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Effect Of Cognitive Behaviour Therapy(CBT) In Enhancing Mindful Attention Awareness And Emotional Health Among

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ABSTRACT

From a government aided School, Coimbatore, 312 students from classes 8th and 9th standards were screened for their level of mindful attention awareness (MAA) and emotional health (EH) using Case Study Schedule, Mindful Attention awareness Scale, Children's Automatic Thoughts Scale and Mental Health Risk Scale. Out of them, 66 students (59 boys and 7 girls) with Moderate and Low MAA and EH were randomly selected. They were in the age range of 12 – 17 years. As psychological intervention, Cognitive Behaviour Therapy (CBT) was used. Six sessions of CBT were given to the students in two weeks, with each session lasting for one hour. After two weeks the students were reassessed for Mindful Attention Awareness,

Automatic Thoughts and Mental Health Risk. Initially, 15% of the students had Low and 62% of the students had Moderate Mindful Attention Awareness;2% of the students and 14% of the students had High and Moderate Negative Automatic Thoughts and 32% of the students had High and 65% of the students had Moderate Mental Health Risk. After CBT, only 3% of them had Low and 50% of them had Moderate MAA; 2% of the students had High and only 8% of them had Moderate Negative Automatic Thoughts and only 15% and 58% of the students had High and Moderate Mental Health Risk. The differences in the MEAN of the variables, before and after CBT were statistically significant. The results also showed a negative correlation between 'Mindful Attention Awareness and Negative Automatic Thoughts' and Negative Automatic Thoughts and Mental Health Risk.

Keywords. Mindful Attention Awareness, Negative Automatic Thoughts, Mental Health Risk, Emotional Health.

High School StudentsIt is estimated that around 20% of the world's adolescents have a mental health or behavioural problem. Up to 50% of mental, behavioural and **psychological** problems have their onset during adolescence period. The stress faced by the children and adolescents in current situation is enormous. The empowerment of children adolescents is very essential in today's context in India as there is rapid globalization and urbanization with breaking up of joint families and the traditional social support systems. There is growing evidence of increased psychological problems in children and adolescents especially behaviour problems and suicides. The prevalence rate of psychiatric disorders in India is 12.5% among children aged 0-16 years and 12% among the 4-16 year's children. Suicide death rates in India are one among the highest in the world. (Vranda, 2015)

Emotion is a feeling or affect that occurs when a person is in a state or interaction that is important to them. Emotion is characterized by the behaviour that reflects (expresses) the pleasantness of the state the person is in or the transactions being experienced (Austin & Charpita 2004). Emotions are the first language with which parents and infants communicate before the infant acquires speech. Infants react to parent's facial expressions and tone of voice. In return, parents "read" what the infant is trying to communicate, responding to appropriately when the infant is either distressed of happy. Sensitive responsive parents enable their infants to grow emotionally. (Rajamanickam, 2008)

Etymologically, the word emotion is derived from the Latin word 'emovere' which means 'to stir up', 'to agitate', or 'to excite'. Woodworth (1945) has clarified that "Emotion is a moved or stirred-up state of an organism. It is a stirred up state of feeling that is the way it appears to the individual himself. It is a disturbed muscular and glandular activity that is the way it appears to an external observer". (Woodworth, 1945)

Characteristics of Emotions

Emotions have certain characteristics which can be described as under:

- Emotions are universal- prevalent in all stages of development from infancy to old age.
- Emotions are personal and hence differ from individual to individual.
- The same emotions can be aroused by a number of different stimuli, objects and situations.
- Emotions rise abruptly and subside slowly. An emotion once aroused, tends to persist and leave behind emotional hang over.
- Emotions have the quality of displacement.
- The core of an emotion is feeling, which is aroused on account of the cognition of the perceived stimulus, giving birth to a sort of impulsive act or urges to do.
- Emotional experiences are associated with one or the other instincts or biological drives.

- Every emotional experience involves many physical and physiological changes in the organism.

In a research on emotional development, two broad types of emotions are studied. (Lewis 2002)

- **Primary Emotions** are present in humans and other animals. The primary emotions include surprise, joy, anger and sadness, fear and disgust which appear in the first six years of life.
- **Self-conscious emotions** require cognition especially, cognition especially consciousness. The self-conscious emotions include empathy, jealousy and embarrassment, which first appears at about 6 months to 2 years, (in the middle of the second year of life, following the emergence of consciousness) and pride, shame and guilt, which first appear about two years and six months of age (in the middle of the third year of life) in developing this second set of self-conscious emotions (referred to as self conscious evaluative emotions), children acquire and are able to use societal standards and rules to evaluate their behaviours. (Lewis, 2002)

Emotional Health

Emotional Health is defined as the degree to which an individual feels emotionally secure and relaxed in everyday life (Dorris 1975). To be emotionally healthy, one must be able to express one's emotions in healthy, assertive ways. An individual with high emotional health will have high self-esteem, be calm, patient and will feel emotionally secure. Emotional wellbeing impacts upon one's ability to be accepting of both one selves and of others and one's ability to maintain good relationships with others and also whether he or she feels comfortable and can be effective in the different areas of live – at home, at work, and society.

Studies have proved that **Emotional health** can lead to success in work, relationships and health. In the past, researchers believed that success made people happy. Newer research reveals that it's the other way around. Happy people are more likely to work toward goals, find the resources they need and attract others with their energy and optimism which are considered to be the key building blocks of success.

Research shows that emotional distress creates susceptibility to physical illness. Exam stress increases susceptibility to viral infection, and stress from lack of control in the workplace or from life events creates susceptibility to cardiovascular disease. Animal studies reviewed by Wilkinson and Brunner provide supporting evidence that emotional distress can lead to physical illness by affecting the immune response (Brunner, 1997). Smoking, drinking, and the consumption of high fat foods are all valued by the public for their ability to relieve emotional distress. Collectively these studies are beginning to lend credence to the widespread public belief that physical disease may be the consequence of emotional distress (Brown, 1998)

Unresolved emotional distress in childhood is an important cause of emotional distress in adulthood. These approaches like parenting programmes and mental health promotion programmes in schools have proved to be beneficial. The evidence showing that parenting programmes can both reverse emotional and behavioural problems and prevent their emergence is robust. Several school mental health promotion programmes have been subject to controlled trials which show a positive impact on emotional wellbeing. Through developing empathy and respect, both types of programmes improve self esteem in children and parents and increase their ability to give and receive social and emotional support (Tilford, 1997).

Emotional Health and Adolescents

The adolescent age (12 -18) is generally known as the age of turmoil, as they go through the transformation from childhood to adolescence which includes changes that occur physically, mentally and emotionally. Among them the emotional changes (either due to hormones or due to the physical changes in the body) have a greater affect and impact in the adolescent individual.

In the early adolescent period, individuals both boys and girls will face more difficulties and find it hard to cope up with the sudden changes. It is important for individuals to have awareness about their own emotions and feelings, failing in which they may be prone to a lot of psychological and behavioural problems.

In adolescence, individuals are more likely to become aware of their emotional cycles such as feeling guilty about being angry. This new awareness may improve their ability to cope with their emotions. Adolescents also become more skilful at presenting their emotions to others. For example they become aware of the importance of covering up their anger in social relationship and they are more likely to understand the importance of being able to communicate their emotions constructively to improve the quality of the relationship (Saarni 1999).

In the current study, Emotional Health of the individual is assessed using two tools namely Children's Automatic Thoughts Scale and Mental Health Risk Scale which is a screening tool for emotional health.

Automatic thoughts are the thoughts that occur automatically, on seeing or listening or thinking about something, for example an object. There are two different types of automatic thoughts- positive automatic thoughts and negative automatic thoughts. Individuals with high positive automatic thoughts have high emotional health and individuals with high negative automatic thoughts have low emotional health and are prone to more psychological disorders like depression, paranoia, anxiety disorders etc. Based on the subscale, the level of automatic thoughts (negative/positive) of an individual for each category Physical threat, Social threat, Personal failure and Hostile intent can be assessed.

The Mental Health Risk scale is an emotional health screening tool designed for use with high school populations. The screening tool is based on a combination of risk and protective factors associated with the development of mental health difficulties. The tool consists of six sub scales

i. School Connectedness
ii. Family Relations
iii. Academic success
iv. Peer Acceptance
v. Sporting Interest
vi. Acceptance of Appearance

Individuals with High scores of each sub scale and also a total High score indicate that they are suggestive of better social/emotional functioning and therefore they have Lower Mental Health Risk. Similarly, individuals with Low scores of each sub scale and also a total Low score indicate that they are suggestive of poor social/emotional functioning and therefore they have Higher Mental Health Risk.

Mindful Attention Awareness

The Mindful Attention Awareness consists of

- Mindfulness
- Attention
- Awareness

Where, all the three components are considered to be very important for every individual, especially for an adolescent as he/she is in the important developing stage.

Mindfulness

Mindfulness can be defined as the quality or state of being conscious or aware of something. Jon Kabat-Zinn (2000) defined mindfulness as ‘paying attention in a particular way, on purpose, in the present moment non-judgementally. The mental state of Mindfulness can be achieved by focusing one's awareness on the present moment, while calmly acknowledging and accepting one's feelings, thoughts, and bodily sensations.

Attention

Attention is the behavioural and cognitive process of selectively concentrating on a discrete aspect of information, whether deemed subjective or objective, while ignoring other perceivable information. Dumville (1938) defined attention as “Attention is the concentration of consciousness upon one object rather than upon another”

"Attention is being keenly alive to some specific factor in our environment. It is a preparatory adjustment for response". (Morgan & Gilliland, 1942)

Awareness

Awareness is the ability to directly know and perceive, to feel, or to be cognizant of events. More broadly, it is the state or quality of being conscious of something. (Duval, S 1972)

The youth of today are the future of the nation. The young people in the age group of 10years - 24 years constitute one of the precious resources of the country characterized by growth and development and it is a phase of vulnerability often influenced by several intrinsic and extrinsic factors finally affecting their health and safety. Nearly 10-30% of young people are suffering from health impacting behaviours and conditions that need urgent attention. Nutritional disorders (both malnutrition and over-nutrition), tobacco use, harmful alcohol use, use of other substances, high risk sexual behaviours, stress, common mental disorders, and injuries (road traffic injuries, suicides, violence of different types) specifically affect this population and have long lasting impact. Multiple behaviours and conditions often coexist in the same individual adding a cumulative risk for their poor health. Many of these being precursors and determinants of non communicable diseases, including mental and neurological disorders and injuries which place a heavy burden on the young Indian society in terms of mortality, morbidity, disability and socio-economic losses.

At this scenario, adolescents of 10 years – 18 years are at high risk mainly due to lack of awareness of one's emotional health, its importance and need for a healthy and happy life. An individual with good emotional health will be able to think and act positively, be well mannered, will be able to focus and concentrate in his/her studies, sports and other co-curricular and extra-curricular activities. This can be achieved if the individual has awareness of what he/she is doing or should do, along with the mindful attention given to it. In recent years, many schools and educational institutions are incorporating new programs and activities as a part of their curriculum, in way to help and develop the children of today to better individuals of the future.

The present study is an attempt to bring about awareness, with the help of Cognitive Behaviour Therapy (CBT), about the importance of attention and awareness in everyday life and the need for good (balanced) emotional health for a better and fruitful life.

The research related to the study on 'Effect of Cognitive Behaviour Therapy(CBT) in enhancing Mindful Attention Awareness and Emotional Health among

High School Students' was reviewed and presented in the following headings:

- Problems of High School Children
- Mindful Attention
- Attention Awareness
- Automatic Thoughts
- Emotional Health
- Effect of Cognitive Behaviour Therapy

Problems of High School Children

Strodl, Deb and Sun (2015) had done a study on "Academic Stress, Parental Pressure, Anxiety and Mental Health among Indian High School Students". The study investigated the academic stress and mental health of Indian high school students and the associations between various psychosocial factors and academic stress. A total of190 students from grades 11 and 12 (mean age: 16.72 years) from three government-aided and three private schools in Kolkata India were surveyed in the study. The data was collected using a specially designed structured questionnaire as well as the General Health Questionnaire. Results revealed that nearly two-thirds (63.5%) of the students reported stress due to academic pressure – with no significant differences across gender, age, grade, and several other personal factors. About two-thirds (66%) of the students reported feeling pressure from their parents for better academic performance. The degree of parental pressure experienced differed significantly across the educational levels of the parents, mother's occupation, number of private tutors, and academic performance. Children of fathers possessing a lower education level (non-graduates) were found to be more likely to perceive pressure for better academic performance. About one-thirds (32.6%) of the students were symptomatic of psychiatric caseness and 81.6% reported examination-related anxiety. Academic stress was positively correlated with parental pressure and psychiatric problems, while examination-related anxiety also was positively related to psychiatric problem. The results revealed that Academic stress is a serious issue which affects nearly two thirds of senior high school students in Kolkata and Potential methods for combating the challenges of academic pressure are suggested.

` Pathak, et.al (2011) have a done a study on "Behavioural and Emotional Problems in School going Adolescents". The aim of the study was to explore the prevalence and patterns of behavioural and emotional problems in adolescents. It was also aimed to explore associations between socio environmental stressors and maladaptive outcomes. The sample consisted of 1150 adolescents in the age group of 12 to 18 years, of grades 7^{th} to 12^{th} in 10 co-educational schools (government run and private). Te tool used was Youth Self-Report (2001) questionnaire. Family stressors were assessed using a pre-tested 23 item questionnaire. Univariate and multivariate analysis were performed. Multiple logistic regression analysis was also done. The results of the study indicated that the prevalence of behavioural and emotional problems in adolescents was found to be 30%, with girls exceeding boys in all age groups and Internalizing syndrome was the most common (28.6%) psychiatric problem. The study revealed that

an alarming number of the adolescents suffer from emotional and behavioural problems which have their roots in the family environment. The data also suggests urgency in establishing a school based mental health service.

Raju and Rao (2012) had done a study on "Emotional and Behavioural problems of Early adolescents". The sample consisted of 343 adolescents with 162 boys and 181 girls. The tools used was Achenbach's Youth Self Report (2001). The results revealed that boys were having high emotional and behavioural problems than girls. A strong relationship has been found between emotional and behavioural problems among adolescents.

Mindfulness, Mindful Attention

Keng, Moria and Clive (2013) have done done a Review of the Empirical studies "Effects of Mindfulness on Psychological Health". The review indicates that mindfulness brings about various positive psychological effects, including increased subjective well-being, reduced psychological symptoms and emotional reactivity, and improved behavioural regulation.

Warren and Ryan (2003) have done a research on "Mindfulness and its role in Psychological Well-being". The study reveals that both dispositional and state mindfulness predict self-regulated behaviour and positive emotional states. A clinical intervention study with cancer patients demonstrates that increases in mindfulness over time relate to declines in mood disturbance and stress.

Ahmadi, Mustaffa and Haghdoost (2011) have done a research on "Mindfulness and Related Factors among Undergraduate Students". The sample consisted of 273 undergraduate students, studying in the first semester. The tool used was Mindfulness Attention Awareness Scale. The results reveal that, Mindful principles enable to strengthen the level of mindfulness among students, increasing the condition of health and upgrading the quality of life.

Parto and Besharat (2011) have done a study, investigating the relationship of mindfulness with psychological well-being and psychological distress. The study assessed the role of self-regulation and autonomy as mediating variables and mechanisms of mindfulness. A total of 717 students were the sample for the study. The tools used were Self-Regulation Inventory, Mental Health Inventory and Autonomy Scale. The findings provided evidence for the mediating mechanisms through which autonomy and self- regulation mediated the relationship between mindfulness with psychological well-being and psychological distress.

Attention

Shah, Shah and Saleem (2010) have done a study on "Level of Attention of Secondary School Students and Its Relationship with their Academic Achievement". The sample consisted of 420 students of six secondary schools of the chakwal district. The major findings of the study are that, students' level of attention directly effects their academic achievement. Students who have high level of attention, their academic achievement is also higher. As the level of attention decreases academic achievement also decreases. Students with moderate attention level have average academic achievement, while the students with low level of attention have no achievement. The study reveals that the main factors that distract student attention are noise, home environment, financial problems, health problems and lack of interest. The study concludes that attention should be considered an important psychological phenomenon that effects the students' academic achievement. As the individuals are different in their capabilities, skills, intelligence and aptitude their level of attention is also different.

Automatic Thoughts

Mac (2001) has done a study on "Automatic thoughts, School Success, Efficiency and Satisfaction of university students". The tool used was Student Automatic Thoughts Scale. The scale resulted in 5 interpretable subscales: negative expectations and discouragement regarding exam; negative attitude toward the subject; fear of disappointing parents; lack of motivation; and positive (encouraging) automatic thoughts. The results indicate that, Successful and efficient students, as well as students who are satisfied with their achievements have more positive, and less negative automatic thoughts focused on failure, parent's disappointment and motivation.

Cakar (2014) studied "The effect of Automatic Thoughts on Hopelessness: Role of Self-esteem as a Mediator". The sample consisted of 338 students (197 females and 141 males). The tools used were, Automatic Thoughts Scale, The Beck Hopelessness Scale and The Rosenberg Self-Esteem Scale. The results revealed that automatic thoughts and self-esteem significantly predict the onset of hopelessness, whereas self-esteem does not serve as a mediator between automatic thoughts and hopelessness.

Emotional Health

Kidger, Araya, Donovan and Gunnell (2012) have done a systematic review on "The Effect of the School Environment on the Emotional Health of Adolescents". Searches of Medline, Embase, PsychINFO, CINAHL, ERIC, the Social Citation Index, and the gray literature were conducted. From the study there was some evidence that individual perceptions of school connectedness and teacher support predict future emotional health. Multilevel studies showed school effects were smaller than individual-level effects. The study also indicates that there is limited evidence that the school environment has a major influence on adolescent mental health, although student perceptions of teacher support and school

connectedness are associated with better emotional health. More studies measuring school-level factors are needed

CBT

Ruffolo and Fischer (2009) have done a study on CBT. The sample consisted of 45 minute sessions, utilizing 9 CBT Modules including psycho education, self-monitoring, pleasant activity scheduling, and cognitive restructuring. Involvement in the CBT group led to decreased depressive symptomology, improved classroom attendance, and increased class participation. The results showcase that CBT groups are flexible to the demands of the school day, while producing positive results for the students involved.

Method

The procedure pertaining to 'Effect of Cognitive Behaviour Therapy (CBT) in enhancing Mindful Attention Awareness and Emotional Health among High School Students' was carried out involving the following steps:

- Objectives
- Hypothesis
- Area
- Sample
- Tools
- Procedure
- Analysis of Data

Objectives

- To assess the level of Mindful Attention Awareness of the selected sample.
- To assess the level of Emotional Health which comprises of Automatic thoughts and Mental Health Risk (Emotional Health screening) of the sample
- To find out the relationship between Mindful Attention Awareness and Emotional Health of the sample
- To study the effect of CBT (Cognitive Behaviour Therapy) on Mindful Attention Awareness and Emotional Health of the sample

Hypothesis

- There are no differences in the level of Mindful Attention Awareness of the sample
- There are no differences in the level of Emotional Health of the sample which comprises of Automatic thoughts scale and Mental Health Risk scale (Emotional Health screening).
- There is no relationship between Mindful Attention Awareness and Automatic thoughts (negative) of the sample
- There is no relationship between Mindful Attention Awareness and Mental Health Risk of the sample.
- There is no relationship between Automatic thoughts (negative) and Mental Health Risk of the sample.
- CBT (Cognitive Behaviour Therapy) has no effect on Mindful Attention Awareness of the sample
- CBT (Cognitive Behaviour Therapy) has no effect on Automatic thoughts (negative) and Mental Health Risk of the sample.

Area of the study

The study was done in a Government Aided school in Coimbatore. The reasons for selecting this area are as follows:

- Willingness of the school authorities to grant permission and provide the necessary facilities to conduct the action research
- Openness of the students to participate in the study

Sample

The sample for the study consist of sixty six students of standards eight and nine, of the age group 12 – 17 years, which includes both English and Tamil medium. The sample for the present study was selected by using 'Simple Random Sampling'.

Phase I

Phase I comprises of randomization of the sample and initial assessment. Initially, the sample consisted of 312 students, from classes VII and IX. Then every student was given a number and the students with the numbers of multiples of 3 were selected for the purpose of the study. The initial assessment consisted of 104 students, who were assessed using Mindful Attention Awareness Scale, Children's Automatic Thoughts Scale and Mental Health Risk Scale (Emotional Health Screening Tool). Among them, a total of 90 students who had 'Low Mindful Attention Awareness, "High' Negative Automatic Thoughts and "low scores' of Emotional Health were selected for the intervention.

Phase: II

Phase II consists of the intervention, Cognitive Behaviour Therapy (CBT). The participants were divided into two batches and given intervention for six sessions (six days), one hour each day (every alternate day). In session one, the participants were taught about Thoughts, the connection between thoughts-feelings-behaviour and related activities were given for more clear understanding along with

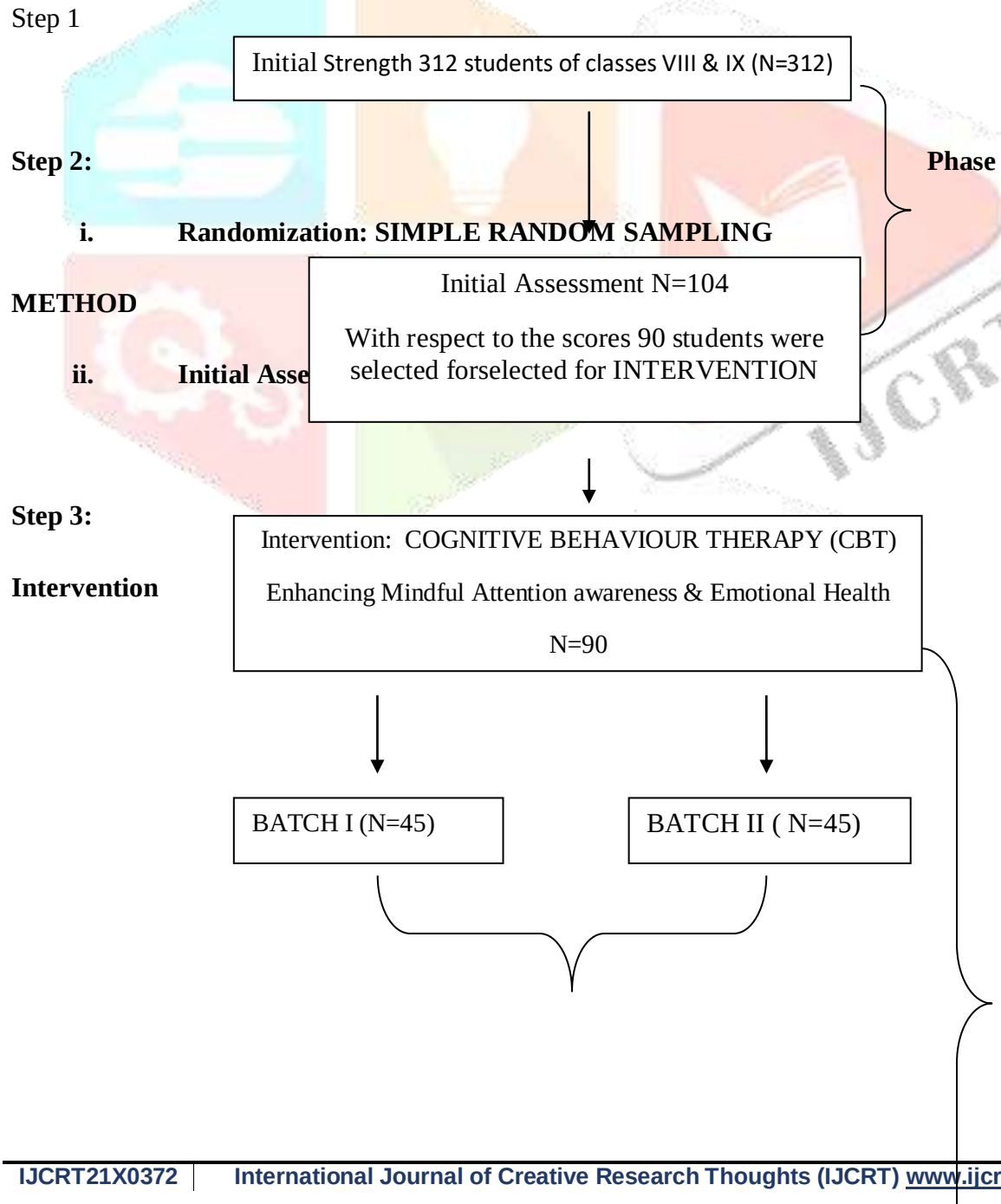
behavioural strategies. In session two, they were taught about the Cognitive Distortions and the causes for negative beliefs and thoughts.

In session three, the participants were taught about Automatic Thoughts, Behaviour (positive and negative behaviour) and the ABC of CBT, along with activities and techniques. In the fourth session, they were taught about Emotions, Emotional Health and the importance of the two for their happy and successful life. Cognitive strategies were also taught. In session five, the students were give a clear understanding about Mindfulness, Attention and Awareness, its importance and how it is related to one's good physical and emotional health. In session six a recap of all the techniques and strategies that were taught was done and queries about the teaching and other personal questions were dealt with.

Phase: 3

Phase III consists of Reassessment of the sample with the same tools used for initial assessment, and the effect of CBT was assessed.

Experimental Design:



Phase 2

SESSION I: Thoughts-Feelings Behaviour, Activities (N=90)

SESSION II: Cognitive Distortions, Negative Beliefs & Thoughts. Behavioural Strategies (N-85)

SESSION III: Automatic Thoughts & Behaviour (N=80)

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SESSION IV: Emotions, Emotional Health & importance, Cognitive Strategies (N=75)

SESSION V: Mindfulness, Attention Awareness & Importance (N=70).

SESSION III: Recap of the Techniques and Strategies(N=68)

Students present for all the sessions –66 (N=66)

Reassessment after Intervention

Phase 3

Tools

The tools used in the study were:

- **Case Study Schedule (Annexure I)** was designed to collect the demographic factors of the participants such as name, age, gender and family background.
- **Mindful Attention Awareness Scale (Annexure II)** by Kirk Warren Brown & Richard M. Ryan (2003) consisted of a 15-item scale designed to assess a core characteristic of dispositional mindfulness, namely, open or receptive awareness of and attention to what is taking place in the present. Each question had six options of 'Almost Always', 'Very Frequently', 'Somewhat Frequently', 'Somewhat Infrequently', 'Very Infrequently' and 'Almost Never'.
- **Children's Automatic Thoughts Scale (CATS) (Annexure III)** by Schniering & Rapee (2002) consisted of 40 items. Each item consisted of five options, 'Not at All', 'Sometimes', 'Fairly Often', 'Often', 'All the Time'.
- **The Mental Health Risk (Annexure IV)** by John R. Burns & Ron Rapee. M (2015) is an emotional health screening tool designed for use with high school populations. The subject is asked to rate oneself on a scale from 1 to 5, where 1 means the sentence is 'not at all like me/my life' and 5 means 'very much like me /my life.
- **Consent Form (Annexure V)**

Procedure

From a government aided school in Coimbatore, 300 students from classes eight and nine were screened for their level of mindful attention awareness and emotional health using Mindful Attention Awareness Scale, Children's Automatic Thoughts Scale and Mental Health Risk (emotional health screening tool). Among them, 66 students (59 boys and 7 girls) with 'Moderate and Low' mindful attention awareness, 'High' automatic thoughts and 'Low Scores' of Mental Health Risk were randomly selected. They were given the Parent consent form, as the samples for the study are below 18 years of age. Since all the parents of the 66 students expressed their willingness, the case study schedule was given to all the participants and they underwent 5 sessions of CBT (Cognitive Behaviour Therapy) on consecutive days. The sample was divided into two batches of around 33 in a batch for CBT. Each session consisted of one hour. The participants were taught various techniques of CBT and they were given few activities and assignments so as to follow the techniques in the real life situations.

Psychological Intervention

Cognitive Behaviour Therapy

Cognitive Strategies:

Cost-benefit analysis. In cost-benefit analysis the participants were taught how to analyze the advantages and disadvantages of holding a particular belief. The students were given random situations in the form of pictures, and were asked to write down their own corresponding beliefs for each situation.

Alternative Perspectives. Alternative perspectives enable the subject to look at the same event from different angles. In this the students were asked to think about a recent problem they had undergone and then they were asked to look and analyze the same situation in different angles. The students were able to think of better solutions than before, which helps them for a better fruitful future.

Identifying Automatic Thought forms. Finding out the thoughts that come involuntarily. Here, the students were showed random pictures and asked for the thoughts that came automatically on seeing the pictures. The students were also asked to analyze if the thoughts are positive or negative.

Cognitive Rehearsal. In Cognitive Rehearsal, the participants were made to, practice the coping skills role play, imagination or enacting a real life situation. By doing this they are able to understand how to cope with similar or same problematic situation in life.

Behavioural Strategies:

Relaxation Techniques. To reduce anxiety and bring the subject relax, in order to facilitate the strategies to be taught and involve themselves into the session. The students were given deep breathing, to relax themselves.

Experimental Design

The experimental design used in this action research was "before- and- after without control design'. The dependent variables, Mindful attention awareness and Emotional health of the participants were assessed before and after the psychological intervention, CBT Cognitive Behavioural Therapy), which is the independent variable.

Time Period I	Intervention	Time Period II
Level of phenomenon before CBT Mindful Attention Awareness (A) Emotional Health Automatic Thoughts (C) Mental Health Risk (E)	**CBT**	Level of phenomenon after CBT Mindful Attention Awareness (B) Emotional Health Automatic Thoughts (D) Mental Health Risk (F)

1. Treatment effect = B-A
2. Treatment effect = D-C
3. Treatment effect = F-E

RESUTLS AND DISCUSSION

The study on 'Effect of Cognitive Behaviour Therapy(CBT) in enhancing Mindful Attention Awareness and Emotional Health among High School Students' was conducted in a Government Aided School in Coimbatore, Tamil Nadu. Sixty six students (59 boys and 7girls) were randomly selected as the sample. The methods adopted to collect the data included Case Study Schedule and Psychological Testing. The tools used for the study were Case Study Schedule, Mindful Attention Awareness Scale (Kirk Warren Brown & Richard M. Ryan 2003), Children's Automatic Thoughts Scale (CATS) (Schniering & Rapee, 2002) and The Mental Health Risk Scale (John R. Burns & Ron Rapee. M, 2015).

Table I

Demographic Factors

N=66

Demographic Data		Number	Percentage
Gender	Boys	59	89
	Girls	7	11
Class	VIII	43	65
	IX	23	35
Medium of Instruction	English	45	68
	Tamil	21	32
Birth Order	Single Child	4	6
	First	34	52
	Middle	2	3
	Last	26	39
Family Type	Nuclear	54	82
	Joint	12	18
Father's Education	Below Fifth	6	9
	Above Fifth	38	58
	SSLC	16	24
	UG	5	8
	PG	1	2
Mother's Education	Below Fifth	4	6
	Above Fifth	39	59
	SSLC	20	30
	UG	3	5
	PG	0	0
Annual Income	10,000-50,000	8	12
	51,000-1,00,000	39	59
	1,10,000-1,50,000	10	15
	1,51,000-2,00,000	6	9
	2,10,000-3,00,000	3	5

Percentages are rounded off

Table I shows the demographic data of the sample. The sample consisted of 89% boys and 11% girls. Sixty five percent of the student participants were from standard VIII and 35% from standard IX. For 68% of the sample the medium of instruction is English and for the rest (32%) it was Tamil. While

considering birth order, 6% of the sample was single child, 52% of the sample were first born, 3% were middle born and 39% were last born. Most of the sample (82%) belonged to nuclear family type and the rest (18%) belonged to joint family type.

The parents' educational qualification were segregated into five groups namely, Below fifth, above fifth, SSLC (Secondary School Leaving Certificate), Under Graduation and Post Graduation. Considering Father's Education, 9% of the student's fathers were in the category of 'Below Fifth', 58% were 'Above Fifth', 24% had completed their 'SSLC', 8% had done their 'Under Graduation' and 2% of them had completed their 'Post Graduation'. . Considering Mother's Education, 6% of the student's mothers were in the category of 'Below Fifth', 59% were 'Above Fifth', 30% had completed their 'SSLC', 5% had done their 'Under Graduation' and none of them had completed their 'Post Graduation'.

The Annual Income of the parents' was divided into five categories, 10,000 – 50,000, 51,000 – 1,00,000, 1,10,000 – 1,50,000, 1,51,000 – 2,00,000 and 2,10,000 – 3,00,000. Twelve percent of the Parents have their annual income between 10,000 – 50,000, 59% of them have their annual income between 51,000 – 1,00,000, 15% of them have their annual income between 1,10,000 – 1,50,000, 9% of the students' parents have their annual income between 1,51,000 – 2,00,000 and 5% of the them have their annual income between 2,10,000 and 3,00,000.

Table II

Level of Mindful Attention Awareness (MAA) of the Sample

N=66

Level of Mindful Attention Awareness	N	%
Very High (81 - 90)	2	3
High Mindful (61 - 80)	13	20
Moderate (41 - 60)	41	62
Low (21 - 40)	10	15

Very Low (0 - 20)	0	0

Percentages are rounded off

Table II shows the level of Mindful Attention Awareness of the sample. Initially, 15% of the sample had 'Low' level of Mindful Attention Awareness, 62% of the sample had 'Moderate' level of Mindful Attention Awareness, 20%of the sample had 'High' level of Mindful Attention Awareness and 3% of the sample had 'Very High' of Mindful Attention Awareness. Hence the hypothesis, 'There are no differences in the level of Mindful Attention Awareness' is rejected.

Haghdoost (2011) had done a study on Mindfulness and related factors among students. It is observed that most of the students possessed Mindful Attention Awareness at an average level.

FIGURE I

Level of Mindful Attention Awareness

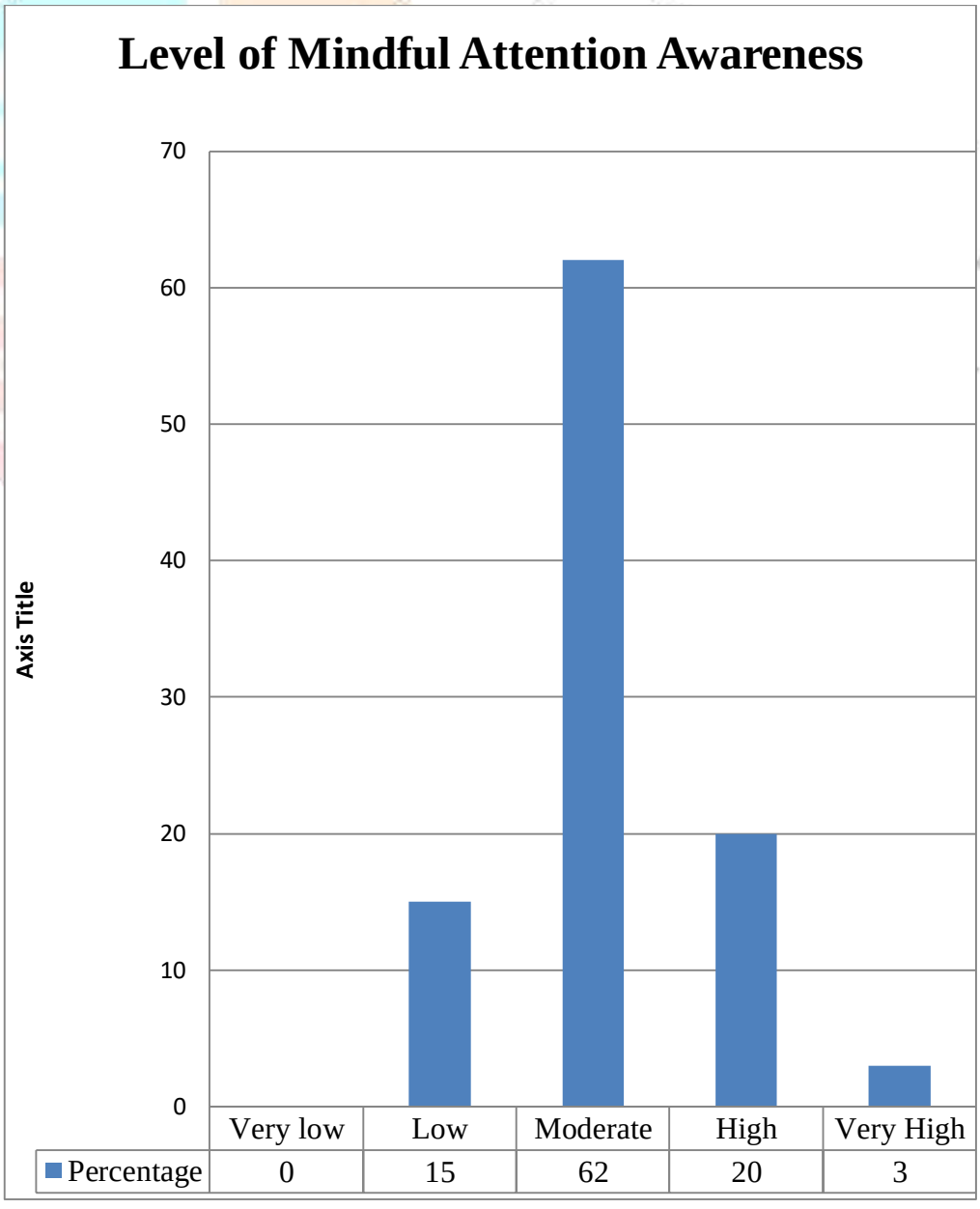

Table III

Paired sample t-test values of Mindful Attention Awareness

N=66

Variable	**Mean** & Standard Deviation	Mean Difference	t
Mindful Attention Awareness			
Before	53.0606 13.63692	9.54545	9.330
After	62.6061 12.86483		

Percentages are rounded off

Table III shows the **t** value of Mindful Attention Awareness before and after intervention. The statistical values indicate that there is a significant mean difference, which denotes the effect of Cognitive Behaviour Therapy on the sample.

Ruffolo and Fischer (2009) have found out from their study that, involvement in CBT led to decreased depressive symptomology, improved classroom attendance, and increased class participation. These results showcase that the groups who had CBT are flexible to the demands of the school, while producing positive results for the students involved.

Figure II

Significance of Difference Mean Minful Attention Awareness

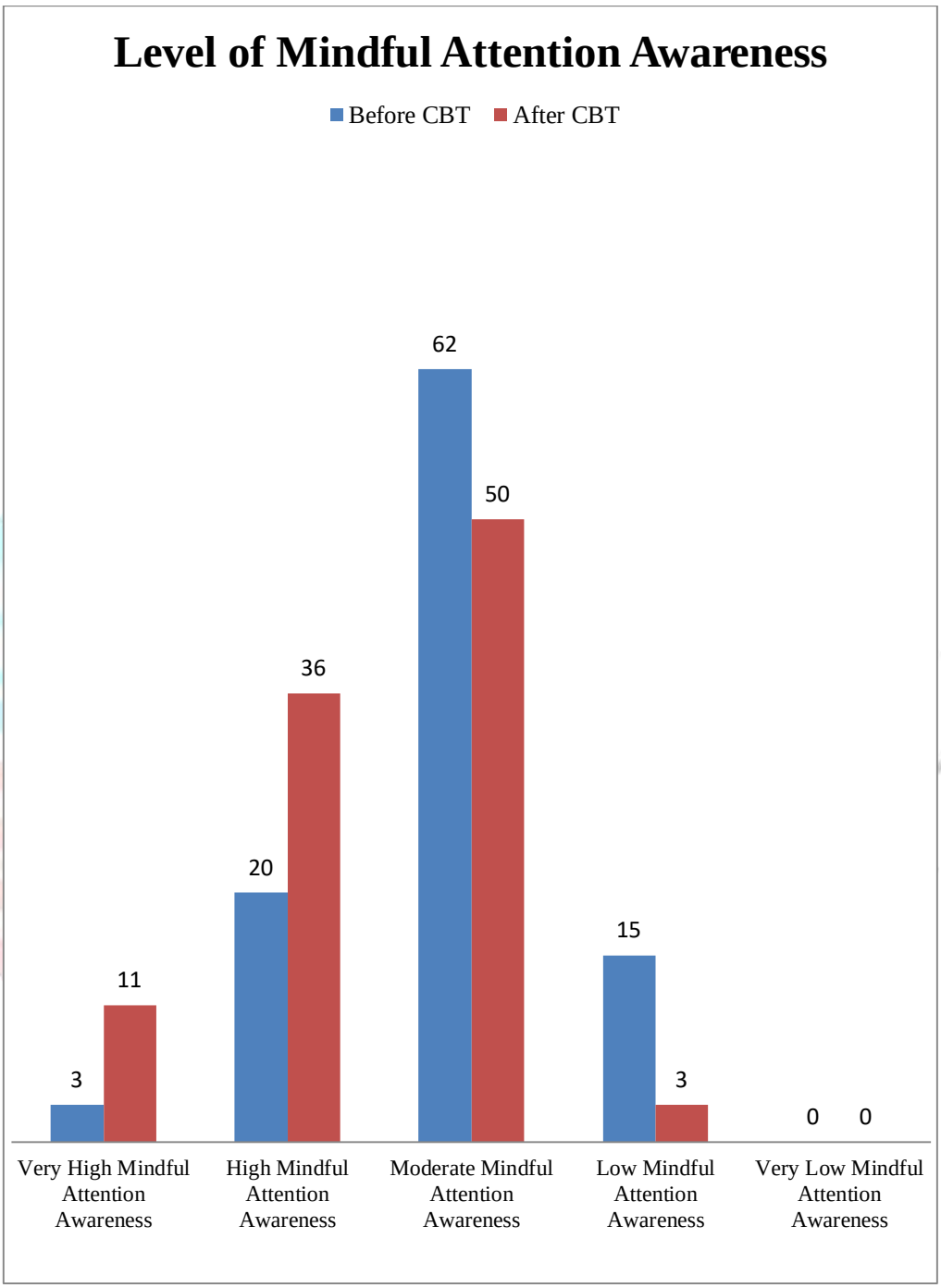

Table IV

Level of Negative Automatic Thoughts of the Sample

N=66

Level of Negative Automatic Thoughts	N	%
Very High (120 – 160))	0	0
High (80 – 119)	1	2
Moderate (60 - 79)	9	14
Low (40 - 59)	30	45
Very Low (0 - 39)	26	39

Percentages are rounded off

Table IV shows the level of Negative Automatic Thoughts of the sample. Initially, 39% of the sample had 'Very Low' level of Negative Automatic Thoughts, 45% of the sample had 'Low' level of Negative Automatic Thoughts, 14%of the sample had 'Moderate' level of Negative Automatic Thoughts and 2% of the sample had 'High' level of Negative Automatic Thoughts

FIGURE III

Level of Negative Automatic Thoughts

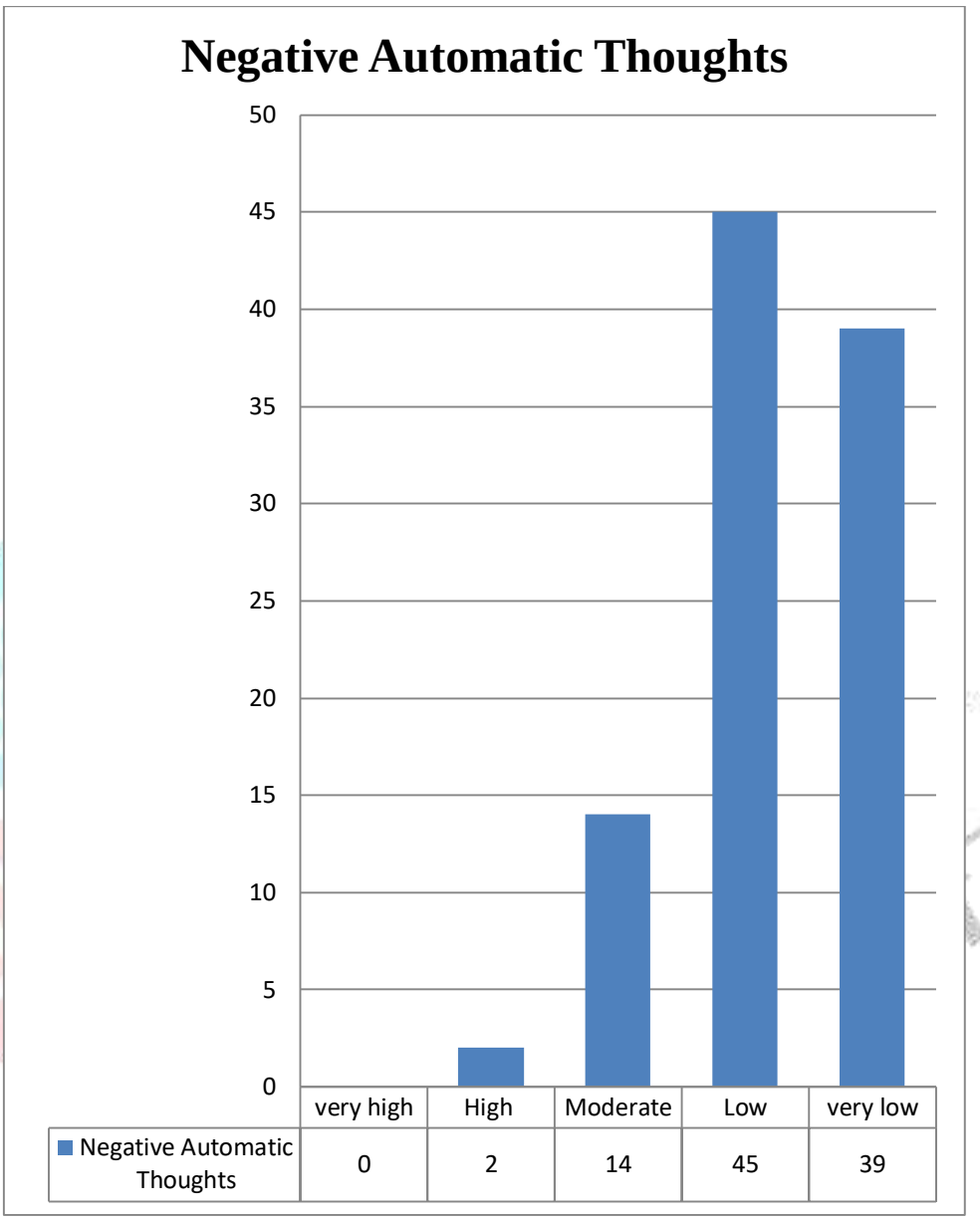

Table V

Paired sample t-test values of Negative Automatic Thoughts

N=66

Variable	**Mean** & Standard Deviation	Mean Difference	t
Negative Automatic Thoughts			
Before	43.9545	1.11667E1	9.544
	15.79136		
After	32.7879		
	16.37495		

Percentages are rounded off

Table III shows the **t** value of Mindful Attention Awareness before and after intervention. The statistical values indicate that there is a significant mean difference, which denotes the effect of Cognitive Behaviour Therapy on the sample.

FIGURE IV

Significance of Difference Mean Negative Automatic Thoughts

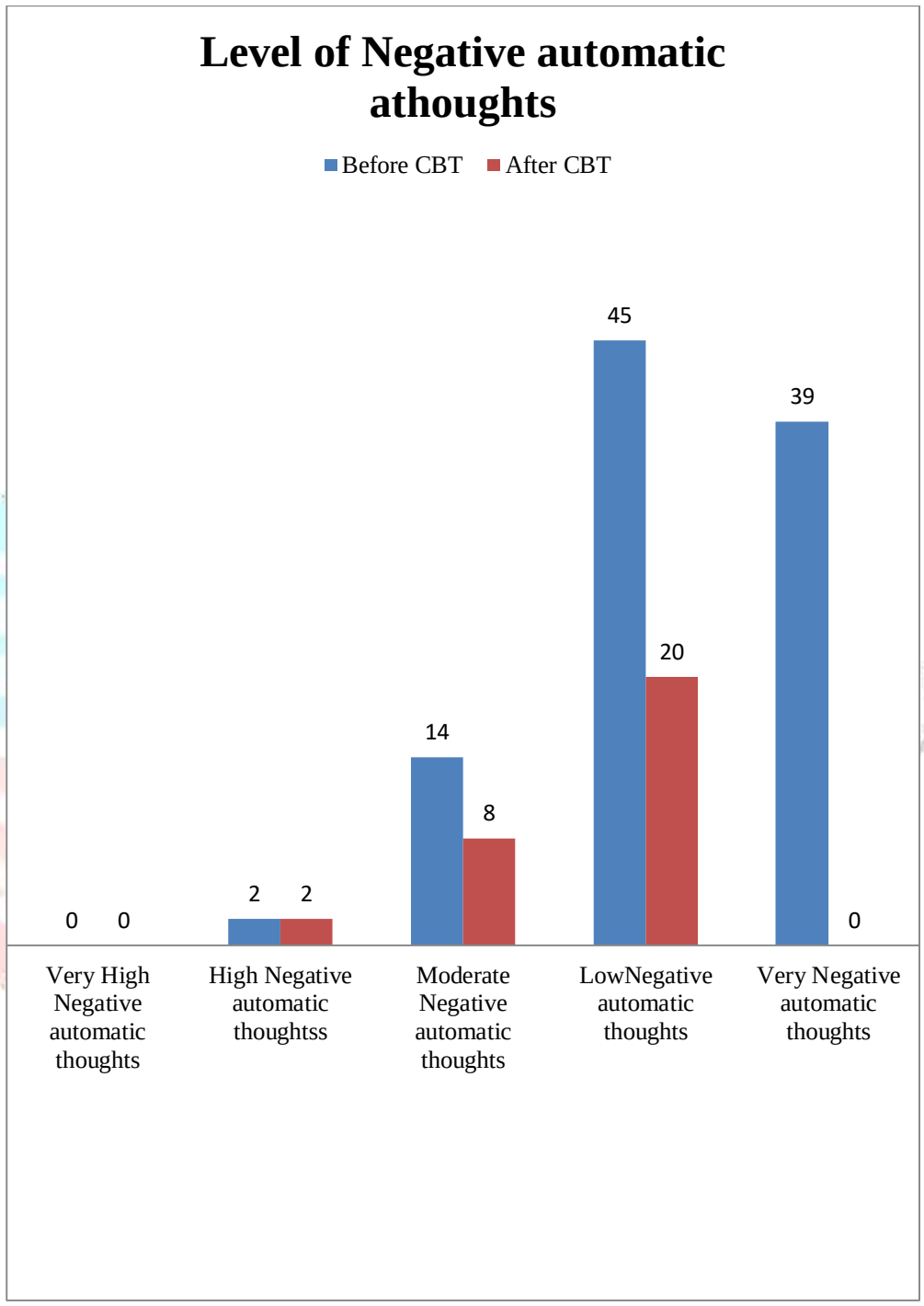

Table VI

Level of Mental Health Risk of the Sample

N=66

Level of Mental Health Risk	N	%
Low (130 - 150)	2	3
Moderate (100 – 129)	43	65
Low (60 - 79)	21	32
Very Low (40 - 59)	0	0

Percentages are rounded off

Table IV shows the level of Mental Health Risk of the sample before and after CBT (Cognitive Behaviour Therapy). Before CBT, none of them had 'Very Low' scores of Mental Health, 32% of the sample had 'Low' scores of Mental Health, 65%of the sample had 'Moderate' scores of Mental Health and 3% of the sample had 'High' scores of Mental Health..

After CBT, none of them had 'Very Low' scores of Mental Health, 15% of the sample had 'Low' scores of Mental Health (decreased by 17%), 58%of the sample had 'Moderate' scores of Mental Health (decreased by 7%) and 27% of the sample had 'High' scores of Mental Health.

Hence the hypothesis, 'There are no differences in the level of 'Emotional Health' is rejected.

Ruffolo and Fischer (2009) have found out from their study that, involvement in the CBT, led to decreased depressive symptomology, improved positive thoughts, and increased class participation. These results showcase that CBT groups are flexible to the demands of the school day, while producing positive emotional health for the students involved

FIGURE V

Level of Mental Health Risk of the Sample

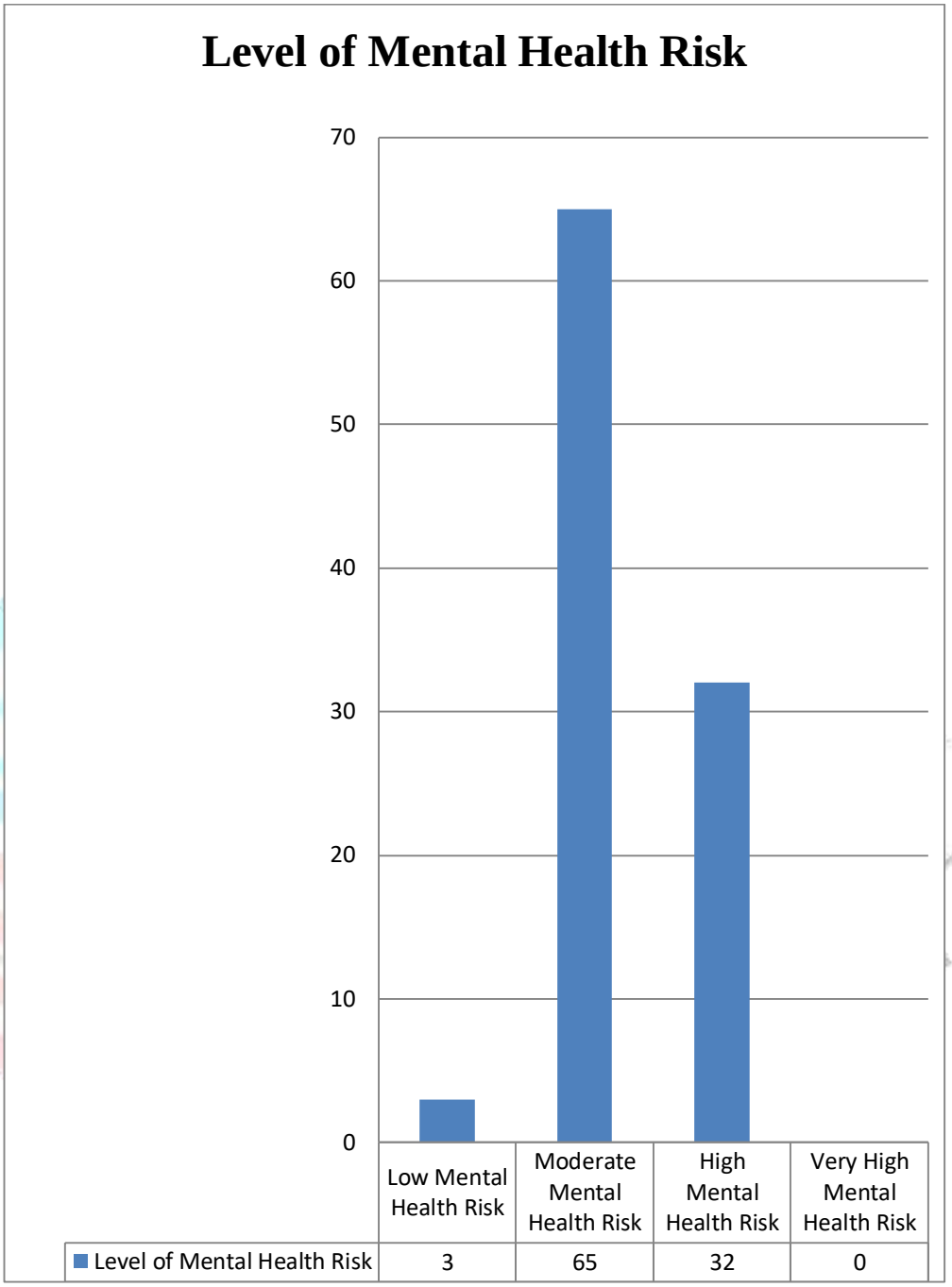

Table VII

Paired sample t-test values of Mental Health Risk

N=66

Variable	Mean & Standard Deviation	Mean Difference	t
Mental Health Risk			
Before	1.0715E2		
	13.76757	1.21667E1	10.612
After	1.1932E2		
	15.77843		

Percentages are rounded off

Table III shows the **t** value of Mental Health Risk before and after intervention. The statistical values indicate that there is a significant mean difference, which denotes the effect of Cognitive Behaviour Therapy on the sample

FIGURE VI

Significance of Difference Mental Health Risk

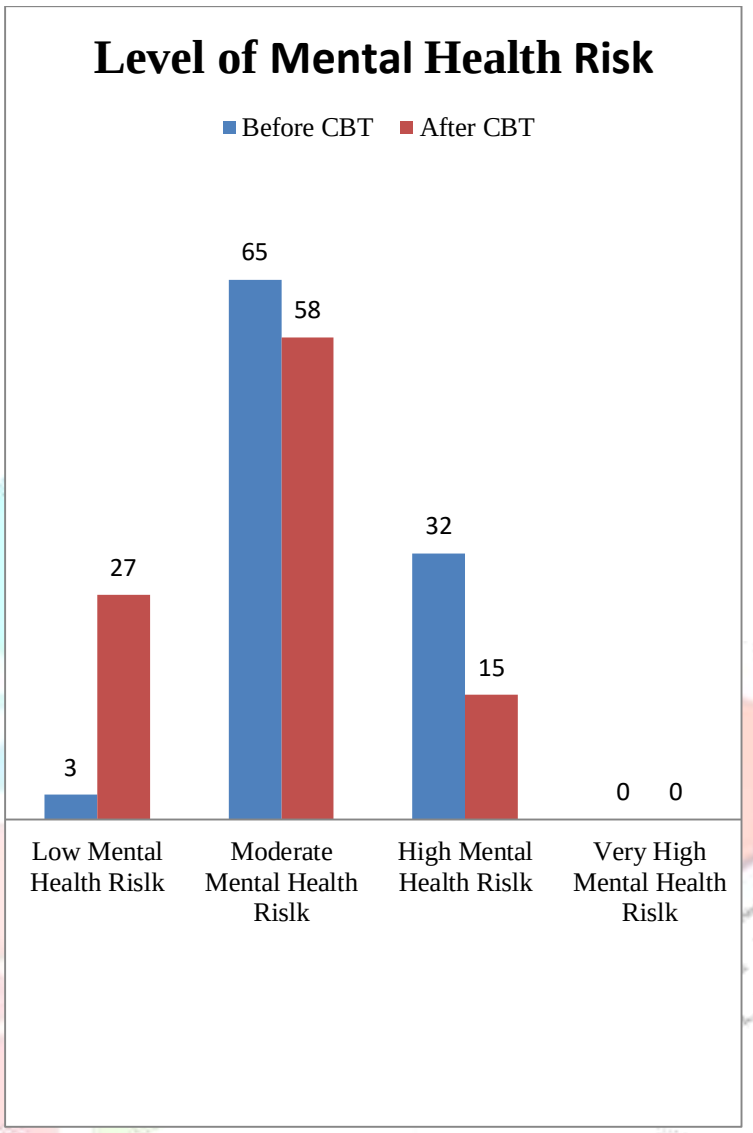

Table VIII

One-Sample t-test values of Mindful Attention Awareness

N=66

Variables	Mean	Std. Deviation	t
Mindful Attention Awareness	53.0606	13.63692	31.610

Table VIII shows the Mean values of the variable Mindful Attention Awareness. The mean value indicates that there are High differences in the level of Mindful Attention Awareness of the sample.

Hence the Hypothesis 'there are no differences in the level of Mindful Attention Awareness' is rejected.

Table IX

One-Sample t-test values of Negative Automatic Thoughts

N=66

Variables	Mean	Std. Deviation	t
Negative Automatic Thoughts	43.9545	15.79136	22.613

Table IX shows the Mean values of the variable Negative Automatic Thoughts. The mean value indicates that there are High differences in the level of Negative Automatic Thoughts of the sample.

Hence the Hypothesis 'there are no differences in the level of Negative Automatic Thoughts' is rejected.

Table X

One-Sample t-test values of Mental Health Risk

N=66

Variables	Mean	Std. Deviation	t
Mental Health Risk	1.0715E2	13.76757	63.229

Table X shows the Mean values of the variable Mental Health Risk. The mean value indicates that there are High differences in the level of Mental Health Risk of the sample.

Hence the Hypothesis 'there are no differences in the level of Mental Health Risk' is rejected.

Table XI

Correlation between Mindful Attention Awareness and Negative Automatic Thoughts

N=66

Variables	Mindful Attention Awareness	Negative Automatic Thoughts
Mindful Attention Awareness	1	-0.399**
Negative Automatic Thoughts	-	1

**Significant at 0.01 level

Table XI shows the correlation between the variables Mindful Attention Awareness and Negative Automatic Thoughts. The statistical values indicate that there is a significant relationship at 0.01 level between the variables Mindful Attention Awareness and (Negative) Automatic Thoughts. It also indicates that they are negatively correlated, (i.e), when the individual has high Mindful Attention Awareness he/she will have Low Negative Automatic Thoughts, and vice versa.

If an individual is Mindful and has attention and awareness towards what he/she is doing then the individual will have Low negative automatic thoughts and high positive automatic thoughts.

Hence the Hypothesis 'there is no relationship between Mindful Attention Awareness and (negative) Automatic Thoughts' is rejected.

Table XII

Correlation between Mindful Attention Awareness and Mental Health Risk

N=66

Variables	Mindful Attention Awareness	Mental Health Risk
Mindful Attention Awareness	1	0.101^{ns}
Mental Health Risk	-	1

ns- Not significant

Table IX shows the correlation between the variables Mindful Attention Awareness and Mental Health Risk. The statistical values indicate that there is no significant relationship between the variables.

Hence the Hypothesis 'there is no relationship between Mindful Attention Awareness and Mental Health Risk' is accepted.

Table XIII

Correlation between Negative Automatic Thoughts and Mental Health Risk

N=66

Variables	Negative Automatic Thoughts	Mental Health Risk
Negative Automatic Thoughts	1	-0.248*
Mental Health Risk	-	1

*Significant at 0.05 level

Table XIII shows the correlation between the variables Negative Automatic Thoughts and Mental Health Risk. The statistical values indicate that there is a significant relationship at 0.05 level between the variables (Negative) Automatic Thoughts and Mental Health Risk. It also indicates that they are negatively correlated, (i.e), when the individual has high Negative Automatic Thoughts he/she will have Low scores on Emotional Health indicating, High Mental Health Risk.

If an individual is Mindful and has positive thoughts towards what he/she is doing then the individual will have high emotional health.

Summary and Conclusion

The study on 'Effect of Cognitive Behaviour Therapy(CBT) in enhancing Mindful Attention Awareness and Emotional Health among High School Students' was done including the following objectives:

- To assess the level of Mindful Attention Awareness of the sample.
- To assess the level of Emotional Health which comprises of Automatic thoughts and Mental Health Risk scale (Emotional Health screening) of the sample
- To find out the relationship between Mindful Attention Awareness and Emotional Health of the sample

- To study the effect of CBT (Cognitive Behaviour Therapy) on Mindful Attention Awareness and Emotional Health of the sample.

From a government aided School, Coimbatore, Tamil Nadu, 312 students from classes 8th and 9th standards were screened for their level of mindful attention awareness (MAA) and emotional health (EH) using Mindful Attention awareness Scale, Children's Automatic Thoughts Scale and Mental Health Risk Scale. Out of them, 66 students (59 boys and 7 girls) with 'Moderate and Low' MAA and EH were randomly selected. The Parent's consent form was handed out to the parent to get their children to participate in the study. Since all the 66 students expressed their willingness, the Case Study Schedule was given to the participants and they underwent 6 sessions of CBT (Cognitive Behaviour Therapy) on alternate days. The duration of each session was for one hour. The participants were taught various techniques of CBT and they were given homework assignments to suit real life situations. After two weeks, the participants were reassessed for Mindful Attention awareness, Automatic Thoughts and Mental Health Risk.

The experimental design used in this research was 'before – and – after without control design'.

Conclusion

- Initially, 15% of the sample had 'Low Mindful Attention awareness', 62% of the sample had 'Moderate Mindful Attention awareness', 20% of them had 'High Mindful Attention awareness' and 3% of the sample had 'Very High Mindful Attention awareness'. Hence the Hypothesis 'There are no differences in the level of Mindful Attention Awareness of the sample' is rejected.
- Initially, 39% of the sample had 'Very Low Negative Automatic Thoughts', 45% of the sample had 'Low Negative Automatic Thoughts', 14% of the sample had 'Moderate Negative Automatic Thoughts'.

  Initially 32% of the sample had 'High Mental Health Risk', 65% of the sample had 'Moderate Mental Health Risk' and 3% of the sample had 'Lower Mental Health Risk'. Hence the Hypothesis 'There are no differences in the level of Emotional Health of the sample' is rejected.
- The correlation between Mindful Attention Awareness and Automatic Thoughts (negative) is -0.399 which is statistically significant at 0.01 level. Hence the Hypothesis 'There is no relationship between Mindful Attention Awareness and Automatic Thoughts (negative) of the sample' is rejected.
- The correlation between Mindful Attention Awareness and Mental Health Risk is 0.101 which is statistically not significant. Hence the Hypothesis 'There is no relationship between Mindful Attention Awareness and Mental Health Risk of the sample' is accepted.
- The correlation between Automatic Thoughts (negative) and Mental Health Risk is -0.248 which is statistically significant at 0.05 level. Hence the Hypothesis 'There is no

relationship between Automatic Thoughts (negative) and Mental Health Risk of the sample' is rejected.

- The difference in mean Mindful Attention Awareness of the sample before and after CBT is statistically significant. Hence the hypothesis 'CBT has no effect on MIndful Attention Awareness of the sample' is rejected.
- The difference in mean Negative Automatic Thoughts and mean Mental Health Risk of the sample before and after CBT is statistically significant. Hence the hypothesis 'CBT has no effect on Automatic Thoughts (negative) and Mental Health Risk of the sample' is rejected.

Limitations

- The data collection was done only in a small region of Coimbatore and the result may vary in other parts of the country.
- Only 8th and 9th standard students were the sample.

Recommendations

- School Psychologists who are trained in Counselling and Psychotherapy can be appointed in all educational institutions to provide counselling to the needy students.
- Workshops and classes on Mindful Attention Awareness and Emotional Health can be conducted in educational institutions for the teachers to gain more knowledge and develop the students accordingly.

Suggestions for Further Research

- Researches can be conducted involving both public and private schools to enable comparison.
- The research might be expanded to the diversified and cross-cultural samples from different districts in Tamil Nadu.
- Longitudinal research can be conducted on larger sample of students applying CBT.

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