The results revealed that adolescents with higher level of shyness have higher levels of depression symptoms. Early adolescents have higher levels of depression than late adolescents. Further, late adolescents with low and medium levels of shyness have lesser depression compared to late adolescents with high levels of stress.

A study by Chaplin et al (2009) prospectively examines gender differences in the relationship between anxiety and depressive symptoms in early adolescence. One hundred thirteen 11-to 14-year-old middle school students complete questionnaires assessing depressive symptoms and three dimensions of anxiety (worry and oversensitivity, social concerns and concentration, and physiological anxiety) as well as total anxiety symptoms at an initial assessment and 1 year later. Total anxiety and worry and oversensitivity symptoms are found to predict later depressive symptoms

more strongly for girls than for boys. There is a similar pattern of results for social concerns and concentration symptoms, although this does not reach statistical significance. Physiological anxiety predicts later depressive symptoms for both boys and girls. These findings highlight the importance of anxiety for the development of depression in adolescence, particularly worry and oversensitivity among girls.

A 2-year, 3-wave longitudinal study of Chinese American adolescents was conducted by Juang and Cookston (2009) to examine how family obligation behaviors and attitudes change over time; how gender, nativity, and birth order predict these trajectories; and whether family obligation relates to depressive symptoms. Findings suggest that family obligation behaviors decreased over the 2-year period but that family obligation attitudes were stable. Moreover, foreign-born adolescents reported higher levels of family obligation behavior than U.S.-born adolescents, and firstborn adolescents reported higher family obligation attitudes than later born adolescents. There were no gender differences in family obligation behaviors or attitudes. The findings also suggest that initial higher levels of family obligation were associated with subsequently fewer depressive symptoms. Finally, changes in family obligation behaviors related to changes in depressive symptoms over time such that increasing family obligation behaviors related to decreasing depressive symptoms. The results highlight the importance of understanding the role of family obligation to Chinese American adolescents' mental health.

Kerfoot (2009) reviewed the suicidal behaviour in adolescents and the management. Adolescent suicidal behaviour is a significant public health problem presenting complex challenges to Health and Welfare professionals, which, in some cases, may continue from adolescence into

adulthood. Severe and continuing depression, in particular, may serve as one of a number of markers for subsequent, adverse adult outcomes. A comprehensive psycho-social assessment is crucial to identifying and modifying the individual, familial, peer group and wider social contexts in which the behaviour occurs, and helps in formulating strategies for successful therapeutic intervention. As many suicidal adolescents live with their families, and are physically and economically dependent upon their parents, therapeutic techniques that use the family context as a platform from which to explore the stresses and strains within roles and relationships, as well as the family's positive accomplishments, seem to offer the best chances of success.

Using a sample of 388 father-adolescent and 399 mother-adolescent dyads in Chinese immigrant families. Study findings suggest that a high discrepancy in father-adolescent acculturation levels relates significantly to more adolescent depressive symptoms. The study further demonstrates that the quality of the parenting relationship between fathers and adolescents operates as a mediator between father-adolescent acculturation discrepancy and adolescent depressive symptoms. Specifically, a high level of discrepancy in American orientation between fathers and adolescents is associated with unsupportive parenting practices, which, in turn, are linked to more adolescent depressive symptoms. These relationships are significant even after controlling for the influence of family socioeconomic status and parents' and adolescents' sense of discrimination within the larger society (Kim et al 2009).

Mazza et al (2009) examined the longitudinal relationship of early elementary predictors to adolescent depression 7 years later. The sample consisted of 938 students who have been part of a larger longitudinal study

that started in 1993. Data collected from parents, teachers, and youth self-reports on early risk factors when students were in 1st and 2nd grade were compared to adolescent self-reported depression 7 years later. Regression analyses were conducted with each risk factor separately and combined, while also examining gender and the gender x risk factor interaction. Results showed that the risk factors predominately in the individual characteristic group (depression, anxiety, and antisocial behavior) were predictive of depression 7 years later. Gender differences among the longitudinal risk factors were also found in relation to adolescent depression. Discussion of the results focuses on the practice of children's mental health assessment and implications for the development of prevention and intervention programs for depression.

Richardson et al (2009) explored the preliminary outcomes and assess the feasibility and acceptability of a collaborative care intervention designed to improve treatment and outcomes of depression among youth seen in primary care settings. The intervention model was designed to support the provision of depression treatment by primary care providers using methods adapted from the IMPACT study developed for the improvement of depression among older adults. Specific components include the provision of regular case management by a nurse depression care manager (DCM), enhanced patient and parent education about depression and its treatment, encouragement of patient self-management with a choice of starting medications or therapy or both, and oversight of the DCM by a mental health specialist. Study participants were assessed regularly by the DCM for 6 months and completed written self-report assessments at baseline, 3, and 6 months after starting the intervention. 40 youth (12-18 years) with major and minor depression enrolled in the intervention. Study participants were predominantly female (90%). The baseline Patient Health

Questionnaire (PHQ-9) score was 14.2 (SD=4.5). Patients were similarly divided among initiating medications (n=12), therapy (n=15), or combination therapy (n=8). Five patients withdrew prior to initiating treatment. The mean number of in person and telephone contacts with the DCM was 9 (range=5 to 17). Eighty-seven percent of youth completed the 6-month intervention. At 6 month follow-up, 74% of youth had a 50% or more reduction in depressive symptoms as measured by the PHQ-9. Parents, youth and physicians indicated high levels of satisfaction with the intervention on written surveys and in qualitative exit interviews. The collaborative care model is feasible and highly acceptable to adolescents and parents as demonstrated both by self-report and by engagement in the intervention. It is also associated with improved depressive outcomes at similar levels to adult interventions.

The review gives a clear indication that depression is one of major problem which needs immediate attention. Adolescence as whole, irrespective of age, gender, culture etc, was having depressive traits. The higher rate of suicidal attempts also reported in this age group, which increases the vulnerability. It can also be attributed that this may be one of the major reasons for having various behavior problems among the adolescent population.

2.2.3 Studies related to personality variables

Many researcher have been aimed at studying the personality of an individual at various age levels, of which the most studied group is the period of adolescence. As expressed by Eisenberg (1965), adolescence as a distinct developmental stage is critical in terms of its impact on a changing society as well as the effect it has on the development of the individual. The development that occur in young people during early and middle

adolescence present educators with a serious challenge. Among the stresses faced by many adolescents is a need to change the image they have of themselves (Erikson, 1959, Blos 1962). Simmons et al (1973) , indicate that a disturbance of the self image is more likely to occur in adolescence than in early years. The findings suggest that the early adolescent has become more self conscious, less assured in his/her self esteem and in his picture of himself/ herself. Studies related to various personality dimensions are presented below.

Joronen and Astedt-kurki (1992) explored the familial factors contribute to adolescent satisfaction and ill-being. Six themes concerning satisfaction arose from the analysis. Teenagers described familial contribution to their satisfaction in terms of experiences of a comfortable home, emotionally warm atmosphere, open communication, familial involvement, possibilities for external relations and a sense of personal significance in the family. Three themes related to ill-being emerged: familial hostility, ill-being or death of a family member, as well as excessive dependency. The findings expand our understanding of the diversity of familial contribution to adolescent life and subjective well-being. They challenge nurses to focus on the adolescent's self-perception of familial effects on well-being and on promotion of familial factors in adolescent health issues.

Rai and Singh (1996) examined personality pattern in relation to the perceived parental rearing styles among 100 mizo adolescents aged 14-16 years. Boys scoring high on the emotional warmth and over protection manifested extraverted and introverted personality patterns respectively. Girls scoring high on rejection manifested introverted personality pattern. Both girls and boys scoring high on the rejection manifested unstable personality, as did boys scoring high on the overprotection.

Englund et al (2000) used a longitudinal data set to evaluate an observational assessment of adolescent competence within a group context. Participants were 40 (21 males, 19 females) ethnically diverse children who had earlier been observed in summer camp (age 10) and preschool (age 4 1/2), as well as in infancy. A revealed differences task was videotaped as part of an intensive weekend camp reunion at ages 15 to 16. Raters, blind to the adolescents' developmental histories, coded each adolescent on the following behavioral rating scales: enjoyment of the task, involvement, leadership, self-confidence in the task, and global social competence. Both concurrent validity (strong correlations with independent camp reunion counselor ratings and peer sociometric measures) and clear associations with antecedent measures of peer competence in preschool and middle childhood were demonstrated. A pattern of correlations revealed considerable discriminate validity. Neither IQ nor socioeconomic status accounted for these associations. Overall, the results confirm the power of a developmentally appropriate, taxing, behaviorally based assessment of group functioning as a measure of competence in adolescence.

Eva (2001) examined the relationships between perceived social support and some personality characteristics of adolescents. Subjects were 202 students (aged 15-18 years), of which 126 were boys and 76 were girls. Results showed that adolescents are generally satisfied with support given from family, friends, and other significant persons. Girls reported a higher number of persons in their social network and higher satisfaction with social support, especially when related to emotional support. The correlations between perceived social support and personality characteristics indicated that social support is positively related to such characteristics as sociability, moderateness, friendliness, extroversion, and masculinity.

Skinner et al (2002) compared 3 models of association between personality, personal model beliefs, and self-care in a cross-sectional design. These models were as follows: (a) Emotional stability determines self-care indirectly through personal model beliefs, and conscientiousness is a direct predictor of self-care; (b) emotional stability determines self-care indirectly through personal model beliefs, and conscientiousness moderates the association between beliefs and self-care; (c) both emotional stability and conscientiousness determine self-care indirectly through personal model beliefs. Participants (N=358, aged 12-30 years) with Type 1 diabetes completed measures of personality, personal model beliefs, and self-care. Structural equation modeling indicated that Model C was the best fit to the data.

Trends in resilience research are shifting from identifying characteristics of children who are resilient in the face of adversity to identifying processes that promote resilience under normative conditions. Davey et al (2003) examined the potential for different associations of two correlates of resilience (self-worth and coping) with a third (personality dimensions). Specifically, the authors used cluster analysis to identify three discrete personality profiles using data from 181 11th-grade students (48% male, 78% White). Discriminant function analysis was then used to investigate the association of these three personality profiles with two variables that have characterized resilient youth: self-worth and coping. Consistent with prior research, the combination of being extroverted, agreeable, and open to new experiences was associated with high self-worth. Additionally, positive coping was also associated with compensatory mechanisms for adolescents who were high on disagreeableness and emotional instability. These findings suggest that there may be different compensatory mechanisms operating for adolescents with different personality profiles.

Karin et al (2003), examined associations between psychosocial factors and happiness among adolescents. The sample consisted of 887 , 7th-9th grade students (13-15years) Results showed that an increasing degree of stress experience reduced the feeling of happiness significantly. Increasing levels of general self-efficacy increased the odds of feeling happy, whereas the more specific measure of school self-efficacy showed no independent effect. Social support from teachers also enhanced happiness significantly. A less consistent pattern was found for support from peers, but the happiest subjects experienced significantly more support than did subjects who reported being unhappy. No significant trend was found concerning decision control. Subjects feeling unhappy reported a particular symptom more often and they also had the highest mean number of reported symptoms.

The relationship between worry and 4 cognitive variables, intolerance of uncertainty, positive beliefs about worry, negative problem orientation, and cognitive avoidance, was examined by Laugesen (2003) in an adolescent sample of 528 boys and girls aged 14–18. The participants completed questionnaires assessing worry, somatic anxiety symptoms, and the variables mentioned above. The results show that (a) intolerance of uncertainty, positive beliefs about worry, and negative problem orientation each account for a significant amount of variance in adolescent worry scores in the multiple regression, and (b) the discriminant function derived from the 4 variables is effective in classifying moderate and high worriers into their respective groups. Furthermore, analyses demonstrate that intolerance of uncertainty has the strongest association with worry scores and is the most important variable in discriminating between moderate and high adolescent worriers. These results suggest that intolerance of uncertainty plays a key role in our understanding of adolescent worry.

Manuela et al (2004) investigated the influence of both relationships with parents and friends (support and quality of relations) on the psychological well-being (self-satisfaction, confidence in one's coping ability, positive expectations of success) or malaise (stress, depressive feelings, sense of alienation). Data were collected through a self-report questionnaire from a sample of 2,273 Italian adolescents, males and females, attending secondary school, aged between 14 and 19 years. The results showed that support and positive quality of relations with friends and parents form a constellation of protective factors acting in synergy to promote psychological well-being and reduce psychological discomfort.

Robert and Robert (2004) examined contextual and personality factors and their relation to perceived life satisfaction among adolescents in five socio-cultural groups. Variations in the contribution of specific predictors were noted for the five groups, but no one factor accounted for a large amount of variance in any group. Among the most consistent predictors were marital status, self-efficacy beliefs, and adolescent health status. Somewhat surprisingly, neither the amount of family conflict, adolescent academic achievement, nor observed socio-emotional support from parents was strongly correlated with life satisfaction. The effect of study variables on adolescent quality of life was dependent upon other variables in the analysis. For example, considerate behaviour on the part of the adolescent was suppressed by task-orientation.

The influence of adolescent's perceptions of parental behaviours and authority on the development of their self-esteem and sense of familism were examined by Ray, et al (2005) among 534 youth living in Mexico. Results of hierarchical regression analysis suggested that boy's perceptions of their mothers and fathers were similar in relation to their development of

self-esteem and familism. Males tended to have higher self-esteem when they perceived their parents as monitoring their behaviour, granting behavioural autonomy, and having the right to exercise influence over them. Girls experienced higher levels of self-esteem when they perceived their mothers and fathers as facilitating connection, monitoring their behaviours, and as having the right to influence their behaviours and feelings. In addition, girl's perception of their father's expert authority also functioned as a significant predictor of their self-esteem. Mexican girls who perceived their mothers and fathers as having legitimate authority and as facilitating connection reported higher levels of familism. Additionally, age of adolescent, maternal education and paternal education were significant predictors of familism for both boys and girls.

Christie et al (2006) examined the role of interpersonal sensitivity in the relation between romantic stress and depression in 55 adolescent girls from an inner-city high school. Depression, interpersonal sensitivity, and chronic and episodic romantic stress were measured at two time points, six months apart. Interpersonal sensitivity was found to moderate the longitudinal relation between romantic stress (both chronic and episodic) and depression. In contrast, interpersonal sensitivity did not potentiate depressive responses to non-romantic interpersonal stress, suggesting particular importance of stress in the romantic domain for adolescent girls.

In a study conducted by Corey(2006) in 12 to 18 year old adolescents of America found that the subjective well-being measures were correlated relatively strongly with scales of global self-concept, self-determination, and school integration : modestly with measures of depression, closeness to family and friends, and self-rated health, and weakly with measures of math and reading skill.

Garaigordobil (2006) conducted a study to examine the concomitant relationships between psychopathological symptoms, cooperation, social skills, and other personality traits; and to identify the predictive variables of psychopathological symptoms. The sample consisted of 322 adolescents aged 14-17 years old. Pearson coefficients suggested that adolescents with many psychopathological symptoms had low levels of cooperative behaviours and social skills. They also scored high in inappropriate assertiveness, impulsiveness, overconfidence, and jealousy-withdrawal, and have low levels of emotional stability, sociability, and responsibility. Multiple regression analysis identified jealousy-withdrawal, low social integration, impulsiveness, and low self-concept as predictors of psychopathological symptoms

Jay (2006) examined the relationships between five personality traits and subjective well-being in an adolescent sample. Results showed a strong causal relationship between each of these traits and subjective well-being, although the results also indicated that not all traits influence all components of subjective well-being. Structural equation modelling and partial correlations found internal locus of control to be the weakest predictor of subjective well-being and overall happiness, while neuroticism was found to be the greatest predictor of both. The study indicated that together, the personality traits of locus of control, self-esteem, optimism, extraversion and neuroticism accounted for 55% of subjective well-being and 58% of overall happiness.

Eighty girls aged 12.8 years, completed self-concept, depression and anxiety scales over three years and had their height and weight measured. All nine self-concept domains were lower in the Highest BMI group, compared to the Lower BMI group and this trend was stable over three

years. Highest BMI girls were substantially lower than population norms on all nine scales. Over three years, the Physical Appearance and Close Friendship scores of Highest BMI girls decreased compared to Lower BMI girls. This pattern was similar for all of the other self-concept domains. Several aspects of early adolescent girls' self-image may be adversely influenced by a heavy weight status (O'dea, 2006).

To find out the features of three main family sub-ecosystems (parental subsystem, family- social- environmental subsystem, and children's subsystem) of high school students at different levels of tolerance of perceived learning stress. Xi and Zuo (2006) studied 170 subjects, of which 130 reported they could perceive learning stress. Of the 130 students, there were 30 with mental or behavioural problems (low tolerance group), while the other 100, a large portion, functioning very well without mental or behavioural problems (high tolerance group). Compared with low tolerance group, high tolerance group had lower scores in father's punishment, mother's rejection and denial, mother's punishment, and higher score in mother's warmth and understanding. In family environment, high tolerance group had higher family cohesion, knowledge, morality, religion and higher scores in family organization, but lower score in family conflict. Students of high tolerance group had lower scores in suspicion, worry, and tension. These indicate that learning stress did not lead to mental dysfunction definitely; some family eco factors can act as buffers or anti-stressors.

Global self-worth and five domains of self-esteem (scholastic competence, athletic competence, physical appearance, behavioural conduct, and social acceptance) were tested for measurement equivalence in a sample of Anglo American, Mexican American, African American, and Native American

youth aged 9 through 14 years. The results revealed that global self-worth and scholastic competence showed strong factorial invariance in all groups, and the remaining self-esteem domains showed strong factorial invariance in some of the groups. Functional equivalence analyses revealed that the relations between self-esteem and two developmental outcome variables conduct disorder and attitudes toward substance use, were similar in groups in which strong factorial invariance was established. Implications for multiethnic studies and self-esteem research are discussed by Michaels et al (2007).

Thomson and Zand (2007) investigated whether the gender identities of African American adolescents mediate sex differences found in their multidimensional self-concepts. The sample included 174 African American adolescents who completed the 21-item Children's Personal Attributes Questionnaire and the Self-Perception Profile for Adolescents. Results indicated that two dimensions of gender identity, Independence and Leadership, mediated the relationship between sex and self-evaluations in the areas of Friendship/Acceptance and Romantic Appeal. The findings of this study fill significant gaps in the current literature by providing data on African American adolescents' self-evaluations in multiple self-concept domains and by offering an empirical explanation for how biological sex influences these self-evaluations.

Ethier et al (2008) tested a model examining relationships between sexual history (e.g., age at initiation, partner history) and self-esteem and emotional distress (e.g., depression, anxiety, stress, hostility) and their impact on future sexual risk behaviour (e.g., unprotected sex, multiple sexual partners). The current analyses included 155 sexually active adolescent females, aged 14–19 years, who participated in the first two

waves of a longitudinal study of human immunodeficiency virus (HIV)/sexually transmitted disease (STD) and pregnancy risk. The Rosenberg Self-esteem scale, the Perceived Stress Scale, and three subscales of the Brief Symptom Inventory (depression, anxiety, hostility) and a variety of self-report measures of sexual history and sexual behaviour were administered. Structural equation modelling using LISREL 8.51 was used to assess the proposed model. Our model exhibited adequate fit and demonstrated that sexual history reported retrospectively at baseline was related to self-esteem and emotional distress also measured at baseline. These variables predicted sexual risk behaviour measured 6 months later. Adolescents who had lower self-esteem at baseline reported initiating sex earlier and having had risky partners. Alternatively, adolescents with more emotional distress at baseline were less likely to have had a previous STD, had more partners per year of sexual activity and a history of risky partners. Self-esteem influenced subsequent unprotected sex and emotional distress influenced subsequent multiple partners. This model suggests that self-esteem and emotional distress have contrasting relationships with sexual behaviour and demonstrates the importance of the temporal nature of these variables.

Ha et al (2008) investigated the relationship between narcissism, self esteem and conduct problems in a British community sample of preadolescent and young adolescent children (n = 659; 7–11 year olds). Study demonstrated that narcissism is associated with conduct problems, but no evidence for an interaction between low self-esteem and high narcissism in the prediction of conduct problems was found. Whilst low self-esteem was associated with teacher-reported (but not parent reported) conduct problems at the bivariate level of analyses, multi-variate analyses showed that self-esteem yielded no significant effects, neither

independently, nor in interaction with narcissism for either parent- or teacher reported conduct problems. However, self-esteem was predictive of self-reported conduct problems at both the bivariate and multivariate level of analysis, possibly due to shared method variance. The findings suggest an important role for narcissism for conduct problems in children as young as seven years old.

The image of the self changes over time. The changes are conditioned by the culture and the social structure that the adolescents live in. Modrzejewska and Badura-Madej (2008) compared self-image in the non-treated 17 year old population of adolescents during 15 years. In 1987 and 2001, a representative sample of school-attending adolescents was screened with OSIQ (The Offer Self-Image Questionnaire for Adolescents). In the period surveyed, the self-image of 17-year-olds improved. In the boys' group, there is still an incoherence of the self-image, while in girls the coherence grows. As a result of macro-cultural factors, favourable changes take place in the area of mental health and coping that are reflected in the improvement of the self-image.

Roeser et al (2008) examined relations between early adolescent girls' well-being, achievement, and emerging identities. Variable-centered results showed that girls' moral and student identities were the strongest predictors of their achievement, whereas their moral, social, physical, and peer identities predicted their well-being. Person-centered results delineated four subgroups of girls based on their profiles of well being and achievement. The largest group of girls (46%) was characterized by well being and positive school achievement and had balanced adult- and peer-oriented identities. The second largest group (35%), characterized by emotional distress and average school achievement, had positive student and negative

physical and peer identity representations. The third group (12%), characterized by emotional distress and poor school achievement, reported pervasive negative representations. The final group (7%), characterized by well being and poor achievement, did not consider themselves good students but did see themselves as physically attractive. Interviews revealed identity challenges characteristic of girls in each subgroup.

Self-esteem is an important determinant of psychological well-being that is particularly problematic during adolescent life stage. There is a correlation between low self-esteem and other social problems among today's adolescents. Sherina et al (2008) conducted a study to determine the mean self-esteem score, and to determine the association between self-esteem and age, sex, race, religion, number of siblings, ranking among siblings, family function, parental marital status and smoking among adolescents aged 12 to 20-years-old. A cross sectional study design using random cluster sampling method was done. Four out of a total of 35 secondary schools in Klang District, Selangor were selected. Respondents consisted of individual students in selected classes from the four selected schools. Data was collected using a self-administered, structured, pre-tested questionnaire and was analyzed using the SPSS version 12.0. Out of 1089 respondents, 793 completed the questionnaire (response rate 73.82%). The overall mean self-esteem score was 27.65. The mean self-esteem score for males (27.99) was slightly higher than females (27.31). The differences in the mean scores by race were statistically significant. There was a statistically significant relationship between mean self-esteem scores and sex, age, race, religion, number of siblings, smoking and family function. There was no statistically significant difference between mean self-esteem score with parental marital status and with ranking among siblings. The overall mean

self-esteem score was 27.65. Self-esteem was associated with sex, age, race, religion, number of siblings, smoking and family function.

A cross-sectional study was undertaken by Soo et al (2008) with 489 secondary school girls, ages 15-17 years, to examine disordered eating behaviours of adolescent girls in Malaysia and to estimate associations with body weight, body-size discrepancy, and self-esteem. Dietary restraint, binge eating, body image, and self-esteem were assessed using the Restrained Eating scale of the Dutch Eating Behaviour Questionnaire, the Binge Scale Questionnaire, the Contour Drawing Rating Scale, and the Rosenberg Self-Esteem Scale, respectively. Pearson correlations estimated associations between variables. There were 3.1% underweight, 9.8% at risk of being overweight, and 8.6% overweight girls. A total of 87.3% were dissatisfied with their own body size. Dietary restraint and binge eating were reported by 36.0% and 35.4%, respectively. Body Mass Index ($r = .34$, $p < .01$) and body-size dissatisfaction ($r = .24$, $p < .01$) were significantly associated with dietary restraint and binge eating, but self-esteem ($r = -.20$, $p < .001$) was significantly associated only with binge eating.

De Kemp et al (2009) investigated the relationship between self-control and aggressive and delinquent behavior of early adolescent boys and girls. The sample consists of 1,012 Dutch adolescents (mean age = 12.3) in their first year of secondary education. Structural equation modeling analyses reveal that high levels of self-control consistently decrease aggressive and delinquent behavior in the subsequent 6 months follow-up intervals. Results for the total sample do not support the hypothesis that self-control is influenced by previous levels of aggression or delinquency. For boys, the

partial evidence found indicates reciprocal effects of self-control and delinquency.

McLean and Breen (2009) examined narrative identity in adolescence (14-18 years) in terms of narrative content and processes of identity development. Age- and gender-related differences in narrative patterns in turning point memories and gender differences in the content and functions for sharing those memories were examined, as was the relationship between narrative patterns and self-esteem. The narrative patterns focused on were meaning-making (learning from past events) and emotionality of the narratives, specified as overall positive emotional tone and redemptive sequencing. Results showed an age-related increase in meaning-making but no gender differences in the degree of meaning-making. Results further showed that gender predicted self-esteem and that boys evidenced higher self-esteem. Emotionality also predicted self-esteem; this was especially true for redemption and for boys. In terms of telling functions, girls endorsed more relational reasons for telling memories than did boys.

The effects of religious attendance, religious importance, and gender on well-being, substance use, and academic engagement were examined among early adolescents ($N = 683$) from rural schools by Milot and Ludden (2009). Results indicated that females viewed religion as more important than males, although the frequency of religious attendance did not differ for males and females. Hierarchical regression results revealed that religious importance was a more prominent protective factor than attendance against substance use even after accounting for parental support; however, no links were found between religiosity and depression or self-esteem. Adolescents who reported that religion was important in their lives reported lower school misbehaviour and higher motivation, although those with high

religious attendance had higher grades. Interaction effects indicated that religious importance was particularly salient for males compared to females in terms of enhanced school bonding and self-efficacy.

Neiss et al (2009) tested the structure and magnitude of genetic and environmental influences on the overlap among self-esteem, negative emotionality, and major depression symptoms in adolescent girls (N=706) from the Minnesota Twin Family Study. Genetic and environmental influences on all three operated via a general, heritable factor. Genetic influences explained the majority of overlap among the three constructs, as well as most of the variance in self-esteem and negative emotionality. Genetic influences on depression were more modest and largely due to genetic factors specific to depression. These findings support the theory that self-esteem, depression, and neuroticism represent aspects of a common temperamental core. The interrelations among the three constructs in mid-adolescence is consistent with their interrelations in adulthood.

Raymond et al (2009) discussed a three-wave longitudinal study that investigates the relationship between self-control and aggressive and delinquent behaviour of early adolescent boys and girls. The sample consists of 1,012 Dutch adolescents (mean age = 12.3) in their first year of secondary education. Structural equation modelling analyses reveal that high levels of self-control consistently decrease aggressive and delinquent behaviour in the subsequent 6 months follow-up intervals. Results for the total sample do not support the hypothesis that self-control is influenced by previous levels of aggression or delinquency. For boys, the partial evidence found indicates reciprocal effects of self-control and delinquency.

The Beck Self-Concept Inventory for Youth was administered by Runyon et al (2009) to 100 adolescents (12–17 years old) who experienced sexual abuse. An iterated principal-factor analysis found that the BYI-S represented two highly correlated ($r=.53$) factors corresponding to the Self-Esteem and Competency dimensions found with child psychiatric outpatients. Item analyses were used to derive two six-item subscales measuring Self-Esteem and Competency that had coefficient $\alpha s > .80$. The Self-Concept total and subscale scores were differentially correlated with various psychosocial characteristics of the youth. Low Self-Esteem scores were associated with total number of posttraumatic symptoms and self-reported anger, whereas low Competency scores were related to externalizing behaviour problems. The BYI-S was discussed as being a useful instrument for assessing the self-concepts of youth who have experienced sexual abuse.

There has been a long history of interest in discovering the core traits of personality. The researchers continue to debate what the core characteristics of personality are. Critics of the trait approach argue that it places too much emphasis on stability and not enough on change and situational influence. Today many psychologists believe that personality is best described in terms of both traits and situational influences. The review of related studies gives a detailed profile of various aspects of adolescent personality.

Self understanding is the adolescent's cognitive representation of the self, the substance and content of the adolescents' self conceptions. Dimensions of adolescent self understanding include abstract and idealistic, differentiated, contradictions within the self, real and ideal, true and false selves, social comparison, self conscious, unconscious and self integrative.

The increase in number of selves in adolescence can vary across relationships with people, social roles and socio-cultural contexts. Self esteem on the other hand, is the global evaluative dimensions of the self, and also is referred to as self worth or self image. Adolescents' increased cognitive abilities and awareness provide them with the opportunity to cope more effectively with stress and emotional fluctuations. However, the emotional burdens of adolescence can be overwhelming for some adolescents.

The everyday conflicts that characterize parent adolescent relationships may actually serve a positive developmental function. These minor disputes and negotiations facilitate the adolescents transition from being dependent on parents to becoming an autonomous individual. We have seen that parents play very important roles in adolescent development , although adolescent are moving toward independence , they still need to stay connected with families. Competent adolescent development is most likely to happen when adolescent have parents who show them warmth and respect, demonstrate sustained interest in their lives, recognize and adapt to their cognitive and socio emotional developments, communicate expectations for high standards of conduct and achievement and display constructive ways of dealing with problem and conflict.

2.2.4. Studies related to anxiety, anger and curiosity

Anxiety is a vague, highly unpleasant feeling of fear and apprehension. It is normal for adolescents to be concerned or worried when they face challenges from the school, family, society etc. Indeed researchers have found that many successful students have moderate levels of anxiety and curiosity. However, some students have high levels of anxiety, curiosity,

anger and worry constantly, which can significantly impair their ability to achieve. Some adolescents' high anxiety levels are the result of parent's unrealistic achievement expectations and pressure. For many individuals anxiety increases during adolescence as they face more frequent evaluation, social comparison and experience of failure. For the present study, Spielberger's State- Trait Personality Inventory was one among the tools used, which has three variables namely anxiety, curiosity and anger and hence grouped and presented in a single head..

Birum (2001) investigated the relationships among hope, anger, and hostile aggression in adolescents. Hostile aggression is understood to be the result of a negative emotional reaction (i.e. experience of anger) to the blockage of goal-instigated behaviour (Berkowitz,1989). Results suggested that (1) level of hope was not predictive of level of trait anger for adolescents, (2) level of trait anger was positively related to level of hostile aggression, (3) hope was negatively related to aggression in so much as it was positively related to the amount of energy spent to control angry feelings (as measured by the Anger Control subscales of the State-Trait Anger Expression Inventory-2), and finally, (4) the amount of energy spent to control angry feelings has only a small relationship to the actual negative expression of anger.

Garland (2001) reported that anxiety disorders are common in adolescents, with estimated prevalence of at least 10%. Substance abuse and avoiding school are common complications, and irritability with behavioural and rage problems can interfere with effective management. Current controlled research is examining the effectiveness of serotonergic medications known to benefit panic disorder, social phobia, and generalized anxiety in adults. While cognitive and behavioural treatments are effective for some child

and adolescent anxiety disorders, they can be difficult to administer, and a supportive and psycho-educational approach could be as effective for those who refuse to go to school. Study concluded that the family physicians' awareness of the role of anxiety in adolescent school avoidance and in intense, oppositional emotional reactions at home can lead to more specific assessment and therapeutic intervention.

Muris et al (2001) examined the structure of negative emotions in a sample of nonclinical adolescents, using an approach that exclusively relied on child self-report. A large sample of adolescents ($N = 968$) completed self-report questionnaires measuring symptoms of fear, anxiety, and depression. Confirmatory factor analysis provided support for the notion that fear, anxiety, and depression are distinct yet correlated components of negative emotions. This result is in agreement with recent empirical findings and current theoretical notions on the structure of negative emotions in children and should be taken as an encouragement for researchers to develop more specific measures for assessing fear, anxiety, and depression in children.

Chau (2004) examined the styles of anger (anger-in/anger-out) and the cognitive style of individuals (positive/negative view of self, world, and future) and their effect on the outcome of aggression and hostile behaviour on sixty six adolescents (37 females and 29 males from 11 to 14 years) from the Students Targeted With Opportunities for Prevention (STOP) program using the State-Trait Anger Expression Inventory (STAXI; Spielberger, 1988), the Cognitive Triad Inventory for Children (CTI-C), the Hostility Scale (HOS), and Aggression Scale (AS). A multivariate analysis of variance found that style of anger (anger-in/anger-out) and cognitive style of individuals (positive/negative view of self, world, and future) did not have significant interaction with the outcome of aggressive and hostile

behaviours . However, the results showed a significant difference between cognitive style (positive and negative view) and the outcome of hostile behaviours.

Ausbrooks (2006) examined relationship among self-efficacy, dispositional optimism, trait anger and customary modes of anger expression in seven hundred and twenty college women and men. Self-efficacy and dispositional optimism were observed to correlate negatively with Trait Anger, suppressing anger, expressing anger outwardly in a blaming way, and experiencing physical discomforts when angry. Self-efficacy and dispositional optimism were however, positively correlated, with the tendency to express anger through discussion. College women and men did not differ in trait anger, suppressing anger or expressing anger outwardly in a blaming way. Significant gender differences were found in only two modes of anger expression- discussing anger and experiencing physical discomforts when angry (women scoring higher or both). College women scored significantly higher on Dispositional optimism than did men in this sample.

Pablo et al (2006) examined the role of emotional intelligence in anxiety and depression among adolescents. Two hundred and fifty high school students were administered the Trait Meta- Mood Scale, self-report measure of emotional intelligence, along with measures of thought suppression, self-esteem, anxiety, and depression. It was hypothesized that emotional abilities would predict psychological adjustment above and beyond factors that have been previously associated with poor adjustment(i.e., self-esteem and thought suppression). The study revealed two main findings. First, self-reported ability to regulate mood (emotional repair) was positively related to self-esteem. Second, self-reported

emotional intelligence was negatively related to levels of depression and anxiety. Specifically, the ability to discriminate clearly among feelings (emotional clarity) and the ability to self-regulate emotional states were associated with better psychological adjustment, independent of the effects of self-esteem and thought suppression. The results provide support for the hypothesis that emotional abilities are an important and unique contributor to psychological adjustment.

Hierarchical linear modelling is used by Reis et al (2007) to assess individual student, family, and school predictors of aggression in 111,662 students in sixth, seventh, and eighth grades. Nine measures of problem-solving strategies, quality of family and peer interaction, and perceptions of school climate are analyzed at the individual student level. Eight measures of school climate are included in the analysis at the school level. Aggression is operationalized with student self-report of the previous 6-month frequency of hitting others, being mean to others, and getting into a fight. At the level of the individual student, measures of problem solving were most strongly predictive of aggression. Inclusion of students in policy and rule processes, cultural sensitivity education, and teaching that emphasizes understanding over memorization were significant predictors of aggression at the school level. The potential for abatement of student aggression across individual and school levels offers opportunities for further testing of interventions for the child and the school.

The effects of psychotherapy in reducing aggressive behaviours in children and adolescents using meta analysis were estimated by Fossum et al (2008). Sixty-five studies were included, covering 4,971 cases. Teacher reported change in aggression, change in social functioning, and changes in parental stress were calculated. The mean effect size (ES) of change in

aggression in studies with untreated controls was 0.62 and in studies without untreated controls the ES was 0.95. In studies with or without untreated controls, the ESs in teacher reported aggression was 0.41 and 0.63, the ESs in changes in social functioning was 0.42 and 0.49, and the ESs in changes in parental distress was 0.39 and 0.47, respectively. The study concluded that psychosocial treatments aimed at reducing aggressive behaviour have positive effects and additional treatment effects are moderate. In the moderator analysis, studies with untreated controls obtained significantly larger ESs if the sample size was small. Similarly, in studies without untreated controls, studies presenting diagnostic information, and studies with younger children resulted in significantly larger ESs, and studies applying behavioural interventions obtained significantly larger ESs as compared to studies applying family therapeutic interventions. There is still a need to further develop effective outpatient interventions for children being disruptive, and especially for adolescent

Uncontrolled anger is a contributing force in the three leading causes of adolescent death: homicide, suicide, and injuries. Anger may be one of the early warning signs which could lead to violent behavior. Puskar et al (2008) examined the relationship between anger experience and expression with the potential correlates of life events, perceived social support, self-esteem, optimism, drug use, anxiety, and depressive symptoms in rural adolescents. The participants (n = 193) were aged 14 to 17 years old in ninth through eleventh grades enrolled at three rural Western Pennsylvania public high schools. Participants completed nine questionnaires. Negative life events, anxiety, drug use, and depressive symptoms had significant positive correlations with anger. In addition, anger was found to have significant negative correlations with the adolescents' perceived family support, self-esteem, and optimism. With this knowledge, health promotion

programs conducted by pediatric nurses can target anxiety, drug use, and depressive symptoms while bolstering family support, self-esteem, and optimism to promote anger management in adolescent health care.

Sigfusdottir (2008) examined trends in adolescent depression and anxiety symptoms from 1997 to 2006, using four time-points (1997, 2000, 2003, and 2006), and adolescent mental health service use in the same period, using three time-points (1997, 2000, and 2006). Four cross-sectional population-based samples of 14- and 15-year-old students, attending the compulsory 9th and 10th grades of the Icelandic secondary school system, completed questionnaires relating to mental health. In total, 21,245 students participated in the four studies. Anxiety symptoms increased significantly for both boys and girls, throughout the period from 1997 to 2006. Depressive symptoms increased significantly for girls, while there were no significant changes in depression among boys. During the same time period, the proportion of adolescents who visited healthcare specialists, i.e. psychiatrists, psychologists and social workers, increased significantly. The results revealed that regular visits (six times or more during 1 year) to psychiatrists and psychologists increased significantly over the same period among girls but not among boys. The findings show that symptoms of depression and anxiety have increased among adolescents in Iceland. Future work would benefit from further research into the trends in risk and protective factors associated with these outcomes. The findings call particular attention to the increasing risk for depression and anxiety symptoms among girls.

Clarbour, et al (2009) conducted a study on individual differences in young offender emotional behaviour. This study was aimed at replicating the factor structure for the Emotional Behaviour Scale (EBS) among young

offenders, and investigating the role of the factors in offender behaviour. Both exploratory and confirmatory factor analyses were used to compare the responses of 307 male young offenders to those of 294 schoolchildren. A subsample of 264 offenders additionally completed indices of offending behaviour that were used for further validation of the EBS amongst young offenders. The three emotional style factors obtained for schoolchildren - social anxiety, malevolent aggression and social self-esteem - were confirmed in the young offender sample. Lower scores on malevolent aggression, and higher scores on social anxiety and social self-esteem, were significantly associated with later first police contact. High malevolent aggression and lower social anxiety were also significantly associated with placement on Governor's report, and high malevolent aggression was associated with violent offence types. The three scales were also found to relate systematically and predictably to a range of other personality and emotional style scales.

Studies in adult populations have shown that symptoms of complicated grief (CG) constitute a form of bereavement-related distress distinct from symptoms of depression and anxiety. The purpose of this article is to replicate these findings in two samples of bereaved adolescents by investigating the latent structure of symptoms of CG, anxiety, and depression measured by self-report questionnaires. The first study (N = 245) focuses on one of the most prevalent losses in adolescence, namely the death of a grandparent. In the second study (N = 351) the authors further the examination of the distinctiveness question by inspecting not only the latent structure of CG, depression, and anxiety but also whether the distinctiveness of the emerging latent structure holds across subgroups of bereaved adolescents suffering different types of losses. Confirmatory

factor analyses in both studies confirm the distinctiveness of CG from depression and anxiety in a younger population (Dillen et al ,2009).

Jessica et al (2009) examined the role of children and adolescents' perceptions of self-blame specific to inter parental conflict and children and adolescents' coping behaviours in the context of parental depression as predictors of internalizing and externalizing symptoms in a sample of 108 youth (age 9–15 years old) of parents with a history of depression. Higher levels of current depressive symptoms in parents were associated with higher levels of inter parental conflict and higher levels of internalizing symptoms in children and adolescents, and inter parental conflict was positively associated with both internalizing and externalizing symptoms in children/adolescents. Consistent across a series of multiple regression models, children and adolescents' perceptions of self-blame and use of secondary control coping (acceptance, distraction, cognitive restructuring, positive thinking) were significant, independent predictors of both internalizing and externalizing symptoms.

2.2.5 Studies related to Cognitive Behaviour therapy/ counselling.

Cognitions based on attitudes or assumptions developed from previous experiences are considered the most important links in the chain of events leading to disordered behaviour and psychological dysfunction. There are complex interaction between cognitive events, processes, products and structures, affects overt behaviours and environmental contexts and experiences that contribute to various facets of dysfunctional behaviour. Although CBT encompasses a variety of strategies and procedures, all share the tenet that learning plays a central role in the maintenance of behaviour, and the learning involves the manner in which the individual processes information cognitively. CBT, therefore, is a structured, time

limited, problem oriented psychotherapy aimed at modifying the faulty information processing activities evident in psychological problems.

Each cognitive behaviour therapy has produced research concerning the cognitive construct it posits to mediate psychopathology. Silverman and DiGiuseppe (2001) attempted to compare the major cognitive behavioural constructs to determine how they are related to each other and how each is related to teachers' perception of externalized and internalized behavioural and emotional problems. Children between the ages of 9 to 13 were classified as internalized, externalized, mixed, or no behaviour and emotional problems groups according to their scores on the Teacher's Report Form of the Child Behavior Checklist and teachers' ratings on the Walker Problem Identification Scale. Measures of Ellis' irrationality, Beck's negative automatic thoughts, Spivack's social problem skills, and Meichenbaum's guiding self statements were administered to the children. The results indicated that the various cognitive constructs were only moderately correlated with each other. Irrational beliefs and cognitive distortions were correlated higher than other comparisons. The correlations between the measures of the constructs suggest they are slightly related but represent different constructs. The emotional and behavioural problems groups scored higher than the no problems group on some subtest of irrational beliefs and negative cognitive thoughts. Also, the measures of emotional and behaviour problems correlated significantly with some subtest of irrational beliefs and negative automatic thoughts. Irrational beliefs appeared to be related to internalized and externalized emotional and behavioural problems, while negative automatic thoughts appeared to be best related to internalized emotional and behavioural problems. The measures of problem solving skills and guiding self statements appear to be best related to externalized problems.

Wragg and Whitehead (2004) presented a single case study investigating the use of cognitive behavioural therapy (CBT) with an adolescent experiencing a psychotic episode. The participant was a 15-year-old girl with first episode psychosis, who was an inpatient in an adolescent psychiatric unit. Progress was evaluated using an AB time series design, lasting 16 weeks in total. After a baseline assessment (A) the participant received a 16-week CBT intervention for psychosis (B). The effectiveness of the intervention was investigated with relation to psychotic symptoms, self-esteem, recovery style, person evaluations, anxiety and depression. The results indicated that there were some improvements in symptoms of anxiety, depression and psychosis but were inconclusive for the other measures. It is argued that the maintenance of negative person evaluations had a detrimental effect on the participant's ability to increase self-esteem, change recovery style and further reduce psychotic symptoms, anxiety and depression.

Group CBT programs are widely used for assisting teenagers with anxiety, depression and other psychological problems. The majority of reported programs have targeted school or clinical populations however few have specifically targeted adolescents from highly troubled and disadvantaged backgrounds. Edelman (2005) describes a group CBT program that was developed for teenagers who have not responded well to the formal structures of school and traditional models of classroom management. Problems such as low levels of motivation, poor attention span, learning difficulties, poor impulse control, substance abuse and other mental health problems were common within this population. A number of challenges arose in running the program and several modifications were made in order to make it more relevant to participants. These changes resulted in more rapid engagement with the program, improved cooperation within the

group, fewer interruptions and improved rapport. The clinical outcomes associated with the program could not be measured due to difficulties with completing administering self-report questionnaires.

Schroeder et al (2005) presented the reports of the 1-year follow-up of a cognitive-behavioural treatment for anxiety disorders in children and adolescents. Thirty-seven anxiety-disordered youth (aged 8–14 years at the time of treatment) were randomly assigned to individual cognitive behavioural treatment (ICBT), group cognitive-behavioural treatment (GCBT), or a waitlist control (WLC) condition. Previously reported post treatment results demonstrated significant reductions in anxiety whereas children in the WLC failed to demonstrate changes in report of anxiety or in diagnostic status. At the present 1-year follow-up, 81% of ICBT and 77% of GCBT children no longer met criteria for their primary anxiety disorder. Multivariate analyses of variance demonstrated maintenance of treatment gains for both ICBT and CGBT but failed to reveal differences between the conditions. Results not only suggest the non differential efficacy of individual and group cognitive-behavioural treatments for anxiety-disordered children but also add to the evidence suggesting GCBT as a “probably efficacious treatment.”

Cognitive behaviour therapy (CBT) is increasingly becoming the treatment of choice for a number of adolescent mental health problems, including depression and obsessive compulsive disorder (OCD). In considering the role of CBT in the treatment of adolescent eating disorders, it is helpful to review the phenomenology of anorexia and bulimia nervosa in this age group and to assess the theoretical relevance of a cognitive behavioural approach to their management. The evidence base has been reviewed in the recently published National Institute of Clinical Excellence (NICE)

Guidelines on the treatment of eating disorders. To date, CBT approaches have not been widely tested in controlled trials in this age group. However, a randomised controlled treatment trial is under way in the North West of England, in which CBT is an important component of one of the interventions being studied (Gowers, 2006).

The commonalities between anxiety and depression have been discussed before, but few have delineated the potentially different mechanisms through which treatments work for these populations. Chu and Harrison (2007) conducted a comprehensive review of child and adolescent randomized clinical trials that tested cognitive behavioural therapy (CBT) for anxiety or depression. All studies were required to have assessed both treatment outcomes and at least one theory-specific process target, including behavioural, physiological, cognitive, and coping variables. Using a meta-analytic approach, CBT demonstrated positive treatment gains across anxiety, depression, and general functioning outcomes. CBT for anxiety also produced moderate to large effects across behavioural, physiological, cognitive, and coping processes, with behavioural targets demonstrating potentially the greatest change. CBT for depression produced small effects for cognitive processes but non significant effects for behavioural and coping variables. Findings were generally consistent with CB theory but suggest potentially different mediators in the treatment of anxiety and depression. Results are discussed in terms of implications for mechanisms research, theories of change, and treatment development.

Although presentation of a treatment rationale is posited to enhance expectations for change, this contention has not been directly evaluated. In an analogue study by Ahmed and Westra (2009), the Cognitive Behavioural Therapy (CBT) rationale for social anxiety was presented via

videotape by an experienced CBT therapist, to 77 undergraduate students with high fear of negative evaluation. Results indicated significant increases in self-efficacy for anxiety change, confidence in conducting interpersonal exposures, and perceived helpfulness of exposure, pre- to post-rationale presentation. A positive response to the treatment rationale was related to increased frequency of interpersonal exposure at one-month follow-up. Furthermore, individual differences in self-efficacy for anxiety change at baseline moderated the impact of rationale response on exposure frequency.

Berry and Hunt (2009) tested the efficacy of an intervention for anxious adolescent boys experiencing bullying at school. The cognitive-behavioral intervention focused on targeting individual factors that appear to increase an adolescent's vulnerability to bullying experiences such as anxiety, low self-esteem, and use of maladaptive coping strategies. Adolescent boys reporting anxiety symptoms and the recent experience of being bullied at school (grades 7-10) were randomly assigned by group to intervention (n = 22) or wait-list (n = 24) conditions. Depressive and anxiety symptoms and bullying experiences were measured before and after the intervention, and at a 3-month follow-up for the intervention condition. The intervention was effective in significantly reducing adolescent's bullying experiences as well as their anxiety, depression, and the degree of distress associated with being bullied. Intervention gains were maintained at the 3-month follow-up. The intervention was not effective in enhancing adolescent's self-esteem or changing aggressive or avoidant responses to bullying situations. This study provides preliminary support for the value of individually focused interventions for boys in the effort to reduce the incidence of bullying within schools.

Shirk et al (2009) evaluated cognitive-behavioral therapy (CBT) for adolescent depression delivered in health clinics and counseling centers in four high schools. Outcomes were benchmarked to results from prior efficacy trials. Fifty adolescents diagnosed with depressive disorders were treated by eight doctoral-level psychologists who followed a manual-guided, 12-session, individual CBT protocol. Referred adolescents presented with high rates of co morbidity, traumatic experiences, and prior suicide attempts. Post treatment response to school-based CBT (64%) was comparable to results obtained in efficacy trials. On average, symptom reduction in this school-based study was similar to prior efficacy trials, exceeded results from an efficacy trial using the original manual, and exceeded results from a prior school-based CBT trial. Examination of predictors of symptom change and treatment response showed that life stress, trauma history, and depressive symptom severity were negatively associated with outcomes. Results suggest that school-based CBT is a relatively robust treatment for adolescent depression across gender, age, and ethnic groups as well as for adolescents with varied patterns of co morbidity.

Cognitive therapies are now well established as a component for the treatment of a wide range of child behaviour problems. There is a great deal of evidence to suggest that deficits and distortions in cognitive processes play a role in disorders of affect and behaviour in children and adults alike. This has led to the development of many different cognitive therapy approaches which aim to influence cognitive products, structures and operations. Cognitive assessment methods continue to lag behind the developments in therapy, and there is a marked need for the development of reliable and valid measures. Empirical studies support the value of cognitive interventions, although it is recognised that most cognitive

therapies include aspects of behavioural techniques, making it difficult to draw valid conclusions. Certainly, the results of recent meta-analytic studies have produced optimistic conclusions and justify the continued use of cognitive therapy methods in clinical practice, with a wide range of behavioural problems. Future research should now focus on the identification of methods to enhance the effects of cognitive therapies and to determine the characteristics of children who are most likely to benefit from these methods. There is some evidence to suggest that younger children may benefit less from cognitive therapies than do adolescents. This perhaps reflects differences in cognitive and language development. Further consideration needs to be given to adapting cognitive therapy methods to the developmental level of younger children. Cognitive therapy approaches are now well entrenched within many multi-component programmes for most emotional and behavioural disorders in children. The degree to which cognitive therapies add to the effectiveness of behavioural methods, however, remains to be demonstrated for many types of behaviour problem. It is also unclear whether the changes in affect and overt behaviour produced in these intervention programmes is actually related to improvements in the cognitive activities that were targeted in therapy. From a theoretical perspective, however, cognitive therapies have a high degree of face validity. If deficits or excesses in specific cognitive events or processes are found during assessment, which can be hypothesised to underlie disturbances of affect or behaviour, then there is a strong case for attempting to change these aspects of cognition.

2.2.6 Studies related to other management/ treatment approaches

Post-primary school students (n = 2407) and young adults (n = 477) participated in a cross-sectional evaluation of a health education programme for schools conducted by Gabhainn and Kelleher (2000). The

Life skills programme is based on a philosophy of student empowerment, and aims to teach knowledge and skills relevant to health promoting behaviour. School students were recruited in schools, while young adults were opportunistically recruited in workplaces, training centres and on public transport. Those who attended schools where Life skills had been taught and who remembered such lessons were conservatively classified as the intervention group, while those who attended other schools and did not remember such lessons were classified as the comparison group. Participants completed questionnaires designed to collect data on health-related behaviours, indicators, knowledge and psychological health. School-level factors were employed as covariates in subsequent analyses of covariance. Amongst younger pupils, females reported more positive health behaviours but lower levels of psychological well-being and more symptoms. The impact of the programme became evident at ages 13-15. Those involved drank less and reported more positive adjustment to school. However, sex differences remained, with females reporting more health-promoting behaviour and more symptoms, and lagging behind males in self-esteem and general well-being. An interaction between gender and the intervention was identified among senior pupils. Exposure was especially beneficial for females. However, as young adults, the two main effects of gender and programme participation re-emerged as the most important independent variables, and the interaction between them was not significant. This pattern has implications for the interpretation of evaluations conducted on short-term interventions as well as for short-term impact evaluations.

Depression in adolescence is a common and potentially life-threatening health problem. Oria et al (2001) evaluated the effects of prevention strategies on decreasing the rate of depression in adolescents. A class

addressing specific skills identified as having an impact on adolescent depression was taught to youth participating in the program. The nonequivalent control group design was used. The sample consisted of 7th- and 8th-grade students in either the Youth Leadership class or a computer class of a California middle school. The Childhood Depression Inventory was the instrument used. Nine control group subjects and 11 experimental group subjects completed both the pre test and the post test. The analysis of the data revealed no statistically significant differences between the control and experimental groups. This study should be repeated with larger sample sizes and with greater attention to the timing of pre tests and post tests.

Few effective psychosocial treatment models for depressed adolescents have been developed by Diamond et al (2003). Attachment-based family therapy (ABFT) is a brief, manualized treatment model tailored to the specific needs of depressed adolescents and their families. Attachment theory serves as the main theoretical framework to guide the process of repairing relational ruptures and rebuilding trustworthy relationships. Empirically supported risk factors for depression are the primary problem states that therapists target with specific treatment strategies or tasks. Parent problem states include criticism/hostility, personal distress, parenting skills, and disengagement. Adolescent problem states include motivation, negative self-concept, poor affect regulation, and disengagement. Intervention tasks include relational reframing, building alliances with the adolescent and with the parent, addressing attachment failures, and building competency. A small, randomized clinical trial provides initial support for the model. Several process research studies, using both qualitative and quantitative methods, have helped refine the clinical guidelines for each treatment task. ABFT is a promising new treatment for depressed adolescents and more research on it is warranted.

Over 20% of a sample of 706 young adolescents identified themselves as experiencing difficulties and being in need of specific help in coping was taken as the sample for the study by Hayes and Morgan (2005). A psycho-educational Program “Helping Adolescents Cope” was offered to 112 of those. This was adapted, with permission, from the “Coping with Stress Course,” devised by Albano *et al.* Participants’ progress was monitored and evaluated using qualitative and quantitative measures. The psycho-educational Program was found to be significantly effective in reducing participants’ depression scores, in reducing their reliance on unproductive means of coping and overall in helping them cope

Gaines and Barry (2008) conducted a study to contribute to the identification of effective interventions in the area of male adolescent aggressive behaviour. Existing research includes both group- and single-case studies implementing treatments which typically include an anger-management component and its attendant relaxation and stress-reduction techniques. The design of this study was single-subject with multiple baselines across 6 subjects on 2 behavioural measures. The setting was a residential juvenile justice program for male adolescents, and the treatment was a relaxation breathing exercise. The results of the study were mixed, with improvement on both behavioural measures in 2 of the 6 participants

The review of related studies presented gives a consolidate view of the present scenario in the area of adolescent research. It is evident from the review that the problem behaviour experienced by the adolescents differs based on several factors. Even the time factor plays a major role in the change in behaviour of adolescents. The relevance of the present study and the methodology adopted for the etc seems to be appropriate in the context of the present scenario.

METHODOLOGY

- Part 1- Exploratory study
 - Design
 - Sample
 - Tools
 - Procedure
- Statistical techniques used
- Part 2 – Development of an intervention
 - Research design
 - Sample
 - Tools
 - Techniques
 - Procedure
- Statistical techniques

Numerous behavioural problems have been hypothesised to play a role in the developmental process of an adolescent. An appropriate methodology has to be used to identify these factors, to collect data on each factor and decide on the hierarchy of importance. Methodology in general refers to the techniques of securing data regarding the universe. Methodology is a universally significant step in any research because the fruitfulness and validity of the information that is secured in the study depends largely upon the authenticity and perfection of its methodology.

The present study has been carried out in two parts and the details were presented separately. The first part of the study is an exploratory one to find out the behavioural problems of plus two students on various dimensions using a set of standardised tools. Details of the design, sample-universe and population, tools used (including the one developed for the present purpose), administration procedure and the various statistical techniques used were presented in the first part of the methodology.

The second phase of the study is an experimental one aiming to develop an intervention plan based on the findings of the exploratory study carried out and presented as a first part. The details pertaining to the design, assignment of subjects to different groups, sample details, description of tools, details of techniques used for the intervention, detailed procedure adopted, and the statistical techniques used were also presented.

3.1 PART 1 – EXPLORATORY STUDY

Aim of this part of the study is to find out the various behaviour problems and other related factors experienced by the plus two students studying in different parts of the state. The rapid changes in the socio economic and

scientific area will be having a direct impact on human behaviour has been proved by researchers in many fields. It could also assume that the behaviour problem experienced by adolescents can also changed due to the aforesaid factors. The researcher felt the need to specifically identify the behaviour problems experienced by the plus two students especially in the changing scenario and only then proceed further in developing an intervention plan to address the identified issues.

3.1.1 Design

The first part of the present study is to find out the behaviour problems and other traits of plus two students. This will give a clear understanding of the problems and issues faced by the present day plus two students with the fast changes in the socio- cultural, economic and scientific scenario. The attempt is to see if there is any systematic relationship between two or more variables, correlation design was adopted. The aim is only to show that levels of one variable are associated with levels of another. There are no independent and dependent variables as such, as no casual relationship can usually be inferred from correlational analyses.

3.1.2 Sample

Researcher usually cannot make direct observations of every individual in the population they are studying. Instead, they collect data from a subset of individuals – a sample – and use those observations to make inferences about the entire population. Ideally the sample corresponds to the larger population (universe) on the characteristic of interest. In that case, the researcher's conclusion from the sample is probably applicable to the entire population.

This correspondence between the sample and the larger population is most important when researcher wants to know what proportion of population has certain characteristics. Two general approaches to sampling are used in research. In probability sampling, all elements in the population have some opportunity of being included in the sample, and the mathematical possibility that any one of them will be selected can be calculated. With non probability sampling, population elements are selected on the basis of their availability. The consequence is that the unknown portion of the population is excluded.

Kerala state was taken as the universe for the study and the samples were taken from different districts in Kerala. In the present study stratified random sampling technique was used. Stratified random sampling is a form of probability sample obtained by random sampling from people in each important population sub groups in the same population, as they exist in the population. The sample for the present study selected based on the following criteria.

Inclusion Criteria

Students studying in 11th and 12th standards in any recognised institutions.
Only those students belong to the age group of 15 to 17 years.

Exclusion Criteria

Students who are not studying in regular streams
Students who do not fall in the age group of 15 to 17 years.

The sample for the present study consists of 400 plus two students studying in various Higher Secondary Schools of Kerala state. The details of the students are presented in table 3.1

Table no 3.1:

Socio- demographic details of the sample selected for the first part of the study.

SI No	Variable	Subsections	Frequency	Percentage
1	Age	15 years	32	8
		16 years	332	83
		17 years	36	9
2	Gender	Male	201	50.2
		Female	199	49.8
3	Type of school	Government	199	49.8
		Aided/ unaided	201	50.2
4	Religion	Hindu	307	76.8
		Christian	49	12.2
		Muslim	44	11.0
5	Domicile	Rural	226	56.5
		Urban	174	43.5
6	No of elder siblings	Nil	211	52.8
		One	136	34.0
		Two	33	8.2
		2+	20	5.0
7	No of younger siblings	0	217	54.2
		1	151	37.8
		2	29	7.2
		3	3	0.8

Sample for the present study being plus two students, it is expected that the students will be in the age group of 15 years to 17 years. 83% of the total samples are in the age of 16 years. Of the total sample, 50.2% are males.

The representation from the government and aided/unaided sector also taken into consideration and 49.8% of the sample from the government schools. Though the sample collected from different districts giving adequate importance to the geographical area, majority of the students are from the urban area (43.5%). On the other hand 56.5% of the subjects belong to rural areas. Information related to the no of elder and younger siblings also collected and presented in table 3.1. 94.5% of the subjects are residing with their parents and 87% are from the nuclear family set up.

3.1.3 Tools

This section deals with the tools used for the study along with its details of administration, scoring, reliability and validity. The following tools were used to measure the variables of the present study.

1. Personal Data Schedule
2. Behaviour Problem Checklist. (Kumar, 2004)
3. Personality Inventory for Adolescents (Anitha & Jayan, 2005)
4. State-Trait Personality Inventory (Kumar & Kumar, 2002)
5. Depression Inventory (Kumar & Kumar, 2002)

3.1.3.1 Personal Data Schedule

Information regarding the subject's personal details were collected using the personal data schedule (PDS). PDS consists of a set of unstructured questions for eliciting information like age, sex, locale, class in which studying, occupation of parents, nature of family, family atmosphere, prior history of illness, habits, etc. This will give a clear understanding about the student's personal background, which is an important component in the present study. Copy of the PDS is attached as appendix 1

3.1.3.2 Behaviour Problem Checklist

A behaviour problem checklist developed by Kumar (2004) for identifying the behaviour problems of the students. The checklist comprises of seven variables, used to assess the various behaviour problems experienced by the plus two students. The following variables were measured using the checklist.

Emotional problems: It refers to the factors that hinders good emotional health (ie.,good control over their thoughts and behaviours, feel positive about themselves, being compassionate and empathetic etc.) leads to emotional problems.

Academic problems: Academic institutions have their own characteristics like values, norms, activities, and everyday routines that can impact on adolescent's intellectual, social, emotional and behavioural development. Difficulties in the nature of academic content, attitude of teachers, rejection from peers, inappropriate study habits, problems of memory and concentration, lack of confidence and determination etc are related to academic problems.

Social problems: Social behavior is a necessary part of human life, and social identity provides members with a shared set of values, beliefs, and goals about themselves and about their social world. Identification with social groups, communication with others, and information from other people that one is loved and cared for, esteemed and valued, and part of a network of communication and mutual obligation, and when people are deprived of these social rights they experience social problems. Lack of co-ordination between a person's motives and motives of other members of

the society, and between personal values and social values lead to social problems in adolescence.

Personal problems: It refers to those factors that interfere with the active, overt manifestations of independent functioning, including the regulation of one's own behavior, decision making, and the development of one's own morals and value system. A number of factors like, the biological changes of puberty, cognitive changes involving increased idealism and logical reasoning, social changes focused on autonomy and identity can act as contributory factors for personal problems.

Family problems: Family problems occur when during adolescence the values and attitudes of adolescents become increasingly distanced from those of their parents. Parental inconsistency, inappropriate discipline, hostility, rejecting behaviours, inter-parental conflicts are some of the problems adolescents experience in the family context.

Sexual problems: This deals with the complexities of the interactions among the biological, social and psychological factors in shaping one's pubertal development. This also includes the changes that take place in the social and cultural context in which adolescents develop their gender identity and begin to form affective sexual relationships. Aspects of the pubertal transition which influences the mental health and adaptive behaviours are also fall under this category.

Health problems: When people do not have strength and energy to enjoy an active life and withstand the stresses of daily life, unable to function normally and without pain can cause health problems in adolescents. Lack of proper nutrition, exercise, rest and sleep, cleanliness, loss of appetite,

fatigue, lack of interest, suicidal thoughts, suffocation, sadness, and diseases may lead to health problems.

Copy of the Behaviour Problem Checklist is attached as appendix 2

3.1.3.3 Personality Inventory for Adolescents

The Personality Inventory for adolescents developed by the researcher for the present purpose. The inventory consists of 11 variables which measures various aspects of adolescent personality dimensions.

- | | | |
|--------------------------|----------------------------|------------------|
| 1. Assertiveness | 5. Tolerance | 9. Social skills |
| 2. Inferiority complex | 6. sense of well being | 10. Adaptability |
| 3. Emotional instability | 7. self esteem | 11. Sensitivity |
| 4. Self control | 8. Sense of personal worth | |

The details regarding test construction, item analysis, reliability, validity etc were presented in detail in chapter 4.

3.1.3.4 State Trait Personality Inventory

The State Trait Personality Inventory developed by Spielberger et al (1979). For the present study a Malayalam language adaptation of the State Trait Personality Inventory (STPI) by Kumar and Kumar (2002) were used.

The STPI consists of six subscale; state and trait anxiety, state and trait curiosity and state and trait anger. The three STPI state subscales are referred to as state anxiety, state curiosity and state anger; each subscale consists of 8 items. Similarly 3 STPI trait subscales referred to as trait anxiety, trait curiosity and trait anger contains 8 items each.

STPI was developed to assess the state and trait dimensions of anxiety, curiosity and anger. Anxiety, curiosity and anger that are being experienced at the present time are labelled as state dimension and the degree of anxiety, curiosity and anger that a person habitually experience is known as trait dimension. Copy of the STPI is attached as appendix 3

State and Trait Anxiety

State anxiety is defined as a transitory emotional reaction that consists of feelings of tension, apprehension, nervousness and worry and activation of the autonomic nervous system. Trait anxiety refers to relatively stable individual differences in anxiety proneness, i.e., the differences between people in the tendency to perceive stressful situations as dangerous of threatening and to respond to such situations with elevations in the intensity.

State and Trait Curiosity

It measures both the trait (a person's general tendency) and the state (the intensity of feelings at a particular moment) dimensions of curiosity. Curiosity means the desire or inclination to know or learn about anything, ranging from what is novel or strange to a desire of knowing what one has no right to know. Some of the factors for assessing curiosity are inquisitiveness, studiousness, concernedness, mental activity etc.

State and Trait Anger

State anger is defined as an emotional state or condition that consists of subjective feelings of irritation, annoyance, fury and rage with concomitant activation or arousal of the autonomic nervous system. It will vary in intensity and fluctuate over time as a function of affronting injustice or

frustration resulting from the blocking of goal directed behaviour. The trait anger is defined in terms of individual differences in the frequency that state anger is experienced over time.

Administration

The instructions for the state scale were as follows. “A number of statements people use to describe themselves are given below. Read each statement and then put a ‘✓’ mark in the appropriate space on the answer column to indicate how you feel right now. There are no right or wrong answers. Do not spend too much time on any statement but give the answer, which seems to describe your present feelings best”.

The instructions for the trait scale are as follows: “A number of statements that people have used to describe themselves are given below. Read each statement and then put a ‘✓’ mark in the appropriate space on the answer column to indicate how you generally feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.”

Scoring

Subjects respond to the STPI state items in terms of how they feel at a particular moment by rating on a four-point scale, i.e; (a) Not at all, (b) Somewhat, (c) Moderately so and (d) Very much so. In responding to STPI trait items, subjects indicate how they generally feel by rating on a four-point scale: 1. Almost never 2. Sometimes 3. Often, and 4. Almost always.

The scoring was done as follows: A score of 1,2,3 or 4 is given to the category a, b, c or d for a positive statement and a score of 4,3,2 or 1 is given to the category 1,2,3 or 4 for a negative statement. To obtain the score for state and trait anxiety, state and trait curiosity and state and trait anger subscales, simply sum the weighted scores for the 8 items that comprise each subscale. The possible scores for each subscale can vary from 8 to 32.

Reliability

STPI has got high reliability on all the six variables. The details are presented in the following table

Table 3.2

The correlation values of the original and adapted version of the STPI

Variables	STPI		Malayalam adaptation of STPI
	Female	Male	
State-Anxiety	0.93	0.92	0.79
Trait-Anxiety	0.92	0.88	0.80
State-Curiosity	0.93	0.91	0.70
Trait-Curiosity	0.95	0.93	0.93
State-Anger	0.93	0.93	0.87
Trait-Anger	0.90	0.88	0.81

Validity

Validity was established for the original version of STPI with the parent scales, namely State-Trait Anxiety Inventory (STAI), State-Trait Curiosity Inventory (STCI) and State-Trait Anger Inventory (STAgI).

Table 3.3

The correlation values of the original and adapted version of the STPI

STPI Vs Parent Scale	Original Version of STPI		Malayalam Adaptation
	Male	Female	
S-Anxiety – STAI State	0.94	0.96	0.89
T-Anxiety – STAI Trait	0.93	0.96	0.91
S-Curiosity – STCI State	0.94	0.96	0.68
T-Curiosity – STCI Trait	0.95	0.96	0.95
S-Anger – STAgI State	0.98	0.99	0.94
T-Anger – STAgI Trait	0.97	0.95	0.97

3.1.2.5 Depression Inventory

The Depression inventory by Kumar and Kumar (2002) was developed on the basis of the Beck's Depression Inventory and his cognitive theory of depression. The cognitive theory of Aaron Beck is based on the relationship between thought and effect in human beings. Beck and co-workers suggested that errors in thinking cause depression.

The present inventory was designed to measure the depth of depression. Its items were based on observations of attitudes and symptoms characteristic of depressed patients. Most of the symptoms and attitudes associated with depression were accounted for, since the numbers of reported symptoms were found to be associated with the depth of depression. Some of those symptoms and attitudes are sadness, sense of failure, dissatisfaction, self-dislike, work inhibition, sleep disturbance, loss of appetite etc.

The inventory consists of 15 items designed to measure the depth of depression. Statements are printed in a single page along with the

instructions and the response column. The inventory measures only one variable, i.e., depression.

Administration

The inventory measures only one variable, i.e., depression and the following are the instructions.

“A number of statements that people use to describe themselves are given below: Read each statement and put a ‘✓ ‘ mark in the appropriate space provided in the response column to indicate how you feel. There are no right or wrong answers. Do not spend too much time on any statement. In the response column against each statement four choices A, B, C or D- denoting almost never, sometimes, often and almost always, respectively are given.

Scoring

The scoring is done as follows. A score of 4,3,2 or 1 is given to the category A, B, C or D for a positive statement and a score of 1,2,3 or 4 is given to the category A, B, C or D for a negative item respectively. The scores are then summed up to obtain the depression score of an individual. The maximum score will be 60 and the minimum, 15.

Reliability & Validity

The test-retest method was used to find out the reliability of the depression inventory. The correlation coefficient thus obtained for the depression inventory is 0.91. The high correlation value shows the higher rate of reliability of the depression inventory. The test has got a concurrent validity of 0.73. Copy of Depression Inventory is attached as appendix 4.

3.1.4 Procedure

The data for the present study were collected from different Higher Secondary Schools in the State of Kerala. A total of 400 students were taken as the sample for the correlational study. The researcher went and met the principal of the respective Higher Secondary schools in advance and gave brief description about the purpose of visit. The researcher being a plus two teacher could easily explain the importance of the research work. The researcher collected the data on prefixed date and time. Researcher met the students in small groups of ten in a separate room without much of a distraction in the school campus itself. Researcher introduced herself to the students and gave a description about the purpose of visit, expectation from the students. The questionnaires administered in small groups of ten students by the researcher. Necessary clarifications were given as and when required. Half of the samples were given in the above listed order and the remaining half in the reverse order. Approximately 60 minutes required to complete the data collection for each group. Ten minutes gap was given before administering the next questionnaires.

3.1.5 Statistical techniques used

The first part of the study being an exploratory one, the data analysed using correlation analysis and stepwise regression. The details are presented below in details.

3.1.5.1 Correlation

Correlation is a measure of bivariate relationship between two variables. In social science coefficient of correlation is used a precise estimate of the direction and degree of relationship between pairs of variables. A

coefficient of correlation is a single member, that tells us to what extent two variables are related, that is to what extent variation in one go with variation in the other (Guilford, 1982). The value of the correlation ranges from -1 through zero to +1. Of which, zero indicates no correlation, one indicates perfect correlation and the sign shows the direction of relationship.

The statistical significance of coefficient of correlation has to be considered before the correlation is interpreted. The 'r' may be tested against the hypothesis that the population 'r' is zero. If the 'r' for the sample is large enough to invalidate the null hypothesis, we expect 'r' as indicating the presence of at least some degree of correlation. To test this, the obtained 'r' is compared with the limits established using the standard error of 'r' (Garret, 1969). In the present section, Pearson's product movement correlation was used to obtain the correlations of different variables studied. Cohen (1988) states a 'r' value of 0.10 to 0.29 indicates small, 0.30 to 0.49 indicates medium and 0.50 to 1.00 indicative of large for interpreting the values.

3.1.5.2 Stepwise regression

Simple linear regression aims to find a linear relationship between a response variable and a possible predictor variable by the method of least squares. Multiple linear regression aims at finding a linear relationship between a response variable and many possible predictor variables.

A best regression model is sometimes developed in stages. A list of several potential explanatory variable is available and this list is repeatedly searched for variables which should be included in procedure is known as step wise regression.

3.2 PART 2 – DEVELOPMENT OF AN INTERVENTION

3.2.1 Research design

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. In fact, the research design is the conceptual structure within which research is conducted; it constitutes the blueprints for the collection, measurement and analysis of data.

This phase of the study aims to find out the efficacy of the newly developed intervention plan to address the behaviour problems of plus two students. Based on the findings of the first phase of the study, it was decided to have three experimental groups and a control group. Review of literature shows the importance of relaxation and cognitive behavioural counselling in reducing the various behavioural problems and depression in adolescents. Before match after multilevel design (multiple treatment design) was used to find out the efficacy of the newly proposed intervention package to address various behaviour problems of the plus two students. . The design of the present study can be diagrammatically represented as follows.

Table no 3.4

The design of the study

Pre test	Assignment	Group	Intervention	Post test
W	Matched Randomization	Control	None	Y1
		Experimental 1	GSPR	Y2
		Experimental 2	CBC	Y3
		Experimental 3	GSPR & CBC	Y4

W- pre intervention score, Y1 to Y4 - post intervention scores.

This design has lots of advantages; a before observation is made with the specific intention of using the data to match the experimental and control subjects. This helps in great reduction between group variability before the treatment. In order to undertake matching two important conditions have to be in place. First you must have good reason to believe that the matching variable will have a predictable effect on the outcome of the study. A second important condition is that there must be some reasonable ways of measuring or identifying participants on the matching variable. This is a powerful method because of the greater reduction in between group variability before the treatment is administered.

A multiple treatment design involves more than two levels of the independent variable or more than one independent variable in a single experiment. Multiple treatment design usually require more subjects but yield more information than one or two group design. The number of variables and the number of levels of each variable in a single experiment are determined by the research hypotheses. The subjects in various groups may be randomized, matched, or both. Usually several independent groups are exposed to different levels of treatment, including a no treatment control group. A multi level design allows a researcher to evaluate several levels of the independent variable under comparable conditions. Researcher can determine whether or not the treatment affects behaviour, and the effect of varying levels of the treatment. Multilevel design research indicates the presence of linear or nonlinear relationship between the independent and dependent variables. A graph of the average score for each group usually portrays the main feature of the data.

The advantages of before match after multilevel design include the value of random assignment in controlling for individual differences and three more

optional advantages; the value of before observations in checking for initial equivalence of groups; the value of matching in controlling for between group variance and the value of yoking as a control for individual differences. Outside influences as a source of secondary variance are also controlled by controlling the time of testing of all groups.

3.2.2 Sample

The sample for the present study was selected from a total of 200 plus one and two students. For the purpose of conducting the intervention, 80 students were selected from the above said 200 samples. The design used was before match after multilevel design; the samples need to be matched before starting the intervention process. The behaviour problem checklist was administered to 200 students and based on the overall behaviour problem score, the students were categorised into low, medium and high behaviour problem groups. The samples were selected randomly from the high problem behaviour scorers and assigned them into the three groups. There were three experimental groups and one no treatment control group. Guided Somato Psychic Relaxation(GSPR) was given to the experimental group 1, Cognitive Behavioural Counselling (CBC) for the experimental group 2 and , both GSPR and CBC given to the experimental group 3.

Inclusion Criteria

Students studying in 11th and 12th standards in any recognised institutions.
Only those students belong to the age group of 15 to 17 years.

Exclusion Criteria

Students who are not studying in regular streams
Those who are having physical or psychological problems.
Students who are undergoing any treatment

Table no 3.5:

Emotional problem scores of the subjects selected for intervention.

Variable	Sl No	Subject code	Control Group	Experimental group 1	Experimental group 2	Experimental group 3
E M O T I O N A L P R O B L E M	1	001	30	30	34	30
	2	002	14	32	26	26
	3	003	32	20	26	26
	4	004	24	30	28	24
	5	005	22	22	28	28
	6	006	24	22	28	18
	7	007	28	24	22	22
	8	008	12	20	22	22
	9	009	24	20	18	20
	10	010	24	24	14	28
	11	011	22	28	28	28
	12	012	26	22	14	26
	13	013	20	24	16	22
	14	014	32	32	26	28
	15	015	32	32	24	26
	16	016	28	28	30	30
	17	017	22	14	26	26
	18	018	30	20	26	28
	19	019	26	24	30	32
	20	020	26	20	24	26

Table no 3.6:

Academic problem scores of the subjects selected for intervention.

Variable	Sl No	Subject code	Control Group	Experimental group 1	Experimental group 2	Experimental group 3
A C A D E M I C P R O B L E M	1	001	34	28	28	34
	2	002	26	18	26	26
	3	003	16	22	22	18
	4	004	18	12	16	20
	5	005	26	20	14	16
	6	006	20	26	20	16
	7	007	16	16	22	22
	8	008	24	24	30	30
	9	009	24	24	26	22
	10	010	24	18	26	22
	11	011	18	18	24	8
	12	012	24	24	12	22
	13	013	18	16	20	16
	14	014	16	16	22	24
	15	015	18	18	28	34
	16	016	30	30	32	30
	17	017	14	20	20	24
	18	018	20	10	30	22
	19	019	18	26	24	16
	20	020	20	26	26	18

Table no 3.7:

Social problem scores of the subjects selected for intervention

Variable	Sl No	Subject code	Control Group	Experimental group 1	Experimental group 2	Experimental group 3
S O C I A L P R O B L E M S	1	001	32	36	36	32
	2	002	22	24	24	24
	3	003	20	26	26	28
	4	004	22	18	18	20
	5	005	24	26	20	16
	6	006	30	32	24	28
	7	007	22	24	22	22
	8	008	24	20	20	20
	9	009	18	22	24	18
	10	010	22	24	20	14
	11	011	14	20	26	12
	12	012	16	18	22	2
	13	013	24	18	22	20
	14	014	20	22	26	26
	15	015	26	26	30	36
	16	016	32	32	28	24
	17	017	24	22	16	30
	18	018	30	22	34	28
	19	019	26	30	28	22
	20	020	22	20	32	28

Table no 3.8:

Personal problem scores of the subjects selected for intervention

Variable	Sl No	Subject code	Control Group	Experimental group 1	Experimental group 2	Experimental group 3
P E R S O N A L P R O B L E M S	1	001	32	34	30	32
	2	002	24	24	32	32
	3	003	26	18	22	26
	4	004	20	18	22	26
	5	005	14	26	24	22
	6	006	26	24	26	16
	7	007	24	26	20	20
	8	008	16	12	20	20
	9	009	22	14	18	22
	10	010	18	22	12	22
	11	011	20	14	14	20
	12	012	22	24	20	18
	13	013	16	24	22	18
	14	014	18	18	22	16
	15	015	24	24	32	26
	16	016	26	26	28	32
	17	017	24	22	26	26
	18	018	20	20	24	22
	19	019	24	18	24	20
	20	020	26	24	28	26

Table no 3.9:

Family problem scores of the subjects selected for intervention.

Variable	Sl No	Subject code	Control Group	Experimental group 1	Experimental group 2	Experimental group 3
F A M I L Y P R O B L E M S	1	001	34	22	36	34
	2	002	20	20	18	18
	3	003	24	26	20	22
	4	004	18	30	14	24
	5	005	22	8	24	20
	6	006	22	14	18	30
	7	007	16	20	22	22
	8	008	18	26	12	12
	9	009	16	20	16	12
	10	010	14	12	22	14
	11	011	24	14	20	26
	12	012	16	16	20	18
	13	013	12	18	24	14
	14	014	8	20	16	18
	15	015	24	24	18	14
	16	016	14	14	24	20
	17	017	20	20	20	16
	18	018	28	30	12	20
	19	019	16	16	18	14
	20	020	22	20	16	20

Table no 3.10:

Sexual problem scores of the subjects selected for intervention.

Variable	Sl No	Subject code	Control Group	Experimental group 1	Experimental group 2	Experimental group 3
S E X U A L P R O B L E M S	1	001	24	34	30	24
	2	002	28	20	14	14
	3	003	18	22	22	20
	4	004	20	16	18	10
	5	005	8	12	4	8
	6	006	6	6	12	18
	7	007	20	14	16	16
	8	008	14	18	20	20
	9	009	10	4	20	16
	10	010	10	14	20	8
	11	011	20	16	8	20
	12	012	12	8	14	12
	13	013	18	16	16	16
	14	014	16	12	6	8
	15	015	20	20	20	10
	16	016	26	26	20	22
	17	017	22	28	24	14
	18	018	24	34	10	24
	19	019	12	4	8	16
	20	020	16	20	14	18

Table no 3.11:

Health problem scores of the subjects selected for intervention.

Variable	Sl No	Subject code	Control Group	Experimental group 1	Experimental group 2	Experimental group 3
H E A L T H P R O B L E M S	1	001	26	28	26	26
	2	002	24	20	18	18
	3	003	20	22	18	16
	4	004	18	16	24	16
	5	005	18	20	20	24
	6	006	14	18	14	16
	7	007	18	20	20	20
	8	008	24	12	8	8
	9	009	10	20	2	14
	10	010	16	14	14	20
	11	011	12	20	10	16
	12	012	10	14	24	8
	13	013	22	14	10	24
	14	014	18	8	10	8
	15	015	28	28	20	26
	16	016	26	26	20	22
	17	017	22	22	16	12
	18	018	10	26	26	18
	19	019	16	20	6	18
	20	020	20	22	12	16

Table no 3.12:

Overall behaviour problem scores of the subjects selected for intervention

Variable	Sl No	Subject code	Control Group	Experimental group 1	Experimental group 2	Experimental group 3
O V E R A L L B E H A V I O U R P R O B L E M	1	001	212	212	212	212
	2	002	158	158	158	158
	3	003	156	156	156	156
	4	004	140	140	140	140
	5	005	134	134	134	134
	6	006	142	142	142	142
	7	007	144	144	144	144
	8	008	132	132	132	132
	9	009	124	124	124	124
	10	010	128	128	128	128
	11	011	130	130	130	130
	12	012	126	126	126	126
	13	013	130	130	130	130
	14	014	128	128	128	128
	15	015	172	172	172	172
	16	016	182	182	182	182
	17	017	148	148	148	148
	18	018	162	162	162	162
	19	019	138	138	138	138
	20	020	152	152	152	152

The individual score of the subjects of the control group and experimental groups on behaviour problem are presented in table 3.5 to 3.12.

3.2.3 Tools

The following were the tools used for measuring different variables.

1. Personal Data Schedule
2. Behaviour Problem Checklist. (Kumar, 2004)
3. Personality Inventory for Adolescents (Anitha & Jayan, 2005)
4. State-Trait Personality Inventory (Kumar & Kumar, 2002)
5. Depression Inventory (Kumar & Kumar, 2002)

The above said tools are the one used, to identify the behaviour problems and other traits of the plus one and two students, in the first phase of the study. The details are presented earlier in section 3.1.2 Tools.

3.2.4 Techniques

The first phase of the study provides a detailed picture of the problems experienced and other related traits of plus two students. The review of literature, theoretical and empirical, gives a clear understanding that there are a number of techniques /methods which can be used for managing the problem behaviours. But the problem is that we may have to administer a set of techniques to manage the problems. The sample being adolescents and the need for having a time bounded and result oriented approach and with minimum techniques, the researcher decided to take two major areas. Since majority of the problem has a root in emotionality and anxiety, it is essential to have a relaxation exercise as part of the intervention

programme. Depression being one of the key variable, cognitive behavioural counselling may also be needed for managing the problem effectively. Based on the review, it is decided to include the following techniques for the present purpose.

3.2.4.1 Guided Somato Psychic Relaxation

The role of relaxation in several therapeutic techniques is well established. Relaxation itself is used as a therapy in alleviating non specific stresses. The Guided Somato Psychic Relaxation (Sreedhar,1996) is the result of an integration of several theories of learning and amalgamation of the several of relaxation. GSPR is one of the simplest relaxation technique among relaxation techniques used today, which is guided till the last moment. The guidance is given step by step and leaves no room for any confusion and it needs only minimal infrastructure facilities.

The phases of GSPR consist of a brief rehearsal regarding physical relaxation, a narration which creates a set conducive to mental relaxation, the instructions for body relaxation, the instruction for the relaxation of the mind, a period of silence and instructions to bring out the client from the relaxed state.

Instructions and their importance

After a brief rehearsal, the client is induced into the main instructions. The client is told that all that is required is to follow the instructions by passively listening, during which the person need not show any kind of acknowledgement either verbal or nonverbal. . It is claimed that the uniqueness of this relaxation lies in its instruction. In this, before relaxing the body, the subject is led into a mental state which makes the person to accept the relaxation as a natural feeling. The analogies used have also

been chosen with care to instill naturalness. This puts the subject not only at ease but also creates a natural internal readiness to accept the instructions.

General Procedure for the GSPR

After collecting the details, the subject is told about the steps involved in the treatment. He is further told that one step in the process is a procedure called relaxation training. In this the subject is requested to lie down on a comfortable cot in supine position with his head slightly raised with the help of a pillow. The subject is informed that the relaxation has both a physical and a mental stage. The subject is also told that in the physical stage there are ten steps. At the mental stage there is a visualization of a pond. The visualization part in the state of mental relaxation is also described. The subject is given time to clarify doubts, if any. Then the instructions are given softly and slowly.

Instructions for the I Stage

“From this moment onwards... you are going to be... in the first stage of relaxation. First of all... gently close your eyes. Let your eyelids... close... with the softness with which...the petals of a flower would close. Let your eyes... remain closed... gently. From now on... you will be listening to... my voice alone. All the other sounds... will be ignored. While you are lying down like this... listening to my voice... your body and mind... will go into a deep relaxation. Now... notice that... your body is lying on the cot peacefully... completely suitable... and conducive to relaxation. Like the body... to bring your mind also... to total relaxation... listen to me (pause for 2 seconds).

Keep your mind... absolutely free. Keep your mind wide open. Let your thoughts pass through the mind... with the ease with which a gentle breeze would flow... in and out, through the doors and windows of a large room. When the thoughts pass by the mind... do not control the thoughts... Let the thoughts... come and go... as they like. All the thoughts... that are passing through your mind are unimportant and irrelevant. The thoughts that pass through your mind... while you are relaxed... are all alike. That is... all these thoughts are neutral. While you are relaxed... thoughts are neither positive nor negative. When you are relaxed no thought is holy no thought is unholy... no thought is mean, no thought is noble... no thought is low no thought is high... no thought is small no thought is big. Imagine... all the thoughts to be... similar . Like this... taking all these thoughts to be alike... and not getting involved in them... your mind will enter into a state of natural... relaxation. You have all the time in the world. You are totally free... and now you have no responsibilities what so ever. Like a small child... happily reposing on the lap of its mother ... lie down comfortably on the lap of mother nature .(pause for 5 seconds)

The relaxation now begins from the feet onwards. All the instructions for the relaxation will be given to you ... one by one clearly. According to the instructions given ... relax.

First of all ... bring both the feet parallel. Right, Now bend your feet towards the body ... at the ankles. Feel the tension of the muscles at the feet. When I say the word ... 'relax' ... release the tension ... by allowing your feet ... to go back to the original position. (after 5 seconds, say) RELAX'. Good. Feel the relaxation at the feet. Experience the relaxation at the feet and enjoy the relaxation.. It is a very pleasant experience. Now ... again bring... your feet parallel to each other. Push your toes ...away

from your body... as if... you are pointing towards the wall .Now the muscles of the toes are tensed up ... in a different way. When I say 'relax'... release the tension and feel the relaxation at the feet. 'RELA-X'... That is it. Now ...again ... bring your feet parallel. Push the heels ... vertically downwards ... without bending the knees. Now ... the feet ... the ankles ... the calf muscles ... the knees ... the thigh muscles and the waist are all tensed up. When I say 'relax'... you will experience a very comfortable and calm relaxation ... in these parts. 'RELA-X'... very good. Feel the relaxation .. from your hips to the toes. To make this relaxation still deeper... I am going to count from... 5 to 10. Along with the counting ... the relaxation will become ... dee -per and dee-per. When I say ...10, you will experience... a very deep relaxation in ... both the legs. Become aware of your legs... from the hips to the toes. Now... I am going to count. 5-6-7 – the relaxation is becoming dee-per and dee-per... 8-9 both the legs are now completely relaxed. From now onwards ... you will not move your legs till I say so.10 ... 'RELA-X' .As the legs are now completely relaxed ... you do not have to think of them anymore instead become aware of your hands.

Clench your fists as shown earlier. Clench both your fists ... as if you are trying to squeeze ... water out of a sponge. Now the fingers... the palms ...the back of the hands and the wrists are all tensed up. When I say 'relax'... slowly release your fists ... and experience the relaxation ... at the hands... 'RELA-X' .The fingers ... the palms ... the back of your hands and ... the wrists ... are all relaxed now. When you tense up the different parts of the body ... you should become fully aware of the tension ... in that part of the body ... and after that... the relaxation that follows. This is ...to make you ... more and more ... aware of the experience of relaxation. Relaxation is a beautiful experience. Thus ... you must

experience ... appreciate ... and enjoy the relaxation. Now ... clench your fists again. Bend your elbows... and let your fists ... try to touch your shoulders. Press down on to the shoulders. From the shoulders to the fingertips ... know that... your entire hands are tensed up. When I say 'relax'... first relax your fists from the wrists to the fingertips ... and experience the relaxation... from the wrists to the fingers. Then ... put the hands ... back as before ... gently RELAX-X' From the shoulders... to the fingertips ... both the hands are now completely relaxed. Now, let your hands remain relaxed when you are doing the next two steps ... with the shoulders.

Now arch your shoulders ... backwards by raising the chest. Breathe normally. Feel the tension of the muscles of your chest ... the shoulders ... and the back. When I say 'relax' ... let your chest ... the shoulders ... and the back ... relax very slowly... as if ... a piece of soft cloth ... released from above ... slowly settled down. RELAX. Now arch both shoulders... towards the front. The muscles of your chest ... the shoulders ...and the back are now tensed up in a different way. Notice that... and become aware ... of the relaxation ... of these muscles and relax slowly, when I say ... 'relax'. 'RELAX'. Good From the shoulders ... to the tip of the fingers... your hands are ... now ... completely relaxed. To make this relaxation still deeper ... once again I am going to count ... from 5 to 10. Along with the counting ... the relaxation also will become deeper ... and deeper. When I say 10... both the hands... will get into ... the deepest relaxation. Before that... if you want to move your hands ...to a more comfortable position ... do so now. 5..6...7...8..9 now the hands are fully relaxed ... 10. 'RELAX'. Since the hands are also completely relaxed ... you do not have to think of them anymore.

Now ... bring your awareness ... to the back of your neck. Bring your chin a little down ... and push the back of your head ...downwards. Feel the tension of the muscles in the back of your neck ... and head. When I say 'relax' ... the muscles ... at the back of your head and neck ... will also get into a deep relaxation. 'RELA-X'. Now... become aware of your forehead. Without opening your eyes... raise your eyebrows ... and form wrinkles on the forehead. When I say 'relax' ...you will experience ... a deep calmness at your forehead. 'RELA-X'. Now ... close your eyes tightly. Feel the tension of the muscles ... in and around the eyes. When I say 'relax'... the eyes will also become ... very Calm and comfortable. So also the whole face will become ... serene and totally calm. 'RELA-X'. Now ... the eyelids are becoming heavier ... and heavier. You will not open the eyes till I say so. Yet will not sleep off. On the other hand ... you will be calmly awake.

From the head to the toes... the body is now ... in a state of complete relaxation. To make this relaxation very deep ... once again I am going to count ... from 5 to 10. With the counting ... the relaxation will be become ... deeper... and when I say 10 ... the body will experience a very deep relaxation. This relaxation will be ... very deep ...and enjoyable. Now ... become aware of your body from the head to the toes. I am going to count now. 5 -- 6-- 7 the relaxation is becoming dee – per and dee – per ... 8 – 9 – 10 . 'RELA – X RELA – X RELA – X. (Pause for 5 Seconds and start gently).

Now ... the mind is also ... entering in to relaxation. To complete the relaxation of the mind ... visualize this scenery. Imagine ... a beautiful pond ... filled with crystal clear water. It is all very calm and peaceful around. The pond ... at the dusk ... is very calm ... and quiet. The water in

the pond... is crystal clear. You can see the rock bottom of the pond. The water in the pond ... is clean ... pure ... serene ... tranquil ... and absolutely standstill. Like the water in the pond ... now the mind is also becoming clearer... and clearer. Now ... the mind is extremely pure... serene ... tranquil ... and transparent. It is now... absolutely standstill. Now ... let your awareness... get in to the... deeper and deeper layers ... of your mind. Deep down the mind ... there exists a total silence. Be in that silence until I call you. 'RELA- X'... 'RELA –X' (this time soft and long), 'RELA – X' (this time still softer and longer and the instructor's voice nearly merging in to silence). (After 2 minutes, start repeating the word relax as follows). RELA – X (softer and longer as if the voice is emerging from silence to sound). 'RELA –X' (soft and short but gradually becoming firm) 'RELA – X' (as usual).

The mind ... and the body ... are now completely relaxed. When you come out of this relaxation ... the mind will be totally ... calm and ... fresh. The relaxation ... that you experience now ... will continue for weeks together. Hereafter... whenever you lie down like this ... and say the word 'relax' within you ... the mind ... and the body ... will become relaxed ... like this. A calm mind ... is the source of confidence ... and health. The mind is now ... totally calm. When the mind is free and clam ... there are no anxieties .. fears ... or problems. The mind ... is now pure ... and strong. When you come out of this relaxation ... you will be very calm ... and refreshed. Now ... to come out of this relaxation... I am going to count from ... 1 to 5. When I say 2 the eyelids will become lighter... and lighter. When I say 3 ...you will begin to open you eyes. When I say 4 open your eyes half ... and when I say 5 open your eyes fully and remain calm. Now I am going to count. I ...(give nearly 20 seconds pause), 2 ... the eyelids are becoming I (give nearly 20 seconds pause), 2 the eyelids are becoming

lighter ... and lighter, 3 ...the eyes are slowly starting to open, 4... open your eyes nearly half, 5 ...open your eyes fully.

Realize that ... even when the eyes are fully open ... the mind and the body are ... completely relaxed. Slowly ... bring your hands ... on to the stomach ... and let the fingers hold together ... gently. Bring your toes together ... and release them. Slowly ..turn your head to the left ... and to the right. Now ... free your hands ... and slowly sit up as usual.”

Concluding general procedure

After the completion of the relaxation and when the subject gets up, the client is given 2 to 3 minutes to settle down. Then the client is asked about his experiences during the time of relaxation.

For the present purpose, as suggested in the manual, the subjects were given stage one of GSPR. Approximately 30 minutes is required to complete the process.

3.2.4.2 Cognitive Behavioural Counselling

The central tenet of cognitive behavioural counselling (CBC) can be summed up in the now famous words of the philosopher Epictetus in the first century AD: “ Men are disturbed not by things but by the views which they take of them” (cf: Trower et al 1988) At the heart of CBC lies in the idea that our interpretations of our experiences are hypotheses or beliefs rather than facts, and as such may be correct or incorrect to varying degrees. When people hold unrealistic and negative beliefs about themselves or their experiences, an emotional upset will result.

Two aspects of thinking are particularly relevant to CBC : (a) ordinary fleeting thoughts and images and (b) underlying beliefs and assumptions which give rise to the thoughts and images. One of the major figures in CBC, Aaron Beck, gives the name ‘automatic thoughts’ to thoughts and images occurring involuntarily in the stream of consciousness (Beck 1976). If these thoughts are negative and unrealistic, an emotional disorder may result. The second major pioneer in CBC, Albert Ellis, emphasizes the role of ‘irrational beliefs’ in emotional disorders (Ellis, 1962). For him, adaptive beliefs are expressed in relative terms which describe the client’s preferences, wishes or desires about a situation, irrational beliefs are expressed in extreme terms such as demands, musts, and shoulds. A further defining characteristic of irrational beliefs is that they hinder a person from achieving his or her goals.

There are three main assumptions underlying CBC : (a) that emotions and behaviour are determined by thinking; (b) that emotional disorders result from negative and unrealistic thinking; and (c) that by altering this negative and unrealistic thinking emotional disturbances can be reduced. In summary the steps involved in CBC are to teach the client to;

1. Monitor emotional upsets and activating events
2. Identify maladaptive thinking and beliefs
3. Realise the connections between thinking, emotions and behaviour.
4. Test out maladaptive thinking and beliefs by examining the evidence for and against them
5. Substitute the negative thinking with more realistic thinking.

A triadic model aids the counsellor in helping the client using CBC. At its simplest, the counsellor has to help the client to get started on the therapeutic journey (stage 1), teach the client the cognitive behavioural

method of change (stage 2), and finally, help the client to overcome blocks to change and independence as he prepares for termination(stage 3).

The sample for the second part of the study is matched on the basis of their overall behaviour problem scores and scores on depression, a common package of CBC could be applied. Of course every case is different, the CBC developed as a package is only suggestive as to how the researcher/counsellor might proceed and to maintain uniformity in approach. The CBC proposed has three stages with eighteen sessions spread over a period of two months. The session wise details presented below;

Stage 1

Aim of this stage is to try to help the client move from a position where he is immobilized by his difficulties to a point where he begins to experience some change. This entails establishing a working relationship with the client, establishing a preliminary shared understanding of the problem, and starting a course of action that will begin a process of change.

Session 1

The first session of the CBC outlines the steps from preparation before meeting the client, through the initial greeting and introductory remarks, up to exploration of the problem. This includes an open exchange of information and views about what can realistically be expected from CBC.

Action summary

1. Greet the client warmly and firmly, and by name.
2. Introduce briefly, giving name and professional status.

3. Say who referred him/ her and ask if he/she has any thoughts about the referral.
4. If the client seems agitated, it may help to start by engaging in small talk and then to take down the formal details.
5. Ask the client what he/she expects from counselling. If necessary briefly explain the purpose of counselling and how it aims to help solve problems.
6. Ask the client if he has any anxieties or worries about coming for counselling. Give the client reassurance, or undertake to give him/her an answer during the course of the interview.

Session 2

After eliciting as far as possible the client's expectations and any hidden agendas he may have about counselling, the counsellor moves to the content - getting the client to talk about the difficulties. An open and unstructured style of exploration is adopted for this phase of CBC, using basic counselling skills.

Action Summary

1. The counsellor concludes the opening remarks
2. The counsellor gives the client an open invitation to talk about himself, his world and his difficulties.
3. In the case of clients who can't get started or remain off the point, the 'single word technique', is used. In which the client is asked to say what single word he would choose to describe his difficulties and then to use the word in a sentence. Subsequently, the counsellor resists the temptation to fill silences, but periodically helps the client with exploratory open questions.

4. Once the client starts talking, the counsellor facilitates the client with basic non selective listening skills like attending behaviour and minimal encouragers to talk.

Session 3

By the third session the client will hopefully have outlined some of his most pressing difficulties in general terms, and the counsellor will have encouraged this free ranging exploration. The cognitive behavioural approach is concerned with the whole range of human expression – thought, feeling as well as behaviour and the array of triggering events in the environment. One way of thinking about it is in terms of the ABC framework. Where ‘A’ is the activating event, ‘B’ is the beliefs, thoughts etc about ‘A’ and ‘C’ is the emotional and behavioural consequences of ‘B’. What this means is that emotional distress and problematic behaviour, C, are the consequences not of events themselves, A, but of negative inferences and evaluations of these events, B. What the counsellor has to do in cognitive assessment is to identify not only the A’s and C’s but also to identify the B’s – the causes of the distress. They have to identify the anxious beliefs, or the depressing beliefs or the angry beliefs and so on.

Action summary

1. Ask the client for an example of one of the problems he had been talking about during the second session.
2. Ask “How did you feel in that situation?” or reflect the feeling if given.
3. Write down the clients answer in the dysfunctional column of the ABC form. Show the client what you are writing, and explain the three columns.

4. Ask “ what happened?” or What led upto that?” or paraphrase the activating event if given.
5. Write down the clients description in the A column. Show the clients as you write.
6. Summarise briefly : ‘You say you felt(C) because(A)or you say(made you feel ... (C). Use the clients own words and show him the words on the form at the same time)
7. Ask,’what thoughts about ...(A) were going through your head at the time?
8. Write down the clients answer in the dysfunctional B column . Show the client as you write and explain.
9. Repeat the above until you have several thoughts, including at least one evaluation.
10. Ask the client if his thoughts about A would make him feel the way he did at C. Here the counsellor is beginning to point to the role of beliefs in producing emotional distress.
11. Recycle the procedure on another difficulty.

Session 4

The client too usually has his own theory about his problem, and if this is different from the counsellors, not much progress will be made. The idea is to offer CBC as an alternative theory, so he can make an informed decision about whether it helps to explain his problem, and hence that CBC makes sense as an approach to finding a solution. The counsellors task after doing an ABC assessment, is to share her formulation in an explanatory summary of the client’s As, Bs and Cs. The summary should teach the client that it is the B that causes his C, not the A, at least not the A alone.

Action summary

1. Ask the client to select one of the ABC assessments. Suggest to the client that you should now go over the selected episode again together, and while doing so, try to identify, and agree the cause of the difficulty.
2. Ask the client to confirm A and C
3. Ask the client to confirm B
4. Ask the client to confirm what caused C. Was it A or B?
5. Whichever answer is given, ask the client how?
6. If A is given, continue to ask 'How'? Until a definite belief is given and show that this is really a B. Then repeat step (4)
7. Check out that it makes sense to the client that it is the B that generates C rather than A
8. Recycle the procedure for two or more assessments.
9. Discuss any common beliefs for all examples and offer your own formulation.

Session 5

Assessment and intervention are part of the same process, and progression from one to the other should be logical and natural. This is the case in CBC, where a good assessment should inform client and counsellor what to focus on and in what way. Progress from assessment to intervention dependent on there being an agreed understanding between counsellor and client on the client's problems. The approach offered should also appeal to the client and have good face validity. This then provides the frame work and rationale , and improves the motivation , for the hard and often uncomfortable work that is to follow.

Action summary

1. Summarise the ABC method and philosophy so far followed in the assessment and ask for the client's reaction to this.
2. If necessary explore the client's objections, and his own approach if different. Spell out the advantages of the CBC approach.
3. If the client agrees, ask how he thinks it might be helpful.
4. If the client agrees but is sceptical, acknowledge the doubts but suggests a trial run. If necessary describe (anonymously) how other clients utilised CBC successfully.
5. Take one of the ABC assessment previously worked out and ensure it is an agreed working formulation of a problem situation.

Session 6

The counsellor starts by establishing that the client's goal is to change his emotional and behavioural reaction and ensuring that the client understands that cognitive change is the most potent means of producing emotional and behavioural change. Then, rather than challenging and disputing the client's expressed beliefs at this stage, the counsellor simply asks the client to think of more helpful alternatives to his habitual thoughts and to judge how the alternatives would make him feel and react.

Action summary

1. Stay with one of the specific ABC assessments, and clarify that the client's emotional and behavioural problem comes under C, and that his goal is to change C.
2. Ask the client how, on the basis of the discussion, he could change the problem – by changing A or B?

3. If necessary , help the client see that changing B is the more powerful way of changing C.
4. Ask the client if he can think of any more helpful alternatives to the first thought listed under B on the ABC form for the situations under discussion. Write these down in the second column under B . If necessary suggest some alternatives and write these down if the client agrees they are reasonable.
5. Ask the client if the emotional and behavioural problem under C still follows from the alternative thoughts just listed. If not ask the client what consequences would follow from the alternative thought and write this down in the second C column. However if the client says that the same problematic consequences follows, repeat step 4.
6. If the client says that he has no faith in the alternative thought and it does not help him, then ask him to weigh the evidence for the two thoughts – the original dysfunctional thought and the functional alternatives .

Session 7

Reached a stage of helping the client to change his Bs by the method of alternative thoughts. The next step is to help the client start to put this into practice between the end of this session to and the beginning of the next. At this introductory stage it is best simply to get the client to attempt ‘real life’ invivo home work assignments, to warn him that he may not initially be successful, and to tell him that unsuccessful attempts are important steps on the way to successful attempts. At this stage the counsellor can reassure the client that CBC necessarily proceeds in stages , from initially getting started, through learning new insights, and finally overcoming blocks to change and independence.

Action summary

1. The counsellor asks the client to agree to go into one or more of the difficult situation (the A of the ABC) for which he now has some alternative thoughts.
2. The counsellor shows the client how to prepare himself for introducing the new thinking into the problem situation. This involves practice in imagination, and the client is advised to set aside a quiet half an hour each day to do it. He is to rehearse the new thoughts so that he can recall them effortlessly. Next he imagines being in the problem situation, and runs through the new thoughts. He practices this procedure until it is fairly automatic.
3. The client undertakes to enter the situation at a specified time, and repeat what he has rehearsed for real.
4. After carrying out the assignment, the client agrees to note down (a) how successful / unsuccessful he was in producing the new thinking in the actual situation; (b) whether he was successful or not in changing his dysfunctional feelings and behaviour in the actual situation.
5. The client repeats step 1 to 4 for the same situation at least three times. The client may also carry out the same routine for other problem situations, though the counsellor will want to guard against overloading the client.

Stage 2

The second stage of CBC has two main tasks for the counsellor. The first is to help the client to consolidate and make further progress in overcoming his emotional and behavioural problems through CBC. The second is to

help the client to learn the theory and method of CBC itself, so that he may gain insight into his difficulties, and increasingly take the initiative in assessing and resolving them. The stage also has several sessions.

Session 8

The counsellor establishes continuity, maintains contact with the client's thoughts and feelings about counselling, and prepares the ground for this stage. Specifically the counsellor (1) asks if there are any pressing problems the clients wants to talk about initially; (2) establishes a session agenda; (3) invites feedback on the previous stage and interviews; and (4) request an update on the problems and the home work.

Action summary

1. Greet the client and invite him to begin by talking about any pressing problems.
2. If the client seems ready, suggest that you establish an agenda, giving reasons for this. Make a list of agenda items. Include feedback, a report on homework, choosing one or more problems for assessment and cognitive intervention and preparing homework for the next session.
3. Ask the client for his assessment of the first stage sessions, and his assessment of the direction of counselling. Say that you would like to move on to the second stage and explain briefly what this is.
4. Ask the client to bring you up to date on the problems talked about during the first stage , and to give you a report on his homework.
5. Ask the client to select one or two main problems for this session.

Session 9

The ABC model is about the process of human adaptation (and maladaptation) to the environment. People appraise events around them, and then respond to those events as they see them. They respond both emotionally and behaviourally. The counsellor's main task in clarifying the Cs is to get a factually accurate account of the client's emotional and behavioural reactions to appraised events. Since the client's will not usually be very clear about his Cs, the counsellor will often need to undertake some detailed questioning and facilitating.

Action summary

1. The counsellor invites the client's to select an emotional episode – a current concern or one that arose during home work and commences an ABC assessment.
2. The counsellor may first focus on clarifying the type and intensity of the emotional C and the accompanying physiological sensations, and explaining the distinction to the client.
3. The counsellor can then focus on clarifying the type and intensity of the behavioural C.
4. The counsellor can distinguish, if necessary, between the emotional and behavioural Cs and between Cs and Bs.
5. The Cs, once clarified, are written down in the dysfunctional C column of the ABC form.

Session 10

It is necessary to review the ABC assessment model in general, and clarify its components in particular. The task in clarifying A is to get the client to give as objective and factual account as he can of the events that triggered

the Cs. This requires that the counsellor be clear about types of As and is able to clearly distinguish them from Bs and Cs.

Action summary

1. The counsellor asks for a concrete description of the actual or imagined A event as part of an ABC assessment.
2. The counsellor distinguishes between fact and opinion (belief) in the client's description and points this out to the client.
3. The counsellor coaches the client in behavioural descriptions specifying time, place, situation, individuals concerned and their behaviour.
4. The counsellor writes down in the A column of the ABC form the client's behavioural description.

Session 11

The main task in clarifying Bs is to identify the beliefs by which the client views events such that those events become distressing for him. As the counsellor helps the client explore the Bs, counsellor will soon obtain a mass of potentially confusing statements, especially if the client is already in a state of confusion. If the counsellor can systematically distinguish between different types of beliefs, identify their functions and assess those that are dysfunctional.

Action summary

1. The counsellor explains what an inference is, using both realistic and unrealistic examples from every day life. Then turn to the client's A, and identifies the factual part in it.

2. The counsellor then identifies the inference, B , which is drawn from the fact.
3. The counsellor paraphrases both the fact, A, and the inferences drawn and makes a mental note of the type of error the client makes.
4. The client confirm the inferences. The counsellor then writes down the inferences in the dysfunctional B column on the ABC form.
5. The counsellor repeats the steps 1 to 4 for the subsequent inferences if there is a chain, each time writing down the inferences in the dysfunctional B column.

Session 12

CBC intervention requires some particular skills of interviewing style which seeks to give as little direct advice to the client as possible, but instead seeks to elicit solutions from the client, and in this way builds own the client's own capacity to problem solving. The whole thrust of CBC is the claim that most client beliefs that underlie extreme forms of distress and self defeating behaviour are not based on reality, and are therefore susceptible to the method of attack by disputing.

Action summary

1. Take the previously filled in ABC form. Starting with the first inference in the chain, ask the client what evidence he has to support or prove the inference.
2. Ask the client how the evidence provided proves the inference.
3. Steps 1 to 2 are recycled until the client agrees his inferences is invalid or is modified until it is realistic, or can show that it was in fact realistic. Write down the realistic version of the inference in the

second B column on the assessment form, opposite the unrealistic inference which was previously written.

4. An opinion is to invite the client to think of evidence which also disconfirms an invalid inference.
5. Another option is to invite the client to think of alternate conclusions for which there is better evidence, or which are as likely to be the case as his own conclusions.
6. Repeat the above steps for each of the client's inferences, writing down each new conclusions on the form.

Session 13

Helping clients to change their invalid inferences and learning more realistic ones is a potent procedure, but still leaves the client vulnerable. Sooner or later the client will have to contend with negative evaluations, and if he has dysfunctional negative beliefs he will soon return to disturbing conclusions such as low self worth, leading to depression or some other distressing emotions. To help the client achieve more long lasting relief from his disturbance, the counsellor is strongly advised to dispute the client's dysfunctional evaluations.

Action summary

1. Counsellor and client move from the inferences to the evaluations on the ABC form.
2. The counsellor gets the client to imagine that events turn out the way he inferred and then to think about the core evaluations.
3. The counsellor disputes the evaluation if this is relevant.

4. The counsellor then invites the client to think of an alternative, non exaggerated evaluation, and writes down in the dysfunctional B column on the assessment form.

Session 14

The general format for homework throughout the second stage is to select one or two main beliefs to work on in one or two types of situations. This means the counsellor must keep a clear perspective of the direction of CBC and not be confused by the complexities of cognitive assessment and intervention.

Action summary

1. Ask the client to take one of the problems that have been the focus of cognitive assessment and intervention during stage 2, and use this as the basis for a particular homework assignment.
2. With the help of the relevant ABC form , review the chain of current, dysfunctional beliefs with the client.
3. Next, review the chain of functional alternative beliefs.
4. Suggest the client learn the alternative chain as thoroughly as possible, by going over the list and learning it by rote.
5. The client is asked to rehearse the alternative chain for a period of say, 30 minutes a day, and also shortly before going to an A situation, by way of preparation.
6. Negotiate an undertaking with the client to go into the A situation as often as possible.
7. Ask the client to select one or two of the new beliefs that he finds most compelling, and write these on a cue card and to keep this in the palm of his hand or a convenient pocket. He should look at the

card to remind him of the alternative thoughts whenever his emotional C reaches a level that is distressing, or whenever he starts dysfunctional ruminations.

Stage 3

There are two main tasks in stage three. The first involves overcoming blocks to change, and the second deals with termination. The two tasks are linked by the theme of independence, and they also follow in sequence.

Session 15

This session concentrates on helping the client to overcome blocks to change while at the same time helping him to acquire the methods of overcoming such blocks. Sometimes the client is so confused by a multiplicity of thoughts in a variety of emotional episodes that he cannot easily and quickly think of a more helpful alternative. As a result he may focus on a belief which is peripheral , rather than central, to his dysfunctional way of thinking. The counsellor takes several emotional episodes that he / she believes cluster together and helps the client to discover the core belief that lies behind them. The client can dispute the one core belief.

Action summary

1. The client describes an A in which the distressing reaction is activated but is unable to describe the relevant B. Or the client is unable to get help from a new belief probably because it is not the relevant one for the A.

2. The counsellor asks the client to 'relive' in imagination the most distressing part of the activating event, and give a commentary on his dysfunctional thoughts and images.
3. The client reports his dysfunctional thoughts and images.
4. The counsellor asks the client functional alternative thoughts and suggests that the client uses the new thought in his next assignment.
5. Suggest the client might have an underlying core belief which he could learn to dispute and then counter.
6. From your formulation, list several problems that you believe have a single underlying core belief.
7. Ask the client what his hunch is about what such a belief might be.
8. Suggest your own hunch, and if you agree, get the client to dispute it and write a new countering belief for use in that situation.

Session 16

Clients may report that they have clear insight into the validity of their new, functional beliefs when they feel safe and calm, and will rehearse them consistently, but these beliefs are neither convincing nor helpful when they are upset. In other words they have intellectual insight but not emotional insight. The analogy is that no matter how irrational a client's thinking is, it will not transfer across from a non depressed to a depressed state – the two programmes are entirely separate. The client has to be in the depressed programme to learn to incorporate new thinking within it. There are two components to the procedure for gaining and using emotional insight- re experiencing an emotional episode and mood induction.

Action summary

1. Get the C and A of one of the client's emotional episodes, and write them down on an ABC form.
2. Start to get the first B with the question 'what thoughts come to mind when you think about A?'. 'write the first thought down under B(dysfunctional column). Ask the client to rate the credibility of the thought.
3. Probe for next thought in the chain with the question. '...and what follows from that?'. Write the second thought down , together with the credibility rating.
4. Repeat steps 2 and 3 and stop when you have at least two of the client's main evaluative beliefs.
5. Ask the client to rate the intensity of his emotional C at this moment.
6. Return to the first thought in the chain and ask the client what alternative thought or belief he might have. Write this down (alternative column), again with the credibility rating. Obtain a second or third alternative , or suggest an alternative, if the first seems unrealistic or irrelevant.
7. Repeat step 6 for all the remaining dysfunctional thoughts, again with credibility ratings.
8. Ask the client now to re rate the intensity of his emotional C.

Session 17

The mood induction procedure will not necessarily help the client use his new , realistic belief at the time when he actually gets emotionally distressed . It is important for the client to expose himself to actual experiences of disputing his shame inducing belief in the context of the

feared event. It is only in this way that he will gain emotional insight, rather than simply intellectual insight into his new belief.

Action summary

1. Suggest a shame attacking home work exercise to the client, with the rationale for changing dysfunctional beliefs.
2. If the client responds with a “cannot”, explore this as a further dysfunctional belief.
3. Help the client dispute the belief and replace it with a realistic alternative.
4. Explore with the client how to use the new belief to help him carry out his shame attacking exercise.

Session 18 – Termination

The closing phase will focus on home work assignments, which in turn will focus on the client learning ways of overcoming the remaining blocks to his applying CBC. When the counsellor considers that the client has made some reasonable progress in overcoming his blocks to change, the counsellor will want to raise the question of termination. Counsellors goal is to use CBC as a method of helping the client to accept that he is not dependent on the counsellor for help and support and that he can depend upon his own problem solving capabilities and can draw on significant others in his life. – Present and potential for guidance, affection and support. The counsellors task is to help the client realize that his termination concerns are themselves simply disputable beliefs, and to help him undertake the necessary challenging and countering.

3.2.5 Procedure

The objective of the second part of the study is to develop an intervention plan. The set of tools used in the first part of the study was administered to 200 randomly select plus one and two students from Kannur district of Kerala State, and taken Kannur district as the universe for the study. The grouping of sample and assignment of group were presented in detail in 3.2.2. A before match after multilevel design is adopted for this phase of the study. The details of groups and intervention techniques are presented below.

Control Group	- Without any intervention
Experimental Group 1	- Guided Somato Psychic Relaxation (GSPR)
Experimental Group 2	- Cognitive Behavioural Counselling (CBC)
Experimental Group 3	- GSPR & CBC

Guided somato psychic relaxation was given individually, as per the procedure presented above, to the experimental group 1 by the researcher. GSPR administered individually for the first three days and then onwards asked them to practice regularly at home with the help the CD/ Cassette provided to them. In addition, weekly follow up and assisted demonstration was also given to ensure the regular practice. The subjects were asked to practice the GSPR continuously for a period of two months.

Cognitive Behavioural Counselling was given to the experimental group 2. The CBC administered individually to the subjects as per the guidelines presented above. Eighteen sessions were given to each subject spread over a period of two months. A minimum of 20 to 40 minutes required for each session.

Guided Somato psychic Relaxation and Cognitive Behavioural Counselling was given to the experimental group 3. The procedure as stated for the experimental group 1 and 2 was given to the experimental group 3. Here again, the techniques were individually administered for a period of two months as per the description given above.

The control group was not given any treatment. The post assessment data collected using the same set of tools after two months.

3.2.6 Statistical techniques

3.2.6.1 One way ANOVA

One way ANOVA tests differences in a single interval dependent variable among two, three or more groups formed by the categories of a single categorical independent variable. It tests the whether the groups formed by the categories of the independent variable seem similar. If the group seem different, then it is concluded that the independent variable has an effect on the dependent variable. One may note also that the significance level of a correlation coefficient for the correlation of interval variables with a dichotomy will be the same as for one way ANOVA on the interval variable using the dichotomy as the only factor. This similarity does not extent to categorical variables with greater than two values.

3.2.6.2 Post hoc Scheffe

The t test compares only two distributions, whereas analysis of variance is able to compare many. One way ANOVA will generate a significance value indicating whether there are significant differences within the

comparisons being made. This significance value does not indicate where the difference is or what the differences are, but Scheffe test can identify which groups differ significantly from each other.

3.2.6.3 Matched 't' test

The 't' test is the statistical test appropriate for judging the significance of mean or judging the significance of difference between means of two samples (Garret, 1969). The 't' test can be applied in three conditions. They are the small sample, large sample, and correlated sample. The t test is based on t-distributions. If the calculated t-value exceeds the cut off point (depending on the degrees of the freedom) the difference between the mean values will be considered significant. When the t-value is below the critical value, the difference between the mean values will not be considered significant.

TOOL DEVELOPMENT

- Approaches to the study of personality
 - Review of literature
 - Theories of personality
- Definitions and concepts of personality
 - Adolescent personality
- Descriptions of the personality inventory for adolescents
 - Item construction
- Administration and instructions
 - Scoring
- Sample for the item analysis
 - Item analysis
 - Item selection
 - Final scale
 - Reliability

Variety is the spice of life” – Whether that’s true or not, there’s certainly no doubt that the people around us provide us with plenty of variety: they differ tremendously in their behaviour, their preferences, their outlook on life, and their emotional ways too. Within the discipline of psychology, personality is the field of study that is concerned with the total individual and with individual differences. One of the goals of personality psychology is to find and describe those individual differences among people that are psychologically meaningful and stable. In addition to mapping out the differences among people in terms of their characteristic ways of behaving – i.e., thinking, feeling and acting – personality psychologists also try to understand the psychological structures and the mechanisms or processes that underlie these differences.

4.1 Approaches to the Study of Personality

Historically, most psychologists in the field of personality share certain basic interest and also tend to favour and adapt one or more of a number of fundamentally different approaches. Each theorist is found to conceptualise personality somewhat differently. While some personality psychologists (psychoanalysts) believe that human behaviours have their roots in unconscious motives from one’s distant past, others (social learning theorists) focus on the individual’s present relationships and current experiences. Although some theorists (trait approach) search for signs of character traits that are not directly observable, others (behaviourists) attend to the person’s overt actions – the things the individual does – and seek to sample them as directly and precisely as possible. Thus, personality theories, as conceptualized by different theorists, are attempts of understanding both the characteristics of our personality and the way these characteristics develop and influence our lives.

4.2 Review of literature

The progressive growth of any scientific discipline is marked explicitly by its proficient literature. Thus, an attempt has been made in the following pages to provide a brief review of the theories of personality, opinions expressed by professionals, and concepts formulated by prominent researchers in the field.

Within the discipline of psychology, 'Personality' is a field of study rather than a particular aspect of the individual. Wiggins (1975) has defined personality as a "branch of psychology that is concerned with providing a systematic account of the ways in which individuals differ from one another."

4.3 Theories of Personality

In his book, "Introduction to Personality", Mischel (1999) has referred to personality as the study of individual behaviour. According to him, the study of individual behaviour should not only mean the study of individual differences in behaviour; instead an adequate theory of personality process and structure must also account for similarities in behaviour.

A number of personality theories have been developed that have attempted to study many aspects of an individual, usually emphasizing a particular point of view (Bernstein, et al,1994).

One of the earliest approaches to the study of personality is the Psychodynamic Approach, founded by Freud (1900), which holds that the interplay of various unconscious psychological processes determines thoughts, feelings and behaviour (Mischel, 1999). According to him, personality is formed out of conflicts between basic needs and the demands

of the real world and even though these conflicts occur at an unconscious level, their effects can be seen in everyday behaviour.

But Freud's theory created instant controversies over critical issues such as the importance of instinctual sexual impulses in shaping personality. Hence, a number of his former followers parted with him and formed a separate group. These dissenters have been called Neo-Freudians because they maintained many of the basic tenets of Freud's theory as they developed their own.

The first major dissenter was Alfred Adler who formulated a new approach which began with the assumption that each person is born helpless and dependent, thereby creating unpleasant feelings of inferiority (Mischel,1999). These negative feelings, in turn, combined with an innate desire to become a full-fledged member of the social world, provide the impetus for the development of personality. Also, the ways each person tries to reach fulfilment constitute personality or, as Adler calls it, 'Style of Life'.

Carl Jung became the second major figure to leave the Psychoanalytic society. He argued that each person has both a personal and a collective unconscious, which stores archetypes. He also suggested that people develop, overtime, differing degrees of introversion or extraversion, and differing tendencies to rely on specific psychological functions, such as thinking vs. feeling. According to him, it is the combination of these tendencies that creates personalities which display distinctive and predictive patterns of behaviour.

A number of other neo-Freudian and post-Freudian theorists followed Adler's lead by focusing on the ways other people help shape an individual's personality. Several prominent theorists among them,

including Erich Fromm, Karen Horney, and Harry Stack Sullivan, argued that once biological needs are met, the attempt to meet social needs is most influential in forming personality (Mischel,1999).

The emphasis on social factors in personality development is also reflected in the influential work of Erik Erikson. He has proposed eight stages of development that call attention to problems of social adaptation. As children grow up, they face a wider range of human relationships; and the solution of the specific problems at each of the eight psychosocial stages determines how adequate they will become as adults. Thus, Erikson's focus on psychosocial development reflects the growing Neo-Freudian emphasis on broad social and cultural forces rather than instinctual drives alone (Mischel, 1999).

As the evolution of psychodynamic approaches to personality continues, some of its most influential variants, such as Melanie Klein, Otto Kernberg and Heinz Kohut, have come to focus on the importance of object relations, i.e., a person's relationship with significant objects, which includes people also (Mischel, 1999).

Another major approach is the Dispositional Approach, which views personality as a combination of stable internal characteristics that define 'who' people are and motivate them to behave in certain ways. These characteristics have sometimes been described as personality types but more often as traits.

In the ancient theory of temperaments, the Greek physician, Hippocrates, assigned persons to one of the four types of temperaments: choleric (irritable), melancholic (depressed), sanguine (optimistic), and phlegmatic (calm, listless). In accord with the biology of his time, Hippocrates

attributed each temperament to a predominance of one of the bodily humors: yellow bile, black bile, blood and phlegm (Mischel, 1999).

Formal classifications of the possible links between personality and body type were developed by the German psychiatrist Kretschmer and more recently by an American physician, William H. Sheldon. Sheldon suggested three dimensions of physique – Endomorphic, Mesomorphic and Ectomorphic, the corresponding temperaments of which were viscerotonic (relaxed, sociable), somatotonic (energetic, assertive) and cerebrotonic (restrained, artistic).

Another famous typology was devised by the Swiss psychiatrist, Carl Jung, who grouped all people into introverts (who withdraw into themselves, prefer to be alone, and are shy), or extraverts (who are conventional, sociable and outgoing). Friedman & Rosenman and Glass proposed a typology that was concerned with how people respond to stress, and they identified two psychological variables, designated as Type A (characterised by competitive achievement striving, exaggerated sense of time urgency, aggressiveness and hostility) and Type B (characterised by patterns of relaxation, serenity and lack of time urgency). These two types differ in many ways, including in their family environments (Woodall & Matthews, 1989).

While typologies assume discontinuous categories, traits are continuous dimensions. The trait approach begins with the commonsense observation that individuals often differ greatly and consistently in their responses to the same psychological situation or stimulus (Mischel, 1999). According to Gordon Allport, traits are determining tendencies or predispositions to respond. He identified three types of traits – cardinal traits (which influence most aspects of their behaviour), central traits (those that are usually

apparent to others and comprise characteristics that organise and control behaviour in many different situations) and secondary traits (those that are more specific to certain situations and control far less behaviour).

According to Raymond Cattell, trait is a “mental structure”, inferred from behaviour, and a fundamental construct that accounts for behavioural regularity or consistency. He distinguished between common traits, which are possessed by all people, and unique traits, which occur only in a particular person and cannot be found in another in exactly the same form. He also distinguished surface traits (clusters of overt or manifest trait elements that seem to go together) from source traits (underlying variables that are the causal entities determining the surface manifestations). In Cattell’s system, traits may also be grouped into classes on the basis of how they are expressed. Those that are relevant to the individual’s being “set into action” with respect to some goal are called dynamic traits; those concerned with effectiveness in gaining the goal are ability traits, and traits concerned with energy or emotional reactivity are named temperament traits (cf; Mischel, 1999).

Hans Eysenck (1991) has extended the search for personality dimensions to the area of abnormal behaviour. He investigated introversion-extraversion as a dimensional trait. He emphasised that this dimension is based entirely on research and “must stand and fall by empirical confirmation” (Eysenck & Rachman, 1965). According to him, a typical extravert is sociable, acts on the spur of a moment, and generally an impulsive individual; on the contrary, a typical introvert is a quiet, retiring sort of person, keeps his feelings under close control, is reliable, and places great value on ethical standards. A second major dimension that has been identified is emotional stability-neuroticism. This dimension describes at one end people who tend to be moody, anxious and restless; and at the other extreme, people who are

stable, calm, even-tempered and reliable. Thus, Eysenck's research has considerable research support (Eysenck, 1982), and it remains influential. More recent factor-analytic research has led many trait theorists to believe that five factors best define the organisation of human personality (McCrae & John, 1992). The components of this so-called big five or five-factor model of personality are neuroticism, extraversion, openness, agreeableness, and conscientiousness. Paul Costa and Robert McCrae (1989) developed a test called the NEO Personality Inventory to measure the strength of these five factors.

In contrast to the psychodynamic and dispositional approach that views personality as consisting of inner dynamics or traits that guide thinking and outward behaviour, cognitive-behavioural approach views personality mainly as the array of behaviours that people acquire through learning and display in particular situations. This approach is also sometimes called the social-learning approach to personality (Phares, 1991; Rotter, 1990).

Elements of the cognitive-behavioural approach can be traced back to the radical behaviourism of John B. Watson. He used research on classical conditioning to support his claim that all human behaviour, from mental disorder to scientific skill, is determined by learning. Behavioural theorists eventually recognized that Watson's view was limited. Subsequently, B.F. Skinner widened the behavioural approach by emphasizing the importance of operant conditioning in learning. Among his contributions was the careful analysis of functional relationships – that is, how overt behaviour is learned in relation to observable environmental events such as rewards and punishments.

Proponents of this very popular approach to personality seek to assess and understand how learned patterns of thought contribute to behaviour and

how behaviour and its consequences alter cognitive activity as well as future actions (Mischel, 1999). Among the most influential of social learning theorists are Julian Rotter, Albert Bandura and Walter Mischel.

Rotter argued that learning creates cognitive expectancies that guide behaviour. He also suggested that people learn general ways of thinking about the world, especially about how life's rewards and punishments are controlled. Some people (internals) are likely to expect events to be controlled by their own efforts. Others (externals) tend to expect events to be determined by external forces over which they have no control. Albert Bandura, on the other hand, has emphasised the complex and constant interaction among cognitive patterns, the environment and behaviour. He points out that whether people learn through direct experience with rewards and punishments or through the cognitively mediated processes of observational learning, their behaviour tends to affect their environment, which in turn may affect cognitions, which may then affect behaviour. Thus, according to Bandura, personality is shaped by reciprocal determinism.

Cognitive-behavioural theorists also see learned beliefs or expectancies as characterizing each individual and differentiating one from another. Walter Mischel (1986) calls these beliefs or expectancies as person variables, the cognitive variables that he believes outline the important dimensions along which individuals differ. The most important person variables are competencies, perceptions, expectations, subjective values, and self-regulation and plans.

Another approach to personality which maintains that the way people perceive and interpret the world forms their personalities and guides their behaviour is referred to as the phenomenological approach. Proponents of

this view emphasise that, on perception, each individual perceives reality somewhat differently, and they assert that these differences – rather than instincts, traits, or learning experiences – are central to understanding human personality. The phenomenological theorists emphasise that each person actively constructs his or her own world. It also emphasises that the primary human motivation is an innate drive toward growth that prompts people to fulfil their unique and natural potential (Mischel, 1999).

George Kelly, an experimental psychologist-turned-therapist, emphasised that people's view of reality is important in guiding their behaviour, but he suggested that this view is shaped by learned expectations. According to him, it is the nature of each person's unique constructs that determines personality and influences behaviour; personality development stems from the search for constructs that will allow people to predict and understand themselves and others.

Carl Rogers, on the other hand, whose name is almost synonymous with the phenomenological approach, assumed that each person responds as an organised whole to reality as he/she perceives it. He emphasised self-actualisation, and defined personality as the expression of each individual's self-actualising tendency as it unfolds in the individual's uniquely perceived reality.

Like Rogers, Abraham Maslow saw personality as the expression of a basic human tendency toward growth and self-actualisation. He believed that self-actualisation is not just a human capacity but a human need.

The phenomenological approach gives a central role to each person's immediate experience and emphasises the uniqueness of each individual. It is also an optimistic approach that places faith in a person's ability to fulfil his/her ultimate capacities.

Thus even though each theory is found to emphasise different concepts that determines its uniqueness, each one of them is also seen to be criticized in some areas. That is, while the psycho dynamists focus on sexual instincts and unconscious behaviour (Smith & Vetter, 1991), the dispositional theorists seems to be better at describing people than at understanding them (Epstein & O'Brien, 1985). At the same time, while behavioural theories emphasise classical and operant conditioning, thereby reducing human beings to a set of acquired responses derived solely from relationships with the environment, the phenomenological view is naïve, romantic and unrealistic. Phenomenologist emphasised on the importance of inherited characters, biological processes, learning, situational influences, and unconscious motivation in shaping personalities (Mischel, 1999).

In spite of all the differences and criticism associated with these approaches, there are also certain similarities between them. All recognize that personality development begins in childhood and that much of personality develops through experience. All focus on the fundamental struggle each person faces on adapting to the world, even though the various approaches describe the adaptation differently, in terms of dealing with intra-psychic conflicts, developing traits, learning responses, or growing toward self-actualisation. Finally, because thoughts can affect (and be affected by) behaviours and emotions, all of the current approaches deal with cognitive processes in personality.

Continued progress toward a fuller understanding of human personality is aided by a growing tendency to integrate the most scientifically validated aspects of all these approaches (Mischel, 1999). Such a multi-dimensional approach to personality aims at obtaining a complete picture of an individual that in turn helps in a better understanding of the individual.

4.4 Definitions and Concepts of Personality

The term ‘personality’ is the most complex concept employed by the psychologists. This term is derived from the Latin word ‘persona’ which means ‘mask’. Personality has been defined in many ways by different psychologists. In the most popular usage, it is often equated with social skill and effectiveness. In this usage, personality is the ability to elicit positive reactions from other people in one’s typical dealings with them. Less superficially, personality may be taken to be an individual’s most striking or dominant characteristic. Personality has also been defined as an individual’s unique and relatively stable patterns of behaviour, thoughts, and emotions (Burger, 1990; Carver and Scheier, 1992; Wallace, 1993). Thus, a wide range of definitions do exist to help us understand this concept of personality. But inspite of all the differences that exist among the various definitions, a common theme runs among them and hence unifying conceptions of personality, as well as a broadly acceptable definition have become possible. A good candidate for such a definition was offered by Pervin (1996) – “Personality is the complex organisation of cognitions, affects, and behaviours that gives direction and pattern (coherence) to the person’s life”. Like the body, personality also consists of both structures and processes and reflects both nature (genes) and nurture (experience). In addition, personality includes the effects of the past, including memories of the past, as well as constructions of the present and future.

4.5 Adolescent Personality

The search for the core personality traits that characterize people has a long history (Caspi &Shiner, 2006). Many researchers have been aimed at studying the personality of an individual at various age levels, of which the

most studied group is the period of adolescence. As expressed by Eisenberg (1965), adolescence as a distinct developmental stage is critical in terms of its impact on a changing society as well as the effect it has on the development of the individual. The development that occur in young people during early and middle adolescence present educators with serious challenges. Among the stresses faced by many adolescents is a need to change the image they have of themselves (Erikson, 1959, Blos1962). Simmons et al (1973), indicate that a disturbance of the self image is more likely to occur in adolescence than in early years. The findings suggest that the early adolescent has become more self conscious, less assured in his/her self esteem and in his picture of himself/ herself.

In many views, the self is the central aspect of personality. During adolescence , through self understanding, individuals develop an integrated sense of identity. In terms of personality traits, identity development can lead to both stability (the achievement of an identity) and change (the exploration of new identities and modification of personality traits) (Roberts & Caspi, 2003). Many psychologists argue that it is better to view personality not only in terms of traits, but also in terms of context and situations (Mischel, 2004). They believe that the trait approach ignores environmental factors and places too much emphasis on stability and change. The criticism was first levelled by social cognitive theorists, Walter Mischel, who argued that personality vary according to the situation. Thus adolescents might behave quite differently in different situations. Today, most psychologists are interactionists, believing that both traits and situation need to be taken into account in understanding personality (Block, 2002; Mischel, 2004; Roberts & Robins, 2002).

4.6 Description of the Personality Inventory for Adolescents

Though, personality have been studied and defined by different theorists, no single theory would explain every aspect of the complexities of human personality. In order to convert these personality theories from speculations about people into ideas that can be studied scientifically, assessment is found to be very essential. The term “personality assessment” refers to any procedure that is aimed at describing a person’s characteristic behaviour by categorising him/her with respect to some communicable dimensions. It reveals the forces that govern our lives, helps to find out what the unseen powers are that is within us which direct our success and well being, and also what we have to achieve in this life above anything else. But in order to study the individual as a whole, or in other words, to get a complete picture of an individual personality, it is very important to assess personality with respect to numerous variables, covering all the major concerns/areas of life. By using such a multidimensional assessment, a profile of an individual with regard to different dimensions may be obtained. Such a profile tends to give the relative predominance of the various defining characteristics of personality.

The variables selected for the personality inventory for adolescents are

1. Assertiveness
2. Inferiority complex
3. Emotional instability
4. Self control
5. Tolerance
6. Sense of well being
7. Self esteem
8. Sense of personal worth

9. Social skills
10. Adaptability
11. Sensitivity

The review of related literature (Buysse, 1997; Christie et al ,2006; Corey, 2006; Enblund et al, 2000; Eva, 2001; Gabhainn & Kelleher, 2000; Garaigordobil, 2006; Ha et al, 2008; Jay, 2006; Katja et al 2003; Kavin et al, 2003; Laugesen, 2003; Manuela et al ,2004; Mclean & Brean, 2009; Milot & Ludden, 2009; Ray et al , 2005; Robert & Robert, 2004; Runyon et al, 2009; Sherin et al , 2008; Thomas & Zand, 2007; Zuo, 2006) presented in chapter 2 shows that the above mentioned variables have a remarkable influence on adolescents and the present inventory is developed with a view to measure these variables.

The personality inventory contains eleven subscales capable of eliciting different components related to the personality of an adolescent. The descriptions are given below.

Assertiveness: refers to the ability to express their needs, wishes and feelings frankly, honestly and directly. Assertiveness is a behaviour or skills that helps to communicate, clearly and confidently our feelings, needs, wants and thoughts. It is the ability to say no to request, to state an opinion without being self conscious or to express emotions such as love, anger etc openly.

Inferiority complex : A psychological condition that exists when a person's feelings of inadequacy are so intense that daily living is impaired. Alfred Adler in 1907 introduced the concept and explained that it as a complex of emotionally toned ideas arising from repressed fear and

resentment associated with real or imagined inferiority , resulting either in compensation, in the form of pugnacity, or withdrawal into oneself.

Emotional Instability: refers to the state or qualities of being unstable or unsteady in handling the emotional dealings.

Self Control: refers to the ability to manage anxiety. High scorers generally have strong control over emotional life and behaviour in general. They show socially approved behaviours, behaviour control, persistence, foresight, and considerations of others.

Tolerance: refers to the quality of being able or willing to accept the behaviour of others. It is the capacity to withstand extreme condition or circumstances.

Sense of well being: refers to presence of positive marker characteristics that come about as result chance combinations of organisms, familial, community and societal elements. The state of well being is that in which the individual realises his or her own abilities, can work productively and fruitfully and is able to contribute to his or her community.

Self esteem: Self-esteem generally discuss it in terms of two key components: the feeling of being loved and accepted by others and a sense of competence and mastery in performing tasks and solving problems independently. Self esteem is considered as an important component of emotional health, and it encompasses both self-confidence and self-acceptance.

Sense of personnel worth: refers to the sense or feeling of being the same person, based mainly on common sensibility and continuity of aims, purposes and memories.

Social skills: refers to the abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life. It includes any skills necessary for competent social interaction, including both language and non verbal communication.

Adaptability: refers to the ability to make appropriate responses to changing circumstances. Those who score high on this variable readily accept any beneficial change to meet the environmental demands are said to be highly adaptable.

Sensitivity: Descriptions associated with high scores on this dimension include tender minded, dependent, overprotected, and insecurity. They prefer to use reason rather than force in getting things done.

4.6.1 Item Construction

The success of psychological tests depends largely upon the construction of effective and objective items which is composed and for that the following points were taken into consideration.

- ✓ In order to reduce overlapping among items it was decided to write items in sub variable wise.
- ✓ To ensure explicit items of the scale , it was written in such a way that can be simply comprehend by the individuals having even moderate knowledge of either Malayalam or English language.
- ✓ Similar words or sentences from one item to another were avoided.
- ✓ It was also kept in mind that the scale would not be lengthy one that it takes only a reasonable time for its completion.
- ✓ Care was given to include items for counterbalancing the response.

There was an initial pool of 220 items representing the eleven sub-scales. The entire set of items was given to experts in the related field for their

suggestions and modifications regarding the content and language. Accordingly, necessary modifications were made.

4.6.2 Administration and Instructions

Clear instructions in very simple language both in Malayalam and English were prepared and printed on the first page of the scale so that the respondent might be able to follow them before he or she starts responding to the items in the test. The items were also printed both in Malayalam and English languages. Responses on the items were elicited in terms of 5 point Likert scale. The respondents were provided with separate answer sheets to mark their responses. The subject could mark his/her responses for each item by placing a ✓ mark in the corresponding space given for each item.

The following are the instruction printed on the first page of the test.

Some statements are given below. Indicate how much you agree with each statement. There are five response categories, viz., A, B, C, D, and E , given in the response sheet . ‘A’ denotes ‘ strongly agree’ ; B denotes ‘agree’ ; C denotes ‘undecided’; D denotes ‘disagree’; and E denotes ‘strongly disagree’.

After reading each statement, indicate your response with a ✓ mark in the response sheet at the appropriate space. Please note; select C , only when you can’t say clearly whether you either agree or disagree with a statement. Do not omit any statement. Your response will be kept confidential and will be used for research purpose only.

4.6.3 Scoring

Scoring was done by using the separate keys for each variable. Five-point scale has been used to measure the various personality dimensions. There are positive and negative items in all the subscales and score of 5,4,3,2 or 1 is given for a positive item and a score of 1,2,3,4 or 5 is given for a negative item. In each section, the score ranges from a minimum of 20 and a maximum of 100. The draft scale has been printed along with the instructions. The scale was named as personality inventory for adolescents. A copy of the draft scale is given in appendix 5.

4.6.4 Sample for the item analysis

Kerala State is taken as the universe for the study. The sample selected for the study was plus two students studying in different school in Kerala. A total sample of 400 students studying in 11th and 12th classes was selected from different districts of Kerala using stratified random sampling method. Due importance were given for geographical, and socio economic and cultural representation while selecting the sample.

4.6.5 Item analysis.

The major aim of item analysis is to obtain objective information concerning the items written for the test. This information is valuable for the test author's subjective judgement for selecting the final items to compose the test and helping to modify or redefine the items. The researcher learns how the examinees react to items in general and to each items of the test in particular. By starting with a surplus number of items, the researcher could save the items that look better in terms of item analysis.

The item analysis of the Personality Inventory for adolescents was done using the Mathew Item Analysis Table (Mathew, 1982). This table gives item criterion correlation (Phi-coefficient) and percentage of subjects making the keyed answer (P value), from P values at the tails of the distribution according to the criterion.

4.6.6 Item selection

The response sheets were arranged in the order of the criterion score, which is usually the total score of the trial form of the test itself. The response sheets were arranged in an order and hundred response sheets each from the top and bottom were designated as 'upper tail' and 'lower tail' (the 25% of the subjects with the highest total score - upper tail, and the 25% of the subjects with the lowest total score - lower tail). For each item, count the number of testers giving the keyed answer (when there are five response categories, the two responses getting the larger weights in scoring can be considered as the keyed answer) in each of the tails. Calculated the percentages of individuals giving the keyed answer in each of the tails.

The details regarding the Pl, Pu, Phi and P values of adolescent personality inventory are presented in table no 4.1, 4.2 and 4.3.

Table no: 4.1

The Pl, Pu, Phi and P values of the sub scales, assertiveness and inferiority complex of the personality inventory for adolescents.

Assertiveness					Inferiority Complex				
Item No	Pl	Pu	Phi	P	Item No	Pl	Pu	Phi	P
1*	15	92	77	54	1	07	41	40	24
2	07	33	33	20	2*	17	88	71	53
3*	10	81	71	46	3	42	53	11	48
4	41	47	06	44	4	08	32	30	20
5	74	73	01	74	5	70	80	12	75
6*	52	93	46	73	6*	41	89	50	65
7	06	22	23	14	7*	47	91	48	69
8*	21	71	50	46	8	58	68	10	63
9*	41	92	54	67	9*	39	89	52	64
10*	30	91	62	61	10*	16	81	65	49
11	82	87	07	85	11	59	75	17	67
12*	46	97	57	72	12*	11	77	67	44
13*	39	94	58	67	13*	09	69	62	39
14*	06	86	80	46	14*	06	81	76	44
15	61	71	11	66	15*	33	84	52	59
16	58	64	06	61	16*	23	78	55	51
17*	09	74	66	42	17*	54	90	40	72
18	56	61	05	59	18	62	78	18	70
19*	11	81	70	46	19*	11	77	67	44
20*	14	69	56	42	20	79	84	06	82

** selected items*

Table no: 4.2

The Pl, Pu, Phi and P values of the sub scales, emotional instability and self control of the personality inventory for adolescents.

Emotional Instability					Self Control				
Item No	Pl	Pu	Phi	P	Item No	Pl	Pu	Phi	P
1*	04	59	59	32	1*	03	63	64	33
2*	54	99	53	77	2	30	55	25	43
3	32	33	01	33	3*	11	84	73	48
4*	05	61	60	33	4	04	19	24	12
5	13	29	20	21	5	21	44	25	33
6*	23	84	61	54	6	50	76	27	63
7	62	88	30	75	7	02	31	39	17
8*	35	89	56	62	8*	07	74	68	41
9*	09	69	62	39	9*	19	87	68	53
10*	15	86	71	51	10*	26	75	49	51
11	17	53	38	35	11	08	35	33	22
12	34	39	05	37	12	61	65	04	63
13*	12	83	71	48	13*	32	90	60	61
14	48	79	32	64	14*	10	79	69	45
15*	32	90	60	61	15*	02	84	83	43
16	29	56	27	43	16*	15	68	54	42
17	19	47	30	33	17*	18	78	60	48
18*	12	90	78	51	18*	29	88	60	59
19*	06	71	67	39	19	33	41	08	37
20*	14	69	56	42	20*	00	77	79	39

** selected items*

Table no: 4.3

The Pl, Pu, Phi and P values of the sub scales, tolerance and sense of well being of the personality inventory for adolescents.

Tolerance					Sense of Well being				
Item No	Pl	Pu	Phi	P	Item No	Pl	Pu	Phi	P
1*	39	89	52	64	1	5	15	17	10
2*	16	81	65	49	2*	27	82	55	55
3*	11	81	70	46	3	31	47	16	39
4*	32	92	62	62	4*	29	80	51	55
5	56	61	05	59	5*	53	98	52	76
6	32	52	20	42	6	04	19	24	12
7	08	32	30	20	7	63	69	06	66
8*	21	86	65	54	8	32	47	15	40
9	30	55	25	43	9*	30	79	49	55
10*	53	93	45	73	10*	3	91	88	47
11*	13	83	70	48	11*	08	88	80	48
12*	7	84	77	46	12*	53	93	45	73
13*	1	89	88	45	13	74	85	14	80
14	17	53	38	35	14	62	67	05	65
15	34	39	05	37	15*	17	72	55	45
16*	17	83	66	50	16*	25	75	50	50
17	62	73	12	68	17*	6	97	01	52
18*	8	83	75	46	18*	17	74	57	46
19	9	20	16	15	19	59	75	17	67
20*	4	89	85	47	20*	6	89	83	48

* selected items

Table no: 4.4

The Pl, Pu, Phi and P values of the sub scales, self esteem and sense of personal worth of the personality inventory for adolescents.

Self esteem				
Item No	Pl	Pu	Phi	P
1	8	19	16	14
2	26	32	7	29
3*	11	81	70	46
4	11	16	7	14
5*	49	95	51	72
6*	8	83	75	46
7*	53	93	45	73
8*	35	90	57	63
9*	18	83	66	51
10	21	44	25	33
11*	39	98	64	69
12*	10	87	77	49
13*	7	84	77	46
14	75	85	13	80
15	6	26	27	16
16*	38	90	54	64
17*	1	89	88	45
18*	31	85	55	58
19	33	42	09	38
20	22	28	07	25

Sense of personal worth				
Item No	Pl	Pu	Phi	P
1*	40	95	59	68
2*	36	86	51	61
3	10	16	9	13
4*	23	81	58	52
5	08	32	30	20
6	11	21	14	16
7*	31	91	62	61
8*	17	96	80	57
9*	46	93	51	70
10*	14	89	75	52
11*	7	83	76	45
12	26	46	21	36
13*	66	99	43	83
14*	8	83	75	46
15	19	24	06	22
16	32	33	01	33
17	40	41	1	41
18*	25	78	53	52
19	35	46	11	41
20*	6	84	78	45

* *selected items*

Table no: 4.5

The Pl, Pu, Phi and P values of the sub scales, social skills, adaptability and sensitivity of the personality inventory for adolescents.

Social Skills					Adaptability					Sensitivity				
Item No	Pl	Pu	Phi	P	Item No	Pl	Pu	Phi	P	Item No	Pl	Pu	Phi	P
1*	19	89	70	54	1	16	51	37	34	1*	14	81	66	48
2	39	49	10	44	2*	1	89	88	45	2*	39	93	57	66
3	63	69	06	66	3*	18	79	61	49	3*	35	86	52	61
4	35	40	5	38	4	9	39	35	24	4	08	32	30	20
5*	14	81	67	48	5*	52	97	52	75	5	63	69	06	66
6*	25	90	66	58	6	17	21	06	19	6*	13	87	74	50
7*	7	84	77	46	7*	13	86	73	50	7*	53	96	49	75
8*	33	83	51	58	8*	25	94	70	60	8*	25	92	68	58
9*	46	91	48	69	9	02	31	39	17	9	50	76	27	63
10*	8	83	75	46	10	27	43	17	35	10*	02	31	39	17
11*	11	81	70	46	11*	29	94	67	62	11	6	42	42	24
12	9	29	26	19	12	21	61	41	41	12	29	32	03	31
13	9	14	8	12	13*	7	84	77	46	13	19	29	12	24
14	12	49	39	31	14*	16	91	75	54	14*	8	83	75	46
15*	21	86	65	54	15	29	52	23	41	15*	26	88	63	57
16	59	75	17	67	16*	32	92	62	62	16	6	33	34	20
17*	31	90	60	61	17*	3	94	91	49	17*	5	86	81	46
18*	14	82	68	48	18	14	82	68	48	18*	18	77	59	48
19*	1	16	27	09	19*	6	94	88	50	19	31	42	11	37
20	85	90	08	88	20*	16	91	75	54	20*	11	83	72	47

* selected items

The final percentage needed for reading the item indices from the table are

- (a) P_l - Percentage of individuals in the lower tail marking the keyed answer, and
- (b) P_u - Percentage of individuals in the upper tail marking the keyed answer.

In the table, first locate the ' P_l ' value of the item given as heading. Then locate the ' P_u ' value of the item along the left margin and read the corresponding ' Φ ' and ' P ' values. The required number of items was selected from among items having the highest correlation value (Φ).

4.6.7 Final Scale

Out of the 220 items in the draft scale of the adolescent personality inventory, 132 items were selected for the final scale, in which 12 items each were selected from among the eleven sub-scales. The instructions and scoring procedures for the final scale were exactly the same as that of the draft scale.

4.6.8 Reliability

There are different methods for estimating the reliability of a test. For the present test, the test-retest method was used to find out the reliability. Test-retest method involves repetition of a test on the same group immediately or after the lapse of some days, and computation of correlations between the first and second set of scores. The correlation coefficient thus obtained indicates the extent or magnitude of the agreement between the two sets of scores and is often called the coefficient of stability.

Here the reliability was established separately for the eleven subscales. The final tool, after the item analysis, has been administered to the subjects for

collecting the data. From this, 200 subjects (100 males and 100 females) have been selected at random for calculating the test-retest reliability. Then, after a week the test was again administered to the identified 200 subjects and a second score was obtained. The correlation between these two sets of scores was calculated using Pearson Product Moment Correlations. The reliability coefficients of the eleven sub-scales are presented in the following table.

Table no 4.6

Reliability coefficient of all sub variables of the personality inventory for adolescents

Sl No	Variables	Reliability coefficient	Sl No	Variables	Reliability coefficient
1	Assertiveness	0.95	7	Self esteem	0.87
2	Inferiority complex	0.86	8	Sense of personal worth	0.81
3	Emotional instability	0.95	9	Social skills	0.83
4	Self control	0.94	10	Adaptability	0.92
5	Tolerance	0.91	11	Sensitivity	0.82
6	Sense of well being	0.83			

It is seen that the test retest reliabilities are quite satisfactory, running between 0.81 and 0.95 for the complete test.

Validity

Validity of a test or evaluation device can be defined as the degree to which the test measures and what it intends to measure. There are different types of validity meant for different purposes. For the personality inventory, it could be claimed that the scale has face validity, as the items are prepared on the basis of the various components of personality and also because the final scale has been prepared after item analysis.

Multi Assessment of Personality Scale, which yields twenty aspects of personality, was used as a criterion scale to estimate the validity of the personality inventory. The validity coefficients of the eleven sub scales are presented below.

Table no 4.7

Validity coefficients of all variables of the personality inventory for adolescents

Sl No	Variables	Validity Coefficient	Sl No	Variables	Validity Coefficient
1	Assertiveness	0.82	7	Self esteem	0.92
2	Inferiority complex	0.71	8	Sense of personal worth	0.87
3	Emotional instability	0.83	9	Social skills	0.71
4	Self control	0.73	10	Adaptability	0.95
5	Tolerance	0.94	11	Sensitivity	0.84
6	Sense of well being	0.83			

The final scale of the personality inventory for adolescents comprises of eleven sub scales and copy of the final scale is presented as appendix 6

RESULTS AND DISCUSSION

-
- Inter correlation
 - Multiple regression analysis
 - Comparison of pre and post assessment scores
 - Control group – comparison of pre and post assessment scores
 - Experimental group 1 – comparison of pre and post intervention scores
 - Experimental group 2 – comparison of pre and post intervention scores
 - Experimental group 3 – comparison of pre and post intervention scores
 - One way ANOVA
 - Recap
-

The present study is an attempt to find out the behavioural problems and other related factors of plus two students and to develop an intervention plan. The study is designed in such a way that it should elicit maximum information without affecting the quality and cost effectiveness. There are two parts for the present study, an exploratory study and an experimental study. The results and discussion also presented under two parts.

Part 1

The first part of the study is an exploratory one to find out the behaviour problems and other related traits of plus two students on various dimensions using a set of standardised tools. A total of 400 plus two students were taken as sample for the present part of the study. The attempt is to see if there is any systematic relationship between two or more variables, correlation design was used. The first part of the result and discussion is based on the analysis used in the exploratory study.

The first part of the work was analysed using correlation analysis and stepwise regression. Correlation is a measure of bivariate relationship between two variables. In present study coefficient of correlation is used as a precise estimate of the direction and degree of relationship between pairs of variables. A coefficient of correlation is a single member, that tells us to what extent two variables are related, that is to what extent variation in one goes with variation in the other. Inter correlations of all the study variables are carried out as first step. This was followed by stepwise regression analysis. The stepwise regression analysis was done to find out the predictor variables, which may best predict behaviour problems of adolescents. Keeping eleven personality variables and state and trait dimensions of anxiety, curiosity and anger and depression as independent variables and the behaviour problems as dependent variables, the analysis carried out. The stepwise regression analysis was done not only to select

the set of variables that best predict behaviour problems but also to eliminate superfluous predictor variables.

Part 2

This part of the study aims to find out the efficacy of the newly developed intervention plan to manage the behaviour problems of plus two students. Before match after multilevel design (multiple treatment design) was used to find out the efficacy of the newly proposed intervention package to address various behaviour problems of the plus two students. For the present purpose 200 samples were taken and then screened for matching process using the overall behaviour problem score. 80 samples were taken based on high score in behavioural problem and randomly assigned (20 each) to four groups, as it decided to have four groups for the study. Out of the four group, one group treated as control group and the three other are taken as experimental groups. The experimental group 1 was given GSPR as intervention technique, experimental group 2 was given CBC and the experimental group 3 was given GSPR and CBC together as per the procedure stated in the methodology chapter. One way ANOVA, and matched t test were used to analyse the data.

The result and discussion based on t test was presented first. The t test was done to find out whether there exist any significant differences between the pre intervention scores and post intervention scores on personality variables, behaviour problem variables, depression and state and trait dimensions of anxiety, curiosity and anger. The results and discussion of the control group presented first followed by the experimental groups under separate headings. This was followed by the results and discussions of the analysis of variance calculated separately for the pre and post test scores of all the four groups, namely, control group, experimental group1,

experimental group 2 and experimental group 3. These groups were tested for ANOVA to find out if they differ significantly among themselves in the different variables studied. The analysis carried out separately for the personality variables, behaviour problems variables, state and trait dimensions of personality variables and for depression. The F values followed by a comparison of the mean values of the control group and the three experimental groups were also attempted and discussed. An attempt is also made to find out the effectiveness of each intervention technique in managing the behaviour problems and other traits.

Section 1

5.1 - INTER CORRELATION BETWEEN BEHAVIOUR PROBLEM VARIABLES, PERSONALITY VARIABLES, STATE- TRAIT DIMENSIONS OF ANXIETY, CURIOSITY, ANGER AND DEPRESSION.

Inter correlations were found for the entire data. There were 26 variables altogether, comprises of 11 personality variables and , 8 variables related to various behaviour problems including an overall behaviour problems, 6 variables related to state and trait dimensions of anxiety, curiosity and anger, and depression.

Out of the total 325 correlations, 315 were significantly correlated. In that 298 of them were significant at 0.01 level and 17 of them were significant at 0.05 level (table No 5.1). The highest correlation was found between personal problems (0.866) and overall behaviour problems.

5.1.1 CORRELATION BETWEEN BEHAVIOUR PROBLEM AND PERSONALITY VARIABLES.

Out of the 96 correlations obtained between different personality variables and behaviour problem variables, 89 correlations were found significant at 0.01 level. Of which 65 were negatively correlated and the remaining 24 were positively correlated.

The highest significant positive correlation was found between emotional problems and emotional instability (0.639). Emotional problems are also positively and significantly related with inferiority complex (0.522) and

sensitivity (0.562). Emotional problems have showed significant negative correlation with assertiveness (-0.173), self control (-0.483), tolerance (-0.507), sense of well being(-0.513), self esteem (-0.545), sense of personal worth (-0.504), social skills (-0.445), and adaptability (-0.279), all are significant at 0.01 level. Although the increased cognitive abilities and awareness of adolescents prepare them to cope more effectively with stress and emotional fluctuations, many adolescents do not effectively manage their emotions. As a result, they may become prone to depression, anger, and poor emotional regulation. (Santrock, 2007).

Academic problems are positively and significantly related with inferiority complex (0.347), emotional instability (0.412), and sensitivity (0.273). Negative significant relations were found between academic problems and the personality variables such as, self control (-0.370), tolerance (-0.306), sense of well being (-0.390), self esteem (-0.406), sense of personal worth (-0.402), social skills (-0.347), and adaptability (-0.263). As this trait becomes lesser in adolescents, the more academic problems they experience. Dryfoos, (1990,1997) identified the four problems that affect most adolescents are school related problems, sexual problems, juvenile delinquency and drug abuse.

Social problems correlated positively and significantly at 0.01 level with inferiority complex (0.428), emotional instability (0.437) and sensitivity (0.437). Both hormonal changes and environmental experiences are involved in the changing emotions of adolescence, so is the young person's ability to manage his or her emotions (Saarni et al 2006). Here it has been found that, presence of inferiority complex, emotional problems, and sensitivity leads to the experience of higher levels of social problems.

Significant negative correlations were found between social problems and self control (-0.404), tolerance (-0.468), sense of well being (-0.505), self esteem (-0.408), sense of personal worth (-0.449), social skills (-0.355), and adaptability (-0.182). Absence of these traits in an adolescent, leads to the experience of higher levels of social problems.

Personal problems showed a significant positive correlation between inferiority complex (0.524), emotional instability (0.519) and sensitivity (0.409), significant at 0.01 level. The more inferiority complex, emotional instability, and sensitivity present in adolescents, the higher the personal problems experienced by them. Personal problem showed a negative linear relationship with assertiveness (-0.132), self control (-0.451), tolerance (-0.456), sense of well being (-0.518), self esteem (-0.523), sense of personal worth (-0.482), social skills (-0.430), and adaptability (-0.198). This means that lower scores on these variables may lead to increased personal problems.

Family problems showed significant positive relationships, at 0.01 level with inferiority complex (0.402), emotional instability (0.354) and sensitivity (0.323). This shows that an increase in these variables results in an increase in family problems. Family problems are negatively and significantly related with self control (-0.355), tolerance (-0.399), sense of well being (-0.515), self esteem (-0.265), sense of personal worth (-0.358), social skills (-0.210), and adaptability (-0.178). Decrease in the level of these traits leads to an increase in family problems.

Sexual problems have showed positive significant relationships with inferiority complex (0.355), emotional instability (0.306), sensitivity (0.229), significant at 0.01 level. Presence of these personality variables

leads to sexual problems in adolescents. Sexual problems found significant negative correlation with self control (-0.351), tolerance (-0.290), sense of well being (-0.329), self esteem (-0.211), sense of personal worth (-0.259), social skills (-0.289), and adaptability (-0.195). These are also significant at 0.01 level. Lower scores on these dimensions may be contributing factor for increased sexual problems.

Health problems are positively and significantly related with inferiority complex (0.379), emotional instability (0.413), and sensitivity (0.411) level. Presence of inferiority complex, emotional instability, and sensitivity leads to the presence of health problems. Health problems showed a significant negative correlation with self control (-0.304), tolerance (-0.425), sense of well being (-0.462), self esteem (-0.366), sense of personal worth (-0.368), and social skills (-0.284). When self-control, tolerance, sense of well-being, and self-esteem decreases in an individual there is an increase in the health problems.

The overall behaviour problem score is also significantly related (0.01 level) with inferiority complex (0.545), emotional instability (0.570) and sensitivity (0.487). The overall behaviour problem score has a significant negative correlation with self control (-0.5020), Tolerance (-0.525), Sense of well being (-0.599), Self esteem (-0.505), Sense of personal worth (-0.519), Social skills (-0.436), and Adaptability (-0.257), which are also significant at 0.01 level.

Problem behaviours in adolescents can have serious consequences for the adolescents, their family and friends, their schools, and society. Child and adolescent health practitioners frequently report that problem behaviours are the most common reason they see clients in their practices (Lahey et al.,

2000). Nurses, often with great access to adolescents and their parents through school settings, primary health care offices, and public health departments are well positioned to assess, educate, and intervene with adolescents, school personnel and parents.. Emotional turmoil, distorted thoughts, inappropriate learning, and troubled relationships are some of the psychological factors that have been proposed as causing adolescent problems (Santrock, 2007). These findings supports the present investigation and its results that different personality variables such as emotional instability, inferiority complex, sensitivity, sense of well being , tolerance, self control, self esteem, social skills, sense of personal worth, and adaptability has correlation with behaviour problems.

5.1.2 CORRELATION BETWEEN BEHAVIOUR PROBLEMS AND STATE AND TRAIT DIMENSIONS OF ANXIETY, CURIOSITY AND ANGER.

A total of 48 correlations were found and 38 were significantly related at 0.01 level. The highest correlation found between trait anxiety and the overall behaviour problem (0.561) score.

State anxiety is positively related with emotional problems (0.524), academic problems (0.316), social problems (0.417), personal problems (0.493), family problems (0.391), sexual problems (0.313), health problems (0.460), and the overall behaviour problem (0.538) score and all are significant at 0.01 level. This shows that all the seven variables and the overall behaviour problems are significantly and positively related with state anxiety.

Some adolescent's high anxiety levels are the results of parent's unrealistic achievement expectations and pressure. For many individuals, anxiety increases across the school years as they" face more frequent evaluation, social comparison, and (for some) experiences of failure" (Eccles et al, 1998).

State curiosity have showed a significant negative correlation with emotional problems (-0.167) at 0.01 level and health problems (-0.105) and the overall behaviour problem (-0.105) which are significant at 0.05 level.

State anger obtained a significant positive correlation with emotional problems (0.323), academic problems (0.238), social problems (0.251), personal problems (0.289), family problems (0.253), sexual problems (0.236), health problems (0.239) and the overall behaviour problem (0.337) score at 0.01 level.

Trait anxiety is positively correlated with emotional problems (0.534), academic problems(0.406), social problems(0.431), personal problems (0.529), family problems (0.352), sexual problems (0.339), health problems (0.437), and overall behaviour problems (0.561), significant at 0.01 level.

Trait curiosity is positively related with sexual problems (0.108), significant at 0.05 level and negatively correlated with emotional problems (-0.102), significant at 0.01 level. From this it can be said that as the trait curiosity increases sexual problems also increases.

Trait anger is positively related with emotional problems (0.334), academic problem (0.291), social problem (0.346), personal problems (0.323), family problem (0.270), sexual problem (0.245), health problem (0.233), and

overall behaviour problem (0.378) score, which are significant at 0.01 level. This study reveals the fact that as the trait anger increases, the problems related to different areas like social, family, health, academic, emotional, and personal are also increases.

Those adolescents who are not able to cope successfully with the increased emotional burden of adolescent life may experience negative consequences, including proneness to depression and feelings of shame, anxiety, pathological anger, and emotional volatility (Rosenblum,2006).

5.1.3 CORRELATION BETWEEN VARIOUS CATEGORIES OF BEHAVIOUR PROBLEM AND DEPRESSION.

There exist a significant positive correlation at 0.01 level between depression and all behaviour problem variables. Emotional problems (0.593), academic problems (0.447), social problems (0.457), personal problems (0.581), family problems (0.430), sexual problems (0.355), health problems (0.461) and the overall behaviour problem score (0.614).

The behavioural problems most likely to cause adolescents to be referred to a clinic for mental health treatment were feelings of unhappiness, sadness, or depression, and poor school performance and difficulties in school achievement (Santrock, 2007). Social factors that influence the development of adolescent problems include neighbourhood quality (Brown & Adler,1998). Depression is associated with concentration problems and motivational deficits from lead to serious academic difficulties. Social withdrawal impairs interpersonal relationships (Kovacs et al., 1984).Stressful life events and family disruption predicted increases in helplessness and decreases in perceived control. Family problems may be particularly salient for adolescents with longstanding depression (Olsson et al., 1999).

5.1.4 CORRELATION BETWEEN PERSONALITY VARIABLES AND STATE AND TRAIT DIMENSIONS OF ANXIETY, CURIOSITY AND ANGER.

State anxiety has a significant positive correlation, at 0.01 level with inferiority complex (0.407), emotional instability (0.471) and sensitivity (0.466). Similarly trait anxiety is also positively correlated (0.01 level) with inferiority complex (0.474), emotional instability (0.527) and sensitivity (0.409). State anxiety is negatively correlated with self control (-0.380), tolerance (-0.387), sense of well-being(-0.455), self esteem (-0.512), sense of personal worth (-0.553), social skills (-0.381), and adaptability (-0.189). This means that as the level of state anxiety increases in individuals, there is a decrease in the traits such as self-control, tolerance, sense of well-being, self-esteem, sense of personal worth, social skills and adaptability.

Trait anxiety is negatively correlated with assertiveness (-0.139), self control (-0.452), tolerance (-0.408), sense of well being (-0.461), self esteem (-0.589), sense of personal worth (-0.525), social skills (-0.419),and adaptability (-0.238) .This means that higher the level of trait anxiety, the lower the level of these personality variables.

State curiosity is positively related with assertiveness (0.183), self esteem (0.164), and sense of personal worth (0.195), significant at 0.01 level. Trait anger is positively related with assertiveness (0.160) at 0.01 level.

State anger is negatively correlated with inferiority complex (0.342), emotional instability (0.368), and sensitivity (0.309), significant at 0.01 level. State anger obtained a negative correlation with self control (-0.367), tolerance (-0.264), sense of well being (-0.334), self esteem (-0.286), sense of personal worth (-0.402), social skills (-0.273), and adaptability (-0.212).

Trait anger is positively related with inferiority complex (0.368), emotional instability (0.431) and sensitivity (0.333), significant at 0.01 level. Trait anger is negatively correlated with self control (-0.422), tolerance (-0.418), sense of well being (-0.353), self esteem (-0.337), sense of personal worth (-0.334), social skills (-0.304), and adaptability (-0.336).

5.1.5 CORRELATION BETWEEN DEPRESSION AND PERSONALITY VARIABLES

Depression is positively related with inferiority complex (0.536), emotional instability (0.537) and sensitivity (0.493), significant at 0.01 level. On the other hand depression is negatively correlated (significant at 0.01 level) with self esteem (-0.630), sense of personal worth (-0.566), assertiveness (-0.151), self control (-0.469), tolerance (-0.468), sense of well being (-0.497), social skills (-0.566), and adaptability (-0.278). Higher scores on inferiority complex, emotional instability, and sensitivity paves the way to depression. Satisfaction with one's body image is related to adolescent's reports of depression (Grant et al., 1999). This supports the finding that lack of sense of well-being, self-esteem, sense of personal worth, assertiveness, self-control, tolerance, social skills, and adaptability may lead to depression. Depressed adolescents tend to ascribe negative attributes to themselves and evaluate their performance as evidence of personal inadequacy and social ineptitude (Carlson & Kashani, 1988, Rutter, 1986). When depression occurs in during adolescence, some symptoms of depression are especially common, including social withdrawal, academic problems, physical complaints, poor appetite, avoidance of eye contact and crying. Irritability and aggression may also be considered part of the diagnostic picture (Pfeffer, 1996).

5.1.6 CORRELATION BETWEEN DEPRESSION AND STATE AND TRAIT DIMENSIONS OF ANXIETY, CURIOSITY AND ANGER.

Except state curiosity, all other variables of state trait personality variables are positively related with depression. State anxiety (0.598) significantly related with depression at 0.01 level. State anger (0.504), trait anxiety (0.744), trait anger (0.544), are also significantly related at 0.01 level with depression. Presence of state and trait anxiety, state and trait anger increases the chances for depression in the subject.

5.1.7 INTER CORRELATIONS AMONG DIFFERENT PERSONALITY VARIABLES.

In the inter correlation among different personality variables (55), there were 51 significant correlations at 0.01 level. Two of them were significant at 0.05 levels. There were 24 negative correlations in the present sample shows there are variables which are inversely related to each other. They reflect a negative linear relationship between them, which means the two variables are measuring the similar traits but one measurement varies inversely to the other.

Assertiveness, is significantly related with self control (0.153), self esteem (0.308), social skills (0.289), adaptability (0.124), and sense of personal worth (0.181). It was found that these variables, such as self control, self-esteem, sense of personal worth, adaptability and social skills have a positive correlation with assertiveness, which means the presence of these variables leads to the presence of assertiveness. A significant negative correlation observed between assertiveness and inferiority complex (-0.168), emotional instability (-0.219) and sensitivity (-0.131). Experiencing inferiority complex, emotional instability and sensitivity leads to lack of assertiveness in the subjects. Assertiveness is a behaviour or skill that helps

to communicate, clearly and confidently, our feelings, needs, wants, and thoughts. People who are assertive, feel confident and have high self-esteem and a solid sense of one's own identity.

Inferiority complex is significantly related with emotional instability (0.595) and sensitivity (0.430). A positive correlation of these two variables with inferiority complex indicates that they have a direct influence on the latter. Inferiority complex found to have negative linear relationship with variables such as, self control (-0.502), tolerance (-0.428), sense of well being (-0.503), self esteem (-0.581), sense of personal worth (-0.554), Social skills (-0.497), and adaptability (-0.253). From this it is clear that as inferiority complex increases, the sense of well-being, self-esteem, sense of personal worth, self control, social skills, and adaptability decreases and vice versa.

Emotional instability was found significantly and positively related with sensitivity (0.566). Subjects who possess high level of sensitivity tend to have emotional instability in their personality. This variable showed highly significant negative relationship with self control (-0.576), tolerance (-0.546), sense of well being (-0.568), self esteem (-0.620), sense of personal worth (-0.513), social skills (-0.492), and adaptability (-0.314). This means that a high score in emotional instability leads to the less self control, tolerance level, sense of well-being, sense of personal worth, social skills, and adaptability. Adolescence has been described as a time of emotional turmoil (Hall, 1904). Young adolescents can be on top of the world one moment and down in the dumps the next. In many instances, the intensity of their emotions seems out of proportion to the events that elicit them (Steinberg & Levine, 1997).

Self control is significantly related with tolerance (0.492), sense of well

being (0.518), self esteem (0.532), sense of personal worth (0.500), social skills (0.385), and adaptability (0.342). Individuals, who have self control, also have tolerance, a good sense of well-being, self-esteem, a sense of personal worth, social skills and adaptability in their environment. Self control has observed a negative linear relationship with sensitivity (-0.431). This indicates that the presence of sensitivity leads to lack of self control in an individual.

Tolerance refers to the quality of being able or willing to accept the behaviour of others. It is the capacity to withstand extreme condition or circumstances. Tolerance, is found significantly related with sense of well being (0.548), self esteem (0.447), sense of personal worth (0.437), social skills (0.329), and adaptability (0.209). . Tolerance showed a significant negative correlation with sensitivity (-0.498). As sensitivity increases it results in a decrease in the level of tolerance in the subjects.

Sense of well being, was found significantly and positively related with self esteem (0.496), sense of personal worth (0.553), social skills (0.403), and adaptability (0.161). Sense of well-being is one's insight into one's own emotional states, needs, strengths and weakness. This will definitely help an individual to set the right standards for oneself and be satisfied with the outcomes of one's own performances. Well- being in children is usually equated with the absence of problem behaviour and the presence of positive behaviours that reflect academic, interpersonal, athletic, and artistic success. (Marc,et. al.,2003) Sensitivity is negatively related with sense of well being (-0.424). This means that the more a person has the trait sensitivity in his/her personality, the less sense of well-being will be there with him.

Self esteem, is positively and significantly related with sense of personal worth (0.653), social skills (0.544), and adaptability (0.269) . A significant negative correlation found between self esteem and sensitivity (-0.470). Self-esteem (Erikson,1959) is a feeling about the self, which tends to remain constant across life and gives the person a coherent psychological basis for dealing with the demands of social reality. Many studies have found high self-esteem to be a strong predictor of emotional well-being (Diener, 1984). Adolescents with low self-esteem are self conscious and overly vulnerable to criticism or rejection, which testifies to their inadequacy, incompetence or worthlessness (Rosenthal and Simeonsson, 1989).

Sense of personal worth has showed a significant relationship with social skills (0.493), and adaptability (0.295). A strong sense of one's self-worth and capabilities paves the way to adaptability and acquisition of social skills. The correlation between sense of personal worth and the other two variables shows a positive relationship in the present sample. Covington, (2002), explained that in order to strengthen the link between your effort and self-worth, take pride in your effort and have positive beliefs about your abilities. This supports the above finding that the presence of sense of personal worth leads to the development of social skills and adaptability. A negative linear relationship found between sensitivity and sense of personal worth (-0.413). As the level of sensitivity increases in one's personality, the sense of personal worth decreases in his personality.

Social skills, are abilities for adaptive and positive behaviour that enable individuals to deal effectively with the environment. Social skills showed a significant positive relationship with adaptability (0.387) and negatively related with sensitivity (-0.337). According to Morris (1992),and Wentzel and Erdley,(1993) one of the principle ways adolescents find group

acceptance is by developing and exhibiting personal qualities that others admire and by learning social skills that ensure acceptance. Sensitivity and adaptability are negatively related with one another (-0.118). Higher level of sensitivity in an individual leads to lower levels of adaptability in the environment.

5.1.8 INTER CORRELATION AMONG BEHAVIOUR PROBLEM VARIABLES.

Twenty eight significant correlations (0.01 level) were found while statistically analysing the inter correlation among various behaviour problem variables. There was no negative correlation among any of these variables. The highest correlation found between the overall behaviour problem score and personal problems (0.866). Overall behaviour problems are positively related with social problems (0.815), health problems (0.770), emotional problems (0.771), academic problems (0.765), family problems (0.783) and sexual problems (0.671). The results shows that all the behaviour problem variables has a significant relationship with the overall behaviour problem score Adolescents are at high risk for the development of problem behaviours that are distressing and socially disruptive (Bartlett, et al, 1997).

Emotional problems were found to have a significant relationship with social problems (0.605), academic problems (0.531), personal problems (0.651), family problems (0.511), sexual problems (0.359), health problems (0.525) and a high correlation with the overall behaviour problem score (0.771). For generations, Western culture has viewed adolescence as a period of emotional upheaval and turmoil(Arnett,1999).Historically, development from childhood into adolescence has been thought to include an increase in the intensity of emotions, the experience and expression of

emotional liability or “mood swings”(Hall,1904), and an increase in negatively balanced emotions(Freud,1969).

Academic problems have significant relationship with social problems (0.614), personal problems (0.646), family problems(0.468), sexual problems(0.440), health problems(0.465), and the overall behaviour problem score(0.765) and all are at 0.01 level. Schools are formal organizations and have their own characteristics such as values, norms activities, and everyday routines that can impact on adolescent’s intellectual, social, emotional and behavioural development. (Eccles et al, 2003).

Social problems are highly related with personal problems (0.673), family problems (0.593), sexual problems (0.421) and health problems (0.524). These variables show a positive and significant relationship with social problems.

Personal problems are positively related with health problems (0.610), sexual problems (0.505), and family problems (0.615) and the overall score of behaviour problems (0.866). Compas et al., (1989) noticed that young people’s concerns were considered across a number of problem modalities: namely, family stresses, peer stresses, academic stresses, intimacy stresses and network stresses.

Family problems were found to have a positive relationship with health problems (0.600), sexual problems (0.504), and the overall score of behaviour problems (0.783). Bronfenbrenner (1977) pointed out that the family, the school, and the peer groups each influence adolescent development. Compass et.al., (1989) reported that for adolescents, family stressors (such as pressure or expectations from parents),peer stressors(fights and problems with friends),and academic stressors (like

doing poorly on an exam paper) that proved to be the best predictors of psychological symptoms.

Sexual problems and health problems were found contributing (0.470) to the overall behaviour problem score (0.671) and are significant at 0.01 level. The many biological changes that begin with the onset of puberty continue to influence the individual beyond the initial onset (Feldman & Elliott, 1990). The bodily and hormonal changes no doubt influence self-image, which in turn exerts an impact on a host of psychological variables (Coleman, 1987). Adolescence is a time when sexual needs and sexual identity issues come into prominence (Lerner & Spanier, 1980).

It has been found that Health problems have a vital role in the overall score for behaviour problems, significantly correlated (0.770) at 0.01 level. Adolescence is a critical juncture in the adoption of behaviours that are relevant to health. (Maggs et al 1997 and Roth et al, 2003).

All variables of behaviour problems are found to have high significant relationship with the overall behaviour problem of the adolescent.

5.1.9 INTER CORRELATION BETWEEN STATE AND TRAIT DIMENSIONS OF ANXIETY, CURIOSITY AND ANGER.

There were 21 inter correlation found among the state and trait dimensions of different variables. Of which, 16 of them has significant correlation at 0.01 level (13 positive and 3 negative correlations and 3 variable has significant correlation at 0.05 level)..

State anxiety is positively related with state anger (0.400), trait anxiety (0.598) and trait anger (0.254). They are all significant at 0.01 level. This shows that anxiety and anger are positively correlated. A significant negative linear correlation was found between state anxiety, state curiosity(-0.188) and trait curiosity (-0.135). They are significant at 0.01 level. Trait anxiety is also positively and significantly related with trait anger (0.383) at 0.01 level, which means that presence of trait anxiety results in the presence of trait anger.

State curiosity was found high significant relation with trait curiosity(0.676) and trait anger (0.157). state and trait curiosity are positively correlated with trait anger. Negative correlation found between state curiosity and trait anxiety (-0.208). Trait curiosity is related significantly with trait anger (0.306) at 0.01 level.

State anger is significantly related with trait anxiety (0.434) and trait anger (0.461) at 0.01 level. Trait curiosity and state anger are positively related at 0.05 level. This shows that state anger, trait anger, and trait curiosity go hand in hand.

Section 2

5.2 - Multiple Regression Analysis

The section dealt with the details of multiple regression analysis. The stepwise regression analysis was done to find out the predictor variables, which may best predict behaviour problems of adolescents. Keeping personality variables (11) and state and trait dimensions of anxiety, curiosity and anger (6) and depression as independent variables and the overall behavior problems as dependent variable, carried out the step wise regression .

5.2.1 Multiple Regression Analysis – Emotional problem as criterion variable

In this analysis the dependent variable is Emotional Problems (EMOTP) and eleven personality variables, six variables of state- trait dimensions of anxiety, anger, curiosity and depression are considered as independent variables Stepwise regression analysis was carried out to find out the maximum possible variance in emotional problems that can be explained with the help of each of the independent variables. The summary of the multiple regression analysis is given in table (5.2).

Table no 5.2

Multiple regression analysis (Step wise) the emotional problems as criterion variable

Independent Variable	Multiple Regression R	F value for R	R ²	SE for R	Partial Regression coefficient 'b'	Constant	Beta coefficient B
Emotional instability	0.639	274.559 (1,398)	0.408	5.638	0.566	-2.701	0.639
Depression	0.704	195.519 (2,397)	0.496	5.208	0.399 0.337	-7.740	0.450 0.352
Sensitivity	0.724	145.759 (3,396)	0.525	5.065	0.319 0.282 0.227	-11.943	0.360 0.295 0.213
Sense of well being	0.734	115.177 (4,395)	0.538	4.998	0.268 0.247 0.214 -0.139	-2.946	0.302 0.258 0.201 -0.148
Trait curiosity	0.740	95.619 (5,394)	0.548	4.951	0.254 0.254 0.214 -0.148 -0.198	1.522	0.287 0.265 0.201 -0.157 -0.100
Adaptability	0.744	81.058 (6,393)	0.553	4.930	0.233 0.239 0.225 -0.152 -0.198 -0.097	6.373	0.263 0.250 0.211 -0.162 -0.100 -0.075
State anxiety	0.747	70.585 (7,392)	0.558	4.912	0.229 0.203 0.210 -0.140 -0.171 -0.096 0.174	3.944	0.258 0.213 0.197 -0.149 -0.086 -0.074 0.090

The first variable entered in the analysis was Emotional Instability (EMOIN) which is found as the most important variable in the prediction of Emotional Problems. Multiple regression value for (R) this variable is 0.639 and it is significant at 0.01 level ($F= 274.55$, for 1, 398 df). The R signifies the strength of the interaction between dependent and independent variable and it is 63.9% at this stage.

The value of R^2 (0.408) proves that 40.8% of variance in emotional problems contributed by the variable emotional instability. The partial regression coefficient (b) shows that for each unit increment in EMOIN there will be 0.566 unit increment in emotional problems.

The equation for this will be: $EMOTP = -2.701 + 0.566 (EMOIN)$

It has been found that Emotional instability (EMOIN) is the first and the best predictor of emotional problems of a person and it leads to other behavior problems. During adolescence, individuals irrespective of gender face ample problems as this period is a time of heightened emotional tension resulting from the physical and glandular changes taking place. When adolescents cannot find adequate ways in which to regulate the emotions associated with increased emotionality, they are at risk for depressed moods and various types of problem behaviours. (Silk et al., 2003).

The second most significant variable in the analysis was Depression (DEPRE), with the R value 0.704 significant at 0.01 level ($F = 195.51$, for 2, and 397 df). The strength of the interaction between the two independent variables put together to the dependent variable is 70.4%.

The value of R^2 (0.496) predicts the variance accounted for Emotional Problems by EMOIN and DEPRE together is 49.6%. The proportion of

contribution to the dependent variable by these independent variables is shown by the value of 'b' i.e., for every unit change in EMOIN and DEPRE says that every unit of increment in DEPRE there will be 0.337 unit increment in emotional problems.

The equation at this point will be: $EMOTP = -7.740 + 0.339(EMOIN) + 0.337(DEPRE)$.

Depression has a vital role in contributing to emotional problems. Emotional problems such as increased frequency of negative emotions can lead to depressed mood in adolescence (Arnett,1999). In the present analysis depression has a strong influence in causing emotional problems. The state of depression affects an individual's ability to think rationally, feel realistically, and work effectively. Some of the symptoms and attitudes are sadness, sense of failure, dissatisfaction, self-dislike, work inhibition, sleep disturbance, loss of appetite etc. Here it has been found that Depression is a factor that contributes to emotional problems of an individual.

The third factor entered in the analysis was Sensitivity (SENSA), the R value was 0.724, significant at 0.01 level ($F = 145.75$, for 3, and 396 df). The value of R^2 (0.525) shows that the percentage of variance contributed to emotional problems by the three independent variables (EMOIN, DEPRE, and SENSA) are 52.5%.

The values of 'b' show the degrees to which each variable contributes to the emotional problems. For every unit of change in EMOIN, DEPRE and SENSA there will be 0.319, 0.282, and 0.227 units of change in the dependent variable. The regression equation at this stage will be:

$EMOTP = -11.943 + 0.319(EMOIN) + 0.282(DEPRE) + 0.227(SENSA)$.

The 'b' value of SENSEA shows that, as sensitivity increases the value of dependent variable also increases and vice versa. Sensitivity is a component of personality, which is related to the tendency to respond to very low levels of physical stimulation. Larson and Asmussen (1991) found that adolescents were more reactive and sensitive to past and future events. Adolescents were also more sensitive to smaller events throughout their day than were younger children. Adolescents are able to attend to more subtle cues, hold and examine complex events in the memory, and anticipate the implications of future events (Gianine, et.al. 2006). This supports the present finding that sensitivity is a major contributor to emotional problems.

The fourth most significant contributing variable that was entered in the analysis was Sense of Well-being (SEWL). The multiple regression value (R) was 0.734, which was significant at 0.01 level (F=115.17, for 4, and 395 df). The value of R shows that the strength of interaction between the four independent variables together on the dependent variable was 73.4%. The 'b' value shows that for every unit of change in EMOIN, DEPRE, SENSEA and SEWL, there will be 0.268, 0.247, 0.214 and -0.139 unit change in the dependent variable.

The equation at this stage will be:

$$\text{EMOTP} = -2.946 + 0.268(\text{EMOIN}) + 0.247(\text{DEPRE}) + 0.214(\text{SENSEA}) - 0.139(\text{SEWL}).$$

Sense of well being is a component of personality which definitely is connected with a balanced personality. The higher the sense of well being in a person, the lower the behaviour problems. From this analysis it has been found that, a negative 'b' value of SEWL shows that as sense of well being decreases there is an increment in the emotional problems.

Individuals evaluate their lives in terms of whether they feel good about it, function well personally, and socially. Hence the absence of sense of well-being leads to the experience of emotional problems.

Curiosity means the desire or inclination to know or learn about anything, ranging from what is novel or strange to a desire of knowing what one has no right to know. Some of the factors for assessing curiosity are inquisitiveness, studiousness, concernedness, solicitousness, mental activity etc.

The fifth factor contributing to emotional problem was Trait Curiosity (TRACY) with the R value of 0.740 which was significant at 0.01 level (F=95.61, for 5, and 394df). This means the strength of relationship between dependent variable and all the five independent variable entered including the addition of TRACY, is 74%. The 'b' value of TRACY shows that it placed a negative value, indicating the absence of this variable leads to the presence of emotional problems. R² is equal to 0.548, hence the percentage of variance accounted for by the independent variable entered so far (i.e. EMOIN, DEPRE, SENSА, SEWL, and TRACY) is 54.8%.

The partial regression coefficient(b) values predict that for every unit of change in EMOIN, DEPRE, SENSА,SEWL and TRACY, there will be 0.254, 0.254,0.214,-0.148, and -0.198 units change respectively in emotional problems. The 'b' value of SEWL found as negative which means as the variable sense of well being decreases the value of emotional problems will increase in the proportion mentioned in the regression equation.

The regression equation at this stage will be:

$$\text{EMOTP} = 1.522 + 0.254(\text{EMOIN}) + 0.254(\text{DEPRE}) + 0.214(\text{SENSА}) - 0.148(\text{SEWL}) - 0.198(\text{TRACY}).$$

From this equation it has been observed that the trait curiosity is one of the important contributors of emotional problems.

The sixth important contributing variable was Adaptability (ADATY). The multiple regression coefficient R value was 0.744, it was significant at 0.01 level (F=81.05, for 6, and 393 df). The percentage of variance contributed by the six independent variables entered so far on the dependent variable will be 55.3% as the value of R² is 0.553. From the value of 'b' we may conclude that for every unit change in the independent variable i.e., EMOIN, DEPRE, SENSA, SEWL, TRACY and ADATY, will create a 0.233, 0.239, 0.255, -0.152, -0.198 and -0.097 unit change respectively.

It may be noted that the value of 'b' for adaptability, is negative, which means for every unit increment in emotional problems there will be decrement in the adaptability (in the proportion mentioned above) and vice versa. The more emotional problems experienced by the individual, the less adaptive he will be in his surroundings. Adaptability is the flexibility in handling the changes in the environment. From the following equation it has been revealed that poor adaptability leads to the experience of emotional problems.

The regression equation at this stage will be:

$$\text{EMOTP} = 6.373 + 0.233(\text{EMOIN}) + 0.239(\text{DEPRE}) + 0.225(\text{SENSA}) - 0.152(\text{SEWL}) - 0.198(\text{TRACY}) - 0.097(\text{ADATY})$$

The seventh variable entered as a significant predictor was State Anxiety (STAAY), the R value here was 0.747(significant at 0.01 level and the F-value was 70.58 for 7 and 392df). The value R² was 0.558, which means the percentage of variance in emotional problems created by the influence of these seven independent variables together will be 55.8%.

The 'b' value indicates the proportion of change in the dependent variable because of the influence of each of the independent variable with the direction of influence in this combination of variables. Here for every unit of change in the independent variable i.e., EMOIN, DEPRE, SENSA, SEWL, TRACY, ADATY, and STAAAY, there will be correspondingly 0.229, 0.203,-0.140,-0.171,-0.096, and 0.174 unit change in the dependent variable.

The regression equation will be:

$$\text{EMOTP} = 3.944 + 0.229(\text{EMOIN}) + 0.203(\text{DEPRE}) + 0.210(\text{SENSA}) - 0.140(\text{SEWL}) - 0.171(\text{TRACY}) - 0.096(\text{ADATY}) + 0.174(\text{STAAAY}).$$

State anxiety is a personality trait, which is characterized by a transitory emotional reaction that consists of feelings of tension, apprehension, nervousness and worry and activation of the autonomic nervous system. In this research results indicates that the state anxiety paves the way to emotional problems.

It is popularly believed that adolescents are "more emotional" than are younger children and older adults, and adolescents experience more pronounced mood swings (Sharp, 1980). The more stable, consistent, trait-like aspects of emotions are thought to be more strongly linked to overall well-being than more transient and context-specific emotional states (Lazarus, 1991). However, research indicates that both our general outlook on life and the hassles and joys we experience on a day-by-day basis can promote or diminish our perceived sense of well-being (Feist, et.al. 1995, Saarni,1999).

Shaffer et al.,(2009), examined developmental pathways between emotional maltreatment and adaptational outcomes in early adolescence

and found out the relationship between emotional neglect or abuse and social withdrawal, low socio emotional competence, and adaptation.

Adolescents are said to suffer from increased emotionality or to be more moody than children and adults. The frequency of the experience of greater mood swings and the negative emotions (e.g., feeling sad or angry) increases during adolescence (Larson, 1991).

To sum up variables such as Emotional Instability, Depression, Sensitivity, Sense of Well-being, Trait Curiosity, Adaptability, and State Anxiety are found as the most predictive variables for emotional problems among adolescents.

5.2.2 Multiple Regression Analysis – Academic problem as criterion variable

Academic problems (ACADP) was considered as the dependent variable and 11 variables of personality, seven variables of behaviour problems, six variables of state trait dimensions of personality and depression were considered as independent variables (table 5.3) in this analysis.

The highest contribution to the Academic Problems was found by the variable, Depression (DEPRE). The value of multiple correlations (R) was 0.447, significant at 0.01 level. ($F=99.53$, for 1 and 398df). This signifies the strength of relationship between depression and academic problem is around 44.7%.

The value of R^2 (0.20) indicated that depression accounted for 20% of variance in academic problems. The value of 'b' signifies that for every unit of change in depression there will be 0.412 unit increment in academic problems.

Table no 5.3

Multiple regression analysis (Step wise) the academic problems as criterion variable

Independent Variable	Multiple Regression R	F value for R	R ²	SE for R	Partial Regression coefficient 'b'	Constant	Beta coefficient B
Depression	0.447	99.539 (1,398)	0.20 0	6.311	0.412	0.934	0.447
Emotional instability	0.492	63.238 (2,397)	0.24 2	6.153	0.293 0.206	-2.461	0.317 0.242
Sense of personnel worth	0.507	45.759 (3,396)	0.25 7	6.096	0.232 0.166 -0.151	7.026	0.252 0.195 -0.160
Adaptability	0.515	35.724 (4,395)	0.26 6	6.070	0.224 0.150 -0.137 -0.122	12.144	0.243 0.176 -0.146 -0.097
Sense of well being	0.524	29.903 (5,394)	0.27 5	6.038	0.205 0.112 -0.100 -0.135 -0.117	17.810	0.223 0.131 -0.106 -0.108 -0.129

The regression equation at this step will be:

$$ACADP = 0.934 + 0.412(DEPRE).$$

Depression refers to a pattern of symptoms such as loss of interest and pleasure, loss of appetite, decrease in energy level, sense of worthlessness, difficulty in concentrating and thoughts about death. From this analysis it has been observed that depression played a major role in causing academic problems, which in turn results in the overall behaviour problems.

The second factor entered was Emotional Instability (EMOIN), with the R value 0.492, the level of significance at 0.01. ($F=63.23$, for 2 and 397df). This predicts the strength of relationship between the dependent variable and the two independent variables, (viz., DEPRE and EMOIN) as a unit to be 49.2%. The R^2 (0.242) value signifies that the degree of variance in academic problems accounted for by the two independent variables together will be around 24.2%.

The 'b' value indicates that for every unit change in the independent variables i.e., for DEPRE and EMOIN, there will be 0.293 and 0.206 unit changes in the dependent variable respectively. The value of 'b' for EMOIN means that as emotional instability increases, the level of academic problems also increases in the above mentioned proportion and vice versa.

The equation at this step will be:

$$ACADP = -2.461 + 0.293(DEPRE) + 0.206(EMOIN)$$

Academic problems are influenced by the emotional instability of the individual. Gumora & Arsenio,(2002) illustrated the importance of emotion regulation and mood in academic success. Even when their level of cognitive ability was controlled for, young adolescents who said they experienced more negative emotion regarding academic routines had lower grade point averages. Present analysis reveals the fact that emotional instability is one of the strong causes for academic problems.

The third important predictor of the dependent variable was Sense of Personal worth (SEPWO). The R value was 0.507, the significance level was at 0.01. ($F= 45.75$ for 3 and 396 df). The value of R^2 was 0.257, which indicates the amount of variance contributed by the combined effect of the independent variables on academic problems is 25.7%. The values of the

partial regression coefficient showed that for every unit of change of DEPPE, EMOIN, and SEPWO there will be 0.232, 0.166, and -0.151 unit change respectively in the dependent variable.

The equation for this step will be:

$$ACADP = 7.026 + 0.232(DEPPE) + 0.166(EMOIN) - 0.151(SEPWO).$$

Adolescence is a period of change and transition. The physiological, emotional, social changes challenge the adolescent's view of her/himself. A strong sense of one's self worth and capabilities refers to Sense of Personal Worth. The correlation between peer approval and self-worth increases during adolescence (Harter, 1990, b). Although peer approval is linked with self-worth, parental approval continues to be related to adolescent's self-worth through adolescence and this correlation does not decline until emerging adulthood (Harter, 1999). Here it is observed that Individuals who has a poor sense of personal worth faces different problems related to academics.

The fourth variable entered was Adaptability (ADATY). The R value was 0.515 and it was significant at 0.01 level. ($F=35.72$, for 4 and 395 df). This means the strength of relationship between the dependent variable and the four independent variables together is 51.5%. The value of R^2 (0.266) signifies that the percentage of variance on academic problems accounted for, by the independent variables together will be 26.6%.

The value of 'b' suggests that for every unit change in independent variables, ie., DEPPE, EMOIN, SEPWO, and ADATY, there will be 0.224, 0.150, -0.137, and -0.122 unit changes respectively in the dependent variable.

The regression equation for this step will be:

$$ACADP = 12.144 + 0.224(DEPRE) + 0.150(EMOIN) - 0.137(SEPWO) - 0.122(ADATY).$$

Adaptability is a personality trait that helps in the proper adjustment of a person. Here it has been found that inability to adapt or cope up with the environment results in academic problems.

The fifth component contributing to the academic problems entered was Sense of well-being (SEWL). The R value was 0.524, the value was significant at 0.01 level. (F=29.90, for 5 and 394 df). R² was equal to 0.275, which means the percentage of variance contributed by the five independent variables together on the dependent variable was 27.5%.

The values of partial regression coefficient says that academic problems will change by 0.205, 0.112, -0.100, -0.135, and -0.117 units for unit change respectively for DEPRE, EMOIN, SEPWO, ADATY, and SEWL.

The equation for this step will be:

$$ACADP = 17.810 + 0.205(DEPRE) + 0.112(EMOIN) - 0.1(SEPWO) - 0.135(ADATY) - 0.117(SEWL).$$

Sense of well-being refers to presence of positive marker characteristics that come about as result chance combinations of organisms, familial, community and societal elements. The state of well being is that in which the individual realizes his or her own abilities, can work productively and fruitfully and is able to contribute to his or her community. This study reveals the fact that sense of well-being plays a role in academic problems. Individuals who exhibited poor sense of well-being face problems in the academic sphere.

Jessor ,et al.,(1995),identified that low school motivation and low educational aspirations have repeatedly been shown to be risk factors for a variety of problem behaviours.

Plunkett et al., (2008) examined the relationship between academic success and support from significant others and the role of social and personality factors and identified the importance of support from others such as family, teachers, peers etc in academic success.

To conclude, academic problems are best predicted by a combination of depression, emotional instability, sense of personal worth, adaptability, and sense of well-being. The role of these variables in causing academic problems is very evident from the results. The biggest contributor for academic problem is the variable, depression.

5.2.3 Multiple Regression Analysis –Social problems as criterion variable

The dependent variable in this analysis is Social Problems (SOCIP) and the independent variables are different variables of personality, state and trait dimensions of anxiety, anger and curiosity, behaviour problems and depression.

The first variable, which contributed for SOCIP, in the analysis (table no: 5.4) was Sense of well-being (SEWL), with the R value 0.505 significant at 0.01 level, (F=136.20, for 1 and 398 df).The value of R signifies that the strength of relationship between the independent variable that is SEWL and social problems is 50.5%. The value of R² was entered as 0.255, which means the degree of variance in the dependent variable accounted for by SEWL is 25.5%.

Table no 5.4

Multiple regression analysis (Step wise) the social problems as criterion variable

Independent Variable	Multiple Regression R	F value for R	R ²	SE for R	Partial Regression coefficient 'b'	Constant	Beta coefficient B
Sense of well-being	0.505	136.202 (1,398)	0.25 5	6.056	-0.454	33.943	-0.505
Sensitivity	0.562	91.633 (2,397)	0.31 6	5.811	-0.350 0.278	19.038	-0.390 0.272
Trait anxiety	0.585	68.740 (3,396)	0.34 2	5.704	-0.290 0.227 0.339	12.608	-0.323 0.223 0.191
Tolerance	0.600	55.480 (4,395)	0.36 0	5.636	-0.234 0.177 0.304 -0.190	19.094	-0.260 0.173 0.171 -0.169
Sense of personal worth	0.607	45.917 (5,394)	0.36 8	5.606	-0.199 0.163 0.240 -0.179 -0.113	23.572	-0.221 0.159 0.135 -0.159 -0.120

The partial regression coefficient 'b' value shows that, for every unit of SEWL there will be -0.454 unit changes in social problems. It may be noticed that the 'b' value for SEWL is negative, which means as sense of well-being decreases, there is an increment in social problems experienced by the individual and vice versa.

The equation at this step will be: $SOCIP = 33.943 - 0.454(SEWL)$.

The sense of well being is that in which the individual realizes his or her own abilities, can work productively and fruitfully and is able to contribute to his or her community. Accurate self assessment is the ability to assess accurately one's own strengths and weakness. This will definitely help an individual to set the right standards for oneself and be satisfied with the outcomes and one's own performances. This ability will help the person to set realistic targets, which should lead to a sense of well-being. Here it is found that poor sense of well-being causes social problems to the individual.

The variable that derived as the second most important contributor was Sensitivity (SENSA). The R value was 0.562, significant at 0.01 level. ($F=91.63$, for 2 and 397 df). The strength of relationship between the dependent and the two independent variables put together is 56.2% according to the R values. Since the value of R^2 is 0.316, the percentage of variance contributed by both the independent variables for the social problems will be 31.6%.

The values of 'b' signifies that for every unit change in the variables SEWL and SENSA, there will be -0.350 and 0.278 units, corresponding change in social problems. It may be noted that the value of 'b' for SENSA indicates a positive relationship between sensitivity and social problems. i.e., as sensitivity increases there is an increment in social problems as well.

The regression equation at this step will be: $SOCIP = 19.038 - 0.350(SEWL) + 0.278(SENSA)$.

Sensitivity refers to susceptible or responsive nature to emotional or artistic impressions, possessing delicate or tender feelings easily offended or emotionally hurt & touchy. Descriptions associated with high scores on sensitivity include tender minded, dependent, overprotected, and insecurity.

They prefer to use reason rather than force in getting things done. From the analysis it can be found that presence of sensitivity in an individual leads to the experience of social problems.

The third variable entered as significant predictor was Trait Anxiety (TRAAY), with the R value 0.585, significant at 0.01 level, (F=68.74, for 3 and 396 df). The strength of relationship between the dependent variable and the three independent variables together is 58.5%.

The value of R² for this step was 0.342, which implies that the degree of variance caused by the combined effect of the three independent variables on social problem is 34.2%. The 'b' values for this stage implies that for every unit change of SEWL, SENSA, and TRAAY, there will be, -0.290, 0.227, and 0.339 units change respectively in social problems.

The equation at this stage will be:

$$\text{SOCIP} = 12.608 - 0.290(\text{SEWL}) + 0.227(\text{SENSA}) + 0.339(\text{TRAAY}).$$

Trait anxiety is a personality dimension, which is the third highest contributor for social problems in this analysis. Trait anxiety refers to relatively stable individual differences in anxiety proneness, i.e., the differences between people in the tendency to perceive stressful situations as dangerous or threatening and to respond to such situations with elevations in the intensity. It is evident from this analysis that the trait anxiety is an important contributor for social problems. Hence the presence of trait anxiety results in social problems.

The fourth significant variable entered in the analysis was Tolerance (TOLER). The R value for this was 0.60, significant at 0.01 level. (F=55.48, for 4 and 395 df). The multiple regression 'R' implies that the

strength of relationship between the dependent variable and the independent variables together on the other side, will be 60%.

The R^2 (0.360) indicates that the total percentage of variance caused by the independent variables on social problems at this step will be 36%. The 'b' values for these independent variables suggests that for every unit of change in SEWL, SENSEA, TRAAY, and TOLER, will create -0.234, 0.177, 0.304 and -0.190 units respectively changes in the dependent variable. It may be noted that the 'b' value of Tolerance is negative, that means for every unit of decrement in tolerance, there will be 0.190 unit of increment in the social problems experienced by the person and vice versa.

The regression equation at this step will be:

$$\text{SOCIP} = 19.094 - 0.234(\text{SEWL}) + 0.177(\text{SENSEA}) + 0.304(\text{TRAAY}) - 0.190(\text{TOLER}).$$

Tolerance refers to the quality of being able or willing to accept the behaviour of others. It is the capacity to withstand extreme condition or circumstances. This regression analysis suggests that low level of tolerance leads to high levels of social problems for the individual.

The fifth significant variable entered in the table was Sense of personal worth (SEPWO). The multiple regression value R was 0.607, significant at 0.01 level. ($F = 45.91$ for, 5 and 394 df). The strength of relationship according to this between dependent variable (social problems) and all the independent variables will be 60.7%.

The R^2 (0.368) indicates that the degree of variance caused by the 5 independent variables together on social problems will be 36.8%. The

partial regression coefficient values shown suggests -0.199,0.163,0.240,-0.179,and -0.113 unit change in SEWL, SENSEA, TRAAY, TOLER, and SEPWO respectively.

The regression equation at this stage will be:

$$\text{SOCIP} = 23.572 - 0.199(\text{SEWL}) + 0.163(\text{SENSEA}) + 0.240 (\text{TRAAY}) - 0.179(\text{TOLER}) - 0.113 (\text{SEPWO}).$$

Sense of personal worth refers to the sense or feeling of being the same person, based mainly on common sensibility and continuity of aims, purposes and memories. Poor sense of personal worth results in inability to cope or effective handling of problems in life. Here it is found that as the sense of personal worth decreases, the level of social problems increases.

To conclude, the predictor variables of social problems in this analysis are personality variables, such as Sense of well-being, Sensitivity, Trait anxiety, Tolerance, and Sense of personal worth. The final regression equation shows that among the independent variables sensitivity, and trait anxiety, has a positive effect on social problems. This means the presence of these traits increases the chances for an increase in social problems. It has also observed that as the level of sense of well-being, tolerance and sense of personal worth decreases, there will be an increment in social problems.

5.2.4 Multiple Regression Analysis –Personal problems as criterion variable

In the present study stepwise regression analysis was carried out using different variables of personality, behaviour problems, state trait dimensions of anxiety, anger, curiosity and depression, to find out from

among them the most significant variables with regard to their contribution to Personal Problems (PERSP), and it also showed the relative contribution of each of these variables towards personal problems.

Table no 5.5

Multiple regression analysis (Step wise) the personal problems as criterion variable

Independent Variable	Multiple Regression R	F value for R	R ²	SE for R	Partial Regression coefficient 'b'	Constant	Beta coefficient B
Depression	0.581	202.662 (1,398)	0.33 7	5.987	0.558	-4.767	0.581
Sense of well-being	0.638	136.293 (2,397)	0.40 7	5.671	0.413 -0.287	11.412	0.429 -0.304
Inferiority complex	0.662	102.806 (3,396)	0.43 8	5.529	0.332 -0.222 0.172	6.114	0.346 -0.235 0.219
State anxiety	0.672	81.176 (4,395)	0.45 1	5.470	0.265 -0.195 0.166 0.288	2.061	0.276 -0.207 0.211 0.148
Tolerance	0.677	66.633 (5,394)	0.45 8	5.442	0.246 -0.159 0.156 0.277 -0.123	5.711	0.256 -0.168 0.199 0.143 -0.105

From (Table 5.5), it can be seen that the variable which contributed most to personal problem is Depression (DEPRE). The multiple regression

correlation (R) obtained was 0.581, the relationship is positive as indicated by the 'b' value (partial regression coefficient), this says that the higher the value of depression, the higher the personal problems experienced by the individual. The value also indicates that the strength of the relationship between the two variables is about 58.1%. The R was significant at 0.01 level, (F=202.66, for 1 and 398 df), the coefficient of multiple R² was 0.337. This shows that 33.7% of variance in personal problems was accounted by depression.

The regression equation at this stage will be: $PERSP = -4.767 + 0.558(DEPRE)$.

This regression analysis reveals the fact that depression is a major contributor to personal problems. Gunilla, et al., (1999) compared stressful life events among adolescents with depressive disorder with those of healthy controls. Results showed that depressed subjects generally had experienced more stressful events and conditions than controls.

Sense of well-being (SEWL) was entered into stepwise regression analysis as the second most significant variable. The multiple correlation (R) between personal problems on one side and depression on the other was 0.638, which means that the strength of relationship between personal problems with depression and sense of well-being put together is 63.8%. (R was significant at 0.01 level), (F= 136.29 for 2 and 397 df). R² was equal to 0.407, hence, the two variables, i.e. DEPRE and SEWL put together could explain about 40.7% of the variance in personal problems.

The partial regression coefficient shows that when DEPRE and SEWL are included as predictors of personal problems, we observe, a change by 0.413 and -0.287 points for every units of change in DEPRE and SEWL respectively.

The regression equation for the same is given below:

$$\text{PERSP} = 11.412 + 0.413 (\text{DEPRE}) - 0.287(\text{SEWL}).$$

Sense of well-being refers to presence of positive marker characteristics that come about as result chance combinations of organisms, familial, community and societal elements. The state of well being is that in which the individual realizes his or her own abilities, can work productively and fruitfully and is able to contribute to his or her community.

In the present analysis, from the 'b' value it was found that the contribution of SEWL to personal problems is negative, which means that the less the sense of well-being, the more the experience of personal problems.

In the third step, Inferiority Complex (INCOM), a variable of personality, has entered as the next important factor in contributing to personal problems. The multiple correlations with the three factors, DEPRE, SEWL, and INCOM were 0.662, which was significant at 0.01 level. ($F = 102.81$, for 3, and 396 df), which means that the strength of relationship between three factors put together and personal problems is about 66.2%. The value R^2 (0.438) shows that, 43.8% of variance in personal problem is explained by these three variables (DEPRE, SEWL, and INCOM).

The obtained partial regression coefficient 'b' with these three variables indicate that change in personal problems will be 0.332, -0.222, and 0.172 units for every units of change in variables depression, sense of well-being, and inferiority complex respectively.

The regression equation at this step will be:

$$\text{PERSP} = 6.114 + 0.332(\text{DEPRE}) - 0.222(\text{SEWL}) + 0.172(\text{INCOM}).$$

Inferiority complex is a psychological condition that exists when a person's feelings of inadequacy are so intense that daily living is impaired. Alfred Adler in 1907 introduced the concept and explained that it as a complex of emotionally toned ideas arising from repressed fear and resentment associated with real or imagined inferiority , resulting either in compensation, in the form of pugnacity, or withdrawal into oneself. The present results reveal the fact that presence of inferiority complex heightens the possibility for personal problems.

The variable State Anxiety (STAAY), was entered as the fourth important factor, the multiple correlation value (0.672) was significant at 0.01 level. ($F = 81.17$, for 4 and 395 df); the strength of relationship between the four factors together and personal problems is 67.2%. The value of R^2 (0.451) indicates that DEPRE, SEWL, INCOM, and STAAY together can explain 45.1 % of variance in PERSP.

The 'b' coefficient of the data shows that inclusion of these four independent variables will change personal problems by 0.265, -0.195, 0.166, and 0.288, units for each unit of DEPRE, SEWL, INCOM, and STAAY respectively.

The regression equation for this step is:

$$\text{PERSP} = 2.061 + 0.265(\text{DEPRE}) - 0.195 (\text{SEWL}) + 0.166 (\text{INCOM}) + 0.288(\text{STAAY}).$$

State anxiety refers to the transitory emotional reaction that consists of feelings of tension, apprehension, nervousness and worry and activation of the autonomic nervous system. Here state anxiety is found as an important

contributor to personal problems. As the level of state anxiety increases in one's personality the chances for personal problems also increases.

The fifth variable entered into the analysis was Tolerance (TOLER), the multiple correlations (R) value for these 5 factors together towards PERSP was 0.677. This means that the strength of relationship between the dependent variable and the five factors together is 67.7 %. The value was significant at 0.01 level, (F= 66.633, for 5 and 394 df).

The value of R² (0.458) predicts the amount variance caused on PERSP by the five factors DEPRE, SEWL, INCOM, STAAAY and TOLER together is around 45.8 %. The partial regression coefficient value 'b' shows that for every units of change in DEPRE, SEWL, INCOM, STAAAY, and TOLER, the value of personal problems change by, 0.246, -0.159, 0.156, 0.277, and -0.123 units respectively.

The regression equation for this step will be:

$$\text{PERSP} = 5.711 + 0.246 (\text{DEPRE}) - 0.159 (\text{SEWL}) + 0.156 (\text{INCOM}) + 0.277(\text{STAAAY}) - 0.123 (\text{TOLER}).$$

Tolerance refers to the quality of being able or willing to accept the behaviour of others. It is the capacity to withstand extreme condition or circumstances. The results obtained show that as tolerance level decreases, the level of personal problems increases in an individual.

From the present analysis, it can be concluded that the criterion variable, personal problems is predicted by 5 predictor variables. The variables are presented in the order of the degree of influence they exerted on the criterion variable. From the regression equation at the final step we can

understand the predictive relationship each variable has with personal problems. In the equations, the predictor variables are presented in the order of their capability to influence variance in the dependent variable, that, depression, sense of well-being, inferiority complex, state anxiety, and tolerance. From this analysis it can be concluded that from among the five predictor variables most of the influential variable is depression.

5.2.5 Multiple Regression Analysis – Family problems as criterion variable

In the present study, stepwise regression analysis was carried out to find the independent variables that contribute to the criterion variable-Family problems (FAMIP).

From the table (5.6) it has been found that the most influencing variable on family problem is Sense of well-being (SEWL). The multiple regression, R, obtained was 0.515. The relationship is negative as indicated by the 'b' value (partial regression coefficient), -0.458, which says that the lower the sense of well-being the higher the problems one experiences in the family environment. The value also indicates the strength of relationship between the two variables is about 51.5%, and was significant at 0.01 level. (F= 143.41, for 3 and 398 df). Multiple R² was 0.265. This shows that 26.5 % of variance in Family Problems was accounted by Sense of well-being.

The regression equation at this step will be: FAMIP = 29.762 – 0.458 (SEWL)

Table no 5.6

Multiple regression analysis (Step wise) the family problems as criterion variable

Independent Variable	Multiple Regression R	F value for R	R ²	SE for R	Partial Regression coefficient 'b'	Constant	Beta coefficient B
Sense of well-being	0.515	143.412 (1,398)	0.26 5	5.957	-0.458	29.762	-0.515
Depression	0.552	87.207 (2,397)	0.30 5	5.798	-0.356 0.210	18.833	-0.400 0.232
Self esteem	0.562	61.060 (3,396)	0.31 6	5.759	-0.386 0.275 0.118	13.474	-0.434 0.303 0.141
Inferiority complex	0.579	49.680 (4,395)	0.33 5	5.688	-0.349 0.241 0.168 0.133	7.125	-0.392 0.266 0.200 0.179
State anxiety	0.589	41.765 (5,394)	0.34 6	5.645	-0.328 0.189 0.188 0.132 0.258	2.420	-0.369 0.209 0.224 0.178 0.141
Tolerance	0.595	35.922 (6,393)	0.35 4	5.618	-0.293 0.174 0.198 0.124 0.250 -0.123	5.540	-0.329 0.191 0.235 0.168 0.136 -0.111

During adolescence family plays a major role in important aspects of adolescent development, such as identity formation (Harter, 1990),

autonomy acquisition (Noack, et al., 1999) and psychosocial adjustment of the adolescent. Here also, the analysis viewed the significance of sense of well-being on family problems. From this analysis it has been found that absence of good sense of well-being results in the occurrence of family problems.

Depression (DEPRE) was entered into the stepwise regression analysis as the second most significant variable. The multiple correlation (R) between family problems on one side and SEWL and DEPRE on the other was, 0.552, which means the strength of relationship between FAMIP and SEWL, DEPRE, put together is 55.2 percent. (R was significant at 0.01 level), (F= 87.21, for 2 and 397 df).

R² was equal to 0.305, hence the two variables, i.e., SEWL and DEPRE put together could explain about 30.5 percent of variance in family problems. The partial regression coefficient shows that when SEWL and DEPRE are included as predictors of family problems, problems related to family will change by -0.356 and 0.210 points for every unit of change in SEWL and DEPRE respectively.

The regression equation for the same is given below:

$$\text{FAMIP} = 18.833 - 0.356 (\text{SEWL}) + 0.210(\text{DEPRE}).$$

It has been found that apart from poor sense of well-being, depression also contributed to family problems. Studies investigating family environments of adolescents found that depressive symptoms were associated with the number of conflicts with the parents (Forehand, et al., 1991), a lack of parent's supportiveness, and enmeshed family boundaries (Stark, et al., 1990). This step of analysis reveals the fact that apart from sense of well-being depression has played a major role in family problems.

In the third step, Self-esteem (SELES), a variable of personality, has entered as the next important variable that contributes to family problems. The multiple correlation with the three factors SEWL , DEPRE, and SELES was 0.562, which was significant at 0.01 level ($F = 61.06$, for 3, and 396 df), which means the strength of relationship between three factors put together and family problems is about 56.2%.

The value of R^2 (0.316) shows that, 31.6 % of variance in family problems is explained by these three variables (SEWL, DEPRE, and SELES). The obtained partial regression coefficient 'b' with these three variables indicates that change in FAMIP will be -0.386, 0.275 and 0.118 units for every units of change in variables SEWL, DEPRE, and SELES respectively.

The regression equation at this step will be:

$$\text{FAMIP} = 13.474 - 0.386 (\text{SEWL}) + 0.275 (\text{DEPRE}) + 0.118 (\text{SELES}).$$

Self-esteem generally discusses it in terms of two key components: the feeling of being loved and accepted by others and a sense of competence and mastery in performing tasks and solving problems independently. Self esteem is considered as an important component of emotional health, and it encompasses both self-confidence and self-acceptance. Adolescents with high self-esteem have greater initiative, but this can produce positive or negative outcomes (Baumeister & others 2003).

The fourth contributory variable was Inferiority complex (INCOM), with a R^2 value of 0.579, significant at 0.01 level, ($F = 49.68$, for 4 and 395 df). The strength of relationship predicted here between the dependent variable and independent variable put together on the other side was 57.9 percent. The value of R^2 was found to be 0.335, predicting the percentage of variance in the dependent variable by the fourth listed variable to 33.5%.

The 'b' value shows that the change in FAMIP contributed by the listed independent variables will be in the following proportion. Unit change in the independent variable will create the following proportion of change in family problems. i.e., SEWL, DEPRE, SELES, and INCOM will create - 0.349, 0.241, 0.168, and 0.133 unit changes respectively in family problems. The 'b' value of inferiority complex was positive, which means that the presence of inferiority complex leads to family problems.

The regression equation at this step will be:

$$\text{FAMIP} = 7.125 - 0.349 (\text{SEWL}) + 0.241 (\text{DEPRE}) + 0.168(\text{SELES}) + 0.133 (\text{INCOM}).$$

Inferiority complex is a psychological condition that exists when a person's feelings of inadequacy are so intense that daily living is impaired. Alfred Adler in 1907 introduced the concept and explained that it as a complex of emotionally toned ideas arising from repressed fear and resentment associated with real or imagined inferiority , resulting either in compensation, in the form of pugnacity, or withdrawal into oneself. Present analysis recognises the importance of inferiority complex in family problems. It is observed that the higher levels of inferiority complex results in family problems.

The fifth influential variable was State anxiety (STAAY), the R value was 0.59, significant at 0.01 level, (F = 41.76, for 5 and 394 df). This predicts the strength of relationship between the independent variables with the inclusion of STAAY as another variable to the group of independent variable to be 58.9 percent.

The R² value was 0.346 which is a measure of the percentage of variation attributed to family problems by the total effort of the independent variables with the inclusion of STAAY and the influence is around 34.6 %

in the FAMIP. The 'b' value states that for every unit change of these independent variables, i.e, SEWL, DEPRE,SELES, INCOM, and STAAAY, there will be -0.328,0.189, 0.188, 0.132, and 0.258 unit changes respectively.

The regression equation will be:

$$\text{FAMIP} = 2.420 - 0.328(\text{SEWL}) + 0.189(\text{DEPRE}) + 0.188 (\text{SELES}) + 0.132 (\text{INCOM}) + 0.258 (\text{STAAAY}).$$

State anxiety refers to the transitory emotional reaction that consists of feelings of tension, apprehension, nervousness and worry and activation of the autonomic nervous system. Here it is found that the state anxiety in one's personality contributes to family problems.

The sixth variable found significant was Tolerance (TOLER), with a R value of 0.595, significant at 0.01 level, ($F = 35.92$, for 6 and 393 df). This shows that strength of relationship between these six independent variables to dependent variable is 59.5%.

The value of R^2 was 0.354, that is around 35.4% of variance in the dependent variable was contributed by the six independent variables together. The partial regression coefficient values shows that a unit change in SEWL, DEPRE, SELES, INCOM, STAAAY, and TOLER, WILL CREATE -0.293, 0.174, 0.198, 0.124, 0.250, and -0.123 unit changes respectively in the dependent variable.

The equation for this stage will be like:

$$\text{FAMIP} = 5.540 - 0.293(\text{SEWL}) + 0.174(\text{DEPRE}) + 0.198(\text{SELES}) + 0.124(\text{INCOM}) + 0.250(\text{STAAAY}) - 0.123(\text{TOLER}).$$

Tolerance refers to the quality of being able or willing to accept the behaviour of others. It is the capacity to withstand extreme condition or circumstances. The results obtained from this analysis shows that as tolerance level decreases, the level of family problems increases in an individual. Katja, et al.,(1992) identified the relationship between adolescent's subjective well-being and familial contribution to it and it was found that factors related to family environment contributed to well-being and adolescent health issues.

From the present analysis, it can be concluded that the criterion variable, family problems is predicted by 6 predictor variables. The variables are presented in the order of the degree of influence they exerted on the criterion variable. From the regression equation at the final step we can understand the predictive relationship each variable has with family problems. In the equations , the predictor variables are presented in the order of their capability to influence variance in the dependent variable, that, sense of well-being, depression, self esteem, inferiority complex, state anxiety, and tolerance. From this analysis it can be concluded that from among the six predictor variables most of the influential variable for family problems is the sense of well being.

5.2.6 Multiple Regression Analysis (Step-wise) –Sexual problems as criterion variable

This step-wise analysis was done with Sexual problems (SEXUP) as dependent variable, and other personality, state trait dimensions of anger, anxiety, curiosity and depression as independent variables.

The first variable entered in the analysis (Table 5.7) was Depression (DEPRE), with the R value 0.355, significant at 0.01 level. ($F = 57.48$, for 1 and 398 df). The value of R signifies that the strength of relationship

between the independent variable that is Depression and Sexual problems is 35.5%.

Table no 5.7

Multiple regression analysis (Step wise) the sexual problems as criterion variable

Independent Variable	Multiple Regression on R	F value for R	R ²	SE for R	Partial Regression coefficient 'b'	Constant	Beta coefficient t B
Depression	0.355	57.483 (1,398)	0.126	6.275	0.311	0.841	0.355
Self control	0.412	40.608 (2,397)	0.170	6.124	0.214 -0.223	12.068	0.244 -0.236
Assertiveness	0.439	31.473 (3,396)	0.193	6.048	0.228 -0.238 0.186	4.841	0.260 -0.253 0.153
Inferiority complex	0.462	26.777 (4,395)	0.213	5.977	0.167 -0.184 0.200 0.130	0.298	0.191 -0.195 0.164 0.182
Social skills	0.473	22.745 (5,394)	0.224	5.944	0.143 -0.171 0.229 0.104 -0.123	5.226	0.163 -0.182 0.189 0.144 -0.127
Self esteem	0.490	20.677 (6,393)	0.240	5.890	0.199 -0.205 0.196 0.130 -0.157 0.156	0.585	0.227 -0.218 0.161 0.182 -0.162 0.192
State anxiety	0.500	18.639 (7,392)	0.250	5.859	0.152 -0.198 0.192 0.128 -0.148 0.174 0.226	-3.135	0.173 -0.210 0.158 0.179 -0.154 0.214 0.127

The value of R^2 was found as 0.126, which means that the degree of variance in the dependent variable accounted for, by DEPRE, is 12.6%. The partial regression coefficient, 'b' values shows that for every unit of DEPRE, there will be 0.311, unit increment in Sexual problems (SEXUP). The equation at this step will be: $SEXUP = 0.841 + 0.311 (DEPRE)$.

The second variable entered as significant in the analysis was Self control (SCCON). The R value here was 0.412, (significant at 0.01 level and the F value was 40.61, for 2 and 397 df). The value of R^2 was 0.170, which means the percentage of variance in sexual problems created by the influence of these two independent variables will be 17%.

The 'b' value indicates the proportion of change in the dependent variable because of the influence of each of the independent variable with the direction of influence in this combination of variables. Here for every unit of change in the independent variables, i.e., DEPRE, and SCCON, there will be 0.214 and -0.223 ,unit corresponding change in the dependent variable. The 'b' value of self control is negative, which means that the change created by self control on sexual problems will be negative. It can be said that as the ability for self control decreases, sexual problems increases.

The regression equation will be: $SEXUP = 12.068 + 0.214(DEPRE) - 0.223 (SCCON)$.

Self control is a personality trait, which refers to the ability to manage anxiety. High scorers generally have strong control over emotional life and behaviour in general. They show socially approved behaviours, behaviour control, persistence, foresight, and considerations of others. Here it is observed that poor self-control results in the experience of sexual problems.

The third contributory variable was Assertiveness (ASSER), with a R value of 0.439, significant at 0.01 level, ($F = 31.47$, for 3 and 396 df). The strength of relationship predicted here between the dependent variable and the independent variable put together on the other side was 43.9%. The value of R^2 was found to be 0.193 predicting the percentage of variance in the dependent variable by the three listed variables to 19.3%.

The 'b' values show that the change in sexual problems contributed by the listed independent variables will be in the following proportion. Unit change in the independent variables will create the following proportion of change in sexual problems, i.e., DEPRE, SCCON, and ASSER will create 0.228, -0.238, and 0.186 unit changes respectively in sexual problems.

The regression equation at this step will be:

$$\text{SEXUP} = 4.841 + 0.228 (\text{DEPRE}) - 0.238 (\text{SCCON}) + 0.186 (\text{ASSER}).$$

Assertiveness refers to the ability to express their needs, wishes and feelings frankly, honestly and directly. Assertiveness is behaviour or skills that help to communicate, clearly and confidently our feelings, needs, wants and thoughts. It is the ability to say no to request, to state an opinion without being self conscious or to express emotions such as love, anger etc openly. The present analysis reveals the fact that assertiveness has contributed to sexual problems to a lesser extent.

The fourth factor entered into the stepwise regression analysis was Inferiority complex (INCOM). The multiple correlations, R, were 0.462, and it was significant at 0.01 level. ($F = 26.78$, for 4 and 395 df). The strength of relationship between sexual problems and DEPRE, SCCON, ASSER, and INCOM, put together is 46.2 %.

The R² value for this step is 0.213, which means that depression and other personality variables put together contributes for around 21.3 % of variation in sexual problems. The partial regression coefficient value of these four independent variables to sexual problems shows that, the relationship between depression, self-control, assertiveness, and inferiority complex are making changes for every unit, 0.167, -0.184, 0.200, and 0.130 respectively in the sexual problems.

The regression equation at this step will be:

$$\text{SEXUP} = 0.298 + 0.167 (\text{DEPRE}) - 0.184 (\text{SCCON}) + 0.200 (\text{ASSER}) + 0.130 (\text{INCOM}).$$

Inferiority complex can be explained as a complex of emotionally toned ideas arising from repressed fear and resentment associated with real or imagined inferiority, results either in compensation, in the form of pugnacity, or withdrawal into oneself. It is observed from this analysis that a minimum level of contribution to sexual problems is from the variable, inferiority complex.

The fifth factor entered the equation in terms of contribution to the dependent variable was Social skills, (SOCKI) the value of R was 0.473, significant at 0.01 level. (F = 22.75, for 5 and 394 df). The addition of SOCKI has increased the strength of relationship between independent variables (DEPRE, SCCON, ASSER, INCOM, and SOCKI) to SEXUP is 47.3 %. The R² (0.224) value indicates that the total variance contributed by these variables for SEXUP is 22.4%.

The partial regression coefficient value, 'b', indicates the contribution of each of these independent variables to the dependent variable. For every unit of change in DEPRE, SCCON, ASSER, INCOM, and SOCKI

respectively, there will be 0.143, -0.171, 0.229, 0.104, and -0.123 units of change in SEXUP.

The equation at this step is:

$$\text{SEXUP} = 5.226 + 0.143 (\text{DEPRE}) - 0.171 (\text{SCCON}) + 0.229 (\text{ASSER}) + 0.104 (\text{INCOM}) - 0.123 (\text{SOCKI}).$$

From the results it has been found that social skills are the fifth best predictor of sexual problems, which refers to the abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life. It includes any skills necessary for competent social interaction, including both language and non verbal communication. Popular youths are accepted because of their personal appearance, sociability, and character. They are neat, well-groomed, good looking youths who are friendly, happy, fun-loving, outgoing, and energetic; have developed a high degree of social skills (Adams, 1983). Hence it can be said that lack of social skills causes sexual problems.

Garaigordobil (2006) analysed relationship between social skills, cooperation and some other personality traits and predictive variables of psychopathological symptoms and identified low levels of social skills and co-operative behaviours results in psychopathological symptoms.

Self-esteem (SELES) is the sixth best predictor of sexual problems in this analysis. As indicated in the table() SELES shows a multiple regression value (R), of 0.490, significant at 0.01 level, (F = 20.68, for 6, and 393 df). The R² (0.240), value suggests that the six independent variables put together will contribute for 24% variation in the dependent variable. The partial regression coefficient, 'b', gives us an idea about the contribution that each of these variables makes to sexual problems. According to the 'b' value for every unit change in DEPRE, SCCON, ASSER, INCOM,

SOCKI, and SELES, there will be, 0.199,-0.205, 0.196, 0.130, -0.157, and 0.156, unit changes in the sexual problems. The contribution of self control and social skills are negative, as you can see from the b values, which means , as self control and social skills decreases ,the sexual problems increases.

The equation at this step will be:

$$\text{SEXUP} = 0.585 + 0.199 (\text{DEPRE}) - 0.205 (\text{SCCON}) + 0.196 (\text{ASSER}) + 0.130 (\text{INCOM}) - 0.157 (\text{SOCKI}) + 0.156 (\text{SELES}).$$

Here it is found that self-esteem has contributed for sexual problems at a minimal level. Self esteem is considered as an important component of emotional health, and it encompasses both self-confidence and self-acceptance.

The next important variable entered was State anxiety (STAAY). The multiple regression (R) obtained was 0.50, the value was significant at 0.01 level, (F = 18.64, for 7 and 392 df). The value R² (0.250), signifies that there will be 25 percent of variation in SEXUP, which was accounted for, by these 7 independent variables together.

The partial regression coefficient ‘b’, value shows that the degree of contribution by each of the independent variables at this step to the dependent variable. There will be 0.152, -0.198, 0.192, 0.128, -0.148, 0.174, and 0.226 units change in the sexual problems for every unit of change in DEPRE, SCCON, ASSER, INCOM, SOCKI, SELES, and STAAY respectively.

The equation at this stage will be:

$$\text{SEXUP} = -3.135 + 0.152 (\text{DEPRE}) - 0.198 (\text{SCCON}) + 0.192 (\text{ASSER}) + 0.128 (\text{INCOM}) - 0.148 (\text{SOCKI}) + 0.174 (\text{SELES}) + 0.226 (\text{STAAY}).$$

State anxiety refers to the transitory emotional reaction that consists of feelings of tension, apprehension, nervousness and worry and activation of the autonomic nervous system. The results obtained show that as state anxiety increases, the level of sexual problems also increases in an individual.

Sexuality represents an essential part of adolescent development, and it is in puberty and, in turn, the body's transformations that characterize the beginning of adolescence, which constitutes the major impetus that drives the adolescent into the process of identity constitution. (Duncan, et al.,2003 & Ponton, et al.,2004).

From the present analysis, it can be concluded that the criterion variable, sexual problems is predicted by 7 predictor variables. The variables are presented in the order of the degree of influence they exerted on the criterion variable. From the regression equation at the final step we can understand the predictive relationship each variable has with sexual problems. From the regression equations, the predictor variables are presented in the order of their capability to influence variance on the dependent variable, viz., depression, self control, assertiveness, inferiority complex, social skills, self esteem, and state anxiety. From this analysis it can be concluded that from among the six predictor variables most of the influential variable is depression. It should be stressed that surroundings of young people have an impact on adolescent's sexual lives, and both cultural and ethical issues should taken into account when dealing with adolescent sexuality (Miller,2002 & Rose,et al., 2005)

5.2.7 Multiple Regression Analysis – Health problems as criterion variable

In this analysis the dependent variable is Health problems (HEALP) and eleven personality variables, seven behaviour problem variables, six variables of state trait dimensions of anger, anxiety, curiosity, and depression, are considered as independent variables, and stepwise regression analysis was carried out to find out the maximum possible variance in health problems that can be explained with the help of each independent variables. The summary of the analysis is given in table (5.7)

Table no 5.7a

Multiple regression analysis (Step wise) the health problems as criterion variable

Independent Variable	Multiple Regression R	F value for R	R ²	SE for R	Partial Regression coefficient 'b'	Constant	Beta coefficient B
Sense of well-being	0.462	107.917 (1,398)	0.213	6.353	-0.424	26.938	-0.462
State anxiety	0.541	82.017 (2,397)	0.292	6.033	-0.292 0.597	10.499	-0.318 0.316
Tolerance	0.563	61.313 (3,396)	0.317	5.934	-0.209 0.536 -0.219	15.423	-0.228 0.284 -0.191
Depression	0.576	48.933 (4,395)	0.331	5.880	-0.181 0.404 -0.183 0.150	10.729	-0.198 0.214 -0.160 0.160
Sensitivity	0.582	40.401 (5,394)	0.339	5.853	-0.174 0.362 -0.147 0.129 0.114	6.306	-0.189 0.191 -0.129 0.138 0.110

The first variable entered in the table was Sense of well-being (SEWL) that is found to be the most important variable in the prediction of health problems. The multiple regression value (R) for this variable is 0.462, and the value is significant at 0.01 level, ($F = 107.92$, for 1 and 398 df). The R signifies the strength of the interaction between dependent variable and independent variable and it is 46.2% at this stage. The value R^2 (0.213), proves that 21.3% of variance in health problems can be contributed by the variable sense of well-being.

The partial regression coefficient (b) is -0.424, and it is negative which means that for every unit of decrement in the sense of well being, there will be 0.424 increments in health problems.

The equation for this will be:

$$\text{HEALP} = 26.938 - 0.424(\text{SEWL}).$$

Here it has been found that lack of good sense of well-being leads to health problems. Sense of well-being refers to presence of positive marker characteristics that come about as result chance combinations of organisms, familial, community and societal elements. The state of well being is that in which the individual realises his or her own abilities, can work productively and fruitfully and is able to contribute to his or her community.

The second most significant variable in the analysis was State anxiety (STAAAY), with the R value 0.541, significant at 0.01 level, ($F = 82.02$, for 2 and 398 df). The strength of relationship between the dependent variable and the two independent variables put together is 54.1% according to the R values. Since the value of R^2 is 0.292, the percentage of variance contributed by both the independent variables for the health problems will be 29.2%.

The values of 'b' signifies that for every unit change in the variable sense of well being and state anxiety there will be -0.292 and 0.597 units corresponding change in health problems. It may be noted that the ,b, value for state anxiety is positive, which means that as the value of state anxiety increases , the value of health problems also increases.

The regression equation at this step will be: $HEALP = 10.499 - 0.292 (SEWL) + 0.597 (STAAY)$.

State anxiety is the second variable that noticeably contributed to health problems, and from this analysis it can be understood that when someone has the state anxiety, the chances of experience of health problems also increases.

The third variable entered as significant predictor was Tolerance (TOLER),with the R value 0.563,significant at 0.01 level ($F = 61.31$, for 3 and 396 df). The strength of relationship between the dependent variable and the three independent variables together is 56.3%. The value of R^2 for this step was 0.317, which implies the degree of variance caused by the combined effect of the three independent variables on health problems is 31.7%.

The 'b' values for this stage implies that for every unit change of SEWL, STAAY, and TOLER there will be -0.209, 0.536, and -0.219 units change respectively in health problems.

It may be noticed that the 'b' value of tolerance is negative, that means for every unit of decrement in tolerance, there will be 0.219 increment in health problems and vice versa.

The equation at this stage will be:

$$\text{HEALP} = 15.423 - 0.209(\text{SEWL}) + 0.536 (\text{STAAAY}) - 0.219 (\text{TOLER}).$$

Tolerance is the quality of being able or willing to accept the behaviour of others. It is the capacity to withstand extreme condition or circumstances. Here the result of this analysis observes that as the level of tolerance decreases in an individual, problems related to health also increases.

The fourth significant variable entered in the analysis was Depression (DEPRE), the R value for this was 0.576, significant at 0.01 level, (F = 48.93 for, 4 and 395 df). The multiple regression R implies that the strength of relationship between the dependent variable and the independent variables together on the other side, will be 57.6%. The R² (0.331), indicates that the total percentage of variance caused by the independent variables on health problems at this step will be 33.1%.

The 'b', values for these independent variables suggests that for every unit change in SEWL, STAAAY, TOLER, and DEPRE will create -0.181, 0.404, -0.183, and 0.150 units change in the dependent variable. It may be noticed that the 'b' value of tolerance is negative, that means for every unit of decrement in tolerance, there will be 0.219 increment in health problems and viceversa.

The regression equation at this step will be:

$$\text{HEALP} = 10.729 - 0.181 (\text{SEWL}) + 0.404 (\text{STAAAY}) - 0.183 (\text{TOLER}) + 0.150 (\text{DEPRE}).$$

The fifth significant variable entered in the table was Sensitivity (SENSA). The multiple regression value (R) was 0.582, which is significant at 0.01 levels. (F = 40.40, for 5 and 394 df). The strength of relationship according to this between dependent variable, health problems, and all the

independent variables together will be 58.2 %. The R^2 (0.339), indicates that the degree of variance caused by the 5 independent variable together on health problems will be 33.9%.

The partial regression coefficient values shown suggests -0.174, 0.362, -0.147, 0.129, and 0.114 unit change in the dependent variable for every unit change in SEWL, STAAAY, TOLER, DEPRE, and SENSA respectively.

The regression equation at this step will be:

$$\text{HEALP} = 6.306 - 0.174 (\text{SEWL}) + 0.362(\text{STAAAY}) - 0.147 (\text{TOLER}) + 0.129(\text{DEPRE}) + 0.114(\text{SENSA}).$$

The characteristics of sensitivity include tender minded, dependent, overprotected, and insecurity. They prefer to use reason rather than force in getting things done. In this regression analysis it is evident that the presence of sensitivity results in problems related to health.

Jeannin et al, (2005) through their research shown that adolescents, on one hand, consider themselves to be healthy, but on the other hand, when questioned about specific areas, display many uncovered problems and worries, and adolescents identify their main problems are related to stress or depression.

To conclude, the present analysis has substantiated that among all the independent variables used, the variables that contribute to the maximum for the health problems are sense of well being, state anxiety, tolerance, depression, and sensitivity. Absence of a good sense of well-being and tolerance level causes problems related to health and presence of the state anxiety, depression, and sensitivity leads to health problems. These variables played a crucial role in creating health problems in the subjects studied.

5.2.8 Multiple Regression Analysis – Overall behaviour problems as criterion variable

Stepwise regression analysis was done to find out the variables which may best predict behaviour problems of the subjects. Overall behaviour problems (BPTOT), was kept as dependent variable and the eleven personality variables, six state trait dimensions of anxiety, anger, curiosity and depression as independent variables.

Table no 5.8

Multiple regression analysis (Step wise) the overall behaviour problems as criterion variable

Independent Variable	Multiple Regression R	F value for R	R ²	SE for R	Partial Regression coefficient 'b'	Constant	Beta coefficient B
Depression	0.614	24.186 (1,398)	0.377	30.441	3.095	-7.351	0.614
Sense of well being	0.701	191.930 (2,397)	0.492	27.541	2.118 -1.926	101.287	0.420 -0.390
Emotional instability	0.719	141.293 3,396	0.517	26.878	1.765 -1.516 0.967	62.224	0.350 -0.307 0.207
State Anxiety	0.729	111.838 (4,395)	0.531	26.517	1.421 -1.402 0.862 1.564	43.329	0.282 -0.284 0.185 0.154
Inferiority complex	0.736	93.245 (5,394)	0.542	26.240	1.242 -1.286 0.629 1.551 0.574	35.279	0.247 -0.260 0.135 0.152 0.139
Tolerance	0.743	80.517 (6,393)	0.551	26.001	1.149 -1.102 0.471 1.526 0.558 -0.773	62.544	0.228 -0.223 0.101 0.150 0.136 -0.125

The stepwise regression analysis done not only to select the set of variables that best predict behaviour problems but also to eliminate superfluous predictor variables.

From the table (5.8) it can be seen that the first variable entered into the multiple regression analysis was Depression (DEPRE). The multiple regression (R) obtained was (0.614). The relationship was positive as indicated by the positive value of 'b', the partial regression coefficient. This shows that the higher the score on depression the higher the behaviour problems. R value indicated the strength of relationship between behaviour problems and the variable depression was about 61.4%. It could be observed from the table that R was significant at 0.01 level (F = 241.19, for 1, 398 df). The coefficient of multiple correlations (R²) was 0.377. This shows that 37.7 % of the variance in behaviour problems were accounted for, the dependent variable by depression.

The partial regression coefficient 'b' was 3.095. This value indicates that the Overall behaviour problems (BPTOT) changed 3.095 units for every unit of change in the variable depression.

Regression equation for this will be:

$$\text{BPTOT} = -7.351 + 3.095 (\text{DEPRE}).$$

When depression occurs during adolescence, social withdrawal, academic problems, physical complaints, poor appetite, and avoidance of eye contact are some of the common symptoms. Irritability and aggression may also be considered part of the diagnostic picture (Pfeffer, 1996).

The second factor entered into the step wise regression analysis was Sense of well being (SEWL). The multiple correlation (R) was 0.701 and it was significant at 0.01 level (F = 191.93, for 2 and 397 df). The strength of

relationship between depression and sense of well being put together is 70%. The R² value for this step is 0.492, which means the variables; sense of well being and depression together contributes around 49.2% of variation in behaviour problems.

The partial regression coefficient value of these two independent variables to behaviour problems shows that the relationship between sense of well being and behaviour problems is negative, that means for every unit addition of sense of well being there will be -1.926 unit decrement in the value of behaviour problems. The partial regression coefficient further shows that for every unit of depression and sense of well being there will be 2.118 and -1.926 unit changes in the value of behaviour problems.

The contribution of sense of well being is negative as it is seen from the 'b' value, which means, as the sense of well being decreases the behaviour problems increases in an adolescent. Adolescence begins with the biological changes leading up to and through the growth- spurt years. This maturation has wide ranging impacts, including its influence on the sense of well-being.

The regression equation for this step will be:

$$\text{BPTOT} = 101.287 + 2.118 (\text{DEPRE}) - 1.926 (\text{SEWL})$$

The third factor entered in the equation in terms of contribution to the dependent variable was Emotional instability (EMOIN), the value of R was 0.719, significant at 0.01 level (F= 141.29, for 3, 396 df). The addition of emotional instability has increased the strength of relationship between independent variables (DEPRE, SEWL and EMOIN) to behaviour problem to 71%. The R² (0.517) value indicates that the total variance contributed by these variables for BPTOT is 51%.

The partial regression coefficient value (b) indicates the contribution of each of these independent variables to the dependent variables. For every unit of change in DEPRE, SEWL and EMOIN respectively there will be 1.765, -1.516 and 0.967 unit change in BPTOT.

The equation for this step is:

$$\text{BPTOT} = 62.224 + 1.765(\text{DEPRE}) - 1.516(\text{SEWL}) + 0.967 (\text{EMOIN})$$

In this analysis emotional instability is the third best predictor of behaviour problems. And it has been found that the subjects with emotional instability found to have high level of behaviour problems.

The fourth important factor that predicts behaviour problems, is State anxiety (STAAAY) with a multiple regression correlation value of 0.729, significant at 0.01 level ($F= 111.84$, for 4, 395 df). The R^2 (0.531) value suggests that the four independent variables put together will contribute for 53.1% variation in the dependent variable.

The partial regression coefficient (b) gives us an idea about the contribution each of these variables makes to behaviour problems. According to the b value for every unity change in DEPRE, SEWL, EMOIN and STAAAY, there will be 1.421, - 1.402, + 0.086, and + 1.564 unit changes in the overall behaviour problems.

The contribution of state anxiety is positive as you can see from the 'b' value that means as the value of state anxiety increases, the behaviour problems also increases. Anxiety is a general feeling of apprehension or dread accompanied by predictable physiological changes. The anxious individual experiences a variety of symptoms such as rapid heart rate, shortness of breath, sleeplessness, sweating, tremors etc. Here the results

indicate that presence of state anxiety causes behavior problems in an individual.

The equation at this step will be:

$$\text{BPTOT} = 43.329 + 1.421 (\text{DEPRE}) - 1.402 (\text{SEWL}) + 0.862 (\text{EMOIN}) + 1.564 (\text{STAAAY})$$

The next important variable entered was Inferiority complex (INCOM). The multiple correlation (R) obtained was 0.736, the value was significant at 0.01 level ($F = 93.25$, for 5, 394 df). The value R^2 (0.542) signifies that there will be 54.2% of variation in the behaviour problems which accounted for by these five independent variables together.

The partial regression coefficient (b) value shows the degree of contribution by each of the independent variables at this step to the dependent variable. There will be 1.242, -1.286, 0.629, 1.551 and 0.574 units of change in the behaviour problem for every unit of change in DEPRE, SEWL, EMOTN, STAAAY and INCOM respectively.

The equation at this stage will be:

$$\text{BPTOT} = 35.279 + 1.242 (\text{DEPRE}) - 1.286 (\text{SEWL}) + 0.629(\text{EMOIN}) + 1.551 (\text{STAAAY}) + 0.574 (\text{INCOM}).$$

Here it is observed that presence of inferiority complex increases the chances for overall behavior problems in an individual.

The sixth significant variable entered was Tolerance (TOLER). The R value was significant at 0.01 level ($F = 80.52$, for 6, 393 df). The value of R^2 (0.551) shows that there will be 55% of variance in behaviour problems which will be the result of the combined influence of DEPRE, SEWL, EMOIN, STAAAY, INCOM, and TOLER.

The partial regression coefficient 'b' values are 1.149, -1.102, 0.471, 1.526, 0.558 and 0.773 respectively, which is an account of change contributed to BPTOT by each of these independent variables for a unit change in each of them.

The equation at this stage will be:

$$\text{BPTOT} = 62.554 + 1.149(\text{DEPRE}) - 1.102 (\text{SEWL}) + 0.471(\text{EMOIN}) + 1.526(\text{STAAY}) + 0.558 (\text{INCOM}) - 0.773(\text{TOLER})$$

The present analysis has substantiated that among all the independent variables used, the variables that contribute to the maximum for the overall behaviour problems are depression, sense of well being, emotional instability, state anxiety, inferiority complex, and tolerance. These variables played a crucial role in creating behaviour problems. Absence of sense of well being and tolerance, and presence of emotional instability, depression, state anxiety, and inferiority complex, are found to be the predictive factors of behaviour problems. .

From the final regression equation it can be seen that among the different predictor variables of personality, state-trait dimensions of anxiety, anger and depression, those variables that have a positive impact on the overall behaviour problems of the individual are emotional instability, inferiority complex, tolerance, state anxiety, and depression. Whereas, sense of well being showed a negative relationship with the overall behaviour problems of the individual, which means lack of the feeling of sense of well-being leads to the inability to cope , or problems in life .

5.2.9 General conclusion

The adolescent problem behaviours are of an increasing rate in changing socio cultural environment. The problems are of many types depending on

several factors and its impact on specific areas. Adolescents are at high risk for the development of problem behaviours that are distressing and socially disruptive (Bartlett, et al., 2005; Brooks, 1997).

Problem behaviours in adolescents can have serious consequences for the adolescents, their family and friends, their schools, and society. Child and adolescent health practitioners frequently report that problem behaviours are the most common reason they see clients in their practices (Lahey et al., 2000). Nurses, often with great access to adolescents and their parents through school settings, primary health care offices, and public health departments are well positioned to assess, educate, and intervene with adolescents, school personnel and parents.

The stepwise regression analysis presented above related to various behavior problems and personality variables shows that in majority of the cases depression, state anxiety, inferiority complex, emotional instability, sensitivity, tolerance, adaptability, self-esteem, sense of personal worth, social skills, assertiveness, self control and sense of well being are found as the major contributors for developing problem behaviours in adolescence.

Section 3

5.3 COMPARISON OF PRE AND POST ASSESSMENT SCORES

This section of the result and discussion dealt with the results and discussion based on t test. The t test was done to find out whether there exists any significant difference between the pre and post assessment scores in personality variables, behaviour problem variables, depression and state and trait dimensions of anxiety, curiosity and anger. The results and discussion of the control group presented first followed by the experimental groups.

5.3.1 CONTROL GROUP – COMPARISON OF PRE AND POST ASSESSMENT SCORES

The present section of the results and discussion focuses on the mean comparison of pre and post scores on all study variables. This is to find out whether there exists any significant difference between the pre and post test scores of the control group. The study group considered as control group and do not received any intervention. The data collected in the beginning, used for matching the sample for assigning groups, was taken as the pre assessment score and after two months the post data was collected. The t test results along with mean comparison and graph presented separately for each group of variables.

5.3.1.1 Comparison of control group on pre and post assessment based on personality variables.

The t test results of the control group on pre and post assessment scores based on all personality variables were computed and presented in table no 5.9 and a graph is plotted and placed as figure no 5.1 based on the mean values.

Table no 5.9

Mean Standard Deviation, Correlation coefficient and t value of control group on different personality variables (Pre and post assessment, N =20)

Variables	Pre Assessment		Post Assessment		Correlation	't' value
	Mean	SD	Mean	SD		
Assertiveness	38.15	4.66	35.70	4.43	0.747**	3.39**
Inferiority complex	39.40	8.15	41.00	7.43	0.979**	-4.07**
Emotional instability	43.75	5.82	44.95	4.98	0.982**	-4.06**
Self control	31.85	6.77	30.35	6.52	0.973**	4.27**
Tolerance	28.15	6.15	25.95	5.35	0.879**	3.36**
Sense of well being	32.65	7.59	30.45	6.62	0.973**	5.16**
Self esteem	28.15	6.14	25.70	4.88	0.963**	5.59**
Sense of personal worth	33.00	8.27	31.15	7.49	0.966**	3.75**
Social skills	34.70	5.41	33.25	4.61	0.970**	4.42**
Adaptability	37.85	5.89	36.80	4.84	0.943**	2.25*
Sensitivity	42.80	6.70	43.25	6.54	0.972**	-1.28

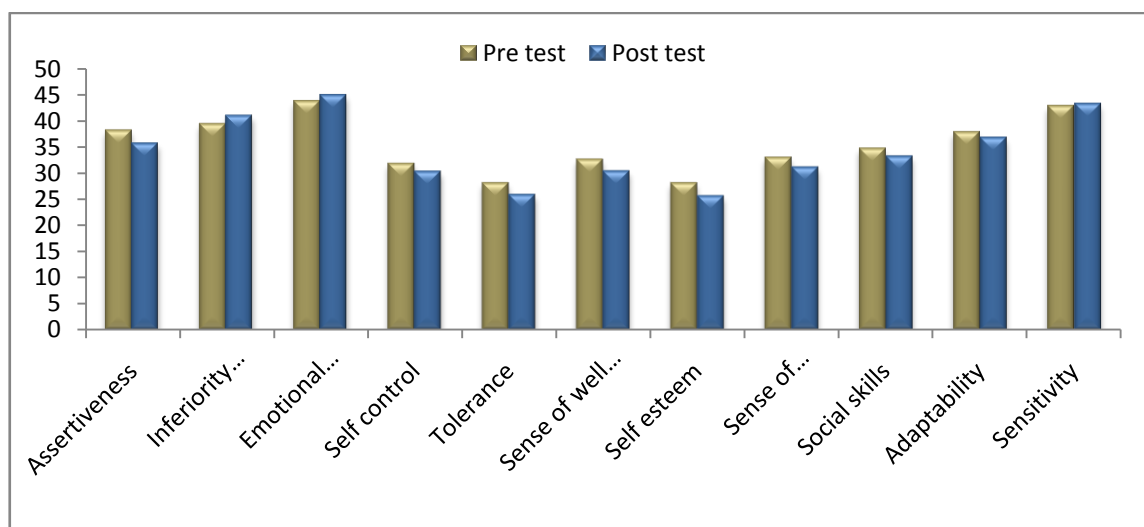
**Significant at 0.01 level; * Significant at 0.05 level

The t-test results for the control group between pre and post assessment in the variable, assertiveness, shows significant difference. The t-value obtained is 3.39 which is significant at 0.01 levels. The control group obtained a pre assessment mean score of 38.15 and post assessment mean score of 35.70 and a standard deviation of 4.66 and 4.43 respectively. The mean comparison shows that there is a decrease in the score indicating a reduction in assertiveness among the control group subjects. Assertiveness refers to the ability to express their needs, wishes and feelings frankly, honestly and directly. Assertiveness is behaviour or a skill that helps to

communicate, clearly and confidently our feelings, needs, wants and thoughts. It is the ability to say no to request, to state an opinion without being self conscious or to express emotions such as love, anger etc openly. Since the control group has not received any intervention and having the behaviour problems might have contributed in decreasing the skills.

Figure no 5.1

The pre and post test mean score comparison on personality variables of control group.



A t value of -4.07 obtained for the variable inferiority complex, which is significant at 0.01 level. Alfred Adler introduced the concept and explained that it as a complex of emotionally toned ideas arising from repressed fear and resentment associated with real or imagined inferiority , resulting either in compensation, in the form of pugnacity, or withdrawal into oneself. The mean score of 39.40 as pre test score and 41.00 as the mean score for the post test of the control group. There is an increase in inferiority complex within a short duration of two months. The intensity of the behaviour problems and associated fear might have contributed negatively and hence the variation in the score.

Emotional instability refers to the state or qualities of being unstable or unsteady in handling the emotional dealings and the control group obtained a t value of -4.06, significant at 0.01 level, shows there exist a significant difference between the pre and post test scores on emotional instability. Table 5.9 shows the pre test mean score as 43.75 and post test mean score as 44.95, with an increase of 1.20 between the two assessment phases. The control group didn't practice any method to reduce their problems, the result clearly shows that, if the behaviour problems left untreated, it may take the adolescent to increased emotional instability.

Table No 5.9 shows a significant difference in the t value for the variable self control on pre and post dimensions of the control group. The t value of 4.27 is significant at 0.01 level. While analysing the mean values of pre and post scores on self control, there are differences in the pre and post scores. The pre test score (31.85) is higher than that of the post test (30.35) scores. Since the control group does not receive any treatment and has reflected in the reduced self control.

The pre test and post test comparison of the control group reveals that there exists significant difference for the variable tolerance. The t value obtained was 3.36, which is significant at 0.01 level. The control group obtained mean score of 28.15 for the pre test and 25.95 as the post test mean score. There is decrease in mean value from pre to post and hence the significant difference. The variable tolerance refers to the state or qualities of being unstable or unsteady in handling the emotional dealings. The mean difference indicates an increased difficulty in handling emotional dealings. The increased vulnerability can be attributed to the increased behaviour problems as they haven't received any intervention.

The t value of 5.16 obtained for the variable sense of well being and it is significant at 0.01 level. Table no 5.9 shows that a mean score of 32.65 obtained for the pre test and 30.45 for the post test scores on sense of well being. The mean comparison shows that there is a decrease in mean of the post test score after two months. The state of well being is that in which the individual realises his or her own abilities, can work productively and fruitfully and is able to contribute to his or her community. The results shows that the problems of adolescents, if left unaddressed, can reduce the sense of well being in them.

Similarly there is a decrease in mean score for the post test obtained for self esteem. The control group has a pre test mean score of 28.15 and post test mean score of 25.70, with a standard deviation of 6.14 and 4.88 respectively. The t value of 5.59 obtained for the variable self esteem is significant at 0.01 level. Self esteem is considered as an important component of emotional health, and it encompasses both self-confidence and self-acceptance. The negative dimensions of change show that the control group subjects reduced their self confidence and self acceptance as their post intervention score is lesser than that of the pre intervention score.

For the variable sense of personal worth, the t value obtained is 3.75 and it is significant at 0.01 level. The result reveals that there exists significant difference between the pre and post test scores of the control group on the sense of personal worth. There is a decrease in mean value from 33.00 as the pre test mean score to 31.15 as the post test mean score on sense of personal worth. The results reveal the fact that the behaviour problems of the adolescents need to be addressed at an early stage to reduce the risk factors.

Social skills refer to the abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life. It includes any skills necessary for competent social interaction, including both language and non verbal communication. The pre and post test scores on social skills of control group observed a t value of 4.42, which is significant at 0.01 level. The results indicate that there exists a significant difference between the pre and post test scores of the control group on social skills. The table 5.9 shows a mean value of 34.70 for pre test and 33.25 for post test on social skills. The difference in mean score indicates that there is a decrease in social skills of the control group.

A t value of 2.25 obtained for adaptability and it is significant at 0.05 level. The results indicate that there exists a significant difference between the pre and post test scores on adaptability. Table no 5.9 shows that the control group obtained a mean score of 37.85 for the pre test and 36.80 for the post test for adaptability. The difference in mean score between the pre and post indicates the decreased ability of the control group to make appropriate responses to changing circumstances after two months without any intervention.

The only variable which does not show a significant difference among the personality variable is sensitivity. The t value obtained is -1.28, which is not significant. The result shows that there is no difference between the pre and post scores on sensitivity of the control group. The control group obtained a mean value of 42.80 and standard deviation of 6.70 for the pre test and a mean value of 43.25 and standard deviation of 6.54 for the post test. The result shows that no changes were there in sensitivity after a period of two months without any intervention.

Conclusion

It is interesting to note that the mean values of positive dimensions of personality namely assertiveness, self control, tolerance, sense of well being, self esteem, sense of personal worth, social skills, and adaptability variables shows a decrease in mean value in the post test assessments. These variables shows significant differences when comparing the pre and post test scores of the control group subjects. Whereas the negative dimensions of personality, namely inferiority complex and emotional instability and sensitivity variables shows an increase in mean scores in the post test assessment. Except sensitivity, the other variables showed significant differences between pre and post scores of the control group. The pre and post comparison on personality variables of the control group shows that the behaviour problem experienced by the adolescents, if left untreated, may have negative consequences in the personality traits too.

5.3.1.2 Comparison of control group on pre and post assessment based on the state and trait dimensions of anxiety, anger and curiosity.

To find out whether there exist significant differences, between the pre and post assessment scores on state and trait dimensions of anxiety, anger and curiosity of the control group subjects, t test carried out for all the variables. The results are presented in table no 5.10.

While comparing the pre and post test scores a t value of -2.221 obtained for the variable state anxiety and it is significant at 0.05 level. The result shows that there exist significant differences between the pre and post test scores on state anxiety. Table no 5.10 shows that the control obtained a pre test score of 21.80 and post test score of 22.85 for state anxiety. It is

observed that there is an increase in state anxiety, transitory emotional reaction that consists of feelings of tension, apprehension, nervousness and worry and activation of the autonomic nervous system, after two months for the control group subjects who have not received any intervention.

Table no 5.10

Mean, Standard Deviation, Correlation coefficient and paired t value of control group on state and trait dimensions of anxiety, anger and curiosity (pre and post assessment N =20)

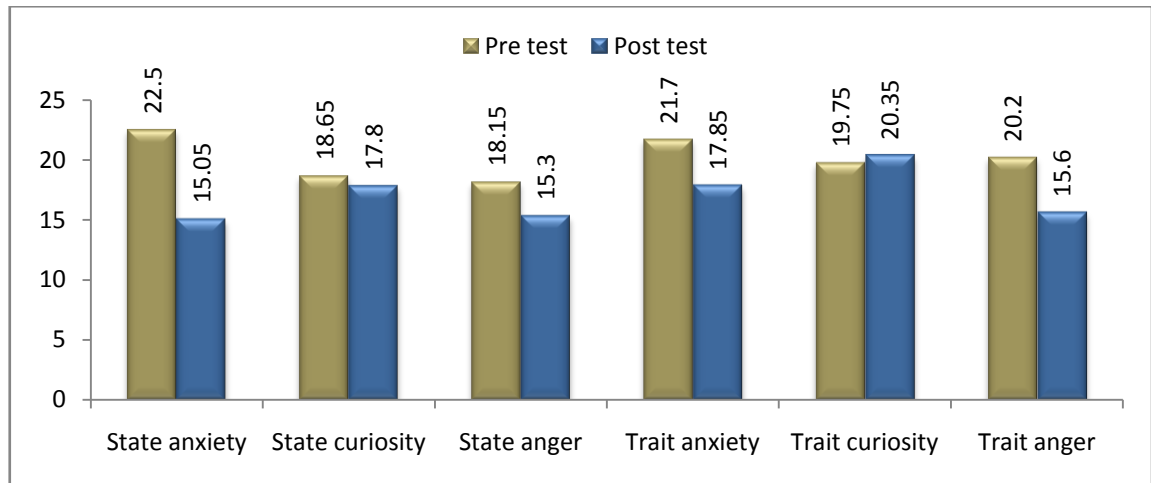
Variables	Pre Assessment		Post Assessment		Correlation	't' value
	Mean	SD	Mean	SD		
State anxiety	21.80	4.03	22.85	4.90	0.906**	-2.221*
State curiosity	20.25	2.94	19.90	4.30	0.490*	0.407
State anger	15.85	4.34	17.20	4.25	0.951**	-4.477**
Trait anxiety	21.10	3.42	21.90	3.52	0.288**	-1.582
Trait curiosity	20.10	3.86	21.00	4.41	0.901**	-2.100*
Trait anger	20.10	4.79	21.70	4.91	0.894**	-3.203*

***Significant at 0.01 level; * Significant at 0.05 level*

The table no 5.10 shows a t value of 0.407 obtained for state curiosity and it is not significant. The result shows that there is no significant difference between the pre and post test scores on state curiosity of the control group. The control group obtained 20.25 as pre test mean score and 19.90 as post test mean score and standard deviation of 2.94 and 4.30 respectively. Curiosity means the desire or inclination to know or learn about anything, ranging from what is novel or strange to a desire of knowing what one has no right to know. The pre and post test score comparison shows that there is not much of a difference.

Figure no 5.2

The pre and post test mean score comparison on state and trait dimensions of anxiety, anger and curiosity of the control group.



For the variable state anger, the control group obtained a t value of -4.477, which is significant at 0.01 level. The results indicate that there exist significant differences between the pre and post test scores on state anger. The control group obtained 15.85 as pre test mean score and 17.20 as post test mean score with a standard deviation of 4.34 and 4.25 respectively. State anger is defined as an emotional state or condition that consists of subjective feelings of irritation, annoyance, fury and rage with concomitant activation or arousal of the autonomic nervous system. The result shows that there is an increase in post test mean score indicating an elevation in emotional state. The control group have not undergone any intervention and being with the problems for longer duration might have increased their feeling of irritation, annoyance etc.

A t value of -1.582 obtained for trait anxiety shows that there is no significant differences between the pre and post scores of the control group. Trait anxiety refers to relatively stable individual differences in anxiety proneness and the group obtained pre test mean score of 21.10 and 21.90 as

post test mean score. The reported changes were very minimal and hence the present result.

For the variable trait curiosity, control group obtained t value of -2.100, which is significant at 0.05 level. The result indicates that there exists a significant difference between the pre and post test scores on trait curiosity. The control group obtained a mean score of 20.10 and standard deviation of 3.86 for the pre test and obtained mean score of 21.00 and standard deviation of 4.41 for the post test. Curiosity means the desire or inclination to know or learn about anything, ranging from what is novel or strange to a desire of knowing what one has no right to know. Though the variable highlights on relatively stable performance, the post test score shows a slight increase in mean score and resulted in significant difference.

Table no 5.10 shows a t value of -3.203 for the variable trait anger, which is significant at 0.05 level. This indicates that there exist significant differences in pre and post test comparison on trait anger of the control group. The control group obtained a mean value of 20.10 at pre test (SD-4.79) and 21.70 as post test mean score with a standard deviation of 4.91. The trait anger is defined in terms of individual differences in the frequency that state anger is experienced over time.

Conclusion

The above results show that there exist significant differences in state anxiety, state anger, trait curiosity and trait anger and no significant differences in state curiosity and trait anxiety. The mean comparison shows that there is an increase in mean score between the pre and post assessment scores for all variables except for state curiosity. The two months time without any intervention or other management strategies to address the behaviour problems might have reflected in their overall behaviour.

5.3.1.3 Comparison of control group on pre and post assessment based on different behaviour problem variables.

To find out whether there exist significant differences, between the pre and post assessment scores on behaviour problem variables of the control group subjects, t test carried out for all the variables. The results are presented in table no 5.11.

Table no 5.11

Mean Standard Deviation, Correlation coefficient and paired t value of control group on different behaviour problem variables (pre and post assessment , N =20)

Variables	Pre Assessment		Post Assessment		Correlation	't' value
	Mean	SD	Mean	SD		
Emotional Problems	24.90	5.45	26.50	4.89	0.977**	-5.812**
Academic problems	21.20	5.17	22.50	5.46	0.962**	-3.901**
Social problems	23.50	4.89	24.70	4.87	0.943**	-3.269**
Personal problems	22.10	4.38	23.40	4.64	0.947**	-3.901**
Family problems	19.40	5.92	20.30	5.67	0.954**	-2.269*
Sexual problems	17.20	6.17	18.40	6.41	0.988**	-5.339**
Health Problems	18.60	5.55	20.10	5.41	0.980**	-6.097**
Overall Behaviour problems	146.90	22.19	155.90	21.84	0.985**	-10.560**

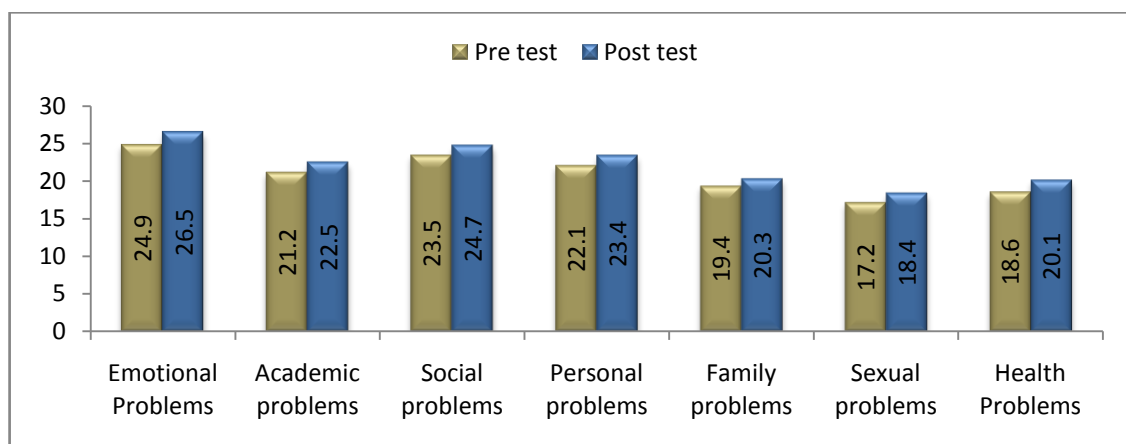
**Significant at 0.01 level; * Significant at 0.05 level

Table no 5.11 shows a t value of -5.812 for the variable emotional problem, which is significant at 0.01 level. The result shows that there exists a

significant difference between the pre and post test scores on emotional problems. The control group obtained a pre test mean score of 24.90 with a standard deviation of 5.45 and post test mean score of 26.50 with a standard deviation of 4.89. The result shows that there is an increase in the post test score indicating increased emotional problems.

Figure no 5.3

The pre and post assessment mean score comparison on behaviour problem variables.



For the variable academic problem, the control group obtained a t value of -3.901, which is significant at 0.01 level. The result shows that there exists a significant difference between the pre and post scores on academic problem. Table no 5.11 shows that the control group obtained a pre test mean score of 21.20 and post test mean score of 22.50. The mean comparison shows an increase in mean score of the academic problems of the control group subjects.

The t value of -3.269 obtained for social problems has got a significant difference at 0.01 level. The result shows that there exists a significant difference between the pre and post test scores of the control group on social problems. When comparing the mean values, obtained a pre test

mean score of 23.50 and post test mean score of 24.70. The result indicates an increase in mean score of the post test score. The study group being the control one, they have not given any intervention. The problem behaviour reported in the pre test might have been aggravated due to lack of intervention or remedial measures and hence the increases in post test measures.

It is observed that the control group obtained a t value of -3.901 for personal problems, which is significant at 0.01 level. The results indicate that there exist significant differences between the pre and post test scores on personal problems of the control group. The control group has got pre test mean score of 22.10 and post test score of 23.40. The result reveals that the personal problem increased during the post test phase. Similarly to the other behaviour problem variables, personal problem also increased might be because the group has not given any intervention or remedial measures.

The t value of -2.269 obtained for the family problem variable and is significant at 0.01 level. The result shows that there exist a significant difference between pre and post test scores on family problems of the control group. While analysing the mean scores, it is seen that the control group obtained a pre test mean score of 19.40 and post test mean score of 20.30. The result shows that there is an increase in the mean score of the post test, indicating an increase in family problems. There is clear indication that the behaviour problems of adolescents if left unattended, the problem may increase and thereby increasing the vulnerability. The problems experienced by the adolescents have its effects on family too.

The results of t test (-5.339) for the sexual problem variable shows that there exist a significant difference at 0.01 level. The result reveals that there exist significant differences between the pre and post test scores on

sexual problems of the control group. The control group obtained a pre test mean score of 17.20 and a post test score of 18.40. The mean comparison shows an increase in mean score of in the post assessment phase. Similarly for health problems, the control group obtained a t value of -6.097, which is significant at 0.01 level. The result shows that there exists a significant difference between the pre test and post test score on health problems. There is an increase in pre test mean value of 18.60 to post test mean value score of 20.10. The increase in mean score of the pre and post test mean score on sexual problems and health problems may be due to the lack of intervention or remedial measure. The significant difference observed is also due to the increase in mean score.

The t value of -10.560 obtained for the overall behaviour problem of the control group, which is significant at 0.01 level. The result shows that there exist a significant difference between the pre and post test mean score on overall behaviour problems of the control group. As it is evident from the sub variables, the overall behaviour problem also has an increase in post test scores. The mean value 146.90 obtained as the pre test mean score and 155.90 as the post test mean score.

Conclusion

The t test results shows that there exist a significant difference between the pre and post test scores on emotional problems, academic problems, social problems, personal problems, family problems, sexual problems and health problems. It is interesting to note that the comparison of mean value also shows an increase in post test scores on all variables. The control group has not received any intervention and thus the increase in post test mean score. The results also shows the immediate need for addressing the problem here, as the vulnerability increases as days passes.

5.3.1.4 Comparison of control group on pre and post assessment based on depression.

The t value of 5.454 obtained for the variable depression is significant at 0.01 level. The details are presented in table no 5.12. The result show that there exist a significant difference between the pre test and post test scores on depression of the control group.

Table no 5.12

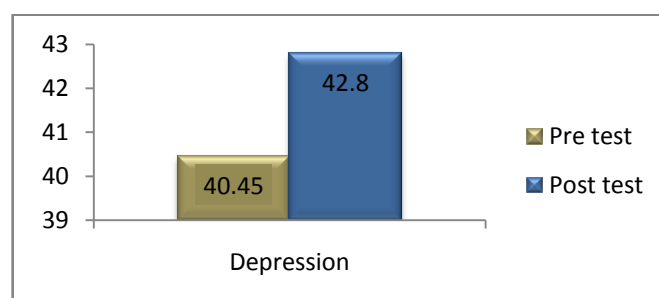
Mean Standard Deviation, Correlation coefficient and paired t value of control group on depression (pre and post assessment, N =20)

Variable	Pre Assessment		Post Assessment		Correlation	't' value
	Mean	SD	Mean	SD		
Depression	40.45	7.39	42.80	6.95	0.966**	5.454**

***Significant at 0.01 level; * Significant at 0.05 level*

Figure no 5.4

The pre and post assessment mean score comparison on depression of the control group.



While comparing the means, it is observed that the control group obtained a pre test mean score of 40.45 and post test scores mean score of 42.80. The results indicate that there is an increase in pre and post test scores on

depression of the control group. The increase in post test mean score may be due to the lack of intervention or remedial measures for addressing the problems of adolescents of the control group subjects.

Overall conclusion

The study group in general shows a decrease in post test mean score for the positive dimensions and increase in post test mean score for the negative dimensions of personality. This shows that the adolescents having any behaviour problems are at risk for aggravating their problems. For the present study the no intervention was given to the control group. The post test was carried out after a period of two months and within a span of two month there was an increase in the problems. So it is necessary to address all the behaviour problems of adolescent should be done at an early date. .

5.3.2 EXPERIMENTAL GROUP 1 – COMPARISON OF PRE AND POST INTERVENTION SCORES

The present section of the results and discussion focuses on the mean comparison of pre and post scores on all study variables. This is to find out whether there exists any significant difference between the pre and post test scores of the experimental group 1. The data collected in the beginning, used for matching the sample for assigning groups, was taken as the pre intervention score. The experimental group 1 was given Guided Somato Psychic Relaxation as an intervention technique for managing their problems. The GSPR was practiced for a period of two months and then the post data was collected. The t test results along with mean comparison and graph presented separately for each group of variables.

5.3.2.1 Comparison of experimental group (1) on pre and post intervention based on personality variables.

The t test results of the experimental group1 on pre and post intervention scores based on all personality variables were computed and presented in table no 5.13 and a graph is plotted and placed as figure no 5.4 based on the mean values.

Table no.5.13

Mean, Standard Deviation, Correlation coefficient and paired t value of experimental group (1) on different personality variables (pre and post intervention, N =20)

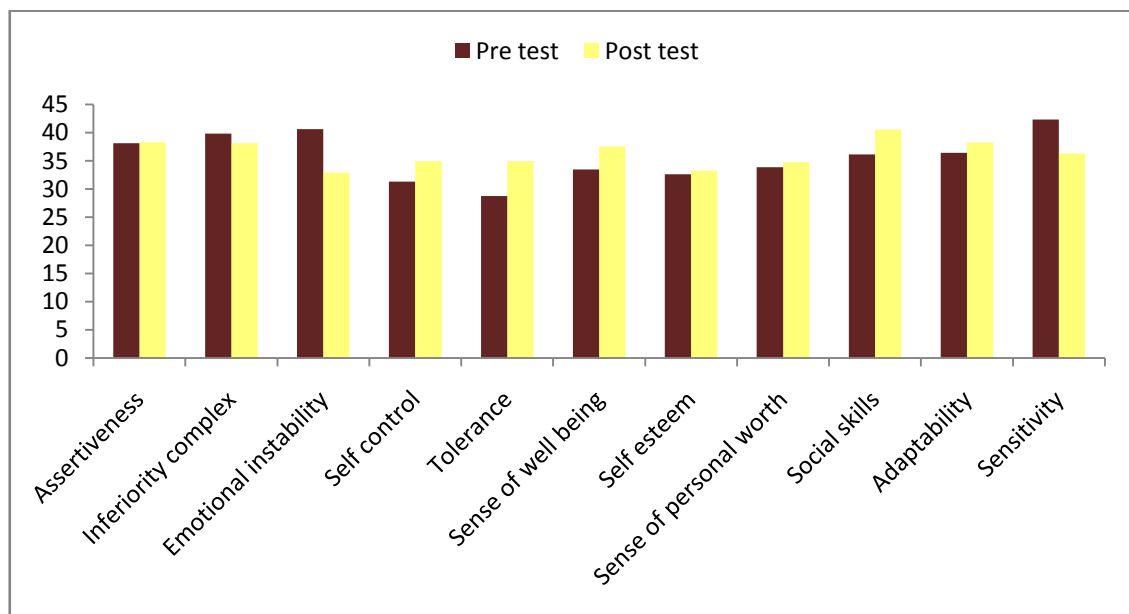
Variables	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Assertiveness	38.10	7.22	38.30	7.06	0.977**	-0.580
Inferiority complex	39.85	8.34	38.15	7.86	0.969**	3.655**
Emotional instability	40.60	9.57	32.90	7.62	0.921**	8.811**
Self control	31.30	7.25	34.95	6.56	0.969**	-8.856**
Tolerance	28.75	5.39	34.95	6.56	0.539**	-4.758**
Sense of well being	33.45	7.04	37.55	6.35	0.938**	-7.492**
Self esteem	32.60	9.76	33.25	9.44	0.992**	-2.292*
Sense of personal worth	33.85	7.85	34.75	7.71	0.966**	-1.989
Social skills	36.15	8.46	40.55	7.32	0.918**	-5.825**
Adaptability	36.40	5.60	38.25	5.49	0.911**	-3.527**
Sensitivity	42.35	8.19	36.30	7.31	0.952**	10.636**

**Significant at 0.01 level; * Significant at 0.05 level

The t-test results for the experimental group 1 between pre and post intervention in the variable, assertiveness, shows no significant difference. The t-value obtained is -0.580 which is not significant. The experimental group 1 obtained a pre intervention mean score of 38.10 and post intervention mean score of 38.30 and a standard deviation of 7.22 and 7.06 respectively. The mean comparison shows that there is a slight increase in the score. Assertiveness refers to the ability to express their needs, wishes and feelings frankly, honestly and directly. Assertiveness is behaviour or a skill that helps to communicate, clearly and confidently our feelings, needs, wants and thoughts. It is the ability to say no to request, to state an opinion without being self conscious or to express emotions such as love, anger etc openly. The experimental group 1 who practiced GSPR for two months has not helped in increasing their assertiveness skills. The results indicate that GSPR is not effective in generating assertiveness skills among adolescents.

Figure no 5.5

The pre and post test mean score comparison on personality variables of the experimental group 1.



A t value of 3.655 obtained for the variable inferiority complex, which is significant at 0.01 level. The result shows that there exists a significant difference between the pre and post test scores on inferiority complex. Inferiority complex is a complex of emotionally toned ideas arising from repressed fear and resentment associated with real or imagined inferiority, resulting either in compensation, in the form of pugnacity, or withdrawal into oneself. The mean score of 39.85 as pre test score and 38.15 as the mean score for the post test of the experimental group 1. There is a decrease in inferiority complex within a short duration of two months. The result indicates that practicing GSPR for two months can reduce the inferiority complex among adolescents.

Emotional instability refers to the state or qualities of being unstable or unsteady in handling the emotional dealings. The experimental group 1 obtained a t value of 8.811, significant at 0.01 level, shows there exist a significant difference between the pre and post test scores on emotional instability. Table 5.13 shows the pre test mean score as 40.60 and post test mean score as 32.90 and standard deviation of 9.57 and 7.62 respectively. The mean comparison shows a considerable reduction in emotional instability indicating the effectiveness of GSPR in managing emotional instability. The GSPR mainly focussing on suggestion throughout the process, developed based on several other methods might have helped the adolescents to reduce their instability.

The t value of -8.856 obtained for self control and is significant at 0.01 level. The result indicates that there exists a significant difference between the pre and post intervention score. While analysing the mean values of pre and post scores on self control, there are differences in the pre (31.30) and post (34.95) scores. The increase in score in the post test indicates that they

have developed control over emotional life and behaviour in general. The GSPR found to be effective in developing self control among adolescents.

The pre test and post test comparison of the experimental group 1 reveals that there exists a significant difference for the variable tolerance. The t value obtained was -4.758, which is significant at 0.01 level. The experimental group 1 obtained mean score of 28.75 for the pre test and 34.95 as the post test mean score. There is an increase in mean value from pre to post and hence the significant difference. The variable tolerance refers to the state or qualities of being unstable or unsteady in handling the emotional dealings. The result indicates that their difficulty in handling emotional dealings has decreased. As the group practiced GSPR for two months with the help of direct suggestions and with the support of pre recorded cassettes helped them in handling the emotional difficulties. It can be concluded that the GSPR is effective in increasing tolerance among adolescents.

The t value obtained for sense of well being is -7.492 and it is significant at 0.01 level. The result shows that there exists a significant difference between the pre and post test mean score on sense of well being of the experimental group 1. Table no 5.13 shows that a mean score of 33.45 obtained for the pre test and 37.55 for the post test scores on sense of well being. The mean comparison shows that there is an increase in mean in the post test score after two months. The state of well being is that in which the individual realises his or her own abilities, can work productively and fruitfully and is able to contribute to his or her community. The result shows that two months practice of GSPR as an intervention technique helped the group in increasing their sense of well being.

The t value of -2.292 obtained for the variable self esteem is significant at 0.05 level. The result shows that there exists a significant difference between the pre and post intervention scores on self esteem. The experimental group 1 has a pre test mean score of 32.60 and post test mean score of 33.25, with a standard deviation of 9.76 and 9.44 respectively for self esteem. Self esteem is considered as an important component of emotional health, and it encompasses both self-confidence and self-acceptance. The experimental group 1 subjects were able to develop increased self confidence and self acceptance as their post intervention score is higher than that of the pre intervention score. The result reveals that the GSPR is effective in increasing the self esteem of adolescents.

For the variable sense of personal worth, the t value obtained is -1.989 and it is not significant. The result reveals that there is no significant difference between the pre and post test scores of the experimental group 1 on sense of personal worth. Though there is an increase in mean value from 33.85 as the pre test means score to 34.75 as the post test mean score on sense of personal worth, the t result is not significant. It can be concluded that the GSPR may not be effective in developing sense of personal worth among plus two students. While analysing the variable description and comparing it with the maturational growth of the plus two students, they may require additional strategies or techniques as intervention to develop a sense of personal worth.

Social skills refer to the abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life. It includes any skills necessary for competent social interaction, including both language and non verbal communication. The pre and post test scores on social skills of experimental group 1 obtained a t

value of -5.825, which is significant at 0.01 level. The results indicate that there exists a significant difference between the pre and post test scores of the experimental group 1 on social skills. The table 5.13 shows a mean value of 36.15 for pre test and 40.55 for post test on social skills. The group obtained a standard deviation of 8.46 and 7.32 respectively. The result shows that there is an increase in post intervention mean score, indicating the increase social skills with the help of two months practice of GSPR.

Table no 5.13 shows that the variable adaptability obtained a t value of -3.527 which is significant at 0.01 level. The results indicate that there exists a significant difference between the pre and post test scores on adaptability. When comparing the mean scores the experimental group 1 obtained a mean score of 36.40 for the pre test and 38.25 for the post test for adaptability. The differences in mean score between the pre and post indicate the increased ability of the experimental group 1 to make appropriate responses in changing circumstances. The regular practice of GSPR for a period of two months helped them in accepting any beneficial change to meet the environmental demands

The t value obtained for sensitivity is 10.636, which is significant at 0.01 level. The result shows that there exists a significant difference between the pre and post scores on sensitivity of the experimental group 1. The group obtained a mean value of 42.35 and standard deviation of 8.19 for the pre test and a mean value of 36.30 and standard deviation of 7.31 for the post test. The result shows that there is a decrease in mean score of the experimental group 1 as they have practiced the GSPR for a period of two months. The GSPR found to be useful in managing the sensitivity nature of the plus two students.

Conclusion

The mean values of positive dimensions of personality namely assertiveness, self control, tolerance, sense of well being, self esteem, sense of personal worth, social skills, and adaptability variables shows an increase in mean value in the post test assessments. These variables shows significant differences, except for assertiveness and sense of personal worth, when comparing the pre and post test scores of the group who practices the GSPR as an intervention technique. Whereas the negative dimensions of personality, namely inferiority complex, emotional instability and sensitivity variables shows a decrease in mean scores in the post test score. These three variables showed significant differences between pre and post scores. The pre and post comparison on personality variables of the experimental group1 shows that the GSPR is effective managing the personality traits of adolescence.

5.3.2.2 - Comparison of experimental group 1 on pre and post intervention based on the state and trait dimensions of anxiety, anger and curiosity.

To find out whether there exist a significant differences, between the pre and post assessment scores on state and trait dimensions of anxiety, anger and curiosity of the experimental group 1 , t test carried out for all the variables. The results are presented in table no 5.14 & figure no 5. 6.

Experimental group 1 obtained a t value of 12.691 for state anxiety and it is significant at 0.01 level. The result shows that there exist significant differences between the pre and post test scores on state anxiety. While comparing the mean values the experimental group 1 obtained a pre test score of 22.50 and post test score of 15.05 for state anxiety. The

experimental group 1 shows a decrease in mean score from the pre test score to post test mean score. The result shows that there is a decrease in state anxiety, transitory emotional reaction that consists of feelings of tension, apprehension, nervousness and worry and activation of the autonomic nervous system, after two months of practice of GSPR. The result indicates that GSPR is effective in reducing state anxiety.

Table no 5.14

Mean, Standard Deviation, Correlation coefficient and paired t value of experimental group (1) on different STPI variables (pre and post intervention, N =20)

Variables	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
State anxiety	22.50	3.65	15.05	3.62	0.739**	12.691**
State curiosity	18.65	4.11	17.80	3.46	0.773**	1.450
State anger	18.15	4.50	15.30	4.16	0.955**	9.452**
Trait anxiety	21.70	3.61	17.85	3.99	0.708**	5.887**
Trait curiosity	19.75	3.58	20.35	4.84	0.762**	-0.858
Trait anger	20.20	3.17	15.60	3.14	0.474*	6.360**

***Significant at 0.01 level; * Significant at 0.05 level*

Curiosity means the desire or inclination to know or learn about anything, ranging from what is novel or strange to a desire of knowing what one has no right to know. The table no 5.14 shows a t value of 1.450 obtained for state curiosity and it is not significant. The result shows that there is no significant difference between the pre and post test scores on state curiosity of the experimental group 1. The group obtained 18.65 as pre test mean score and 17.80 as post test mean score and standard deviation of 4.11 and 3.46 respectively. The mean comparison shows a reduction in mean score

from pre test to post test score indicating a decrease in state curiosity. Though there is a reduction in the mean score, the two months practice of GSPR could not generate a significant difference in pre and post test mean score.

Figure no 5.6

The pre test – post test mean score comparison on state and trait dimensions of anxiety, anger and curiosity of the experimental group1.

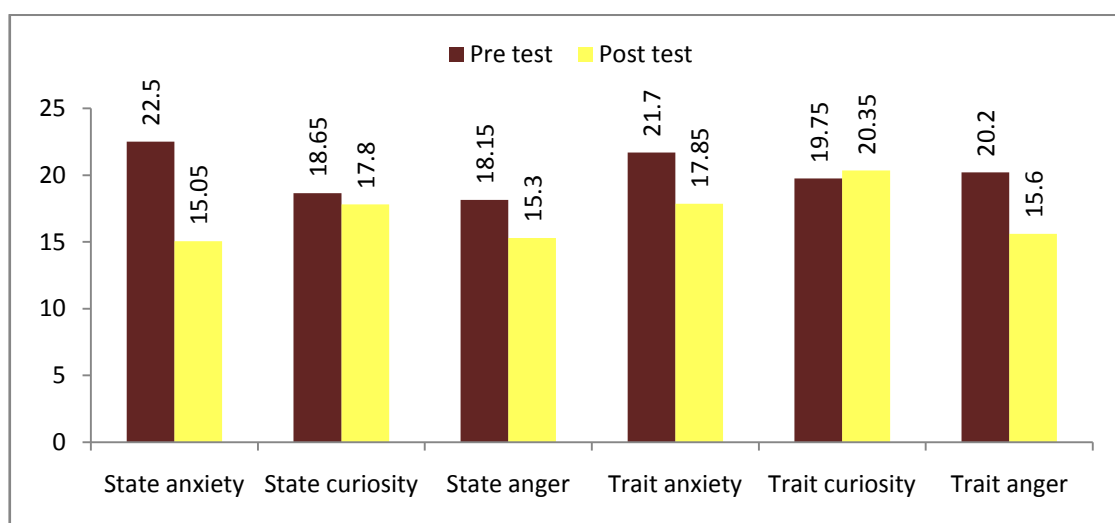


Table no 5.14 shows a t value of 9.452 for state anger, which is significant at 0.01 level. The results indicate that there exist significant differences between the pre and post test scores on state anger. The experimental group obtained 18.15 as pre test mean score and 15.30 as post test mean score with a standard deviation of 4.50 and 4.16 respectively. State anger is defined as an emotional state or condition that consists of subjective feelings of irritation, annoyance, fury and rage with concomitant activation or arousal of the autonomic nervous system. The result shows that there is a decrease in post test mean score indicating a reduction in emotional state. The result indicates that the GSPR found to be effective in managing anger of the plus two students.

For the variable trait anxiety, the experimental group 1 obtained a t value of 5.887, which is significant at 0.01 level. The result shows that there exists a significant difference between pre and post scores of the experimental group 1. Trait anxiety refers to relatively stable individual differences in anxiety proneness and the group obtained pre test mean score of 21.70 and 17.85 as post test mean score. The comparison shows that there is a decrease in mean score after two month's practice of the GSPR. As in the case of state anxiety, GSPR could be used as an effective strategy to manage trait anxiety too.

Experimental group 1 obtained t value of -0.858, which is not significant. The result indicates that there is no significant difference between the pre and post test scores on trait curiosity. The group obtained a mean score of 19.75 and standard deviation of 3.58 for the pre test and obtained a mean score of 20.35 and standard deviation of 4.84 for the post test. Curiosity means the desire or inclination to know or learn about anything, ranging from what is novel or strange to a desire of knowing what one has no right to know. There is no change in the post test score after the two months practice of GSPR, indicating the limited effect of GSPR on trait curiosity.

The trait anger is defined in terms of individual differences in the frequency that state anger is experienced over time. Table no 5.14 shows a t value of 6.360 for the variable trait anger, which is significant at 0.01 level. This indicates that there exists significant difference in pre and post test comparison on trait anger of the experimental group1. The group obtained a mean value of 20.20 at pre test (SD-3.17) and 15.60 as post test mean score with a standard deviation of 3.14. The result shows a reduction in trait anger after practicing GSPR for a period of two months.

Conclusion

The above result shows that there exist a significant difference in state and trait dimensions of anxiety and anger and no significant differences in state and trait dimensions of curiosity. While comparing the mean values it is seen that there is a decrease in mean scores from pre to post intervention for all the variables except for trait curiosity. Guided Somato Psychic Relaxation was given to the experimental group 1 for a period of two months and as a result they could manage their anxiety and anger to a great extent.

5.3.2.3 - Comparison of experimental group 1 on pre and post intervention based on different behaviour problem variables.

To find out whether there exist significant differences, between the pre and post assessment scores on behaviour problem variables of the experimental group 1, t test carried out for all the variables. The results are presented in table no 5.15 and figure no 5.7.

A t value of 3.566 obtained for the variable emotional problem, which is significant at 0.01 level. The result shows that there exists a significant difference between the pre and post test scores on emotional problems. The experimental group 1 obtained a pre test mean score of 24.40 with a standard deviation of 5.05 and post test mean score of 22.30 with a standard deviation of 3.20. The result shows that there is a decrease in the post test score indicating reduction in emotional problems. The intervention given to the experimental group was effective in managing the emotional problem. The two months of assisted practice of GSPR helped in managing the emotional problems.

Table no 5.15

Mean, Standard Deviation, Correlation coefficient and paired t value of experimental group (1) on different behaviour problem variables (pre and post intervention, N =20)

Variables	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Emotional Problems	24.40	5.05	22.30	3.20	0.892**	3.566**
Academic problems	20.60	5.35	19.70	4.41	0.970**	2.651**
Social problems	24.10	5.09	23.10	4.23	0.885**	1.876
Personal problems	21.60	5.17	19.40	4.26	0.934**	5.082**
Family problems	19.50	5.80	19.90	5.29	0.938**	-0.890
Sexual problems	17.20	8.72	14.40	6.64	0.679**	1.945
Health problems	19.50	5.35	16.60	4.45	0.942**	6.866**
Overall Behaviour problems	146.90	22.19	135.40	17.57	0.929**	5.861**

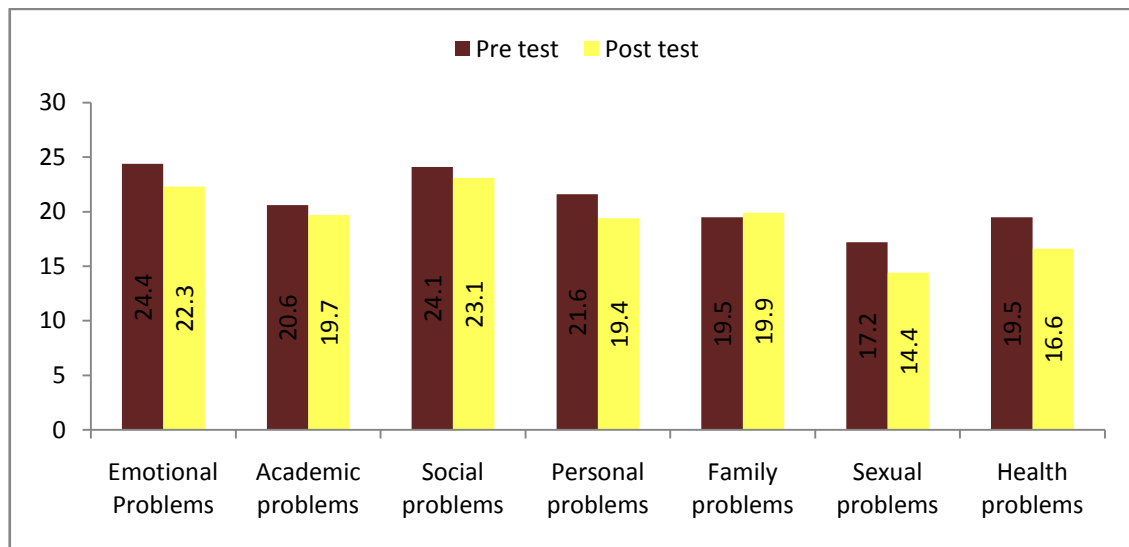
**Significant at 0.01 level; * Significant at 0.05 level

For academic problem, the experimental group 1 obtained a t value of 2.651, which is significant at 0.01 level. The result shows that there exists a significant difference between the pre and post intervention scores on academic problem. The intervention given to the experimental group 1 has an effect in academic problems. To find out the dimensions of differences, compared the mean values separately. Table no 5.15 shows that the experimental group 1 obtained a pre test mean score of 20.60 and post test mean score of 19.70, with a standard deviation score of 5.35 and 4.41 for academic problems. The mean comparison shows that there is a reduction in academic problems in the experimental group 1. The result indicates that the two months GSPR practice helped the plus two students in managing

their academic problems. Hence it can be concluded that the GSPR is effective in managing the academic problem.

Figure no 5.7

The pre test – post test mean score comparison on behaviour problem variables of the experimental group 1.



There is no significant difference observed for the variable, social problem as its t value is 1.876. The result shows that there were no significant difference between the pre and post test scores of the experimental group 1 on social problems. When comparing the mean values, the experimental group 1 obtained a pre test mean score of 24.10 and post test mean score of 23.10, with a standard deviation of 5.09 and 4.23 respectively. Though there is an increase in mean score, it is not significant. Thus it can be concluded that GSPR is not an effective intervention technique for managing the social problems

It is observed that the experimental group 1 obtained a t value of 5.082 for personal problems, which is significant at 0.01 level. The result shows that there exists a significant difference between the pre and post test scores on personal problems. The group has got pre test mean score of 21.60 and post

test score of 19.40. The mean comparison shows a decrease in post test mean score. The intervention given to the experimental group 1 is effective in managing the personal problems. It may be concluded that the GSPR as an intervention technique is effective in managing the personal problems of plus two students.

Table no 5.15 shows a t value of -0.890 obtained for the family problem and is not significant. The result indicates that there is no significant difference between pre and post test scores on family problems of the experimental group 1. While analysing the mean scores, it is seen that the group obtained a pre test mean score of 19.50 and post test mean score of 19.90. The result shows that there is an increase in the mean score of the post test, indicating an increase in family problems. It is interesting to note that the intervention technique has an adverse effect in family problem. As a therapeutic process, GSPR is mainly meant for managing the personal issues and there by its effect on other areas. The roles of other members are also important in having the family problem and hence the negative effect on family problem variable. It can be concluded that the GSPR as an intervention is not effective in managing or controlling the family problems of adolescents.

A t value of 1.945 obtained for sexual problem variable, which does not show any significant difference. The result shows that there is no significant difference between the pre and post test scores on sexual problems of the experimental group 1. The group obtained a pre test mean score of 17.20 and a post test score of 14.40 with a standard deviation score of 8.72 and 6.64 respectively. The mean comparison shows a decrease in the mean score of the post assessment phase. Though there is a decrease in mean score after two month's intervention, there is no significant difference between the pre and post intervention scores. Thus it can be

concluded that the GSPR is not effective in managing the sexual problems of plus two students.

On the other hand, for health problems, the experimental group 1 obtained a t value of 6.866, which is significant at 0.01 level. The result shows that there exists a significant difference between the pre test and post test score on health problems. Table no 5.15 shows that the pre test mean score 19.50 and post intervention mean score of 16.60 obtained by the experimental group 1. There is a decrease in mean score after the intervention for a period of two months. The assisted practice of GSPR for two month helped the experimental group in managing their health problems. Several studies show that relaxation is one among the highly useful technique in managing the health problems. It can be concluded that GSPR is an effective method to manage the health problems.

The t value of 5.861 obtained for the overall behaviour problem of the experimental group 1, which is significant at 0.01 level. The result shows that there exist a significant difference between the pre and post test mean score on overall behaviour problems of the experimental group 1. As it is evident from the analysis of sub variables, the overall behaviour problem also has a decrease in its post test scores. The mean value 146.90 obtained as the pre test mean score and 135.40 as the post test mean score for overall behaviour problems.

Conclusion

The t test results shows that there exist a significant difference between the pre and post test scores on emotional problems, academic problems, personal problems, and health problems. There are no differences in social

problems, family problems and sexual problems. The comparison of mean value shows a decrease in the post test mean scores on all variables, except for family problems. The GSPR found to be effective in managing academic, emotional, personal and health problems and may not be effective in managing social, family and sexual problems of plus two students.

5.3.2.4 - Comparison of experimental group 1 on pre and post intervention based on depression.

The t value of 6.635 obtained for the variable depression and is significant at 0.01 level. The details are presented in table no 5.16 and figure no 5.8. The result shows that there exists a significant difference between the pre test and post test scores on depression of the experimental group 1.

Table no 5.16

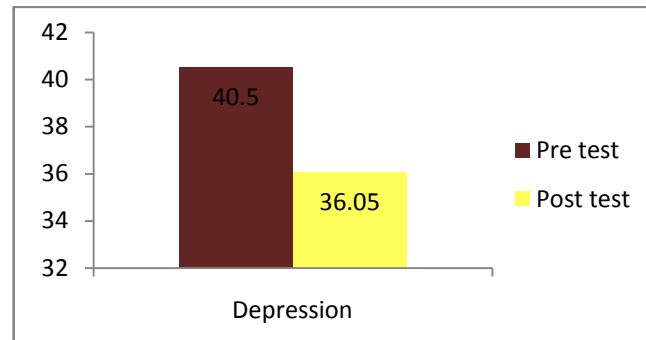
Mean, Standard Deviation, Correlation coefficient and paired t value of experimental group (1) on depression (pre and post intervention, N =20)

Variable	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Depression	40.50	6.93	36.05	5.82	0.904**	6.635**

***Significant at 0.01 level; * Significant at 0.05 level*

Figure no 5.8

The pre test – post test mean score comparison on depression of experimental group 1.



While comparing the means, it is observed that the experimental group 1 obtained a pre test mean score of 40.50 and post test mean scores of 36.05. The result shows that there is a reduction in post test means score. The intervention given to the experimental group is effective as per the present result. The experimental group 1 provided with GSPR for a period of two months and it helps in reducing the depression among the plus two students.

Overall conclusion

The experimental group 1 was given GSPR for two months as an intervention technique. The result reveals that the GSPR is not effective in managing the assertiveness, and sense of personal worth among the personality variables, state and trait dimensions of personality, social problems, family problems and sexual problems of the behaviour problem variables. On the other hand it was found effective in managing inferiority complex, emotional instability, self control, tolerance, sense of well being, self esteem, social skills, adaptability, and sensitivity of personality variables, State and trait dimensions of anxiety and anger, emotional

problems, academic problems, personal problems, and health problems of behaviour problem variables and depression. Even though the GSPR is effective in managing good majority of the problems faced by the adolescents, it may not be possible to use it as a single means to address the issues. The problems of adolescents is of very sensitive the same need to be addressed as a whole and for which the GSPR may not be effective, but can be recommended and very effective for the specific problems listed above.

5.3.3 EXPERIMENTAL GROUP 2 – COMPARISON OF PRE AND POST INTERVENTION SCORES

The present section of the results and discussion focuses on the mean comparison of pre and post scores on all study variables. This is to find out whether there exists any significant difference between the pre and post test scores of the experimental group 2. The data collected in the beginning, used for matching the sample for assigning groups, was taken as the pre intervention score. The experimental group 2 was given Cognitive Behavioural Counselling (CBC) as an intervention technique for managing their problems. The CBC was given for a period of two months spell out in 18 sessions and then the post data was collected. The t test results along with mean comparison and graph presented separately for each group of variables.

5.3.3.1 - Comparison of experimental group (2) on pre and post intervention based on personality variables.

The t test results of the experimental group 2 on pre and post intervention scores based on all personality variables were computed and presented in table no 5.17 and a graph is plotted and placed as figure no 5.9 based on the mean values.

Table no.5.17

Mean, Standard Deviation, Correlation coefficient and paired t value of experimental group (2) on different personality variables (pre and post intervention, N =20)

Variables	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Assertiveness	39.60	3.95	43.55	4.31	0.931**	-11.238**
Inferiority complex	35.20	8.84	30.05	7.33	0.900**	5.910**
Emotional instability	38.30	7.57	33.65	5.10	0.894**	5.491**
Self control	32.60	7.21	36.20	6.88	0.952**	-7.285**
Tolerance	29.40	6.27	36.20	6.88	0.475*	-4.501**
Sense of well being	37.85	6.62	41.30	5.57	0.953**	-7.212**
Self esteem	33.60	8.32	37.35	5.82	0.938**	-4.781**
Sense of personal worth	38.15	7.29	41.25	4.36	0.926**	-3.808**
Social skills	40.95	7.39	42.85	5.59	0.958**	-3.276**
Adaptability	37.80	5.61	40.65	3.53	0.925**	-4.720**
Sensitivity	43.80	5.36	38.15	4.27	0.848**	8.859**

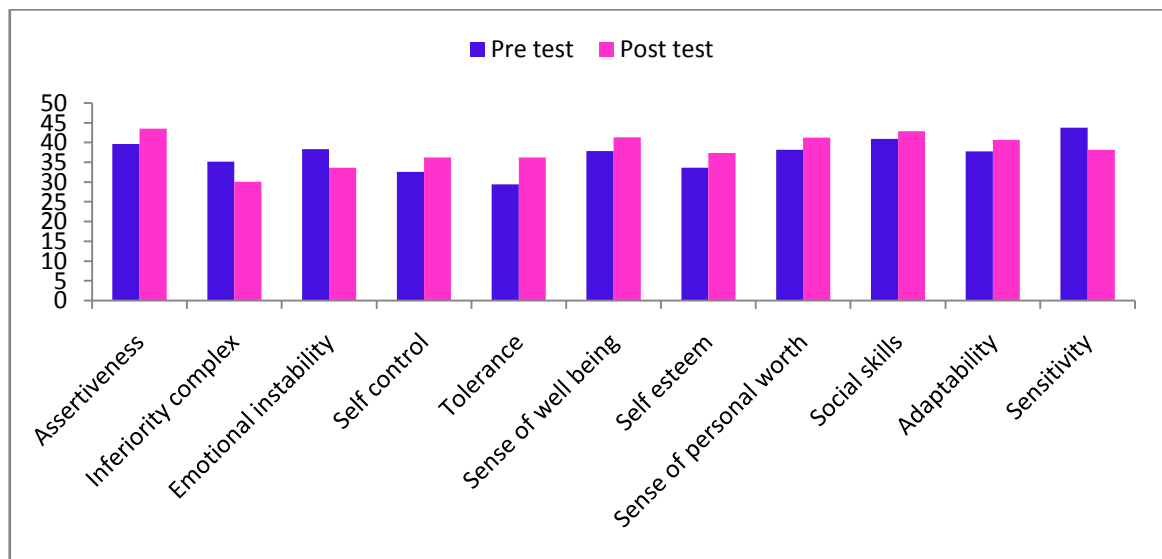
***Significant at 0.01 level; * Significant at 0.05 level*

The t-test results for the experimental group 2 between the means in the pre and post intervention assessment on assertiveness shows significant difference. The obtained t-value is -11.238 which is significant at 0.01 level. The experimental group 2 obtained a pre intervention mean score of 39.60 and post intervention mean score of 43.55 and a standard deviation of 3.95 and 4.31 respectively. Assertiveness refers to the ability to express their needs, wishes and feelings frankly, honestly and directly. Assertiveness is behaviour or a skill that helps to communicate, clearly and

confidently our feelings, needs, wants and thoughts. It is the ability to say no to request, to state an opinion without being self conscious or to express emotions such as love, anger etc openly. The mean comparison shows an increase in assertiveness skills after the intervention. The experimental group 2 was given Cognitive Behavioural Counselling comprises of an average 18 session per student within a period of two months. It can be concluded that the CBC is effective in developing assertiveness skills in plus two students.

Figure no 5.9

The pre and post test mean score comparison on personality variables of the experimental group 2.



A t value of 5.910 obtained for the variable inferiority complex, which is significant at 0.01 level. The result shows that there exists a significant difference between the pre and post test scores on inferiority complex. The mean score of 35.20 as pre test score and 30.05 as the post test of the experimental group 2. There is a decrease in inferiority complex within a short duration of two months. Inferiority complex is a complex of emotionally toned ideas arising from repressed fear and resentment

associated with real or imagined inferiority , resulting either in compensation, in the form of pugnacity, or withdrawal into oneself. The result shows that CBC is effective in managing inferiority complex among plus two students.

The t-test results for the experimental group 2 between the means in the pre and post intervention assessment on emotional instability shows significant difference. The obtained t-value is 5.491 which is significant at 0.01 level. The experimental group 2 obtained a pre intervention mean score of 38.30 and post intervention mean score of 33.65 and a standard deviation of 7.57 and 5.10 respectively. Emotional instability refers to the state or qualities of being unstable or unsteady in handling the emotional dealings. The mean comparison shows a considerable reduction in emotional instability indicating the effectiveness of CBC in reducing emotional instability.

The t value of -7.285 obtained for self control and is significant at 0.01 level. The result indicates that there exists a significant difference between the pre and post intervention score. While analysing the mean values of pre and post scores on self control, there are differences in the pre (32.60) and post (36.20) scores. The increase in score in the post test indicates that they have developed control over emotional life and behaviour in general. The CBC found to be effective in developing self control among adolescents.

The pre test and post test comparison of the experimental group 2 reveals that there exists a significant difference for the variable tolerance. The t value obtained is -4.501, which is significant at 0.01 level. The experimental group 2 obtained mean score of 29.40 for the pre test and 36.20 as the post test mean score. There is an increase in mean value from pre to post and hence the significant difference. The variable tolerance refers to the state or qualities of being unstable or unsteady in handling the

emotional dealings. The result indicates that their difficulty in handling emotional dealings has decreased. As the group practiced CBC for two months helped them in handling the emotional difficulties in a much better way. It can be concluded that the CBC is effective in increasing tolerance among adolescents.

The t value obtained for sense of well being is -7.212 and it is significant at 0.01 level. The result shows that there exists a significant difference between the pre and post test mean score on sense of well being of the experimental group 1. Table no 5.17 shows that a mean score of 37.85 obtained for the pre test and 41.30 for the post test scores on sense of well being. The mean comparison shows that there is an increase in mean in the post test score after two months. The state of well being is that in which the individual realises his or her own abilities, can work productively and fruitfully and is able to contribute to his or her community. The results indicate that the CBC is effective in developing a sense of well being in the subjects.

Self esteem is considered as an important component of emotional health, and it encompasses both self-confidence and self-acceptance. The t value of -4.781 obtained for the variable self esteem is significant at 0.01 level. The result shows that there exists a significant difference between the pre and post intervention scores on self esteem. The experimental group 2 has a pre test mean score of 33.60 and post test mean score of 37.35, with a standard deviation of 8.32 and 5.82 respectively for self esteem. The experimental group 2 were able to develop increased self confidence and self acceptance as their post intervention score is higher than that of the pre intervention score. It is evident for the result that CBC is effective.

For the variable sense of personal worth, the t value obtained is -3.808 and it is significant at 0.01 level. The result reveals that there exist a significant difference between the pre and post test scores of the experimental group 2 on sense of personal worth. While comparing the mean scores it is seen that there is an increase in mean value from 38.15 as the pre test mean score to 41.25 as the post test mean score on sense of personal worth. The state of well being is that in which the individual realises his or her own abilities, can work productively and fruitfully and is able to contribute to his or her community. The result shows that CBC is effective in developing a sense of personal worth among adolescents.

The pre and post test scores on social skills of experimental group 2 obtained a t value of -3.276, which is significant at 0.01 level. The results indicate that there exists a significant difference between the pre and post test scores of the experimental group 2 on social skills. Social skills refer to the abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life. It includes any skills necessary for competent social interaction, including both language and non verbal communication. The table 5.17 shows a mean value of 40.95 for pre test and 42.85 for post test on social skills. The group obtained a standard deviation of 7.39 and 5.59 respectively. The result shows that there is increases in post intervention mean score, indicating the increase in social skills with the help of two months of CBC sessions.

Table no 5.17 shows that the variable adaptability obtained a t value of -4.720 which is significant at 0.01 level. The results indicate that there exists a significant difference between the pre and post test scores on adaptability. When comparing the mean scores the experimental group 2 obtained a

mean score of 37.80 for the pre test and 40.65 for the post test for adaptability. The difference in mean score between the pre and post indicates the increased ability attained with the support of CBC by the experimental group 2 to make appropriate responses to changing circumstances.

The t value obtained for sensitivity is 8.859, which is significant at 0.01 level. The result shows that there exists a significant difference between the pre and post scores on sensitivity of the experimental group 2. The group obtained a mean value of 43.80 and standard deviation of 5.36 for the pre test and a mean value of 38.15 and standard deviation of 4.27 for the post test. The result shows that there is a decrease in mean score of the experimental group 2 as they have undergone CBC and generated skills. The CBC found to be useful in managing the sensitivity nature of the plus two students.

Conclusion

The mean values of positive dimensions of personality namely assertiveness, self control, tolerance, sense of well being, self esteem, sense of personal worth, social skills, and adaptability variables showed an increase in mean value in the post test assessments. The t result shows significant differences in all these variables. On the other hand negative dimensions of personality, namely inferiority complex, emotional instability and sensitivity variables show a decrease in mean scores in the post test score. These three variables showed significant differences between pre and post scores. The pre and post comparison on personality variables of the experimental group2 shows that the CBC is effective in managing the personality traits of adolescents.

5.3.3.2 - Comparison of experimental group 2 on pre and post intervention based on the state and trait dimensions of anxiety, anger and curiosity.

To find out whether there exist significant differences, between the pre and post assessment scores on state and trait dimensions of anxiety, anger and curiosity of the experimental group 2 , t test carried out for all the variables. The results are presented in table no 5.18 & figure no 5.10.

Table no 5.18

Mean, Standard Deviation, Correlation coefficient and paired t value of experimental group (2) on different STPI variables (pre and post intervention, N =20)

Variables	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
State anxiety	19.90	4.81	16.85	3.50	0.834**	5.044**
State curiosity	18.95	3.76	18.35	2.92	0.915**	1.674
State anger	15.55	3.85	13.35	3.00	0.850**	4.819**
Trait anxiety	20.05	3.30	16.30	3.20	0.757**	7.394**
Trait curiosity	19.10	4.46	16.25	4.38	0.856**	5.382**
Trait anger	20.10	4.56	16.05	2.80	0.613**	5.024**

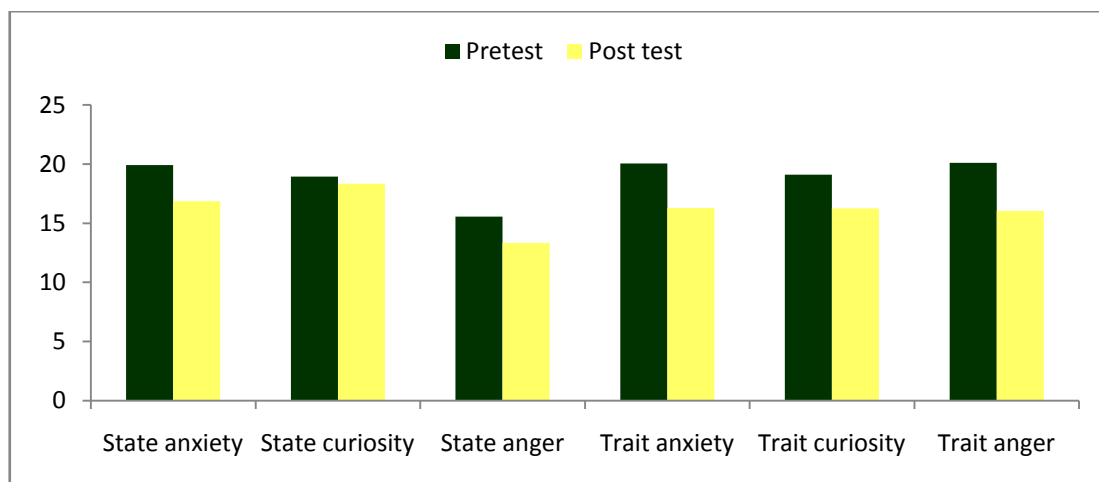
***Significant at 0.01 level; * Significant at 0.05 level*

Experimental group 2 obtained a t value of 5.044 for state anxiety and it is significant at 0.01 level. The result shows that there exist significant differences between the pre and post test scores on state anxiety. While comparing the mean values, the experimental group 2 obtained a pre test score of 19.90 and post test score of 16.85 for state anxiety. The

experimental group 2 shows a decrease in mean score from the pre test score to post test mean score. The result shows that there is a decrease in state anxiety, a transitory emotional reaction that consists of feelings of tension, apprehension, nervousness and worry and activation of the autonomic nervous system, after two months of intervention given to them. The result indicates that CBC is effective in reducing state anxiety.

Figure no 5.10

The pre and post test mean score comparison on state and trait dimensions of anxiety, anger and curiosity of the experimental group 2.



Curiosity means the desire or inclination to know or learn about anything, ranging from what is novel or strange to a desire of knowing what one has no right to know. The table no 5.18 shows a t value of 1.674 obtained for state curiosity and it is not significant. The result shows that there is no significant difference between the pre and post test scores on state curiosity of the experimental group 2. The group obtained 18.95 as pre test mean score and 18.35 as post test mean score and standard deviation of 3.76 and 2.92 respectively. The mean comparison shows a reduction in mean score from pre test to post test score indicating a decrease in state curiosity. Though there is a reduction in the mean score, the two months intervention

could not generate a significant difference in pre and post test mean score. Thus it can be concluded that the CBC is not an effective intervention technique in managing state curiosity.

Table no 5.18 shows a t value of 4.819 for state anger, which is significant at 0.01 level. The results indicate that there exist significant differences between the pre and post test scores on state anger. The experimental group 2 obtained 15.55 as pre test mean score and 13.35 as post test mean score with a standard deviation of 3.85 and 3.00 respectively. The result shows that there is a decrease in post test mean score indicating a reduction in emotional state. State anger is defined as an emotional state or condition that consists of subjective feelings of irritation, annoyance, fury and rage with concomitant activation or arousal of the autonomic nervous system. The result indicates that the CBC found to be effective in managing anger of the plus two students.

The experimental group 2 obtained a t value of 7.394 for trait anxiety, which is significant at 0.01 level. The result shows that there exists a significant difference between pre and post scores of the experimental group 2. Trait anxiety refers to relatively stable individual differences in anxiety proneness and the group obtained pre test mean score of 20.05 and 16.30 as post test mean score. The result shows a decrease in mean score of the post test score. The CBC session provided to the experimental group as an intervention technique seem to be effective in reducing trait anxiety. Similar results observed in the case of state anxiety too.

Experimental group 2 obtained t value of 5.382, which is significant at 0.01 level. The result indicates that there exists a significant difference between the pre and post test scores on trait curiosity. The group obtained a mean

score of 19.10 and standard deviation of 4.46 for the pre test and obtained a mean score of 16.25 and standard deviation of 4.38 for the post test. The decrease in the post test mean score indicates the effectiveness of intervention given to the experimental group 2. It can be concluded that the CBC is effective in managing the trait curiosity.

Table no 5.18 shows a t value of 5.024 for the variable trait anger, which is significant at 0.01 level. This indicates that there exists a significant difference in pre and post test comparison on trait anger of the experimental group2. The group obtained a mean value of 20.10 at pre test (SD-4.56) and 16.05 as post test mean score with a standard deviation of 2.80. The trait anger is defined in terms of individual differences in the frequency that state anger is experienced over time. The result shows a reduction in trait anger after CBC for a period of two months. Thus it can be concluded that the CBC is effective in managing trait anger among adolescents.

Conclusion

The above result shows that there exist a significant difference in state and trait dimensions of anxiety and anger and trait dimensions of curiosity. Whereas no significant difference observed for state curiosity. While comparing the mean values it is seen that there is decrease in mean scores from pre to post intervention for all the variables including state curiosity. Thus it can be concluded that CBC given for the experimental group 2 in 18 session spread over a period of two months was effective in managing all variables except state curiosity.

5.3.3.3 - Comparison of experimental group 2 on pre and post intervention based on different behaviour problem variables.

To find out whether there exist significant differences, between the pre and post intervention scores on behaviour problem variables of the experimental group 2, t test carried out for all the variables. The results are presented in table no 5.19 and figure no 5.11.

Table no 5.19

Mean, Standard Deviation, Correlation coefficient and paired t value of experimental group (2) on different behaviour problem variables (pre and post intervention, N =20)

Variables	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Emotional Problems	24.50	5.42	21.10	3.97	0.901**	6.030**
Academic problems	23.40	5.35	20.20	3.49	0.875**	5.007**
Social problems	24.90	5.29	22.90	4.28	0.976**	6.164**
Personal problems	23.30	5.32	20.10	4.42	0.835**	4.883**
Family problems	19.50	5.31	18.50	3.55	0.954**	2.032
Sexual problems	15.80	6.55	15.00	5.49	0.943**	1.566
Health problems	15.90	6.85	15.00	5.75	0.965**	2.015
Overall Behaviour problems	146.90	22.19	132.60	17.44	0.964**	8.854**

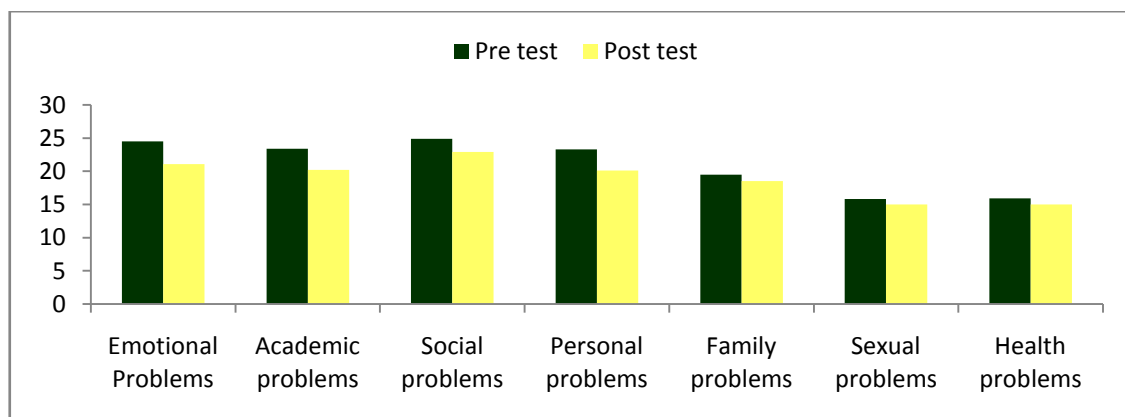
**Significant at 0.01 level; * Significant at 0.05 level

A t value of 6.03 is obtained for the variable emotional problem, which is significant at 0.01 level. The result shows that there exists a significant difference between the pre and post test scores on emotional problems. The experimental group 2 obtained a pre test mean score of 24.50 with a

standard deviation of 5.42 and post test mean score of 21.10 with a standard deviation of 3.97. The result shows that there is decrease in the post test score indicating reduction in emotional problems. The intervention given to the experimental group 2 was effective in managing the emotional problem. The two months of assisted practice of CBC might have helped in managing the emotional problems.

Figure no 5.11

The pre test – post test mean score comparison on behaviour problem variables of the experimental group 2.



The t value obtained for personal problems is 4.883, significant at 0.01 level. The pre and post test scores on personal problems of the group 2 were for pre test mean score of 23.30 and post test score of 20.10. The group obtained 5.32 and 4.42 scores for standard deviation for the pre and post test respectively. The mean comparison shows a decrease in post test mean score. The intervention given to the experimental group 2 is effective in managing the personal problems. It may be concluded that the CBC as an intervention technique is effective in handling the personal problems of plus two students.

Table no 5.19 showed a t value of 2.032 obtained for the family problems and it is not significant at 0.05 level. The result indicates that there is a slight difference between pre and post test scores on family problems of the experimental group 2. While analysing the mean scores, it is seen that the group obtained a pre test mean score of 19.50 and post test mean score of 18.50. The standard deviation scores for the pre and post test for this group are 5.31 and 3.55 respectively. The result shows that there is little decrease in the mean score of the post test, indicating a decrease in family problems. Though there is a slight difference in the pre and post mean scores the t value does not show any significance for family problems.

The experimental group 2 obtained a t value of 5.007, which is significant at 0.01 level for academic problems. The result shows that there exists a significant difference between the pre and post intervention scores on academic problem. The intervention given to the experimental group 2 has an effect in academic problems. To find out the dimensions of differences, compared the mean values separately. Table no 5.19 shows that the experimental group 2 obtained a pre test mean score of 23.40 and post test mean score of 20.20, with a standard deviation score of 5.35 and 3.49 respectively. The mean comparison shows that there is a reduction in academic problems in the experimental group 2. The result indicates that the two months CBC practice helped the plus two students in managing their academic problems. Hence it can be concluded that the CBC is effective in managing the academic problem.

There is significant difference observed for the variable, social problem as its t value is 6.164. The result shows that there is significant difference between the pre and post test scores of the experimental group 2 on social problems. When comparing the mean values, the experimental group 2

obtained a pre test mean score of 24.90 and post test mean score of 22.90, with a standard deviation of 5.29 and 4.28 respectively. There is a decrease in the mean score, indicates the impact of CBC, as an effective intervention technique for reducing the social problems of the subjects.

A t value of 1.566 obtained for sexual problem variable, which is not significant at 0.05 level . The result shows that there is a little difference between the pre and post test scores on sexual problems of the experimental group 2. The group obtained a pre test mean score of 15.80 and a post test score of 15.0 with a standard deviation score of 6.55 and 5.49 respectively. The mean comparison shows a decrease in the mean score of the post assessment phase. Though there is a decrease in mean score after two month's intervention, there is no significant difference between the pre and post intervention scores. Thus it can be concluded that the CBC is not much effective in managing the sexual problems of plus two students.

On the other hand, for health problems, the experimental group 2 obtained a t value of 2.015, which is not significant at 0.05 level. Table no 5.19 shows that the pre test mean score 15.90 and post intervention mean score of 15.0 obtained by the experimental group 2. The standard deviation scores are 6.85 and 5.75 for the pre and post test respectively. The result shows that there is only a slight difference in the pre and post mean scores; the t value does not show any significance. The decrease in mean score after the intervention for the period of two months cannot be attributed to the CBC provided for two months helped this experimental group.

The t value of 8.854 obtained for the overall behaviour problem of the experimental group 2, which is significant at 0.01 level. The result shows

that there exist a significant difference between the pre and post test mean score on overall behaviour problems of the experimental group 2. As it is evident from the analysis of sub variables, the overall behaviour problem also has a decrease in its post test scores. The mean value 146.90 obtained as the pre test mean score and 132.60 as the post test mean score. The standard deviation for the pre test is 22.19 and the post test is 17.44.

Conclusion

The t test results of the experimental group 2 shows that there exist significant differences between the pre and post test scores on emotional problems, academic problems, social problems, personal problems, and the overall behaviour problems. Much difference were not observed in the family, sexual and health problems. The comparison of mean value shows a decrease in the post test mean scores on all variables. The Cognitive Behaviour Counselling is found to be effective in managing emotional, academic, social, personal and overall behaviour problem and not much effective in managing, family, sexual and health problems of plus two students.

5.3.3.4 - Comparison of experimental group 2 on pre and post intervention based on depression.

The t value of 4.19 obtained for the variable depression and is significant at 0.01 level. The details are presented in table no 5.20 and figure no 5.12. The result shows that there exists a significant difference between the pre test and post test scores on depression of the experimental group 2. The pre test mean is 37.85 and the post test mean is 29.80. The standard deviation score for the pre and post test are 8.42 and 5.39 respectively.

Table no 5.20

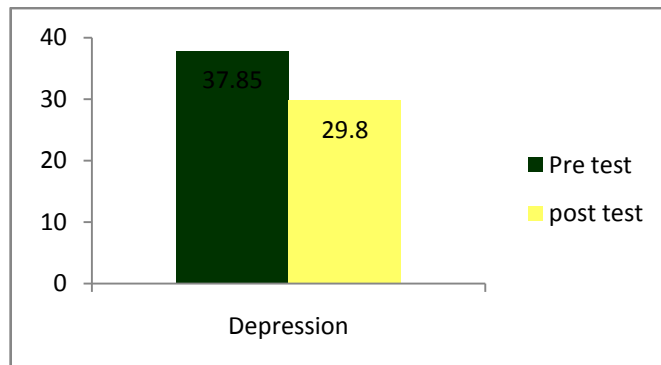
Mean, Standard Deviation, Correlation coefficient and paired t value of experimental group (2) on depression (pre and post intervention, N =20)

Variable	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Depression	37.85	8.42	29.80	5.39	0.287	4.190**

***Significant at 0.01 level; * Significant at 0.05 level*

Figure no 5.12

The pre and post test mean score comparison on depression of the experimental group 2.



While comparing the means, it is observed that the experimental group 2 obtained a post test mean score much less than the pre test mean score. This reduction in post test mean score, can be attributed to the intervention in the form of CBC, given to the experimental group 2. The experimental group 2 provided with CBC for a period of two months is found effective and it helped in reducing the depression among the plus two students.

Overall conclusion

Cognitive Behavioural Counselling was the intervention given to the experimental group 2. The intervention was given for a period of 2 months with an average 18 sessions per person. The result shows that there exists a significant difference in all personality variables on their pre and post test scores. This shows the effectiveness of CBC in managing the positive and negative dimensions of personality traits. State and trait dimensions of anxiety, anger and curiosity also show significant differences, except for state curiosity. Among the behaviour problem variables, emotional problem, academic problem, social problem, and personal problem showed significant difference, indicating the effectiveness of CBC. Depression also showed significant difference and this emphasizes the effectiveness of CBC in the management of depression. It could be concluded that CBC is effective in enhancing assertiveness, inferiority complex, emotional instability, self control, tolerance, sense of well being, self esteem, sense of personal worth, social skills, and adaptability, in the subjects and it is also helpful to reduce inferiority complex, emotional instability, and sensitivity dimensions of personality. state and trait dimensions of anxiety and anger, trait dimensions of curiosity, emotional problems, academic problems, social problems, and personal problems among plus two students are also found reduced with the impact of cognitive behaviour counselling.

5.3.4 - EXPERIMENTAL GROUP 3 – COMPARISON OF PRE AND POST INTERVENTION SCORES

The present section of the results and discussion focuses on the mean comparison of pre and post scores on all study variables. This is to find out whether there exists any significant difference between the pre and post test scores of the experimental group 3. The data collected in the beginning,

used for matching the sample for assigning groups, was taken as the pre intervention score. The experimental group 3 was given Cognitive Behavioural Counselling (CBC) combined with Guided Somato Psychic Relaxation (GSPR) as an intervention technique for managing their problems. This intervention was given for a period of two months spell out in 18 sessions and then the post data was collected. The t test results along with mean comparison and graph are presented separately for each group of variables.

5.3.4.1 - Comparison of experimental group (3) on the pre and post intervention based on personality variables.

The t test results of the experimental group 3 on the pre and post intervention scores based on all personality variables were computed and presented in table no 5.21 and a graph is plotted and placed as figure no 5.13 based on the mean values.

The t-test results for the experimental group 3 between the means in the pre and post intervention assessment on assertiveness shows significant difference. The obtained t-value is -7.632 which is significant at 0.01 level. The experimental group 3 obtained a pre intervention mean score of 38.10 and post intervention mean score of 46.65 and a standard deviation of 5.87 and 4.0 respectively. The mean score comparison showed an increase in assertiveness skills after the intervention. This experimental group was given Cognitive Behavioural Counselling along with GSPR, comprises of an average 18 sessions per student within a period of two months. Increase in the mean score of assertiveness in the post test indicates the importance of this intervention in enhancing assertiveness in the subjects.

Table no 5.21

Mean, Standard Deviation, Correlation coefficient and paired t value of experimental group (3) on different personality variables (pre and post intervention, N =20)

Variables	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Assertiveness	38.10	5.87	46.65	4.00	0.539**	-7.632**
Inferiority complex	38.90	8.74	32.45	5.59	0.921**	6.870**
Emotional instability	42.60	6.12	34.05	4.36	0.704**	8.797**
Self control	29.65	5.42	38.25	4.45	0.770**	-11.083**
Tolerance	26.50	5.26	38.25	4.45	0.460*	-10.329**
Sense of well being	30.95	7.55	40.40	5.96	0.799**	-9.317**
Self esteem	32.70	6.19	39.30	3.42	0.584**	-5.868**
Sense of personal worth	37.20	6.49	42.20	3.96	0.690**	-4.733**
Social skills	36.05	6.28	40.80	4.29	0.652**	-4.456**
Adaptability	39.10	6.41	44.10	2.81	0.356**	-3.716**
Sensitivity	44.85	4.11	35.10	4.60	0.266	8.242**

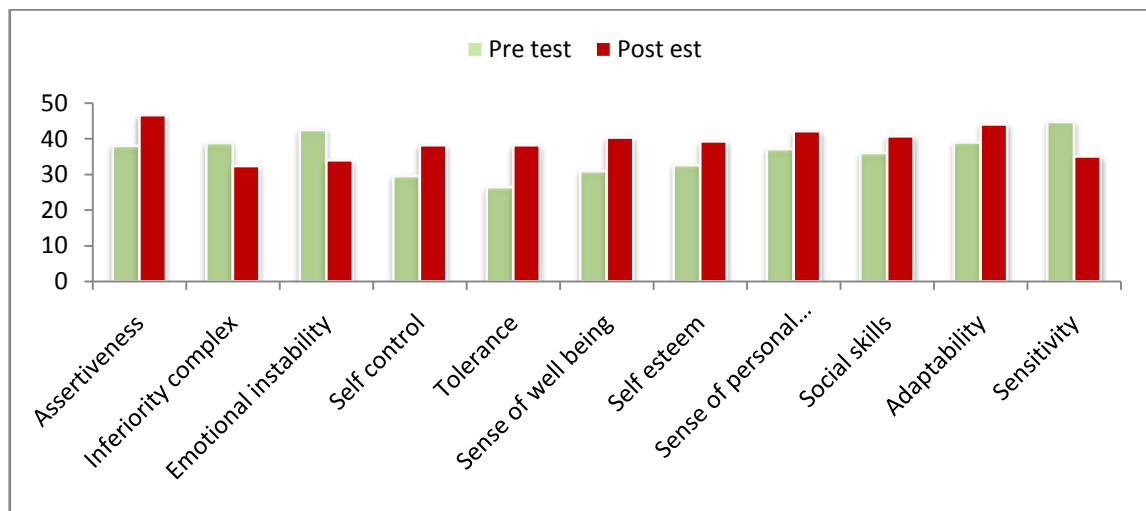
**Significant at 0.01 level; * Significant at 0.05 level

A t value of 6.870 obtained for the variable inferiority complex, which is significant at 0.01 level. The result shows that there exists a significant difference between the pre and post test scores on inferiority complex. The mean score of 38.90 as the pre test score and 32.45 as the post test score of the experimental group 3. There is a noticeable decline in inferiority complex within a short duration of two months. The result shows that combined usage of CBC and GSPR contributed to this change. This

intervention enabled the subjects to get rid of the problems like withdrawal to oneself or complexities of emotionally toned ideas.

Figure no 5.13

The pre and post test mean score comparison on personality variables of the experimental group 3.



The t-test results for the experimental group 3 between the means in the pre and post intervention assessment on emotional instability shows significant difference. The obtained t-value is 8.797 which is significant at 0.01 level. The experimental group 3 obtained a pre intervention mean score of 42.60 and post intervention mean score of 34.05 and a standard deviation of 6.12 and 4.36 respectively. Emotional instability refers to the state or qualities of being unstable or unsteady in handling the emotional dealings. The mean comparison shows a considerable reduction in emotional instability indicating the effectiveness of CBC assisted GSPR in reducing emotional instability. This intervention technique helped the subjects to reduce their emotional instability in handling the daily hassles of life.

The t value of -11.083 obtained for self control and is significant at 0.01 level. The result indicates that there exists a significant difference between the pre and post intervention score. While analysing the mean values of pre and post test scores on self control, there are differences in the pre (29.65) and post (38.25) scores. The standard deviation scores are 5.42 and 4.45 for the pre and post test respectively. Increase in the post test score indicates that they have developed control over emotional life and behaviour in general. This intervention technique (CBC + GSPR) found to be effective in developing self control among adolescents.

The variable tolerance refers to the state or qualities of being unstable or unsteady in handling the emotional dealings. The pre test and post test comparison of the experimental group 3 reveals that there exists a significant difference for the variable tolerance. The t value obtained is -10.329, which is significant at 0.01 level. The experimental group 3 obtained mean score of 26.50 for the pre test and 38.25 as the post test mean score. There is noticeable increase in mean value from pre to post intervention and hence the significant difference. The result indicates that their difficulty in handling emotional dealings has decreased. As the group practiced CBC and GSPR for two months, it enabled them in handling the emotional difficulties in a much better way.

The t value obtained for sense of well being is -9.317 and it is significant at 0.01 level. The result shows that there exists a significant difference between the pre and post test mean score on sense of well being of the experimental group 3. Table no 5.21 shows that a mean score of 30.95 obtained for the pre test and 40.40 for the post test scores on sense of well-being. The standard deviation scores are 7.55 and 5.96 for the pre and post test respectively. The mean comparison shows that there is an increase in

mean in the post test score after two months. The results indicate that the Counselling and Relaxation created a sense of well-being in the subjects. This combined intervention enabled them to realize their own potentialities to work productively and successfully.

Facing problems realistically, honestly, and non defensively produces favourable self-evaluative thoughts, which lead to the self generated approval that raises self-esteem. The t value of -5.868 obtained for the variable self esteem is significant at 0.01 level. The result shows that there exists a significant difference between the pre and post intervention scores on self esteem. The experimental group 3 has a pre test mean score of 32.70 and post test mean score of 39.30, with a standard deviation of 6.19 and 3.42 respectively for self esteem. The experimental group 3 were able to develop increased self confidence and self acceptance as their post intervention score is higher than that of the pre intervention score. It is evident for the result that together CBC and GSPR are effective.

For the variable sense of personal worth, the t value obtained is -4.733 and it is significant at 0.01 level. The result reveals that there exists a significant difference between the pre and post test scores of the experimental group 3 on the sense of personal worth. While comparing the mean scores it is seen that there is an increase in mean value from 37.20 as the pre test mean score to 42.20 as the post test mean score on sense of personal worth. The result shows that CBC and GSPR together are effective in developing a sense of personal worth of the subjects. After two months, it has been found that subjects have improved their sense of personal worth and beliefs that they can master a situation and produce positive outcomes.

The pre and post test scores on social skills of experimental group 3 obtained a t value of -4.456, which is significant at 0.01 level. The results indicate that there exists a significant difference between the pre and post test scores of the experimental group 3 on social skills. The table 5.21 shows a mean value of 36.05 for pre test and 40.80 for post test on social skills. The group obtained a standard deviation of 6.28 and 4.29 respectively. The result shows that there is an increase in post intervention mean score, indicating the increase in social skills with the help of two months of CBC and GSPR sessions. The subjects showed improvement in the abilities for adaptive and positive behaviours to deal effectively with life challenges.

Table no 5.21 shows that the variable adaptability obtained a t value of -3.716 which is significant at 0.01 level. The results indicate that there exists a significant difference between the pre and post test scores on adaptability. When comparing the mean scores the experimental group 3 obtained a mean score of 39.10 for the pre test and 44.10 for the post test for adaptability. The difference in mean score between the pre and post indicates the increased ability attained with the support of combined influence of the CBC and GSPR for the experimental group 3 to make appropriate responses to changing circumstances.

The t value obtained for sensitivity is 8.242, which is significant at 0.01 level. The result shows that there exists a significant difference between the pre and post scores on sensitivity of the experimental group 3. The group obtained a mean value of 44.85 and standard deviation of 4.11 for the pre test and a mean value of 35.10 and standard deviation of 4.60 for the post test. The result shows that there is a decrease in mean score of the experimental group 3 as they have undergone CBC and GSPR.

It can be concluded from the analysis that all the sub variables of personality has shown the effectiveness of the combined use of CBC and GSPR for the Experimental group 3. The positive dimensions of the personality variables like assertiveness, sense of well-being, sense of personal worth, self-control, tolerance, self-esteem, social skills, and adaptability has shown an increase in their mean score after the intervention. The negative dimensions in the personality variables such as inferiority complex, emotional instability, and sensitivity has shown a decreased mean score in the post intervention indicates that reduction of these variables enabled them in enhancing their adjustment.

Bilsen and Wilke,(1998), assumed that cognitive behaviour therapy is directed at correction or modification of irrational belief systems, maladaptive or deficient coping skills, and faulty thinking patterns or styles, hence it can be used as an effective strategy for developing interpersonal and intrapersonal skills.

5.3.4.2 - Comparison of experimental group 3 on the pre and post intervention based on the state and trait dimensions of anxiety, anger and curiosity.

The pre and post intervention scores of the Experimental group 3 on state and trait dimensions of anxiety, anger and curiosity are shown in Table no.5.22, t test carried out for all the variables in order to find out the significance. The graphical representation of the same has been shown in the figure no 5.14.

Table no 5.22

Mean, Standard Deviation, Correlation coefficient and paired t value of experimental group (3) on different STPI variables (pre and post intervention, N =20)

Variables	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
State anxiety	20.95	4.31	14.60	4.15	0.479*	6.574**
State curiosity	21.05	4.32	14.85	3.54	0.568**	7.450**
State anger	16.70	2.90	11.70	1.66	0.133	7.109**
Trait anxiety	21.00	4.12	13.45	3.07	0.475*	8.908**
Trait curiosity	20.60	3.97	17.35	3.56	0.868**	7.377**
Trait anger	20.80	4.05	14.35	3.36	0.656**	9.196**

***Significant at 0.01 level; * Significant at 0.05 level*

The t value obtained by the Experimental group 3 is 6.574 for state anxiety and it is significant at 0.01 level. This indicates a significant difference on state anxiety between the pre and post intervention scores. While comparing the mean values, the experimental group 3 obtained a pre test score of 20.95 and post test score of 14.60 for state anxiety. The experimental group 3 shows a decrease in mean score from the pre test score to post test mean score. Intervention was given to them for a period of two months made this change. CBC accompanied by GSPR found highly effective in reducing the state anxiety in the subjects.

The table no 5.23 shows a t value of 7.450 obtained for state curiosity and it is significant at 0.01 level. The result shows that there is significant difference between the pre and post test scores on state curiosity of the experimental group 3. This group obtained 21.05 as pre test mean score and

14.85 as post test mean score with standard deviation of 4.32 and 3.54 respectively. The mean comparison shows a reduction in mean score of the post test score indicating a decrease in state curiosity. The two months intervention generated a significant difference in pre and post test mean score. Curiosity means the desire or inclination to know or learn about anything, ranging from what is novel or strange to a desire of knowing what one has no right to know. Adolescence being a period of exploration and experimentation, there is a high chance of getting into problems without thinking about it. Analysis about the situation and deeper understanding of the issues are essential. Thus it can be concluded that the combined practice of Cognitive Behaviour Counselling and GSPR facilitate the process in controlling the unnecessary inquisitiveness.

Figure no.5.14

The pre and post test mean score comparison on state and trait dimensions of anxiety, curiosity and anger of the experimental group 3.

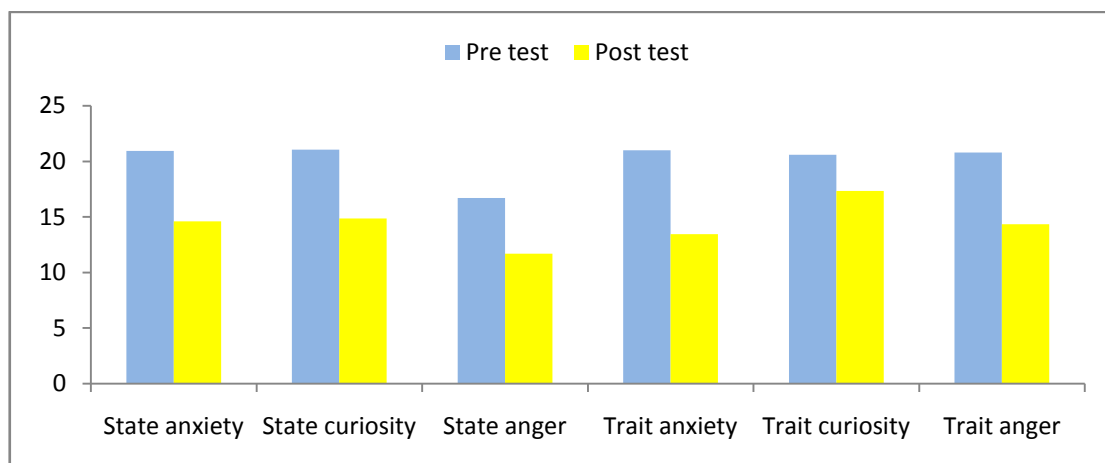


Table no 5.23 shows a t value of 7.109 for state anger, which is significant at 0.01 level. The results indicate that there exist significant differences between the pre and post test scores on state anger. The experimental group 3 obtained 16.70 as pre test mean score and 11.70 as post test mean score

with a standard deviation of 2.90 and 1.66 respectively. The result shows that there is a decrease in post test mean score indicating a reduction in emotional state. State anger is defined as an emotional state or condition that consists of subjective feelings of irritation, annoyance, fury and rage with concomitant activation or arousal of the autonomic nervous system. The result indicates that the CBC along with GSPR found to be effective in managing anger of the plus two students.

The experimental group 3 obtained a t value of 8.908 for trait anxiety, which is significant at 0.01 level. The result shows that there exists a significant difference between pre and post scores of the experimental group 3. Trait anxiety refers to relatively stable individual differences in anxiety proneness and the group obtained pre test mean score of 21.0 and 13.45 as post test mean score. The results shows a decrease in mean score of the post test score. The intervention provided to the experimental group 3 seems to be effective in reducing trait anxiety.

Experimental group 3 obtained t value of 7.377, which is significant at 0.01 level. The result indicates that there exists a significant difference between the pre and post test scores on trait curiosity. The group obtained a mean score of 20.60 and standard deviation of 3.97 for the pre test and obtained a mean score of 17.35 and standard deviation of 3.56 for the post test. The decrease in the post test mean score indicates the effectiveness of intervention given to the experimental group 3. It can be concluded that this intervention is effective in managing the trait curiosity.

Table no 5.22 shows a t value of 9.196 for the variable trait anger, which is significant at 0.01 level. This indicates that there exists a significant difference in pre and post test comparison on trait anger of the experimental group 3. The group obtained a mean value of 20.80 for pre

test and the standard deviation is 4.05. Post test mean score obtained is 14.35 with a standard deviation of 3.36. The trait anger is defined in terms of individual differences in the frequency that state anger is experienced over time. The result shows a reduction in trait anger after practicing relaxation and counselling, for a period of two months resulted in effective management of trait anger among the subjects.

Conclusion

The above result shows that there exist significant differences in state and trait dimensions of anxiety, anger and curiosity. While comparing the mean values it is seen that there is a decrease in mean scores from pre to post intervention on all the STPI variables. Thus it can be concluded that CBC and GSPR given for the experimental group 3 in 18 session spread over a period of two months was effective in managing all variables. Gaines and Barry (2008) identified the effectiveness of relaxation breathing exercise on adolescent aggressive behaviour. Muris, et al(2008) evaluated the effect of CBT on negative automatic thoughts and anxiety control and stated that this technique is effective in reducing these problems. These researches support the present findings that the intervention is an acceptable strategy for these variables.

5.3.4.3 - Comparison of experimental group 3 on pre and post intervention based on different behaviour problem variables.

The pre and post intervention scores of the Experimental group 3 on behaviour problem variables are shown in Table no.5.23, t test carried out for all the variables in order to find out the significance. The graphical representation of the same has been shown in the figure no 5.15.

Table no 5.23

Mean, Standard Deviation, Correlation coefficient and paired t value of experimental group (3) on different behaviour problem variables (pre and post intervention, N =20)

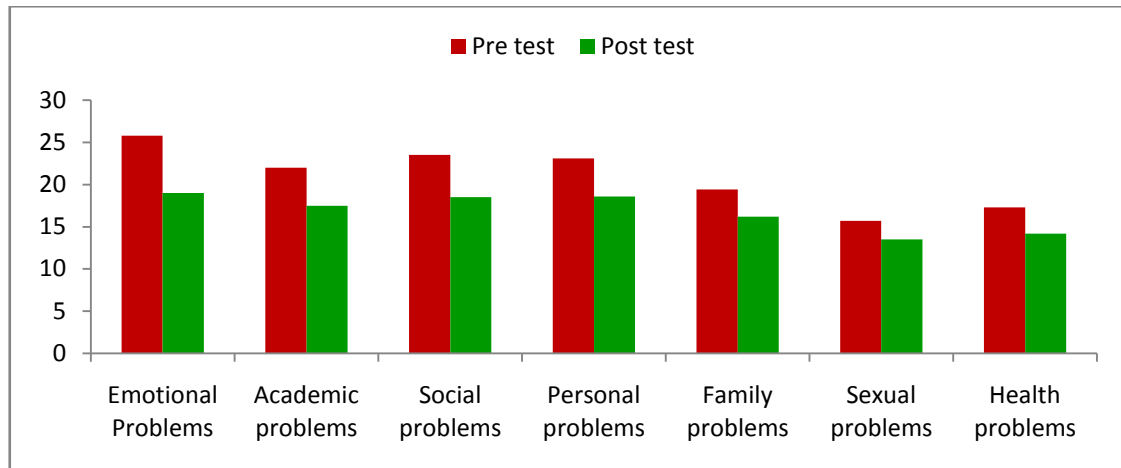
Variables	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Emotional Problems	25.80	3.55	19.00	1.38	0.043	8.109**
Academic problems	22.00	6.55	17.50	3.17	0.669**	4.008**
Social problems	23.50	6.12	18.50	2.59	0.775**	5.053**
Personal problems	23.10	5.00	18.60	1.73	0.552**	4.682**
Family problems	19.40	5.84	16.20	2.67	0.737**	3.348**
Sexual problems	15.70	5.16	13.50	3.72	0.803**	3.168**
Health problems	17.30	5.55	14.20	3.49	0.801**	4.004**
Overall Behaviour problems	146.90	22.19	117.50	10.13	0.823**	8.768**

***Significant at 0.01 level; * Significant at 0.05 level*

A t value of 8.109 is obtained for the variable emotional problems, which is significant at 0.01 level. The result shows that there exists a significant difference between the pre and post test scores on emotional problems. The experimental group 3 obtained a pre test mean score of 25.80 with a standard deviation of 3.55 and post test mean score of 19.0 with a standard deviation of 1.38. The result shows that there is a decrease in the post test score indicating reduction in emotional problems. The intervention given to the experimental group 3 was effective in managing the emotional problem. The two months of assisted practice of CBC and GSPR might have helped in managing the emotional problems.

Figure no. 5.15

The pre and post test mean score comparison on behaviour problem variables of the experimental group 3



The Experimental group 3 has got pre test mean score of 22.0 and post test score of 17.50 for academic problems. The t value for this variable is 4.008, which is significant at 0.01 level. The group obtained 6.55 and 3.17 as standard deviation scores for the pre and post test respectively. The mean comparison showed a decrease in post test mean score. This means that the intervention given to the experimental group 3 is effective in managing the academic problems of the subjects. It may be concluded that this combined intervention technique is effective in handling the academic problems of plus two students.

There is significant difference (0.01 level) observed for the variable, social problem as its t value is 5.053. The result shows that there is difference between the pre and post test scores of the experimental group 3 on social problems. While comparing the mean values, the experimental group 3 obtained a pre test mean score of 23.50 and post test mean score of 18.50, with a standard deviation of 6.12 and 2.59 respectively. There is decrease

in the mean score, reflects the impact of intervention technique for reducing the social problems of the subjects.

Table no 5.23 shows a t value of 4.682 obtained for the personal problem and it is significant at 0.01 level. The result indicates that there is a difference between pre and post test scores on personal problems of the experimental group 3. While analysing the mean scores, it is seen that the group obtained a pre test mean score of 23.10 and post test mean score of 18.60. The standard deviation scores for the pre and post test for this group are 5.0 and 1.73 respectively. The results show that there is decrease in the mean score of the post test, indicating a decrease in personal problems.

It is observed that the experimental group 3 obtained a t value of 3.348 for family problems, which is significant at 0.01 level. The difference between the pre and post test mean score (for pre test, 19.40 and post test, 16.20) shows that there is decrease in the post test scores. The standard deviation scores for pre and post intervention are 5.84 and 2.67 respectively. This group subjects got a combination of Cognitive behaviour counselling and Guided somato psychic relaxation as an intervention package, and this intervention technique found as effective in managing the difficulties related to family problems.

A t value of 3.168 obtained for sexual problem variable, which is significant at 0.01 level . The result shows that there is difference between the pre and post test scores on sexual problems of the experimental group 3. The group obtained a pre test mean score of 15.70 and a post test score of 13.50 with a standard deviation score of 5.16 and 3.72 respectively. The mean comparison shows a decrease in the mean score of the post assessment phase. There is a decrease in mean score after two month's intervention. Reduction in the post test score in this variable emphasizes

the effect of this method of intervention in managing the sexual problems of plus two students.

For health problems, the experimental group 3 has obtained a t value of 4.004, which is significant at 0.01 level. Table no 5.23 shows that the pre intervention's mean score 17.30 and post intervention mean score of 14.20 obtained by the experimental group 3. The standard deviation scores are 5.55 and 3.49 for the pre and post test respectively. The result shows that there is difference in the pre and post mean scores, and as indicated by the t value, it is significant. The decrease in mean score after the intervention for the period of two months recognizes the importance of this package in reducing the problems related to health.

The t value of 8.768 obtained for the overall behaviour problem of the experimental group 3, which is significant at 0.01 level. For this group the pre and post intervention mean scores obtained are 146.9 and 117.5 respectively. A noticeable difference between the pre and post test mean score on overall behaviour problems of the experimental group 3 is observed. This indicates the strong impact of this package in handling behaviour problems of plus two students. The standard deviation for the pre test is 22.19 and the post test is 10.13.

Conclusion

The t test results of the experimental group 3 shows that there exist significant differences between the pre and post test scores on all sub variables of behaviour problems such as emotional problems, academic problems, social problems, personal problems, family problems, sexual problems, and health problems. The overall behaviour problems also showed a high decrease from the pre to the post test. This shows that the package is helpful in reducing the problems in different spheres of the

subject's life. In a study by Silverman and DiGiuseppe (2001) attempted to find the effect produced by CBT on externalized and internalized behavioural and emotional problems, and stated that various cognitive constructs were correlated and guided self statements and cognitive behaviour therapy is found effective.

5.3.4.4 - Comparison of experimental group 3 on the pre and post intervention based on depression.

The details of pre intervention and post intervention scores and t- value related to the variable depression for the experimental group 3 are presented in table no 5.24 and figure no 5.16.

Table no 5.24

Mean, Standard Deviation, Correlation coefficient and paired t value of experimental group (3) on depression (pre and post intervention, N =20)

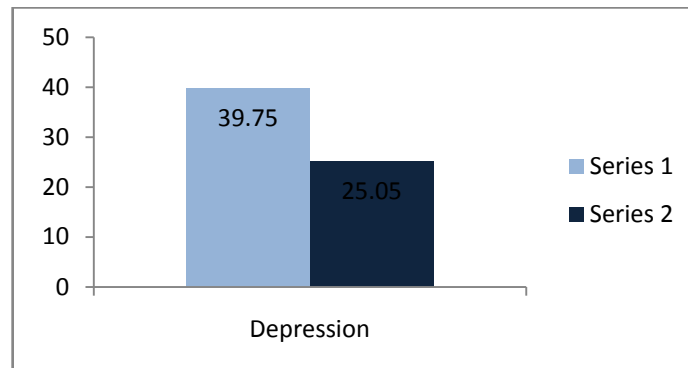
Variable	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Depression	39.75	8.98	25.05	4.20	0.119	6.958**

***Significant at 0.01 level; * Significant at 0.05 level*

Fleming, et al.,(1993) reported that approximately one-third of adolescents who go to a mental health clinic suffer from depression. In adolescence, pervasive depressive symptoms might be manifested in different ways such as a lack of motivation, energy level, interest in pleasurable activities and withdrawal from friends etc. The pre intervention mean score for depression for this group is 39.75 and the post test mean score is 25.05. the standard deviation score for the pre and post intervention are 8.98 and 4.20 respectively. The t value of 6.958 obtained for the variable depression for the experimental group 3, and it is significant at 0.01 level.

Figure no. 5.16

The pre and post intervention scores comparison on depression of the experimental group 3.



Beck,(1993) and Hollon,(2006) believed that cognitive therapy has been effective in treating depression. For this experimental group 3 an intervention package involving Cognitive Behaviour Counselling and Guided Somato Psychic Relaxation is used. From the decreased post intervention mean score we can understand the impact of this on the subjects. The present investigation is supported by the findings of Shirk,et al.,(2009) who evaluated cognitive behaviour therapy for adolescent depression and suggested that school-based cognitive behaviour therapy is relatively robust treatment for adolescent depression.

Overall conclusion

The experimental group 3 was given Cognitive Behavioural Counselling and Guided Somato Psychic Relaxation together for a period of two months. The results show that there exist significant differences in all personality variables, state and trait dimensions of anger and curiosity, trait anxiety, and all behaviour problem variables except sexual and health problems. Significant differences seen in depression, indicating the effectiveness of CBC and GSPR combined practice in reducing depression. It can be concluded that, a good majority of the variables studied could be managed with the developed intervention.

Section 4

5.4 ONE WAY ANOVA

This section dealt with the results and discussion of the analysis of variance calculated separately for the pre and post test scores. The sample for the present section of the study comprises of four groups, viz., control group, experimental group1 (GSPR group), experimental group 2 (CBC group), and experimental group 3 (GSPR & CBC group). These groups were tested for ANOVA to find out if they differ significantly among themselves in the different variables studied. The analysis carried out separately for the variables of personality, behaviour problems, state and trait dimensions of anxiety, curiosity, anger and depression. The F values followed by a comparison of the mean values of the control group and the three experimental groups were also attempted.

5.4.1 Pre test - Personality Variables

An attempt was made to find out the variance of the pre test scores on all personality variables of the control and experimental groups and the results are presented in table no 5.25.

The ANOVA results of the pretest scores of the four groups suggest that all the four groups have more or less similar levels for different personality variables. From among the eleven personality variables, sense of well-being and social skills shows significant difference at 0.05 levels. Though the study is aimed at finding out the impact of different interventions, it is essential that the groups should be matched .From the F values it is clear that the four groups are matched except for the above mentioned two variables of personality. In order to get a clear picture of distribution of

scores mean and standard deviation of the control group and the three experimental groups were computed and presented below.

Table no 5.25.

F-values of the four groups on the personality variables (Pre-test).

SI No	Variables	Between Group		Within Group		F Value
		Sum of Squares	Mean Squares	Sum of Squares	Mean Squares	
1	Assertiveness	33.04	11.01	2352.95	30.96	0.36
2	Inferiority complex	271.54	90.51	5522.35	72.66	1.25
3	Emotional Instability	343.64	114.55	4185.55	55.07	2.08
4	Self Control	94.10	31.37	3416.10	44.95	0.69
5	Tolerance	92.70	30.90	2542.10	33.45	0.92
6	Sense of well being	518.95	172.98	3951.00	51.99	3.33*
7	Self Esteem	360.14	120.05	4570.35	60.14	1.99
8	Sense of personal worth	377.50	125.83	4278.30	56.29	2.24
9	Social Skills	450.24	150.08	3702.65	48.72	3.08*
10	Adaptability	73.04	24.35	2632.35	34.64	0.70
11	Sensitivity	74.30	24.77	2993.50	39.39	0.63

**Significant at 0.05 level*

The mean and standard deviation values of the control group and the three experimental groups are presented in table no 5.26. It is observed from the table that the mean values of the four groups does not show much of a difference and hence the non significant results for the different personality variables except sense of well being and social skills. It could be seen from the table that the mean score for the variable sense of well being of the control group was 32.65, experimental group 1 with 33.45, experimental

group 2 with a mean value of 37.85 and mean score of 30.95 for the experimental group 3. A significant difference at 0.05 level reported in table no 5.26 may be due to the variation in mean value of the experimental group 2. Similarly for the variable social skills, a higher mean value of 40.95 observed for the experimental group 2, where as a mean value of 34.70 for the control group, 36.15 for the experimental group 1 and a mean value of 36.05 for the experimental group 3. Here too, a significant difference of 0.05 levels observed due to the higher mean value of the experimental group 2.

Table no.5.26

Mean and standard deviation of the four groups on the Personality variables.

Item No	Variables	Control GP		Exptl Gp 1		Exptl Gp 2		Exptl Gp 3	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Assertiveness	38.15	4.66	38.10	7.22	39.60	3.95	38.10	5.87
2	Inferiority complex	39.40	8.15	39.85	8.34	35.20	8.84	38.90	8.74
3	Emotional Instability	43.75	5.82	40.60	9.57	38.30	7.57	42.60	6.12
4	Self Control	31.85	6.77	31.30	7.25	32.60	7.21	29.65	5.42
5	Tolerance	28.15	6.15	28.75	5.39	29.40	6.27	26.50	5.26
6	Sense of Well being	32.65	7.59	33.45	7.04	37.85	6.62	30.95	7.55
7	Self Esteem	28.15	6.14	32.60	9.76	33.60	8.32	32.70	6.19
8	Sense of personal Worth	33.00	8.27	33.85	7.85	38.15	7.29	37.20	6.49
9	Social Skills	34.70	5.41	36.15	8.46	40.95	7.39	36.05	6.28
10	Adaptability	37.85	5.89	36.40	5.60	37.80	5.61	39.10	6.41
11	Sensitivity	42.80	6.70	42.35	8.19	43.80	5.36	44.85	4.11

The matching of the groups for the present study is based on the overall score on behaviour problems. Though it is not expected, it is interesting to note that the four groups are also matched in terms of different personality variables studied. From among the total eleven personality variables, a marginal difference of 0.05 level difference observed only in two personality variables namely sense of well being and social skills.

5.4.2 Pre test - State and trait dimensions of anxiety, curiosity and anger.

The F values on pre test scores of state and trait dimensions of anxiety, curiosity and anger of the control group and all the experimental groups are presented in table no 5.27. The variables are measured using the Spielberger's State- Trait personality Inventory.

Table no 5.27

F-values of the four groups on state and trait dimensions of anxiety, curiosity and anger in the pre test.

Item no	Variables	Between groups		Within groups		F value
		Sum of squares	Mean squares	Sum of squares	Mean squares	
1	State Anxiety	75.44	25.15	1354.95	17.83	1.41
2	State Curiosity	75.75	25.25	1108.20	14.58	1.73
3	State Anger	81.44	27.15	1184.25	15.58	1.74
4	Trait anxiety	27.94	9.31	998.95	13.14	0.71
5	Trait Curiosity	23.84	7.95	1204.15	15.84	0.50
6	Trait Anger	6.80	2.27	1334.00	17.55	0.13

The results presented in table no 5.27 shows that none of the F values found significant in any of the variables studied. The pre test scores of state

anxiety, state curiosity, state anger, trait anxiety, trait curiosity and trait anger of the control groups and three experimental groups does not differ significantly. The results indicate that the pre test scores suggest that all the four groups have more or less similar levels of state and trait dimensions of anxiety, curiosity, and anger, and more importantly the four groups shows somewhat similar scores on every sub variables of STPI.

On further analysis of the mean and standard deviation scores of the STPI variables of the control and three experimental groups showed (presented in table no 5.28) that there is not much of a differences in the mean scores of the four groups studied. The highest mean value for the state anxiety is 22.50 for the experimental group 1 and the lowest for the experimental group with a mean value of 19.90. The F value for state anxiety is 1.41, which is not significant.

Table no.5.28

Mean and standard deviation of STPI variables for four groups in the pre-test.

Sl No	Variables	Control GP		Exptl Gp 1		Exptl Gp 2		Exptl Gp 3	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	State Anxiety	21.80	4.03	22.50	3.65	19.90	4.81	20.95	4.31
2	State Curiosity	20.25	2.94	18.65	4.11	18.95	3.76	21.05	4.32
3	State Anger	15.85	4.34	18.15	4.50	15.55	3.85	16.70	2.90
4	Trait anxiety	21.10	3.42	21.70	3.61	20.05	3.30	21.00	4.12
5	Trait Curiosity	20.10	3.86	19.75	3.58	19.10	4.46	20.60	3.97
6	Trait Anger	20.10	4.79	20.20	3.17	20.10	4.56	20.80	4.05

Significant difference could not be found out for the variable state curiosity, as the F value found out was 1.73. While analyzing the mean values, it is observed that the difference between the mean scores was very meager. The highest mean value reported for the experimental group 3 (21.05) and lowest for experimental group 1 (18.65). The four groups do not differ significantly as there is no significant difference observed in the mean values.

The F values found out for the other variables also show similar results. F value 1.74 for state anger, 0.71 for trait anxiety, 0.50 for trait curiosity, and 0.13 for trait anger. None of these are significant either at 0.05 or 0.01 level. The comparison of mean value support the findings that the four groups are matched on these variables..

The groups for the present study was matched on the basis of the overall behaviour problem score and not on State and trait dimensions of anxiety, anger and curiosity. Even then the groups seem to be matched on all these variables. Those who are having behaviour problems will definitely be having traits of anxiety, anger and curiosity and this might be the reason for the present finding.

5.4.3 - Pre test - Behaviour problem variables

Though the subjects were matched on the basis of the overall behaviour problem, ANOVA were used for the sub variable to ensure that there are no significant differences between groups. The results of ANOVA for behaviour problem variables are presented in table no 5.29.

Table no 5.29

F-values of the four groups on behavior problem variables.

Sl No	Variables	Between groups		Within group		F values
		Sum of squares	Mean squares	Sum of squares	Mean squares	
1	Emotional Problems	24.40	8.13	1846.80	24.30	0.34
2	Academic Problems	88.00	29.33	2412.80	31.75	0.92
3	Social Problems	26.40	8.80	2189.60	28.81	0.31
4	Personal problems	39.35	13.12	1886.60	24.82	0.53
5	Family Problems	0.20	6.67	2487.60	32.73	0.002
6	Sexual problems	42.15	14.05	3487.80	45.89	0.31
7	Health problems	147.75	49.25	2605.80	34.28	1.44
8	Overall Behaviour Problems	0.000	0.000	37423.20	492.41	0.00

ANOVA results could not observe any significant differences in any of the behaviour problem variables. An observed F value of 0.34 for emotional problems, 0.92 for academic problems, 0.31 for social problems, 0.53 for personal problems, 0.002 for family problems, 0.31 for sexual problems and 1.44 for health problems were found out. There is no significant difference observed for any of these variables.

Table no 5.30

Mean and standard deviation of the overall behavior problems and its sub variables for four groups in the pretest.

Sl No	Variable	Control GP		Exptl Gp 1		Exptl Gp 2		Exptl Gp 3	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Emotional Problems	24.90	5.45	24.40	5.05	24.50	5.42	25.80	3.55
2	Academic Problems	21.20	5.17	20.60	5.35	23.40	5.35	22.00	6.55
3	Social Problems	23.50	4.89	24.10	5.09	24.90	5.29	23.50	6.12
4	Personal problems	22.10	4.38	21.60	5.17	23.30	5.32	23.10	5.00
5	Family Problems	19.40	5.92	19.50	5.80	19.50	5.31	19.40	5.84
6	Sexual problems	17.20	6.17	17.20	8.72	15.80	6.55	15.70	5.16
7	Health problems	18.60	5.55	19.50	5.35	15.90	6.85	17.30	5.55
8	Overall Behaviour Problems	146.90	22.19	146.90	22.19	146.90	22.19	146.90	22.19

The present result ensures that the researchers attempt to match the groups based on the overall behaviour problem was successful.

5.4.4 Pre test - Depression

An attempt was made to find out the variance of the pre test scores on depression of the control and experimental groups and the results are presented in table no 5.31.

Table no 5.31

The F-value of the four groups on the variable depression in the pretest.

Sl No	Variable	Between Groups		Within Groups		F values
		Sum of squares	Mean squares	Sum of squares	Mean squares	
1	Depression	92.24	30.75	4830.25	63.56	0.48

The F value obtained by the four groups on depression at pre assessment was 0.48, which is not statistically significant. The four groups, namely, control group, experimental groups (1, 2, and 3) do not show any differences in the variable depression.

Table no 5.32

Mean and standard deviation of the four groups on depression in the pretest.

Variable	Group 1		Group 2		Group 3		Group 4	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Depression	40.45	7.39	40.50	6.93	37.85	8.42	39.75	8.98

The Mean and Standard Deviation scores on depression of the four groups are presented in table no 5.32. The highest mean value is 40.50, which is for the experimental group 1 and the lowest mean is 37.85, which is for the experimental group 2. None of the four groups shows significant difference in the mean value for the variable, depression.

Pre test – Conclusion

The one way ANOVA results of the pre test scores of the four groups could not find any differences in any of the variables except two sub variables of personality. The result supports the matching of the groups made by the researcher. Overall behavior problem score was taken for matching the

groups before intervention and the pre test analysis shows that the matching of groups could establish even for the other variables studied. This section was discussed only to ensure that the groups does not differ in the pre test scores and there by ensure the efficacy of the intervention techniques with scientific back up.

5.4.6 Post test - Personality Variables

One way ANOVA was tested to find out whether the four groups differ significantly in any of the personality variables based on the scores obtained in post test. The F values obtained for all the personality variables studied are presented in table no 5.33.

Table no.5.33

F- values of the four groups on personality variables in the post-test.

Item No	Variables	Between Groups		Within Groups		F Value
		Sum of Squares	Mean Squares	Sum of Squares	Mean Squares	
1	Assertiveness	1475.90	491.97	1975.90	25.99	18.92**
2	Inferiority complex	1524.94	508.31	3836.45	50.48	10.07**
3	Emotional Instability	1968.74	656.25	2428.25	31.95	20.54**
4	Self Control	672.24	224.08	2900.45	38.16	5.87**
5	Tolerance	1428.34	476.11	1986.65	26.14	18.21**
6	Sense of Well being	1450.65	483.55	2864.90	37.69	12.83**
7	Self Esteem	2174.50	724.83	3010.70	39.61	18.29**
8	Sense of personal Worth	1678.64	559.55	2853.25	37.54	14.90**
9	Social Skills	1060.04	353.35	2366.45	31.14	11.35**
10	Adaptability	610.50	203.50	1403.30	18.46	11.02**
11	Sensitivity	774.50	258.17	2574.30	33.87	7.622**

*Significant at 0.05 level; **Significant at 0.01 level,

The results presented in table no 5.33 shows that there exists significant difference in all the personality variables. The mean and standard deviation of the four groups studied on all personality variables are presented in table no 5.34.

Table no.5.34

Mean and SD of variables for four groups on different personality variables in the post test.

Item No	Variables	Control GP		Exptl Gp 1		Exptl Gp 2		Exptl Gp 3	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Assertiveness	35.70	4.43	38.30	7.06	43.55	4.31	46.65	4.00
2	Inferiority complex	41.00	7.43	38.15	7.86	30.05	7.33	32.45	5.59
3	Emotional Instability	44.95	4.98	32.90	7.62	33.65	5.10	34.05	4.36
4	Self Control	30.35	6.52	34.95	6.56	36.20	6.88	38.25	4.45
5	Tolerance	25.95	5.35	31.45	5.11	35.10	5.72	37.05	4.14
6	Sense of Well being	30.45	6.62	37.55	6.35	41.30	5.57	40.40	5.96
7	Self Esteem	25.70	4.88	33.25	9.44	37.35	5.82	39.30	3.42
8	Sense of personal Worth	31.15	7.49	34.75	7.71	41.25	4.36	42.20	3.96
9	Social Skills	33.25	4.61	40.55	7.32	42.85	5.59	40.80	4.29
10	Adaptability	36.80	4.84	38.25	5.49	40.65	3.53	44.10	2.81
11	Sensitivity	43.25	6.54	36.30	7.31	38.15	4.27	35.10	4.60

To have detailed exploration, variable wise analysis is presented below.

- 1. Assertiveness:** The F value for this variable is 18.92, which is significant at 0.01 level. While comparing the mean values, it is seen that the experimental group 3 has got the highest score with 46.65, followed by experimental group 2 with 43.55, experimental group 1 with 38.30 and lowest score for the control group with 35.70. The groups that offered the GSPR and CBC has got the highest mean score for the variable assertiveness. Comparing the present result with the pretest results presented in the previous section shows that there is a marginal increase in mean score for the experimental group 1 and 2. The Scheffe test indicates that there exists significant differences in the mean score between control group and experimental group 2 & 3 and significant difference also observed between experimental group 1 with experimental group 2 and 3. Assertiveness refers to the ability to express their needs, wishes and feelings frankly, honestly and directly. Assertiveness is behaviour or skills that help to communicate, clearly and confidently our feelings, needs, wants and thoughts. It is the ability to say no to request, to state an opinion without being self conscious or to express emotions such as love, anger etc openly. It could stated here that the Cognitive Behavioural Counselling (experimental group2) and CBC & GSPR combined (experimental group 3) has elicited a prospective increase in assertiveness.
- 2. Inferiority complex:** The F-value for Inferiority Complex is 10.07, which is significant at 0.01 level. The result shows that there exist significant differences between groups in post test scores on the variable inferiority complex. While comparing the mean value, it is

seen that the control group has got the highest score of 41.0 and the lowest score 30.5 reported for the experimental group 2 with CBC. The result shows a considerable reduction in inferiority complex, a psychological condition that exists when a person's feelings of inadequacy are so intense that daily living is impaired, for those who practiced cognitive behaviour counseling for two months with 18 sessions. The scheffe test shows that experimental group 2 with CBC is significantly differs from the control group and experimental group 1. Experimental group 3 also differs significantly from the control group.

3. **Emotional instability:** refers to the state or qualities of being unstable or unsteady in handling the emotional dealings and it could be observed that there exists a significant difference among the four groups as the F value (20.54) is significant at 0.01 level. The control has got the highest mean value of 44.95 and the lowest (32.90) for the experimental group 1. It is interesting to note here that the higher reduction in emotional instability is reported for those who practice GSPR. The CBC group and CBC&GSPR combined group could not achieve the difference as the GSPR group. The literature review also shows that relaxation exercises are helpful in reducing the emotional problems. The scheffe test shows that there exist significant difference between the control group and the three experimental groups.
4. **Self control:** The F- value found out for this variable is 5.87, which is significant at 0.01 level. The results indicate that there exist significant differences between the four groups on self control while analyzing the post test score. The control group obtained a mean

score of 30.35, experimental group1 who practice GSPR has got a mean score of 34.95, those who provided with the cognitive behavioural counseling (experimental group2) has got a mean score of 36.20 and the experimental group 3 provided CBC and BSPR with mean score of 38.25. The higher score in this variable indicates strong control over emotional life and behaviour in general. Subjects who received CBC and GSPR together has got the highest mean score and hence the importance of the techniques. The scheffe test indicates that there is significant difference between control group and experimental groups 2 and 3.

5. **Tolerance:** The four groups differ significantly on the variable tolerance. The F value found out was 18.21 and it is significant at 0.01 level. Tolerance refers to the quality of being able or willing to accept the behaviour of others. It is the capacity to withstand extreme condition or circumstances. The significant difference observed indicates that the groups differ in their capacity to withstand extreme conditions after the intervention they received. The experimental group 3, who got CBC and GSPR has got the highest mean value of 37.05, indicates the effect of the techniques in building tolerance in adolescents. The scheffe test shows that there is difference between the control group and the experimental groups. Experimental group 1 showed difference with group 3.
6. **Sense of well being:** The F-value for this variable is 12.83, which is significant at 0.01 level indicating the differences between groups in their post test scores. While having the comparison of pre test score presented in the previous section there wasn't any significant differences between groups. It could be attributed that the significant

differences observed while comparing the post test scores is mainly because of the treatment given to the groups. The state of well being is that in which the individual realizes his or her own abilities, can work productively and fruitfully and is able to contribute to his or her community. The higher mean score observed was 41.30 for the experimental group 2 (CBC), followed by the experimental group 3 (CBC & GSPR) with a mean score of 40.40 and lowest being the control group with 30.45. The inner realization is mainly possible with the help of cognitive changes and that may be the reason for better performance for those who practice CBC. Scheffe test shows that the control group differs significantly from the other three experimental groups in this variable.

7. **Self esteem:** Self esteem is considered as an important component of emotional health, and it encompasses both self-confidence and self-acceptance. The four groups differ significantly for the variable self esteem. The F value obtained was 18.29, which is significant at 0.01 level. The experimental group 3 (CBC & GSPR) has got the highest mean value of 39.30, as against the pre test score of 32.70. The control group shows a reduction in mean score from the pre test score. The result shows the effectiveness of combined practice of GSPR and CBC in increasing self esteem in adolescents. It should also be noted that, those who are having low self esteem, leave unattended may further lowered their self esteem and chances of getting into further problems. Scheffe test indicates significant difference between control group and experimental groups. Difference has been observed between experimental group 1 and 3.

8. **Sense of personal worth:** The F-value for this variable is 14.90, which is significant at 0.01 level. The result shows that the four groups differ significantly in this variable while analyzing the post test data. The experimental group 3 has got the highest mean value (42.20) and the lowest is for the control (31.15) group. The experimental group 2 has got mean score of 41.25, not much of a variation while comparing with the experimental group 3. The result shows that the practice of CBC and the combined one could be ideal in developing a sense of personal worth. The variable seems to be very important for an adolescent to lead better future. Scheffe test indicates that differences are seen between control group and experimental group 2 & 3. Experimental group 1 also differs from experimental groups 2 & 3.
9. **Social skills:** refers to the abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life. The ANOVA results of the post test scores of the variable social skills indicate that there exists a significant difference in the four groups. The F value obtained was 11.35, and it is significant at 0.01 level. Cognitive behavioural counseling seems to be most effective in developing social skills, and has got a highest mean score of 42.85. Followed by the experimental group 3 with a mean score of 40.80 and experimental group 1 with a mean score of 40.55. The lowest being the control group with a mean score of 33.25. Scheffe test shows that there is difference between the control group and the experimental groups.
10. **Adaptability:** The analysis based on the post test score on the four groups shows that there exist significant differences (11.02) at 0.01

level for the variable adaptability. Adaptability refers to the ability to make appropriate responses to changing circumstances. The group which practices the CBC and GSPR (Experimental group 3) has got highest mean score of 44.10, shows the effect of intervention. The lowest score observed for the control group with a mean value of 36.80. Scheffe test indicates that there exists difference between control group and experimental group 3. And the experimental group 3 differs significantly from group 1.

11.Sensitivity : The F- value for this variable is 7.62, which is significant at 0.01 level. The result shows that there exist significant differences in post test scores of the four groups on the variable sensitivity. Descriptions associated with high scores on sensitivity include tender minded, dependent, overprotected, and insecurity. While comparing the mean scores, it is seen that the highest score is for the control group(43.25) and lowest for the experimental group 3 with a mean score of 35.10. A combination of cognitive behavioural counseling and GSPR is most effective reducing the sensitivity traits in adolescents. Scheffe test also shows that the control group differs significantly with experimental groups 1 and 3.

The one way ANOVA results based on the post test scores of the four groups on all personality variables shows significant difference. The four groups differ significantly in all the personality variables studied.

5.4.7 - Post test - State and trait dimensions of anxiety, curiosity and anger.

One way ANOVA was tested to find out whether the four groups differ significantly in any of the state- trait dimensions of personality based on the scores obtained in post test. The F values obtained for all the variables studied are presented in table no 5.35.

Table no 5.35

F-values of the four groups on STPI variables in the post test.

Sl No	Variables	Between groups		Within groups		F values
		Sum of squares	Mean squares	Sum of squares	Mean squares	
1	State Anxiety	867.04	289.01	1264.85	16.64	17.37**
2	State Curiosity	267.85	89.28	980.10	12.89	6.92**
3	State Anger	340.84	113.61	894.15	11.77	9.66**
4	Trait anxiety	745.25	248.42	911.50	11.99	20.71**
5	Trait Curiosity	316.64	105.55	1418.85	18.67	5.65**
6	Trait Anger	639.05	213.02	1008.50	13.27	16.05**

**Significant at 0.05 level; **Significant at 0.01 level,*

The results presented in table no 5.35 shows that there exist significant differences in all the state – trait personality variables. The mean and standard deviation of the four groups studied on all state-trait personality variables are presented in table no 5.36.

Table no.5.36

Mean and standard deviation of the four groups on STPI variables in the post test.

Sl No	Variables	Control GP		Exptl Gp 1		Exptl Gp 2		Exptl Gp 3	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	State Anxiety	22.85	4.90	15.05	3.62	16.85	3.50	14.60	4.15
2	State Curiosity	19.90	4.30	17.80	3.46	18.35	2.92	14.85	3.54
3	State Anger	17.20	4.25	15.30	4.16	13.35	3.00	11.70	1.66
4	Trait anxiety	21.90	3.52	17.85	3.99	16.30	3.20	13.45	3.07
5	Trait Curiosity	21.00	4.41	20.35	4.84	16.25	4.38	17.35	3.56
6	Trait Anger	21.70	4.91	15.60	3.14	16.05	2.80	14.35	3.36

Detailed variable wise analysis presented below.

1. **State anxiety:** State anxiety is defined as a transitory emotional reaction that consists of feelings of tension, apprehension, nervousness and worry and activation of the autonomic nervous system. The analysis carried out to find out whether there is any difference between different groups. The F value obtained for State Anxiety is 17.37, which is significant at 0.01 level. The result shows that there exist significant differences among the four groups on state anxiety in the post test scores. The mean comparison reveals that, the practice of CBC and GSPR (experimental group 3) has helped in reducing the state anxiety to a larger extent, reflects in its lowest mean score of 14.60. A mean value of 15.05 for the experimental group 1 and 16.85 for the experimental group 2. On the other hand, the control group has got the highest mean score (22.85) for the

variable state anxiety. Scheffe test shows that there is difference between the control group and the experimental groups.

2. **State curiosity:** The F-value for this variable is 6.92, which is significant at 0.01 level. Significant difference observed for the variable state curiosity based on the post test scores of the four groups. On further analysis, it is seen that the control group has got the highest mean value of 19.90, followed by the experimental group 2 with a mean value of 18.35, experimental group 1 with a mean value of 17.80 and lowest being the experimental group 3 with mean score of 14.85. Scheffe test shows that the control group differ significantly from the experimental group 3. There is between the experimental group 2 and group 3.
3. **State anger:** State anger is defined as an emotional state or condition that consists of subjective feelings of irritation, annoyance, fury and rage with concomitant activation or arousal of the autonomic nervous system. The ANOVA result shows that there is difference between the four groups on state anger. The F value obtained was 9.66, significant at 0.01 level. The post tests mean score shows that the control group has got the highest mean value (17.20) and the lowest (11.70) for the experimental group 3. Anger being an emotion needs special attention, particularly for the adolescent population. The cognitive behavioural counseling and GSPR combination could control the anger than the other approaches. Scheffe test shows significant difference between the control group and experimental group 2 and 3. Experimental group 1 differ significantly from group 3.

4. **Trait anxiety:** The results presented in table no 5.35 shows that there exist a significance difference among the groups for the variable trait anxiety with a F value of 20.71 , which is significant at 0.01 level. Trait anxiety refers to relatively stable individual differences in anxiety proneness, i.e., the differences between people in the tendency to perceive stressful situations as dangerous or threatening and to respond to such situations with elevations in intensity. While analyzing the mean scores, the trait anxiety could be managed with the help of combined practice of cognitive behavioural counseling and GSPR. The experimental group 3 has got the lowest mean score of 13.45, than the other two experimental groups. Scheffe test shows that the control group differs from the experimental groups and the experimental group 1 from group 3.
5. **Trait curiosity :** The F-value for this variable is 5.65, which is significant at 0.01 level. On further analysis , it is observed that the highest mean score of 21 for the control group, and lowest mean score (16.25) for the experimental group 2. The experimental group 1 has a mean score of 20.35, and 17.35 for the experimental group 3. Scheffe test shows that the control group has difference with group 2. There is difference between group 1 and 2.
6. **Trait anger:** As is in the case of state anger, trait anger also got a F value of 16.05, which is significant at 0.01 level. Similarly to the state anger, the experiment group 3, practicing CBC and GSPR, has got the lowest mean score of 14.35. Whereas the control group has got the highest mean score of 21.70. Scheffe test shows significant difference between control group all the three experimental groups.

The analysis reveals that there exist significant difference among the four groups on state and trait dimensions of anxiety, anger, and curiosity. The differences in mean value observed as per the variable and its effect on human behaviour. The findings are in line with the theoretical concepts related to cognitive behavioural counseling and relaxation methods in managing psychological problems.

5.4.8 - Post test - Behaviour problem variables

F value calculated to find out whether there exist any significant differences on the post test score of the behaviour problem variables of the four groups studied. The details are presented in table no 5.37.

Table no 5.37

F-values of the four groups on behavior problem variables in the post test.

Item no	Variables	Between groups		Within groups		F values
		Sum of squares	Mean squares	Sum of squares	Mean squares	
1	Emotional Problems	598.95	199.65	985.00	12.96	15.40**
2	Academic Problems	252.55	84.18	1359.40	17.89	4.71**
3	Social Problems	424.00	141.33	1264.80	16.64	8.49**
4	Personal problems	266.55	88.85	1182.20	15.56	5.71**
5	Family Problems	205.75	68.58	1516.20	19.95	3.44*
6	Sexual problems	274.95	91.65	2452.60	32.27	2.84*
7	Health problems	410.15	136.72	1791.80	23.58	5.79**
8	Overall Behaviour Problems	14948.40	4982.80	22654.80	298.09	16.72**

*Significant at 0.05level; **Significant at 0.01 level,

The result shows that there exist significant differences in the post test scores of the four groups (control and three experimental groups) on all the behaviour problem variables. Except family problem and sexual problem, all the other sub variables of behaviour problems showed significant difference at 0.01 level. The mean and standard deviation of all the groups were compared and presented in table no 5.38.

Table no 5.38

Mean and standard deviation of the four groups on behavior problems in the post test.

SI No	Variables	Control GP		Exptl Gp 1		Exptl Gp 2		Exptl Gp 3	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Emotional Problems	26.50	4.89	22.30	3.20	21.10	3.97	19.00	1.38
2	Academic Problems	22.50	5.46	19.70	4.41	20.20	3.49	17.50	3.17
3	Social Problems	24.70	4.87	23.10	4.23	22.90	4.28	18.50	2.59
4	Personal problems	23.40	4.64	19.40	4.26	20.10	4.42	18.60	1.73
5	Family Problems	20.30	5.67	19.90	5.29	18.50	3.55	16.20	2.67
6	Sexual problems	18.40	6.41	14.40	6.64	15.00	5.49	13.50	3.72
7	Health problems	20.10	5.41	16.60	4.45	15.00	5.74	14.20	3.49
8	Overall Behaviour Problem	155.90	21.84	135.40	17.57	132.80	17.44	117.50	10.13

Variable wise analysis of the F value and mean scores are presented below in details.

1. **Emotional problems:** The F value found out for emotional problem is 15.40, which is significant at 0.01 level. While analyzing the mean value, it is observed that the highest mean score is for the control

group followed by experimental group1 with a mean score of 22.30, experimental group2 with a mean score of 21.10 and experimental group 3 with a mean score of 19.00 respectively. The combined practice of GSPR and CBC by the experimental group 3 has got the lowest score for the variable emotional problem and it shows the effectiveness of intervention. It is also observed that the GSPR (experimental group 1) and CBC (experimental group 2) alone also helps in managing the emotional problems of the adolescents, but it most effective when it is given together. Scheffe test shows significant difference between the control group and the experimental groups. Differences also observed between experimental group 1 and 3.

2. **Academic problems.** Problems related to the school environment, teacher, peers, study method etc are included in the academic problem variable of the behaviour problem checklist. The F value obtained is 4.71 and it is significant at 0.01 level. The results reveal that the four groups have differences in their post test scores on academic problems. The highest mean value is for the control group (22.50), followed by the experimental group 2 with 20.20 as the mean score, then the experimental group 1 and with a lowest mean score of 19.00 for the experimental group 3. The combined practice seems to be the better one to manage the academic problems. Scheffe test shows that there is dsignificant difference between the control group and experimental group 3.
3. **Social problems:** The F-value for this variable is 8.49, which is significant at 0.01 level. The result shows that problems experienced by the adolescents with their social environments, neighbours etc

have got differences in their post test scores of the four groups studied. The mean values of the groups do not have much of differences in their post test scores. The lowest mean score obtained by the experimental group three who practices the GSPR and CBC. The highest mean value (24.70) obtained by the control group as they have not received any intervention. Scheffe test observes significant difference between the experimental group 3 and the other three groups.

4. **Personal problems:** Significant difference observed among the four groups on personal problem variable of the behaviour problem checklist as the F value of 5.71 found to be significant at 0.01 level. Lack of self confidence, complexes, lack of social skills etc are the areas included in the variable and the groups differs on their post test scores. The highest mean value recorded for the control group and the lowest for the experimental group3. The differences in the mean value scores of the experimental group 1(19.40) and experimental group 2 (20.10) is very less. Scheffe test shows that there is significant difference between control group and experimental groups 1 and 3.
5. **Family problems:** The F-value for this variable is 3.44, which is significant at 0.05 level. The result shows that there exist significant differences in post test scores between the four groups on family problems. The lowest mean score (16.20) obtained by the experimental group 3 indicates the significance of combined practice of GSPR and CBC. Scheffe test shows significant difference between the control group and the experimental group 3.

6. **Sexual problems:** The F value obtained is 2.84, which is significant at 0.05 level. The result indicates the differences in the post test scores on sexual problems of the four groups studied. As in the case of other behaviour problem variables, the significance of the combined practice of GSPR and CBC is evident for the sexual problem variable too. The lowest mean score is for the experimental group3 with 13.50 and the highest is for the control group with a mean value of 18.40.
7. **Health problems:** The F-value for this variable is 5.79, which is significant at 0.01 level. The result indicates the differences among the group for the variable health problems. The highest mean value for this variable is 20.10, which is for the Control Group and the lowest mean is for the Experimental Group 3, which is 14.20. The experimental group 1 with a mean score of 16.60 and a mean score of 15.00 for the experimental group 2. Scheffe test shows significant difference between the control group and experimental groups 2 & 3.

5.4.9 - Post test - Depression

An attempt was made to find out the variance of the post test scores on depression of the control and experimental groups and the results are presented in table no 5.39.

Table no 5.39

F-value of the four groups on the variable depression in the post test.

Variable	Between groups		Within groups		F value
	Sum of squares	Mean squares	Sum of squares	Mean squares	
Depression	3561.25	1187.08	2446.30	32.19	36.88**

The F value obtained for the variable is 36.88 and it is significant at 0.01 level. The result shows that there exists significant difference among the four groups (control and three experimental groups) on depression. The mean and standard deviation of the four groups presented in table no 5.40.

Table no 5.40

Mean and standard deviation of the four groups in depression on post test.

Variable	Control GP		Exptl Gp 1		Exptl Gp 2		Exptl Gp 3	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Depression	42.80	6.95	36.05	5.82	29.80	5.39	25.05	4.20

The combined practice of GSPR and CBC seems to be most effective in managing the depression as the lowest mean score 25.05 of the experimental group. The control group has got the highest mean (42.80) score. The experimental group 2, who practiced the CBC has also has got a lesser score (29.80) when compared to the control group. Similar finding could observe for the experimental group 1 too. Scheffe test indicates the significant difference between the control group and the three experimental groups. Experimental group 1 showed difference from groups 2 & 3.

Post test – Conclusion

It is worth mentioning that the one way ANOVA results of the post test scores shows significant differences in all the variables studied. Except two variables, family problems and sexual problems, all the other variables showed significant differences at 0.01 level. The effect of combined practice of the CBC and GSPR are evident in the mean scores obtained by the experimental group (3). Differences could also seen in the experimental group 1 who practiced the GSPR and the experimental group 2, undergone CBC, but when compared to the experimental group 3, the effect seems to be less.

Section 5

5.5 RECAP

The t test results and ANOVA presented in the above section is sufficient enough to establish the hypotheses. The researcher made an effort to consolidate the research findings by making a comparison of pre and post intervention scores of control and experimental groups on each variable separately. There are four groups in the intervention phase of the study. They are, experimental group 1 with GSPR as intervention technique, experimental group with CBC, experimental group 3 with GSPR and CBC and another one as control group with no interventions. The attempt is to find out the effect of different intervention technique on each variable and also to find out the most effective method in terms of the observed mean differences between pre and post test scores. The mean, standard deviation, correlation coefficient, and values of the four groups are presented in a table, followed by graph using the pre and post test mean scores. The variable wise comparison is presented below.

5.5.1 - Comparison of pre and post intervention scores of control and experimental groups on assertiveness

The mean values, standard deviation, correlation coefficient and t values of the control and experimental groups on assertiveness are presented in table no 5.41. The result shows a significant difference in all groups except in the experimental group 1.

Table no 5.41

Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on assertiveness (pre and post intervention, N =20)

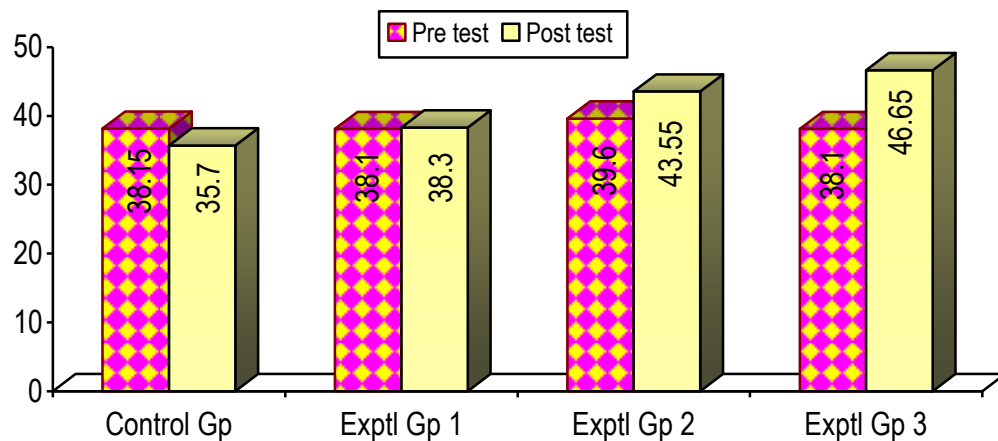
Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	38.15	4.66	35.70	4.43	0.747**	3.39**
Experimental 1-GSPR	38.10	7.22	38.30	7.06	0.977**	-0.58
Experimental 2 - CBC	39.60	3.95	43.55	4.31	0.931**	-11.24**
Experimental 3 – GSPR & CBC	38.10	5.87	46.65	4.00	0.539	-7.63**

*** Significant at 0.01 level*

Assertiveness refers to the ability to express their needs, wishes and feelings frankly, honestly and directly. Assertiveness is behaviour or skills that help to communicate, clearly and confidently our feelings, needs, wants and thoughts. It is the ability to say no to request, to state an opinion without being self conscious or to express emotions such as love, anger etc openly. The results presented in table no 5.41 indicates that the control group obtained a t value of 3.39, experimental group 2 obtained a t value of -11.238 and experimental group 3 obtained a t value of -7.632, which shows a significant difference at 0.01 level. The result indicates that there exist significant differences in the pre and post test scores. On the other hand the experimental group 1 obtained t value of -0.580, which is not significant.

Figure no 5.17

Pre and post test comparison of control and experimental groups on assertiveness



Assertiveness being a positive dimension of personality, it is expected that the mean value should be increased when obtaining the post test score, provided the intervention is effective. The control group shows a decrease in mean score from pre to post test, indicating a reduction in assertiveness skills. On the other hand the entire experimental group shows an increase in post mean score, but the experimental group with GSPR as intervention does not show any significant difference. Comparing the mean scores of experimental group 2 and 3, there is an increase in mean of the post test score, indicating a positive change in assertiveness. Of which the experimental group 3 obtained a pre test mean score of 38.10 and post test mean score of 46.65, which is the highest variation seen among the three experimental group. The practice of CBC is also helpful in increasing the assertiveness skills, but GSPR along with the CBC (experimental group 3) is the most effective management strategy to increase assertiveness skills among plus two students.

5.5.2 - Comparison of pre and post intervention scores of control and experimental groups on inferiority complex

Inferiority complex is a psychological condition that exists when a person's feelings of inadequacy are so intense that daily living is impaired. It is a complex of emotionally toned ideas arising from repressed fear and resentment associated with real or imagined inferiority, resulting either in compensation, in the form of pugnacity, or withdrawal into oneself. The mean, standard deviation, correlation coefficient, and t values of inferiority complex on the four groups are presented in table no 5.42.

Table no 5.42

Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on inferiority complex (pre and post intervention, N =20)

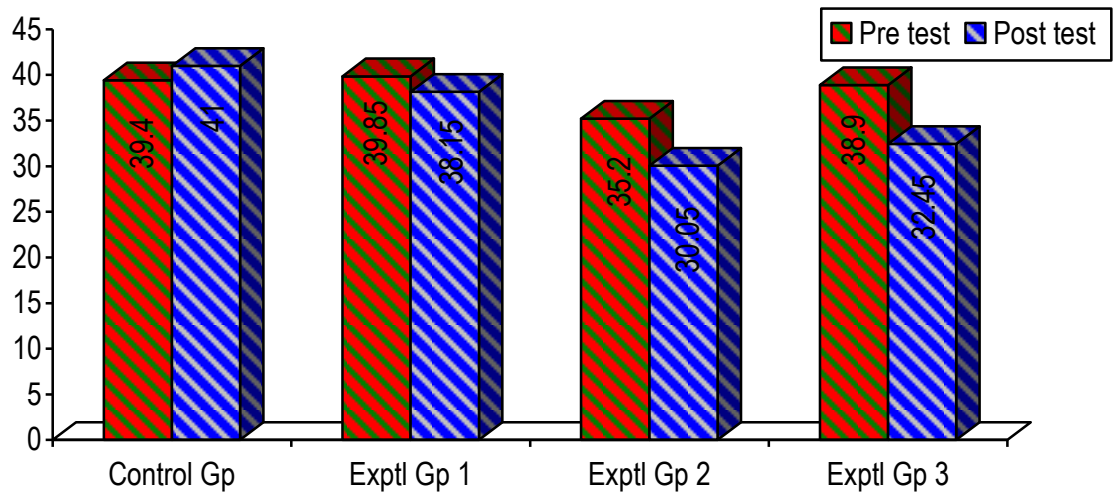
Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	39.40	8.15	41.00	7.43	0.979**	-4.07**
Experimental 1	39.85	8.34	38.15	7.86	0.969**	3.655**
Experimental 2	35.20	8.84	30.05	7.33	0.900**	5.910**
Experimental 3	38.90	8.74	32.45	5.59	0.921**	6.870**

** Significant at 0.01 level

The results presented in table no 5.42 shows that the control group obtained a t value of -4.07, experimental group 1 obtained a t value of 3.655, experimental group 2 obtained t value of 5.910, and experimental group 3 obtained a t value of 6.870, which are significant at 0.01 levels. The results indicate that there exist significant differences between pre and post scores of the four groups on inferiority complex.

Figure no 5.18

Pre and post test comparison of control and experimental groups on inferiority complex.



While comparing the mean values it is seen that there is a reduction in mean of the post test score, indicating an increase in inferiority complex. Whereas the experimental groups shows a decrease in mean of the post test scores. Of the three experimental groups, the third group exhibit a considerable reduction in mean score (Pre test mean score – 38.90 and post test mean score – 32.45) when comparing with the other two experimental groups. The experimental group 2 has also shows a reduction in score which is higher than the experimental group 1. The results showed that the three intervention techniques given to the experimental groups are effective in managing the inferiority complex, with most effective one being the experimental group 3 followed by the experimental group 2. It can be concluded that inferiority could be best managed when administering the GSPR and CBC as an intervention for a period of two months for the plus two students.

5.5.3 - Comparison of pre and post intervention scores of control and experimental groups on emotional instability

The pre and post test scores on emotional instability is compared and the mean, standard deviation, correlation coefficient and t values of the four groups are presented in table no 5.43.

Table no 5.43

Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on emotional instability (pre and post intervention, N =20)

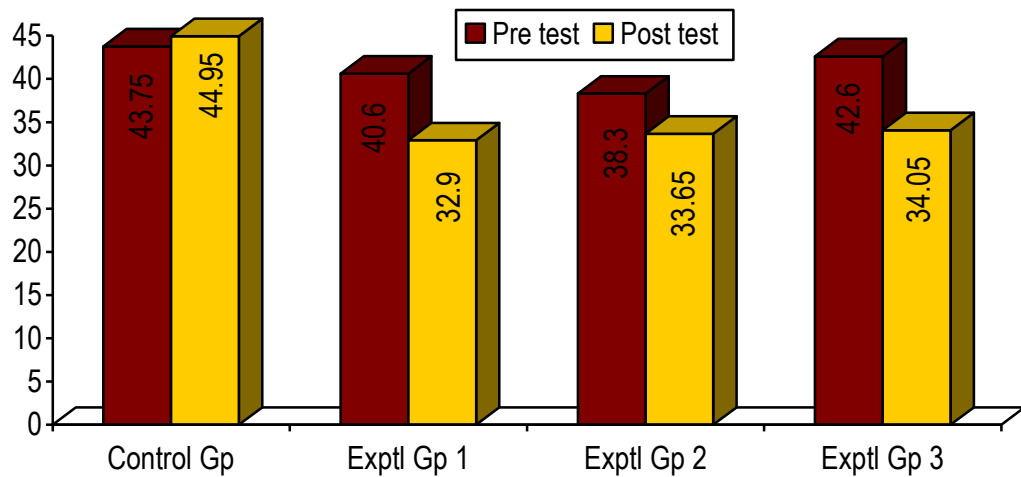
Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	43.75	5.82	44.95	4.98	0.982**	-4.06**
Experimental 1	40.60	9.57	32.90	7.62	0.921**	8.811**
Experimental 2	38.30	7.57	33.65	5.10	0.894**	5.491**
Experimental 3	42.60	6.12	34.05	4.36	0.704**	8.797**

*** Significant at 0.01 level*

The control group obtained a t value of -4.06, experimental group 1 with a t value of 8.811, experimental group 2 obtained a t value of 5.491 and experimental group 3 obtained t value of 8.797, and all the four t values are significant at 0.01 level. The result indicates that there exist significant differences between the pre and post test scores on emotional instability.

Figure no 5.19

Pre and post test comparison of control and experimental groups on emotional instability



The mean value presented in table no 5.43 shows that there is an increase in post test mean score of the control group, indicating an increase in emotional instability. Emotional instability refers to the state or qualities of being unstable or unsteady in handling the emotional dealings and there is an increase in these traits among the control group of subjects. On the other hand decreases in mean of the post test mean score of the experimental groups, indicating a decrease in emotional instability. The experimental groups 1, 2 and 3 obtained a pre test mean value of 40.6, 38.3, and 42.6 and a post test value of 32.9, 33.65 and 34.05 respectively. The result shows that the experimental group 3 shows a higher difference between pre and post test scores followed by the experimental group 1. This indicates that two months GSPR practice along with GSPR given to the experimental group 3 found to be most effective in managing emotional instability. The practice of GSPR alone was given to the experimental group for a period of two months and GSPR alone can also used as a method for managing the emotional instability.

5.5.4 - Comparison of pre and post intervention scores of control and experimental groups on self control

Self control refers to the ability to manage anxiety. High scorers generally have strong control over emotional life and behaviour in general. They show socially approved behaviours, behaviour control, persistence, foresight, and considerations of others. The pre and post test intervention scores were compared and the mean, standard deviation, correlation coefficient, and t values are presented in table 5.44.

Table no 5.44

Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on self control (pre and post intervention, N =20)

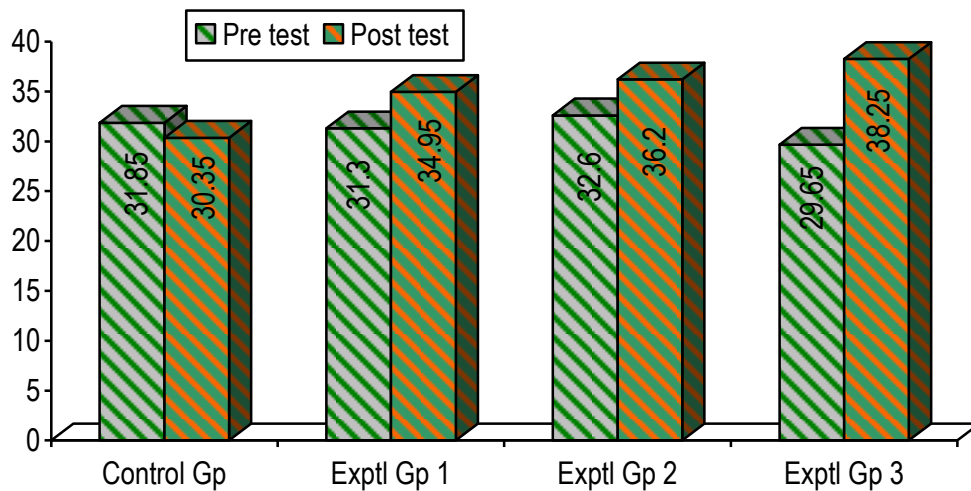
Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	31.85	6.77	30.35	6.52	0.973**	4.27**
Experimental 1	31.30	7.25	34.95	6.56	0.969**	-8.856**
Experimental 2	32.60	7.21	36.20	6.88	0.952**	-7.285**
Experimental 3	29.65	5.42	38.25	4.45	0.770**	-11.083**

** Significant at 0.01 level

The t value presented in table no 5. 44 show that all the four groups obtained a significant difference on the variable self control. The results indicate that there exists a significant difference between the pre and post test scores on self control. A graph plotted on the basis of pre and post test mean value and presented as figure no 5.20.

Figure no 5.20

Pre and post test comparison of control and experimental groups on self control



The control group obtained a pre test mean value of 31.85 and a post test mean value of 30.35. The variation in mean score shows a reduction in self control after two months of time period. The experimental group 1 obtained a pre test mean score of 31.3 and post test mean score of 34.95. There is an increase in mean score showing a positive change in self control. Similarly for the experimental group 2 and 3 with a pre test mean score of 32.6 and 29.65 and post test mean score of 36.2 and 38.25 respectively. The increase in post test mean score indicates the skills that they have attained with the help of intervention for a period of two months. The mean comparison shows that the highest variation reported is for the experimental group 3, provided the GSPR and CBC for a period of two months. The regular practice of CBC and GSPR might have helped the experimental group 3 in developing strong control over their emotional life and behaviour in general. It can be concluded that the CBC and GSPR will be most effective intervention to generate self control among the plus two students.

5.5.5 - Comparison of pre and post intervention scores of control and experimental groups on tolerance

The mean values, standard deviation, correlation coefficient and t values of the control and experimental groups on tolerance are presented in table no 5.45. The result shows a significant difference in all groups.

Table no 5.45

Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on tolerance (pre and post intervention, N =20)

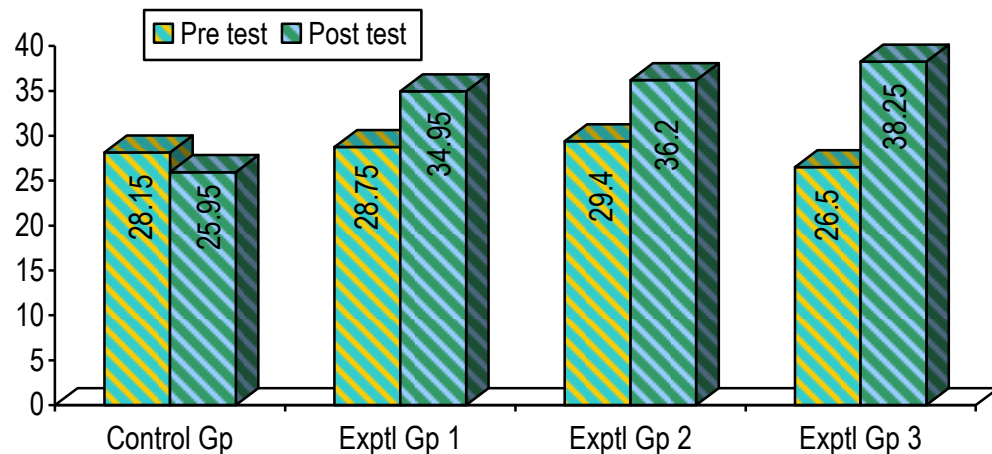
Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	28.15	6.15	25.95	5.35	0.879**	3.36**
Experimental 1	28.75	5.39	34.95	6.56	0.539**	-4.758**
Experimental 2	29.40	6.27	36.20	6.88	0.475*	-4.501**
Experimental 3	26.50	5.26	38.25	4.45	0.460*	-10.329**

** Significant at 0.01 level

The t value of 3.36 obtained for the control group, -4.758 for the experimental group 1, -4.501 for the experimental group 2, and -10.329 obtained by the experimental group 3, which are significant at 0.01 level. The result reveals that there exist a significant difference between the pre and post test mean scores on tolerance in all the four groups studied.

Figure no 5.21

Pre and post test comparison of control and experimental groups on tolerance.



The control group obtained a pre test mean score of 28.15 and post test mean score of 25.95. The mean comparison shows a decrease in mean score of the control group on post assessment phase, indicating reduction in tolerance level. Tolerance refers to the state or qualities of being unstable or unsteady in handling the emotional dealings and an increase in mean score observed in all the experimental groups. Highest difference observed in the experimental group 3, followed by experimental group 2 and then the experimental group 1. The results indicates that the combined practice of CBC and GSPR is the most effective intervention given by the researcher followed by CBC alone (experimental group 2) and only then the GSPR alone (experimental group 1) could be used as an intervention technique for increasing the tolerance level of the plus two students.

5.5.6 - Comparison of pre and post intervention scores of control and experimental groups on sense of well being

The mean values, standard deviation, correlation coefficient and t values of the control and experimental groups on sense of well being are presented in table no 5.46.

Table no 5.46

Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on sense of well being (pre and post intervention, N =20)

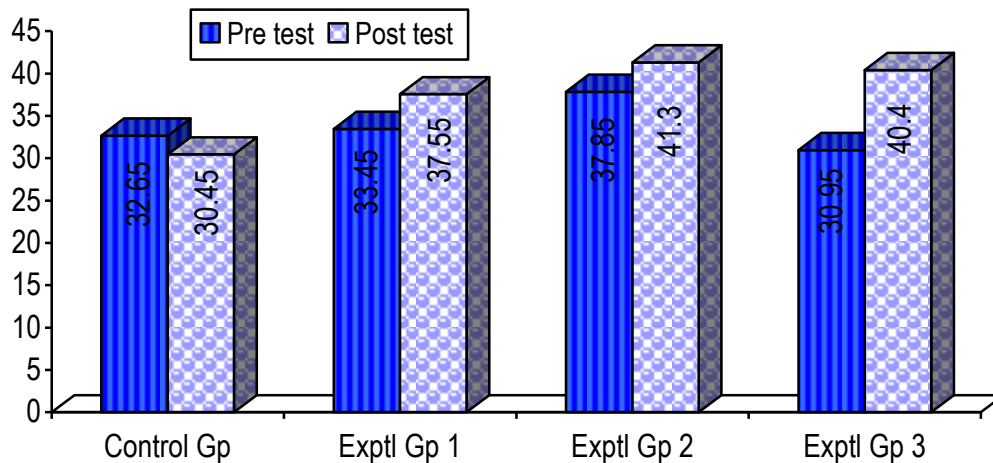
Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	32.65	7.59	30.45	6.62	0.973**	5.16**
Experimental 1	33.45	7.04	37.55	6.35	0.938**	-7.492**
Experimental 2	37.85	6.62	41.30	5.57	0.953**	-7.212**
Experimental 3	30.95	7.55	40.40	5.96	0.799**	-9.317**

*** Significant at 0.01 level*

The control group obtained t value of 5.16, which is significant at 0.01 level. The result shows that there exists a significant difference between the pre and post test scores. The group obtained pre test mean score of 32.65 and post test mean score of 30.45, indicating a reduction in post test score. This indicates a reduction in sense of well being due to lack of intervention/ remedial measure.

Figure no 5.22

Pre and post test comparison of control and experimental groups on sense of well being.



While analysing the experimental group, it is seen that all the experimental group obtained t value, which are significant at 0.01 level. The result indicates that there exist significant differences between the pre and post test scores of all the three experimental group. The group which practiced the GSPR and CBC shows considerable amount of reduction in their mean score at post assessment phase, when compared to the other two experimental groups. Sense of well being refers to the presence of positive marker characteristics that come about as result chance combinations of organisms, familial, community and societal elements. The state of well being is that in which the individual realises his or her own abilities, can work productively and fruitfully and is able to contribute to his or her community. The presents result shows that the CBC along with GSPR could be the best therapeutic method to develop sense of well being among plus two students.

5.5.7. - Comparison of pre and post intervention scores of control and experimental groups on self esteem

The pre and post test scores on self esteem of the control and experimental groups were compared and the details are presented in table no 5.47.

Table no 5.47

Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on self esteem (pre and post intervention, N =20)

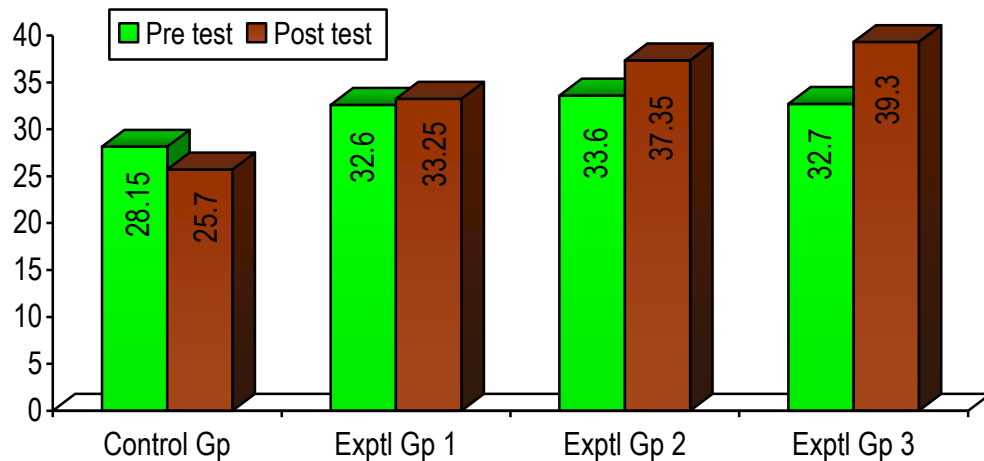
Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	28.15	6.14	25.70	4.88	0.963**	5.59**
Experimental 1	32.60	9.76	33.25	9.44	0.992**	-2.292*
Experimental 2	33.60	8.32	37.35	5.82	0.938**	-4.781**
Experimental 3	32.70	6.19	39.30	3.42	0.584**	-5.868**

** Significant at 0.01 level

The results presented in table no 5.47 shows that all the four groups show a significant difference on self esteem. The result indicates that there exists a significant difference between pre and post test scores on self esteem. While comparing the mean values of control group, it is seen that there is a decrease in mean score of the post test score on self esteem.

Figure no 5.23

Pre and post test comparison of control and experimental groups on self esteem



The highest mean difference obtained by the experimental group 3 shows that the combined practice of GSPR and CBC found to be most effective in enhancing self esteem among the plus two students. The was followed by experimental group 2, who had undergone CBC for a period of two months and a minimal difference observed in the experimental group on their pre and post scores. It can be concluded that the combined practice of GSPR and CBC for period of two months with on an average 18 session is most effective in enhancing self esteem.

5.5.8 - Comparison of pre and post intervention scores of control and experimental groups on sense of personal worth.

The pre and post test scores on sense of personal worth of the control and experimental groups were compared and the details are presented in table no 5.48.

Table no 5.48

Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on sense of personal worth (pre and post intervention, N =20)

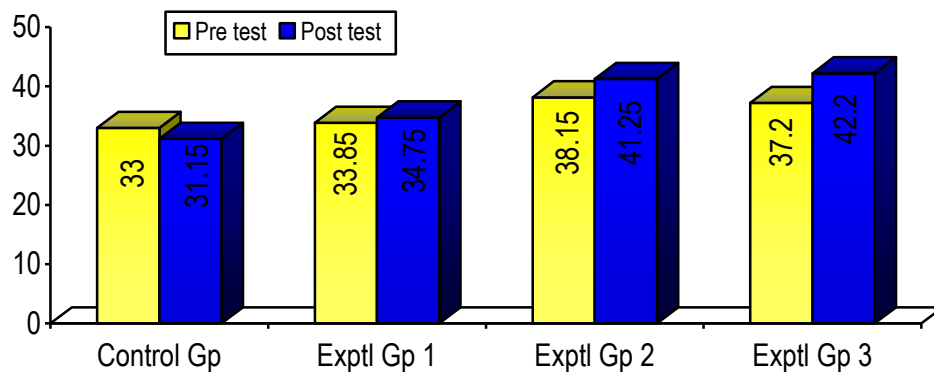
Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	33.00	8.27	31.15	7.49	0.966**	3.75**
Experimental 1	33.85	7.85	34.75	7.71	0.966**	-1.989
Experimental 2	38.15	7.29	41.25	4.36	0.926**	-3.808**
Experimental 3	37.20	6.49	42.20	3.96	0.690**	-4.733**

** Significant at 0.01 level

Sense of personal worth refers to the sense or feeling of being the same person, based mainly on common sensibility and continuity of aims, purposes and memories. The result presented in table no 5.48 shows that there exist a significant difference in control group, experimental group 2 and experimental group 3 on the pre and post test scores of sense of personal worth. The experimental group 1 does not show any significant difference on this variable. .

Figure no 5.24

Pre and post test comparison of control and experimental groups on sense of personal worth



The mean comparison shows that there is a decrease in mean score in the control group on sense of personal worth, indicating the negative reflection. On the other hand all the three experimental group shows an increase in mean score on the post test score. The highest mean difference obtained by the experimental group 3 on the pre and post tests scores, followed by experimental group 2 and then the experimental group 1. It can be concluded that the combined practice of CBC and GSPR found to be most effective in developing a sense of personal worth, followed by CBC and then the GSPR practices.

5.5.9 - Comparison of pre and post intervention scores of control and experimental groups on social skills.

The pre and post test scores on sense of personal worth of the control and experimental groups were compared and the details are presented in table no 5.49.

Table no 5.49

Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on social skills (pre and post intervention, N =20)

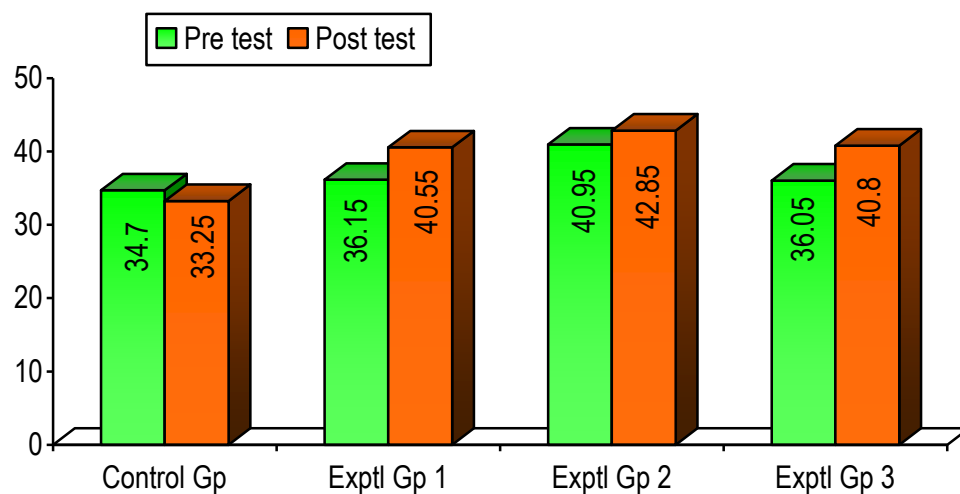
Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	34.70	5.41	33.25	4.61	0.970**	4.42**
Experimental 1	36.15	8.46	40.55	7.32	0.918**	-5.825**
Experimental 2	40.95	7.39	42.85	5.59	0.958**	-3.276**
Experimental 3	36.05	6.28	40.80	4.29	0.652**	-4.456**

** Significant at 0.01 level

The results shows that there exist a significant difference in control group, experimental group 1, experimental group 2, and experimental group 3 on the pre and post test scores on social skills. There is a decrease in mean score in the control group as they have not given any intervention during the two months period, which might have been the reason for the reduction in skills.

Figure no 5.25

Pre and post test comparison of control and experimental groups on social skills



Social skills refer to the abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life. It includes any skills necessary for competent social interaction, including both language and non verbal communication. The mean comparison shows that the practice of GSPR as an intervention given to the experimental group 1 shows the maximum variation and similar result without much variation in scores observed in the case of experimental group 3. The group 3 was given GSPR and CBC and the combined practice could not elicit better results when compared to the

experimental group 1 who practiced the GSPR alone. It can be concluded that the GSPR practice for two months could enhance the social skills among the plus two students.

5.5.10 - Comparison of pre and post intervention scores of control and experimental groups on adaptability.

The pre and post test scores on adaptability of the control and experimental groups were compared and the details are presented in table no 5.50.

Table no 5.50

Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on adaptability (pre and post intervention, N =20)

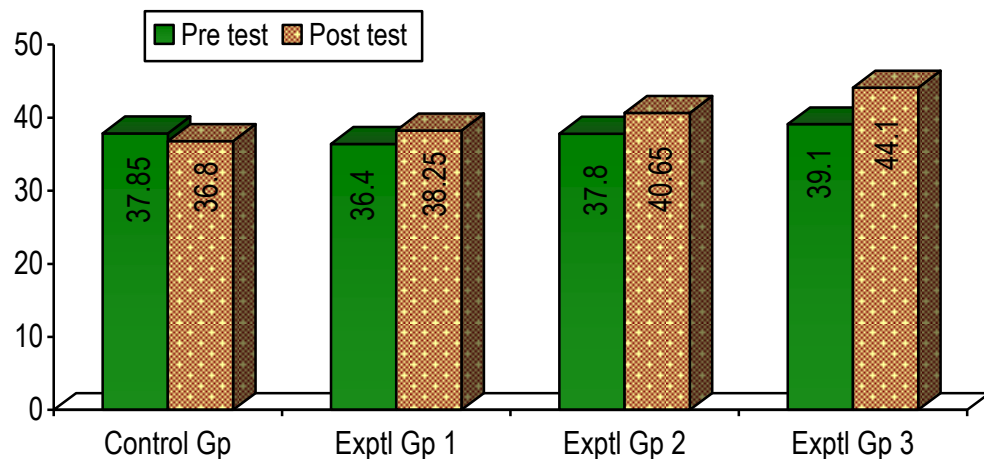
Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	37.85	5.89	36.80	4.84	0.943**	2.25*
Experimental 1	36.40	5.60	38.25	5.49	0.911**	-3.527*
Experimental 2	37.80	5.61	40.65	3.53	0.925**	-4.720**
Experimental 3	39.10	6.41	44.10	2.81	0.365**	-3.716**

**Significant at 0.05 level; ** Significant at 0.01 level*

The result shows that there exist a significant difference at 0.05 level for the control group and experimental group1 and obtained a significant difference at 0.01 level for the experimental group 2 and experimental group 3. This indicates that there exist significant differences between the pre and post test scores on adaptability.

Figure no 5.26

Pre and post test comparison of control and experimental groups on adaptability



Adaptability refers to the ability to make appropriate responses to changing circumstances. Those who score high on this variable readily accept any beneficial change to meet the environmental demands are said to be highly adaptable. There is an increase in mean score observed for the experimental groups and decrease in mean score observed for the control group. The combine practice of GSPR and CBC seems to be the most effective intervention in developing skills on adaptability.

5.5.11 - Comparison of pre and post intervention scores of control and experimental groups on sensitivity.

The pre and post test scores on sensitivity of the control and experimental groups were compared and the details are presented in table no 5.51 and figure no 5.27.

Table no 5.51

Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on sensitivity (pre and post intervention, N =20)

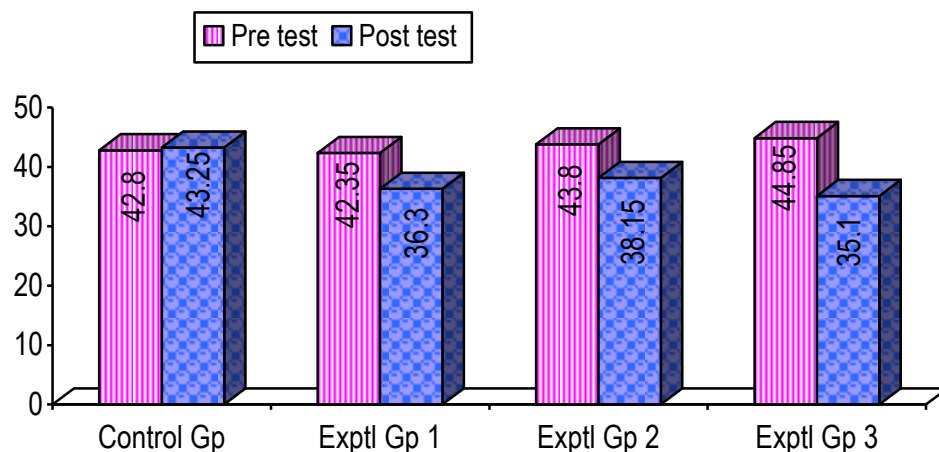
Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	42.80	6.70	43.25	6.54	0.972**	-1.28
Experimental 1	42.35	8.19	36.30	7.31	0.952**	10.636**
Experimental 2	43.80	5.36	38.15	4.27	0.848**	8.859**
Experimental 3	44.85	4.11	35.10	4.60	0.266	8.242**

** Significant at 0.01 level

The result indicates that all the experimental groups show a significant difference at 0.01 level for the variable sensitivity. The result reveals that there exists a significant difference between the pre and post test scores on sensitivity of the experimental groups.

Figure no 5.27

Pre and post test comparison of control and experimental groups on sensitivity.



Descriptions associated with high scores on sensitivity include tender minded, dependent, overprotected, and insecurity. They prefer to use reason rather than force in getting things done. The experimental group 3 shows a marked difference in mean score between pre and post test scores followed by the experimental group 1. The results reveals that the combined practice of GSPR and CBC is most effective in reducing sensitivity among plus two students followed by the practice of GSPR and CBC.

5.5.12 - Comparison of pre and post intervention scores of control and experimental groups on state anxiety.

The pre and post test scores on state anxiety of the control and experimental groups were compared and the details are presented in table no 5.52 and figure no 5.28.

Table no 5.52

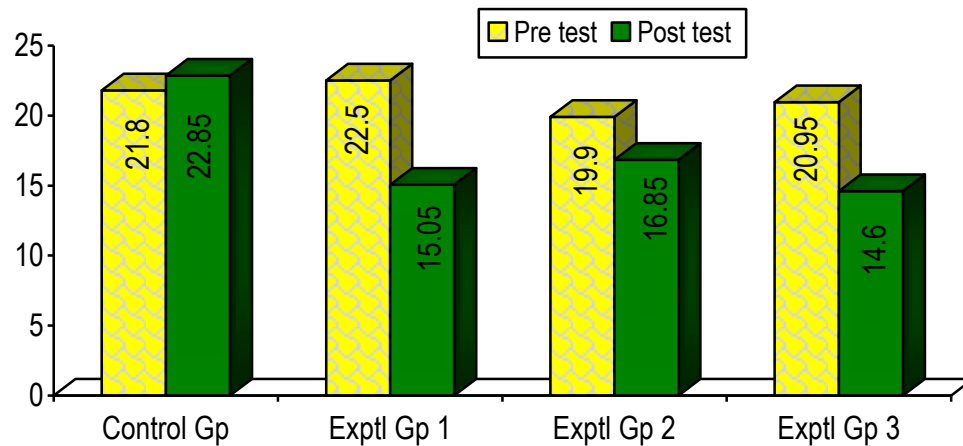
Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on state anxiety (pre and post intervention, N =20)

Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	21.80	4.03	22.85	4.90	0.906**	-2.221*
Experimental 1	22.50	3.65	15.05	3.62	0.739**	12.691**
Experimental 2	19.90	4.81	16.85	3.50	0.834**	5.044**
Experimental 3	20.95	4.31	14.60	4.15	0.479*	6.574**

*Significant at 0.05 level; ** Significant at 0.01 level

Figure no 5.28

Pre and post test comparison of control and experimental groups on state anxiety.



State anxiety is defined as a transitory emotional reaction that consists of feelings of tension, apprehension, nervousness and worry and activation of the autonomic nervous system. The mean scores of the four groups in the variable, state anxiety shows that except for the control group all the other three groups showed reduced scores. The control group didn't get any intervention, hence the increase in state anxiety. Though all the three experimental groups showed significant difference, the experimental group 1 and group 3 showed noticeable decrease in state anxiety. It can be emphasized from the results that GSPR given to experimental group 1 is the most effective followed by CBC with GSPR (given to group 3) and then CBC alone (to group 2).

5.5.13- Comparison of pre and post intervention scores of control and experimental groups on state curiosity

The pre and post test scores on state curiosity of the control and experimental groups were compared and the details are presented in table no 5.53 and figure no 5.29.

Table no 5.53

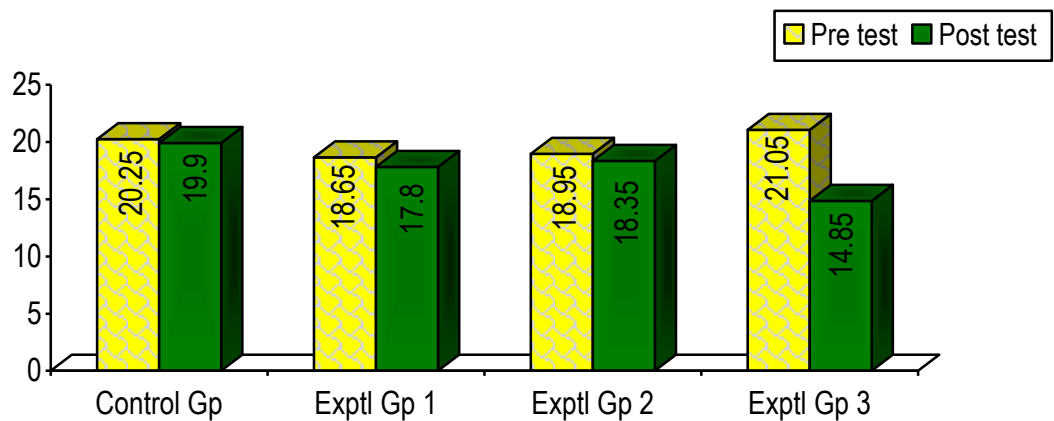
Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on state curiosity (pre and post intervention, N =20)

Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	20.25	2.94	19.90	4.30	0.490*	0.407
Experimental 1	18.65	4.11	17.80	3.46	0.773**	1.450
Experimental 2	18.95	3.76	18.35	2.92	0.915**	1.674
Experimental 3	21.05	4.32	14.85	3.54	0.568**	7.450**

** Significant at 0.01 level

Figure No 5.29

Pre and post test comparison of control and experimental groups on state curiosity.



Curiosity means the desire or inclination to know or learn about anything, ranging from what is novel or strange to a desire of knowing what one has no right to know. From the comparison of the four groups we get the information that among the groups, the experimental group 3 shows the highest difference in this variable. It can be assumed that CBC associated

with GSPR has the highest impact in the reduction of state curiosity at a required level. For the experimental group1, which got GSPR as the intervention, a slight difference can be observed. Experimental group 2, which got CBC as an intervention technique also showed a difference. But both the groups do not show any significant difference. The experimental group 3 showed a significant difference for state curiosity.

5.5.14 - Comparison of pre and post intervention scores of control and experimental groups on state anger.

The pre and post test scores on state anger of the control and experimental groups were compared and the details are presented in table no 5.54 and figure no 5.30.

Table no.5.54

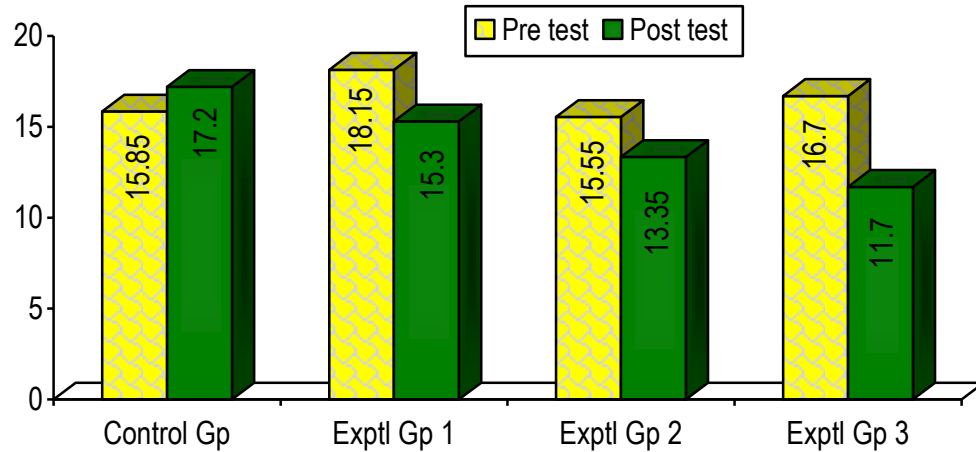
Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on state anger (before and after intervention, N =20)

Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	15.85	4.34	17.20	4.25	0.951**	-4.477**
Experimental 1	18.15	4.50	15.30	4.16	0.955**	9.452**
Experimental 2	15.55	3.85	13.35	3.00	0.850**	4.819**
Experimental 3	16.70	2.90	11.70	1.66	0.133	7.109**

*** Significant at 0.01 level*

Figure no 5.30

Pre and post test comparison of control and experimental groups on state anger.



State anger is defined as an emotional state or condition that consists of subjective feelings of irritation, annoyance, fury and rage with concomitant activation or arousal of the autonomic nervous system. It will vary in intensity and fluctuate over time as a function of affronting injustice or frustration resulting from the blocking of goal directed behaviour. Though all the groups which got different interventions showed significant difference, the experimental group 3 showed the highest reduction of state anger. Decrease in state anger has been shown by the other two experimental groups also. The control group also showed a significant t value and it has been found that there is an increase in the state anger which recognises the need for intervention.

5.5.15 - Comparison of pre and post intervention scores of control and experimental groups on trait anxiety.

The pre and post test scores on trait anxiety of the control and experimental groups were compared and the details are presented in table no 5.55 and figure no 5.31.

Table no.5.55

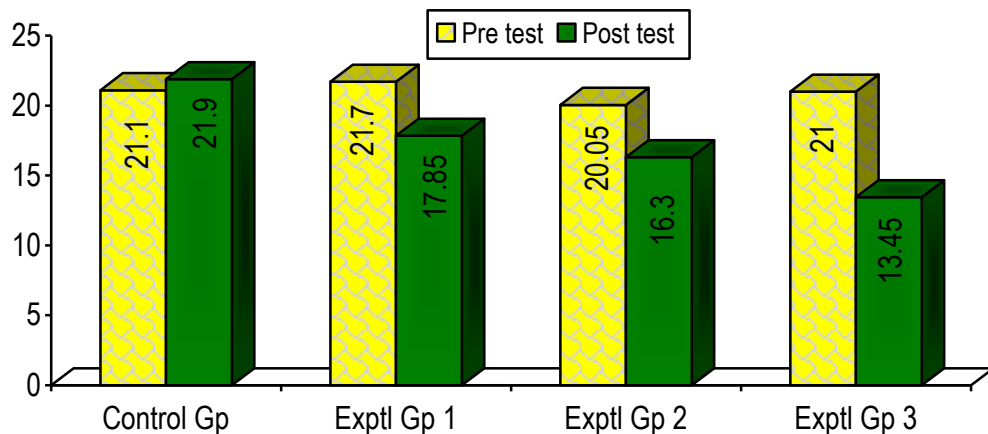
Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on trait anxiety (pre and post, N =20)

Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	21.10	3.42	21.90	3.52	0.288	-1.582
Experimental 1	21.70	3.61	17.85	3.99	0.708**	5.887**
Experimental 2	20.05	3.30	16.30	3.20	0.757**	7.394**
Experimental 3	21.00	4.12	13.45	3.07	0.475*	8.908**

** Significant at 0.01 level

Figure no 5.31

Pre and post test comparison of control and experimental groups on trait anxiety.



Trait anxiety refers to relatively stable individual differences in anxiety proneness, i.e., the differences between people in the tendency to perceive stressful situations as dangerous or threatening and to respond to such situations with elevations in the intensity. The experimental group 3 has shown the highest reduction in the trait anxiety. Experimental group 1 and 2 also showed significant change in this variable. From the results it can be assumed that GSPR, and CBC independently can be effective in reducing trait anxiety but CBC combined with GSPR is found more effective in enabling subjects to emit more adaptive behaviours in stressful situations.

5.5.16 -Comparison of the pre and post intervention scores of control and experimental groups on trait curiosity.

The pre and post test scores on trait curiosity of the control and experimental groups were compared and the details are presented in table no 5.56 and figure no 5.32.

Table no.5.56

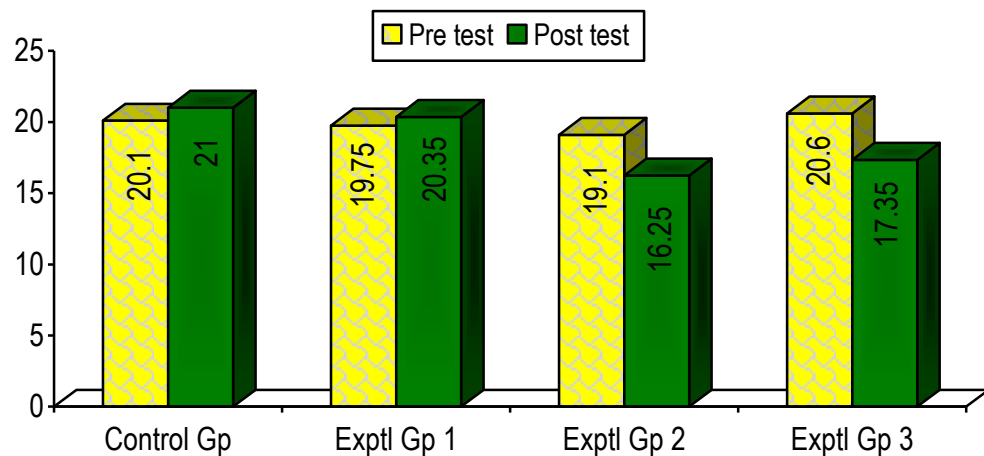
Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on trait curiosity (pre and post , N =20)

Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	20.10	3.86	21.00	4.41	0.901**	-2.100*
Experimental 1	19.75	3.58	20.35	4.84	0.762**	-0.858
Experimental 2	19.10	4.46	16.25	4.38	0.856**	5.382**
Experimental 3	20.60	3.97	17.35	3.56	0.868**	7.377**

*Significant at 0.05 level; ** Significant at 0.01 level

Figure no 5.32

Pre and post test comparison of control and experimental groups on trait curiosity.



This variable, trait curiosity is something which creates a desire to learn anything, ranging from new, strange or to know something that one has no right to know. In this analysis it has been found that the experimental group 3 showed a decrease in this and also significant at 0.01 level. The experimental group 2 also showed significant difference. Hence it can be assumed that CBC alone and CBC with GSPR are found effective in reducing the trait curiosity. The control group showed a significant increase in this which shows that as time passes trait curiosity interferes with the adaptive behaviours of the subjects.

5.5.17 - Comparison of pre and post intervention scores of control and experimental groups on trait anger.

The pre and post test scores on trait anger of the control and experimental groups were compared and the details are presented in table no 5.57 and figure no 5.33.

Table no.5.57

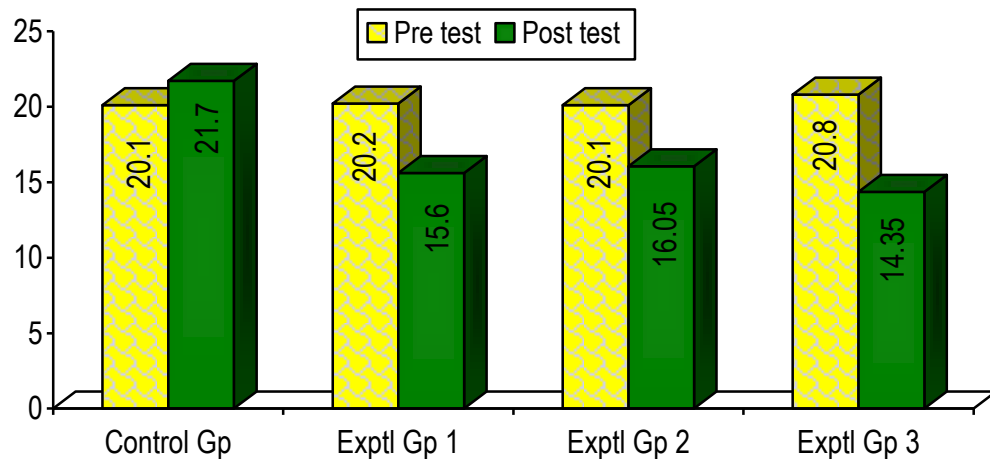
Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on trait anger (pre and post intervention, N =20)

Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	20.10	4.79	21.70	4.91	0.894**	-3.203*
Experimental 1	20.20	3.17	15.60	3.14	0.474*	6.360**
Experimental 2	20.10	4.56	16.05	2.80	0.613**	5.024**
Experimental 3	20.80	4.05	14.35	3.36	0.653**	9.196**

*Significant at 0.05 level; ** Significant at 0.01 level

Figure no 5.33

Pre and post test comparison of control and experimental groups on trait anger.



The highest difference in the trait anger was observed in the Experimental group 3, followed by group 1, which got GSPR as an intervention and group 2, which got CBC as the intervention. The trait anger is defined in terms of individual differences in the frequency that state anger is experienced over time. The experimental group 3, which got both CBC and GSPR showed the maximum difference. The control group, as they didn't get any intervention showed a significant increase at 0.05 level.

5.5.18 - Comparison of pre and post intervention scores of control and experimental groups on emotional problems.

The pre and post test scores on emotional problems of the control and experimental groups were compared and the details are presented in table no 5.58 and figure no 5.34.

Table no.5.58

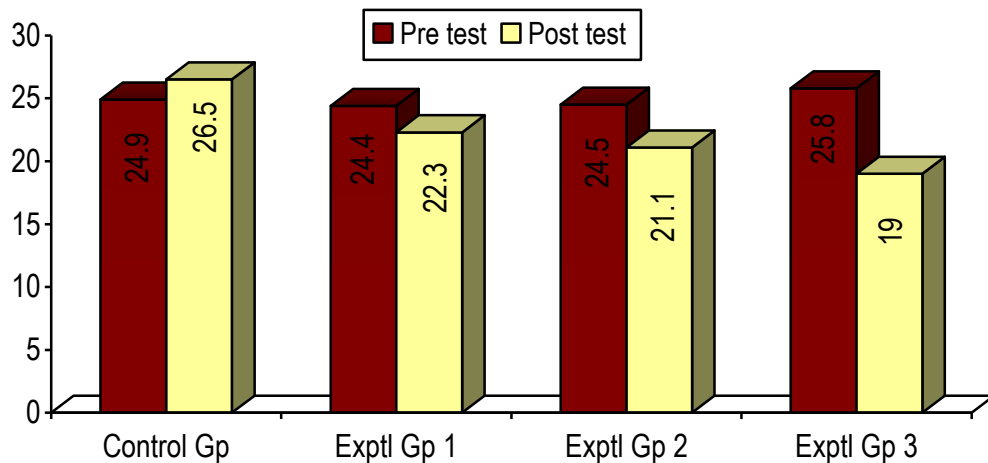
Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on emotional problems (pre and post intervention, N =20)

Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	24.90	5.45	26.50	4.89	0.977**	-5.812**
Experimental 1	24.40	5.05	22.30	3.20	0.892**	3.566**
Experimental 2	24.50	5.42	21.10	3.97	0.901**	6.030**
Experimental 3	25.80	3.55	19.00	1.38	0.043	8.109**

** Significant at 0.01 level

Figure no 5.34

Pre and post test comparison of control and experimental groups on emotional problems..



The above results show the effectiveness of different interventions in emotional problems of the subjects. It has been found that there is reduction occurred in emotional problems with the use of all interventions but the strongest impact is made by CBC with GSPR.

5.5.19 - Comparison of pre and post intervention scores of control and experimental groups on academic problems.

The pre and post test scores on academic problems of the control and experimental groups were compared and the details are presented in table no 5.59 and figure no 5.35.

Table no 5.59

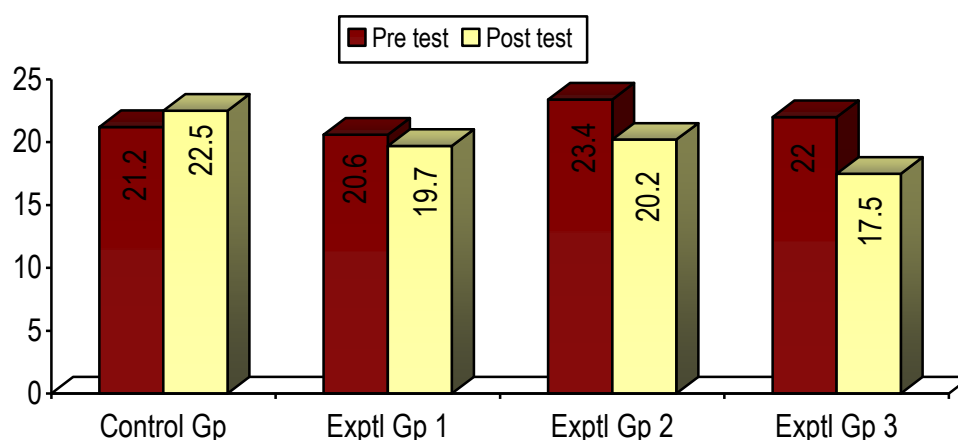
Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on academic problems (pre and post intervention, N =20)

Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	21.20	5.17	22.50	5.46	0.962**	-3.901**
Experimental 1	20.60	5.35	19.70	4.41	0.970**	2.651**
Experimental 2	23.40	5.35	20.20	3.49	0.875**	5.007**
Experimental 3	22.00	6.55	17.50	3.17	0.669**	4.008**

** Significant at 0.01 level

Figure no 5.35

Pre and post test comparison of control and experimental groups on academic problem.



This analysis shows an increase in academic problems to the control group, which didn't get any intervention and all the other three groups showed significant reduction in academic problems. The results emphasizes that GSPR alone can reduce academic problems but the effect increases with CBC. Whereas the experimental group 3 which has got CBC along with GSPR showed the highest significant change in the academic problems of the subjects.

5.5.20 - Comparison of pre and post intervention scores of control and experimental groups on social problems.

The pre and post test scores on social problems of the control and experimental groups were compared and the details are presented in table no 5.60 and figure no 5.36.

Table no 5.60

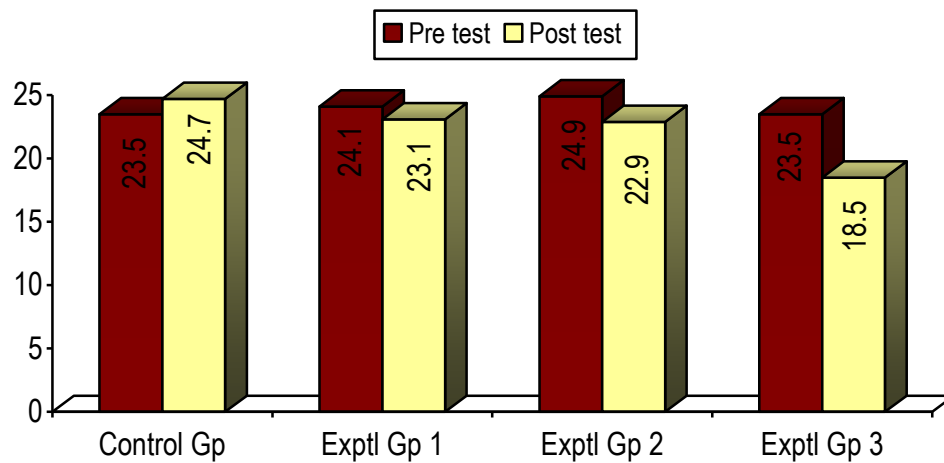
Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on social problems (pre and post intervention, N =20)

Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	23.50	4.89	24.70	4.87	0.943**	-3.269**
Experimental 1	24.10	5.09	23.10	4.23	0.885**	1.876
Experimental 2	24.90	5.29	22.90	4.28	0.976**	6.164**
Experimental 3	23.50	6.12	18.50	2.59	0.775**	5.053**

** Significant at 0.01 level

Figure no 5. 36

Pre and post test comparison of control and experimental groups on social problems.



Before the intervention all the four groups showed somewhat similar scores on the variable, social problems and after the intervention the group which got the package of CBC and GSPR showed a significant decrease in social problems. The group 2 also showed a considerable decrease but lesser than group 3. The control group has shown an increase in the score which indicates an increase in the social problems experienced by them.

5.5.21 - Comparison of pre and post intervention scores of control and experimental groups on personal problems.

The pre and post test scores on personal problems of the control and experimental groups were compared and the details are presented in table no 5.61 and figure no 5.37.

Table no 5.61

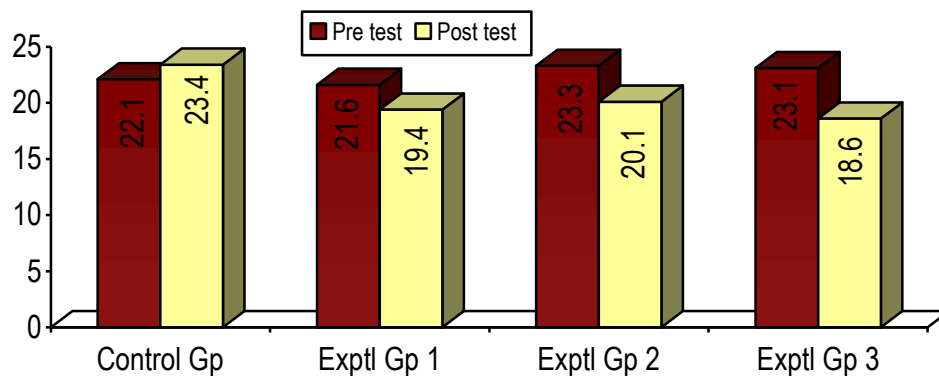
Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on personal problems (pre and post intervention, N =20)

Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	22.10	4.38	23.40	4.64	0.947**	-3.901**
Experimental 1	21.60	5.17	19.40	4.26	0.934**	5.082**
Experimental 2	23.30	5.32	20.10	4.42	0.835**	4.883**
Experimental 3	23.10	5.00	18.60	1.73	0.552**	4.682**

*Significant at 0.05 level; ** Significant at 0.01 level

Figure no 5.37

Pre and post test comparison of control and experimental groups on personal problems.



Personal problems of the groups have been reduced with interventions and increased without intervention. The maximum decrease found with the group 3 and then group 2 and last group 1. It can be said that the effect of GSPR is good, CBC is better and both CBC and GSPR together is best in the management of personal problems.

5.5.22 - Comparison of pre and post intervention scores of control and experimental groups on family problems.

The pre and post test scores on family problems of the control and experimental groups were compared and the details are presented in table no 5.62 and figure no 5.38.

Table no 5.62

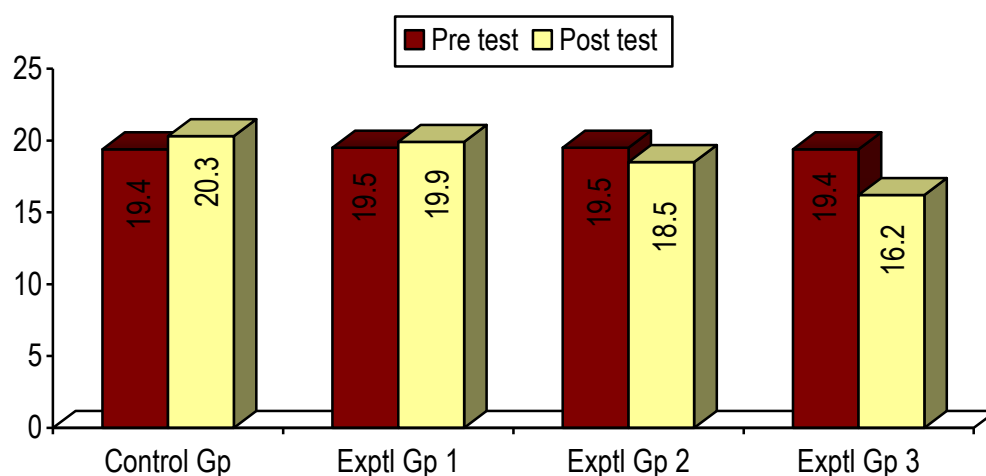
Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on family problems (pre and post intervention, N =20)

Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	19.40	5.92	20.30	5.67	0.954**	-2.269*
Experimental 1	19.50	5.80	19.90	5.29	0.938**	-0.890
Experimental 2	19.50	5.31	18.50	3.55	0.954**	2.032
Experimental 3	19.40	5.84	16.20	2.67	0.737**	3.348

*Significant at 0.05 level; ** Significant at 0.01 level

Figure no 5.38

Pre and post test comparison of control and experimental groups on family problems.



The comparison of the four groups on family problems suggests that the experimental group 3 has an impact on the variable. There occurred a change in the group which got CBC. But it has been observed that there occurred an increase in the family problems with group 1, which got GSPR.

5.5.23 - Comparison of pre and post intervention scores of control and experimental groups on sexual problems.

The pre and post test scores on sexual problems of the control and experimental groups were compared and the details are presented in table no 5.63 and figure no 5.39.

Table no 5.63

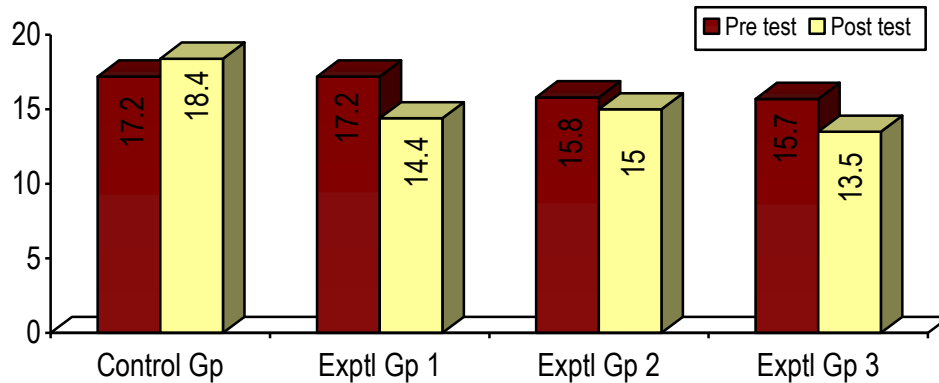
Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on Sexual problems (pre and post intervention, N =20)

Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	17.20	6.17	18.40	6.41	0.988**	-5.339**
Experimental 1	17.20	8.72	14.40	6.64	0.679**	1.945
Experimental 2	15.80	6.55	15.00	5.49	0.943**	1.566
Experimental 3	15.70	5.16	13.50	3.72	0.803**	3.168**

**Significant at 0.05 level; ** Significant at 0.01 level*

Figure no 5.39

Pre and post test comparison of control and experimental groups on sexual problems.



Here also the analysis emphasizes the importance of interventions in reducing sexual problems. The group 1, which got GSPR as an intervention for a period of two months showed the maximum decrease in sexual problems. This can be interpreted as GSPR alone can make changes in sexual problems of the subjects. From the group 2 CBC is also found effective in managing sexual problems. CBC along with GSPR also identified as effective technique.

5.5.24 - Comparison of pre and post intervention scores of control and experimental groups on health problems.

The pre and post test scores on health problems of the control and experimental groups were compared and the details are presented in table no 5.64 and figure no 5.40.

Table no 5.64

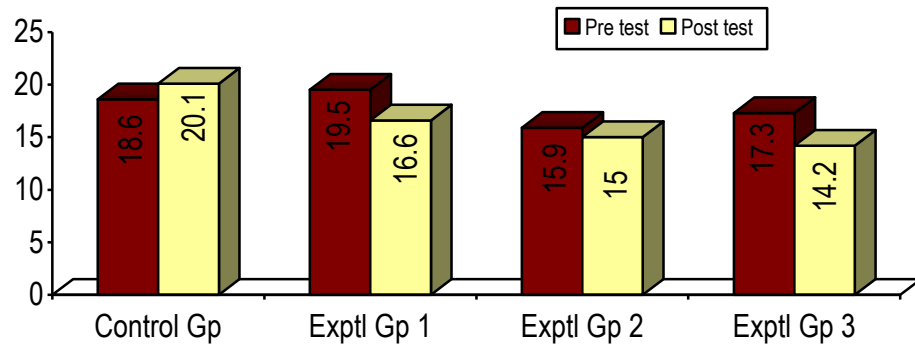
Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on health problems (pre and post intervention, N =20)

Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	18.60	5.55	20.10	5.41	0.980**	-6.097**
Experimental 1	19.50	5.35	16.60	4.45	0.942**	6.866**
Experimental 2	15.90	6.85	15.00	5.75	0.965**	2.015
Experimental 3	17.30	5.55	14.20	3.49	0.801**	4.004**

**Significant at 0.05 level; ** Significant at 0.01 level*

Figure no 5.40

Pre and post test comparison of control and experimental groups on health problems.



The experimental group 3 showed the highest decline in the health problems after the intervention. The group 1 also showed a significant difference. From the changes made by GSPR (for group1) and CBC (for group 2) and group 3 (CBC and GSPR), their effects are evident.

5.5.25 - Comparison of pre and post intervention scores of control and experimental groups on overall behaviour problems.

The pre and post test scores on overall behaviour problems of the control and experimental groups were compared and the details are presented in table no 5.65 and figure no 5.41.

Table no 5.65

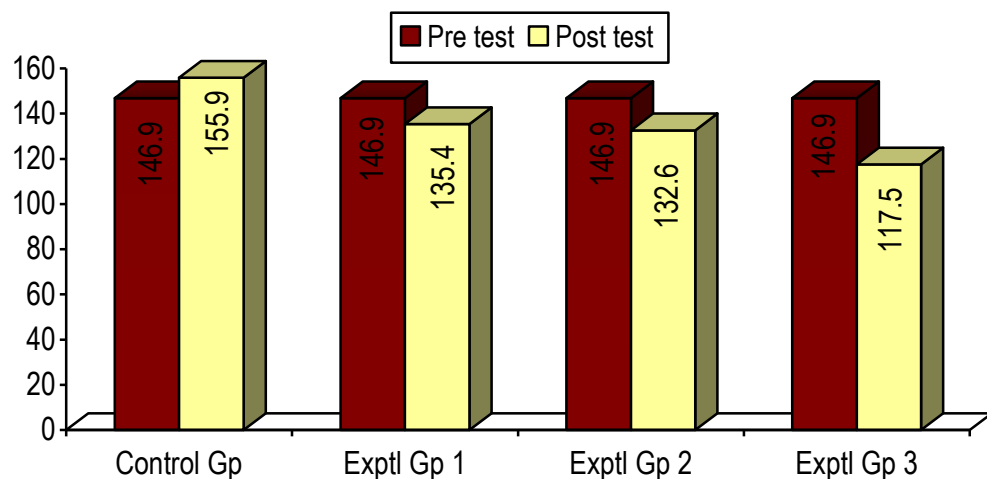
Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on overall behaviour problems (pre and post intervention, N =20)

Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	146.90	22.19	155.90	21.84	0.985**	-10.560**
Experimental 1	146.90	22.19	135.40	17.57	0.929**	5.861**
Experimental 2	146.90	22.19	132.60	17.44	0.964**	8.854**
Experimental 3	146.90	22.19	117.50	10.13	0.823**	8.768**

**Significant at 0.05 level; ** Significant at 0.01 level*

Figure no 5. 41

Pre and post test comparison of control and experimental groups on overall behaviour problems.



The researchers are increasingly finding that problem behaviours in adolescence are interrelated (Santelli, et al., 2001). The overall behaviour problems of the subjects showed a significant reduction after the intervention. The experimental group 3 showed the highest reduction followed by group 2 and group 1. From this it can be said that GSPR is effective, but CBC is more effective and combined use of both showed much more impact on the management of overall behaviour problems.

5.5.26 - Comparison of pre and post intervention scores of control and experimental groups on depression.

The pre and post test scores on depression of the control and experimental groups were compared and the details are presented in table no 5.66 and figure no 5.42.

Table no 5.66

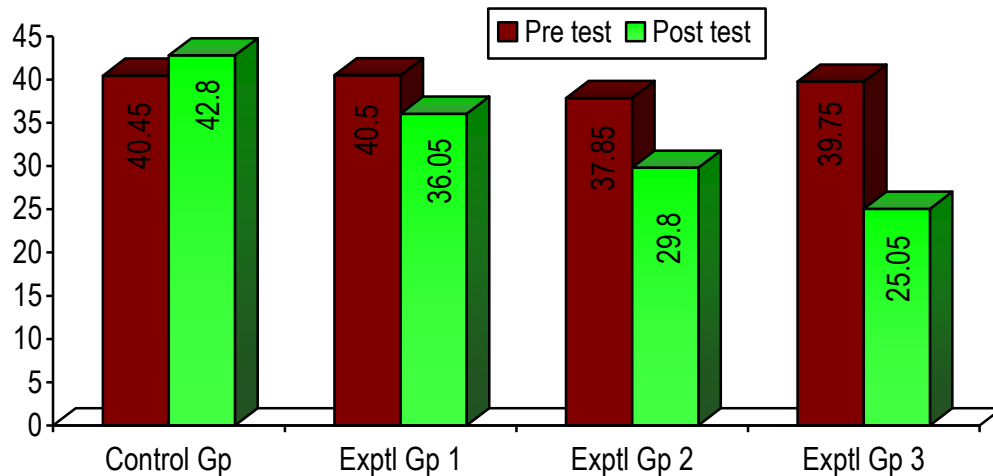
Mean, Standard Deviation, Correlation coefficient and paired t value of control and experimental groups on depression (pre and post intervention, N =20)

Groups	Pre Intervention		Post Intervention		Correlation	't' value
	Mean	SD	Mean	SD		
Control Group	40.45	7.39	42.80	6.95	0.966**	5.454**
Experimental 1	40.50	6.93	36.05	5.82	0.904**	6.635**
Experimental 2	37.85	8.42	29.80	5.39	0.287	4.190**
Experimental 3	39.75	8.98	25.05	4.20	0.119	6.958**

**Significant at 0.05 level; ** Significant at 0.01 level*

Figure no 5. 42

Pre and post test comparison of control and experimental groups on depression.



There is evidence indicating that the prevalence of depression increases dramatically during adolescence (Fleming & Offord, 1990). It has been found that the experimental group 3, which got the package of CBC and GSPR noticeably, reduced depression. The other two groups also showed significant difference in the pre and post intervention mean scores. Whereas the control group which didn't get any intervention showed an increase in their depression.

Conclusion

The comparison of all the four group based on the pre and post intervention score shows that all most all the variable could be managed with the support of CBC and GSPR combined practice for a period of two months. When compared with the other two experimental group, the change occurred in the experimental group is much higher than the other two.

While comparing with the no treatment control group, difference observed in all the three experimental group. The CBC and GSPR practice alone could also reduce the problems experienced by the plus two students, but when compared with the CBC and GSPR as a package intervention, the impact is not that high. The intervention package developed through the present study seems to be most appropriate in terms of the quality and success rate.



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