CHAPTER III

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CHAPTER III

REVIEW OF RELATED LITERATURE

3.1 Introduction

Effective research is based upon past knowledge which helps to eliminate duplication of what has been done and provide useful information for investigation. By reviewing the literature closely or directly related to the study undertaken, the investigator becomes capable of developing or enriching theoretical framework of the study. The investigator made an attempt to present a brief review of the relevant literature related to Meditation in religious and secular context, for cognitive and therapeutic purpose. The investigator made a careful review of journals, periodicals, books and dissertations to locate studies related to the problem selected for investigation. This helped the investigator for a greater understanding of the problem and its crucial aspects and the avoidance of unnecessary duplication.

The first section of the review presents the theoretical basis of Meditation in general and Secular Meditation in particular. The second section analyses the Emotional status and Mood States of adolescents.

Meditation is both an ancient spiritual practice and a contemporary mind-body technique for relaxing the body and calming the mind. Most meditative techniques have come to the West from Asian religious practices, particularly India, China, and Japan, but similar techniques can be found in many cultures around the world. Meditation offers a rich and complex field of study. Over the past 40 years, several hundred research studies have demonstrated numerous significant findings including changes in psychological, physiological, and transpersonal realms.

3.1 Studies Related to Meditation in General Context

Baijal, Jha, Kiyonga, Singh and Srinivasan (2014) studied the influence of Concentrative Meditation Training on the development of attention networks during early adolescence. In this study attention conflict monitoring was examined using the attention network test among young children who received concentration meditative training as part of the school curriculum.
Fadel (2014) studied the neural correlates of mindfulness meditation related anxiety relief and the findings provide evidence that mindfulness meditation attenuates anxiety through mechanisms involved in the regulation of self referential thought process.

Thompson (2014) studied the effect of mindfulness meditation by comparing the MRI scans of people who meditated with those who did not. The result indicated the presence of more grey matter in the frontal cortexes of those who meditated.

Gellman (2013) reviewed the previous findings from 47 studies based on meditation and the study noted that the distinctions between the meditation types weren't always clear. The study didn't find any evidence that meditation was harmful. The report's findings show that meditation is perhaps less effective in alleviating stress-related symptoms than is widely believed. The studies overall failed to show much benefit from meditation with regard to relief of suffering or improvement in overall health, with the important exception that mindfulness meditation provided a small but possibly meaningful degree of relief from psychological distress.

James (2012) in a study found that select yogasanas and pranayama meditation were effective on biochemical, physiological and psychological conditions of male students.

Patil (2012) in a study found that yoga relaxation techniques are very effective on the psychological and physiological conditions of individuals.

Greason, Daniel, Meria, Jeffrey and Andrew (2011) in their study found that increased daily spiritual experience following mindfulness based stress reduction may partially explain improved mental health as a function of greater mindfulness.

Joyce, Jannet, Tshamiand and Amy (2011) attempted to explore the effect of mindfulness meditation program on the mental health of primary school children and found a significant decrease in the overall average score and number of children in the diagnostic categories.
Psychiatry research (2011) reported that eight weeks mindfulness meditation training made measurable changes in brain regions associated with memory, self, empathy and stress.

Ruksana and Ajilal (2011) studied the effect of Jaladharma meditation on social anxiety. The study is conducted on a sample of one hundred and twenty participants with high social anxiety. The findings of the study showed that Jaladharma meditation had a significant influence on social anxiety, anxiety and avoidance, Jaladharma meditation reduces anxiety component of social anxiety of a person and it also reduces avoidance component of social anxiety of a person.

Chiesa, Calati and Serretti (2010) reported the review of current evidence about the effects of mindfulness meditation programs on objective measures of cognitive functions. Overall, reviewed studies suggested that early phases of mindfulness training, which are more concerned with the development of focused attention, could be associated with significant improvements in selective and executive attention whereas following phases, which are characterized by an open monitoring of internal and external stimuli, could be mainly associated with improved unfocused sustained attention abilities. Additionally, MMPs could enhance working memory capacity and some executive functions.

Hofman, Tefan and Deven (2010) reviewed 39 students based on mindfulness meditation as an intervention technique. Findings revealed that mindfulness meditation training is beneficial to reduce the stress, anxiety and depression.

Juergen, Nicholae and Seven (2010) found that different forms of meditation showed similar steps of development in terms of the neurophysiological correlates. The recent electro encephalogram findings suggested that meditation is associated with active states which involve cognitive restructuring and learning.

Li-chuan (2010) evaluated the benefits of meditation in regard to EI, perceived stress and negative mental health with cross-sectional and experimental studies among participants with different amount of experience in meditation and found that those participants with greater meditation experience exhibited higher EI and less perceived stress and negative mental health than those who had less or none.
Wisner, Barbara and David (2010) reported that cognitive behavioural interventions like mindfulness meditation, relaxation response and transcendental meditation that are made available for use by social workers and other school professionals help students to enhance academic and psycho-social strength and improve self-regulation capacities and coping abilities.

Davis and Joel (2009) conducted a study on sitting meditation intervention among youth and findings revealed that sitting meditation seem to be an effective intervention in the tradition of physiological, psychological and behavioural conditions among youth.

In their study Lane, Richard and Tracey (2009) reported that a 1-month mindfulness meditation intervention increased Positive mood and reduced distress. Selvaraj and Soly (2009) found that Meditation has high influence on the health of the higher secondary school students.

Lutz (2008) assessed brain activity using functional magnetic resonance imaging (MRI) while novice and expert meditation practitioners generated a loving-kindness compassion meditation state. The findings of the study support the role of the limbic circuitry in emotion sharing, which is a key component of empathy and compassion, and point to how long-term meditation practice can sensitize this limbic circuitry.

Sanna (2008) found that transcendental meditation provides deeper relaxation and also observed that meditation was effective in reducing anxiety, depression and hypertension.

Schure, Christopher and Christopher (2008) in a 4 year qualitative study examined the influence of teaching Hathayoga Meditation and Qi Gong to counseling graduate students. Participants reported positive, physical, emotional, mental, spiritual and interpersonal changes and substantial effect on their counseling skills and therapeutic relationships.

Srivastava (2003) indicated that there exists a difference among meditators and non-meditators on account of invasion of personal space. Cognitive enrichment influenced the tolerance for invasion of personal space among meditators. Gender
difference among meditators and non-meditators for invasion of personal space was not found to be significant.

Tirath and Paraminder (2008) examined the effect of meditation on self-confidence of student teachers in relation to gender and religion and meditation was effective with respect to gender and religion of student teachers.

In their investigation, Jain, Shapiro, Swanick, Roesch and Mills (2007) implemented a 1-month meditation program and found a reduction in negative mood states and rumination in meditators when compared with control subjects.

Slagter, Lutz, Greischar, Francis and Nieuwenhuis (2007) examined the effect of meditative practice on the expansion of attentional limits through investigation of a phenomenon known as “attentional blink.” The findings demonstrated that compared to 23 control participants, who were novice meditators meditating 20 min/day for 1 week prior to each assessment, retreatants showed lower attentional blink in a non-meditative state; that is, they more accurately identified the second stimulus, which was dependent upon efficient processing of the first stimulus.

In a study Takeuchi (2006) reported that Meditation not only reduces stress but also reshapes the brain, based on the investigations of scientists. Meditation directly affects the function and structure of brain changing it in ways that appear to increase attention span, sharpened focus and improved memory.

Amy and Kenneth (2005) compared the effects of spiritual meditation, secular meditation and relaxation on spiritual, psychological and cardiac outcomes. The results revealed that spiritual meditation group had greater number of mystical experiences with religious connotation than both secular group and relaxation group.

Gaur and Anshuman (2003) found that those who practiced Preksha meditation for 25 days increased their ego strength, confidence, self assurance, spontaneity and they became emotionally more stable, calm and able to face their reality and reduced their jealousy.

Rick (2002) looked at the positive effects of short term meditation and found that participants who practices meditation for 7 hours during 5 weeks showed
greater activation of left frontal region of the brain and also developed their positive moods.

Shah, Joshy, Mehrotra, Potdar and Dhar (2001) found that there is a positive and significant effect of saral meditation on intelligence, performance and confidence.

Ettenger and Jim (1999) studied the benefit of meditation for outdoor education and found that common meditation of breath and regulation of concentration by focusing on breath is effective for outdoor education.

Ainslie (1996) studied the effect of meditation on adolescent stress in a college preparatory environment. Findings revealed that meditation is effective for reducing the stress of male and female boarding students.

Mulvaney (1996) examined the impact of meditation on the lives of five educators. The participants gave evidence of increased self-discipline, physical health, equanimity, creativity, sensitivity, connectedness and caring in the workplace as well as at home. The result showed that these teachers often provide a safe place in the class room for students to explore and deal with life problems that arise in and out of the class.

Rozman (1994) revealed that teaching children to meditate could improve their decision making.

Brown, Difrancesco and Noble (1993) studied the relationship between meditation and exercises and three measure of self-actualization, found that students who meditated and exercised had significantly greater inner directedness than those who only exercised or who did neither.

Seer and Raeburn (1980) conducted a research in which forty-one non-medicated hypertensive were randomly assigned to three groups: TM training group, placebo control (TM training without a mantra), and no-treatment control groups. The results showed modest reductions in blood pressure in both treatment groups, compared with no treatment, with diastolic percentage reductions reaching significance.

Elkins, Rajab and Marcus (1979) conducted a study on relaxation training and prayer behavior as tension reduction technique. Forty two participants from
similar religious and cultural background were divided into three groups like relaxation training, daily prayer and the control group. The findings revealed that both the experimental group shows significant reduction in anxiety and stress.

3.3 A Summary of Foundational Research on Meditation

Researchers primarily have examined meditation’s effects as a self-regulation strategy for stress management and symptom reduction. Over the past three decades, there has been considerable research examining the psychological and physiological effects of meditation. Meditative practices are now being utilized in a variety of health care settings. This is understandable because research suggests that meditation may be an effective intervention for: cardiovascular disease (Zamarra, Schneider, Besseghini, Robinson, & Salerno, 1996); chronic pain (Kabat-Zinn, 1982); anxiety and panic disorder (Edwards, 1991; Miller, Fletcher, & Kabat-Zinn, 1995); substance abuse (Gelderloos, Walton, Orme-Johnson, Alexander, 1991); dermatological disorders (Kabat-Zinn, Wheeler, Light, Skillings, Scharf, Cropley, Hosmer, & Bernhard, 1998); reduction of psychological distress and symptoms of distress for cancer patients (Speca, Carlson, Goodey, & Angen, 2000); and reduction of medical symptoms in both clinical and non-clinical populations (Reibel, Greeson, Brainard, & Rosenzweig, 2001; Williams, Kolar, Reger, & Pearson, 2001, Kabat-Zinn, Lipworth, Burney, & Sellers, 1985).

Few researchers have examined meditation’s original purpose as a self-liberation strategy to enhance qualities such as compassion, understanding, and wisdom. However, a small number of pioneering studies provide a valuable foundation. These studies suggest meditation can produce improvements in: self-actualization (Alexander, Rainforth, & Gelderlos, 1991); empathy (Lesh, 1970; Shapiro et al. Shapiro, Schwartz, & Bonner, 1998); sense of coherence and stress-hardiness (Kabat-Zinn & Skillings, 1989; Tate, 1994), happiness (Smith, Compton, & West, 1995), increased autonomy and independence (Penner, Zingle, Dyck, & Truch, 1974); a positive sense of control (Astin, 1997); increased moral maturity (Nidich, Ryncarz, Abrams, Orme-Johnson, & Wallace, 1983); and spirituality (Shapiro et al., 1998). Positive behavioral effects include: heightened perception, visual sensitivity, auditory acuity; improvements in reaction time and responsive motor skill; increased field independence; increased concentration and attention.
(Murphy et al., 1997). In addition, meditation appears to result in improvements in aspects of intelligence, school grades, learning ability, and short- and long-term recall (Cranson, Orme-Johnson, Gackenbach, Dillbeck Jones, & Alexander, 1991; Dillbeck, Assimakis, & Raimondi, 1986; Lewis, 1978), and some forms of creativity (Cowger & Torrance, 1982) (source - Shapiro’s report, 1994).

Reflections

Many of the above mentioned studies do not demonstrate rigorous research design (including lack of randomization, lack of follow-up, and imprecise measurement of constructs), and sometimes are based on small samples. Researchers often failed to report what type of meditation technique was taught, or the length and intensity of the practice. Also, several of the studies retrospectively compare meditators to controls, which yield useful correlational but no causal inferences. It is recognized that many different techniques have widely different methodologies. Not all techniques have the same effects. Different mental techniques and meditation practices produce different physiological effects. Different types of meditative techniques and their effects are investigated in many studies, but only few studies compare the difference between these techniques. Differences in observation for different techniques are consistent with other studies of similar meditation practices and with a fundamental principle. Furthermore, most meditation research is derived from relative beginners of meditation practice. Most of the studies are focused on brain functions like memory, attention and concentration, mental and physical health issues. Few studies revealed Meditation as a practice for behavior and health intervention. In most of the studies spirituality is a major component. By analyzing many studies it was observed that structural equivalence in terms of factors like time, instruction, duration and other relevant factors were not followed during the practice between experimental group and control group. Another notable element is that overlapping of methodology in many different techniques of meditation. Not many studies analyse the implementation of meditative programmes in the unique climates of school settings. Even though many studies are there, still there exists a dilemma about the way to incorporate meditation in to education, the methodologies that effectively capture the multi-dimensional effects of meditation and also the processes that underlying the various...
techniques of meditation. Despite these limitations, the studies provided a solid beginning upon which recent research has been building.

3.4 Meditation in Secular Context

Susaree, Sinluck, Sappapitiporn and Daroonwan (2014) studied the effect of Buddhist walking meditation on depression and found that Buddhist walking meditation was effective in reducing depression, improving functional fatigue, vascular reactivity and appears to confer greater overall improvements than traditional walking program.

Sedlmeier, Eberth, Schwarz, Zimmermann, Haarig, Jaeger and Kunze (2012) gave a comprehensive overview of the effects of meditation on psychological variables that can be extracted from empirical studies, concentrating on the effects of meditation on nonclinical groups of adult meditators. Findings varied across different approaches to meditation like transcendental meditation, mindfulness meditation and other meditation techniques. The investigators arrived at a comprehensive understanding of why and how meditation works; emphasis should be placed on the development of more precise theories and measurement devices.

Hairul (2011) compared the effect of progressive muscle relaxation and autogenic relaxation on young soccer players’ mood states and the findings revealed that these two relaxation techniques induce equivalent mood response and may be used to regulate young soccer players’ mood states.

Vandana and Lakshmi (2011) found that integrated Amritha Meditation technique was effective in reducing adrenaline and cortisol levels within group comparison.

Pramanik (2009) studied the effect of Bhashrika Pranayama for 5 minutes on heart rate and blood pressure and the effects of same following oral intake of parasympathetic blocker drug and found that slow pace Bhashrika Pranayama shows a strong tendency to improving the autonomous nervous system through enhanced activation of parasympathetic system.
Shekhawat and Mishra (2008) found that Preksha meditation is an effective technique which modulates the functions of autonomic and central nervous system by reducing the anxiety, aggression, fear and frustration levels.

Wachholtz (2008) compared frequent migrainers in different practice groups of spiritual meditation, internally focused secular meditation, and externally focused secular meditation and relaxation. Findings revealed that migrainers in spiritual meditation group had greater decrease in frequency of migraine headache, anxiety and negative affect as well as greater increase in pain tolerance.

Gupta, Khara, Vempati, Sharma and Bijlani (2006) observed that an intervention consisted of asanas, pranayama, relaxation techniques and meditation reduced the state and trait anxiety of patients of hypertension, obesity and cervical Spondylitis with in a period of ten days.

Carlson (2003) reported the effect of mindfulness based stress reduction programme on the enhancement of sleep quality in terminally ill cancer patients.

Udupa (2003) in a study showed that three months of Pranayama training modulates ventricular performance by increasing parasympathetic and decreasing sympathetic activity.

McDonald (2002) explores the spirituality of committed environmentalists and found that individuals can make spirit evolved by walking.

Moeller (2002) studied about Technae, a propaedeutic for technical communication which emphasizes the importance for technical writers to attend to history, artistry and well developed social relations in their work.

Roopkala, Jaishri, Vrinda and Sharma (2002) observed significant reduction in systolic pressure by practising Pranayama.

Arambula (2001) explained physiological correlates of highly experienced Kuntalini Yoga Meditators and found that more alpha encephalogram activity during meditation.

Davidson, Goleman and Schwartz (2001) in their investigation found that each participant, when exposed to the emotional sounds while meditating, had increased activity in several regions of the brain important in detecting feelings and
emotions. However, the expert meditators showed much more of this type of activity than the novices, especially when they heard the negative sounds. The researchers concluded that this type of meditation may change the brain and increase tendencies for compassion, kindness, and attentiveness to others, and also that longer training in meditation may lead to greater capacity for empathy.

Tloczynski and Tantriella (1998) examined the effects of Zen breath meditation as compared to relaxation on college adjustment. Seventy-five undergraduates, matched on initial anxiety, were randomized into meditation, relaxation and control groups. The students received only one hour of instruction in either technique and were instructed to practise it once daily for at least 20 minutes. Interestingly, after six weeks, interpersonal problem scores significantly decreased only in the meditation group. However, anxiety and depression scores significantly decreased in both meditation and relaxation groups as compared to the control group.

Sherlock (1978) developed an adaptation practice by started teaching Buddhist meditation in secular language to deal with emotional problems such as depression, anxiety, anger and stress.

**Reflections by the investigator**

*Secular Meditation is that which is practised outside religious context. Various techniques of mindfulness Meditation is rarely practised in schools. Most of the schools practiced transcendental meditation in which students in sitting posture close their eyes and chanting omh. A great misunderstanding still exists in the society that meditation is purely religious and another misbelieve is that Om is a sacred mantra of Hindu religion. History proves that meditation is not restricted to any religion. As India being a secular nation, all religious practices are given equal consideration. Rather than focusing on spiritual growth, Secular Meditation emphasizes stress reduction, relaxation and self improvement. The analysis of above mentioned studies revealed that most of the secular techniques are practiced on the basis of mindfulness meditative approach. Most of the studies are focused on therapeutic benefits of secular techniques. From the above studies, the study done by Vandana (2011) based on integrated Amritha meditation technique enabled researcher to have extensive information regarding secular techniques. Amritha*
meditation is purely spiritual with devotional songs. But integrated Amritha meditation is a Secular practice which integrates relaxation techniques, yoga, Pranayama and Meditation. Only a few studies focused on meditation by music and walking. But they are mainly in therapeutic field and were practiced in western countries. Walking meditation is mostly practiced in Buddhist monasteries. Not such studies are conducted in school environment especially for cognitive and behavior modification of students and moreover to enhance the emotional literacy of students. But the investigator failed to identify any studies that experiment secular practices like meditation by dance and drawing. Not any study was found on secular meditation in Indian context especially in schools of India.

3.5 Studies Related to Emotional Intelligence

Akbar, Asghar, Ejaz and Akhter (2011) conducted a study on the relationship between emotional intelligence and academic achievement among higher secondary school students. Significant relationship found between the two constructs. The study also concluded that first born students scored high on emotional intelligence as compared to later born students. Students with literate parents scored high as compared to students with illiterate parents. Students from urban areas scored high as compared to students from rural areas. Students from upper socio-economic status scored high on emotional intelligence as compared to students from lower socio-economic status. Female students scored high as compared to male students.

Chaman, Sharma and Sharma (2011) studied the emotional intelligence of scheduled caste students in relation to their self concept and the findings revealed that components of self concept like achievement and aspiration, self confidence, inferiority feelings was similar for male and females having high and low emotional intelligence. But emotional instability was much higher for male students having low emotional intelligence.

Gupta (2011) studied the role of intelligence and emotional intelligence on depression among adolescent girls and found that adolescent girls with high emotional intelligence and intelligence scored low in depression.

Naghani (2011) observed that emotional intelligence is meaningfully associated with gender difference and also found that girls have higher emotional
intelligence than boys, but high emotional intelligence in boys is a good predictor for achievement.

Salgeuro, Raquel and Pablo (2011) found that perceived emotional intelligence is a stable predictor of adolescent adjustment and may serve as a useful resource for preventive interventions.

Mohanty and Devi (2010) have revealed gender differences in their study among EI (N=60) that girls are more optimistic and well aware of their feelings in comparison to boys. Girls are more aware and understand their own feelings than boys.

Sailaja and Umadevi (2010) conducted a study on perceived self efficacy and emotional intelligence of adolescents. The findings of the study showed that majority of adolescent boys and girls were above average and average on EI levels. The adolescent with different self-efficacy levels were fallen under different emotional intelligence levels ranging from average, below average and above average levels. Significant differences were observed between EI of adolescents with different self-efficacy levels favouring adolescents with high self-efficacy to score better than medium and low self-efficacy levels in all dimensions of EI.

Boyaltis and Ratti did a study in 2009 with managers and leaders in Italy and found that emotional, social and cognitive intelligence competencies predict performance. More specifically in the emotional competency cluster, effective executives showed more initiative while effective middle level managers showed more planning than their less effective counter parts. Similarly in the social intelligence competency cluster, effective executives were more distinguished in networking, self-confidence, persuasiveness and oral communication.

Gowdhaman and Murugan (2009) conducted a study on the relationship between EI and age among B.Ed. teacher trainees revealed a significant effect of age on emotional intelligence. Contradictory to this finding, Jacques (2009) had reported that age did not predicted emotional intelligence among a sample of 221 college students.

Jadhav and Havalappanavar (2009) investigated the level of emotional intelligence among male and female police constable trainees (N=200). Results
revealed that women police constable (WPC) trainees have scored high on emotional intelligence than their counterparts.

Tatawadi (2009) studied the differences in emotional maturity among male and female students studying in a management school. The results revealed that the females are emotionally stronger than the males. The girls scored higher with regard to empathy, social responsibilities and interpersonal relationships than boys. They are more sensitive towards their relationships with parents, friends and siblings.

Wendorf-Heldt (2009) examined the effect of emotional intelligence as a link to school leadership practices that increase student achievement. Results of the study indicate that there is a strong, positive correlation between emotional intelligence and research-based school leadership practices and that the development of emotional intelligence is influenced by identifiable and replicable factors. The study concluded that districts that make an intentional effort to create awareness of emotional intelligence, as well as to hire, develop, and retain emotionally intelligent school leaders may be more likely to reach their organizational goals related to increasing the academic achievement of all students.

Jayasree (2008) studied the influence of emotional intelligence, locus of control and rigidity on mathematics achievement of students at degree level. The study aimed to assess the extent of relationship between each of the independent variable on mathematics achievement. The findings of the study revealed that a high positive correlation exist between emotional intelligence and mathematics achievement for the general sample and subsample based on sex, location of institution and type of management. Another finding revealed that a high positive correlation exists between locus of control (internality score) and mathematics achievement for the general sample and subsample based on sex, location of institution and type of management of the college.

Namdar, Sahehibag, Ehrahimi and Rahmani (2008) have found a significant relationship between emotional intelligence score and the student’s satisfaction of their family socioeconomic status among nursing students.

Nasar and Nasar (2008) have made an attempt to compare the emotional intelligence of male and female adolescents and the results ensure the presence of higher emotional intelligence in adolescent girl students in comparison to the boys.
Saranya and Velayudhan (2008) among 30 male and 30 female university students regarding gender differences in emotional intelligence revealed that there exists no significant difference in self-awareness, self-regulation, social awareness and social skills among day scholar boys and girls. There exists a significant difference in the dimension of motivation. Girls are better motivated than boys; this is because girls have a better driving and pulling forces which result in persistent behavior directed towards certain goals.

Singh and Saini (2007) in their study regarding emotional intelligence and interpersonal relationship found that the measures of emotional stability is significantly related with the variables of managing relations and integrity which concludes that the persons who are emotionally stable posit good interpersonal relations, they enjoy the trust of other and they tend to be less aggressive and hostile to others.

Brown and Schulte (2006) examined the direct and indirect relationships between emotional intelligence and subjective fatigue. Results indicated that higher emotional intelligence was associated with less fatigue. The psychological variables depression, anxiety, optimism, internal health locus of control, each mediated partially between emotional intelligence and fatigue. Additionally, sleep quality partially mediated between emotional intelligence and fatigue.

Depape, Ane-Marie, Hakim-Larson, Voelker and Page (2006) has examined the gender as the predictor of emotional intelligence, in a diverse sample of 126 undergraduate participants (42 male, 84 female) and reported that gender was not a significant predictor of emotional intelligence, as contrary to their expectation.

Singh and Vemireddy (2006) explored the effect on emotional intelligence and coping resources of stress used across age. The findings revealed significant positive correlation between emotional intelligence and the total coping resources of stress.

Parker (2005) studied the long term stability of EI related abilities students during the transition from high school to university. The study found that EI are relatively stable over the 32 month time period. EI scores were also found to be significantly higher at the second time; the overall pattern of change in EI- level was more attributed to the increased age of the participants.
Szuberla (2005) conducted a study on the relationship between emotional intelligence and traditional school success metrics among young adults. Significant relationships were found between (a) understanding emotions and reading, language, and mathematics composites from the Terra Nova standardized test, (b) managing emotions and reading composite score, and (c) total scores of both emotional intelligence and school success. No significant relationships were found between perceiving emotions and any of the Terra Nova composites. These results raise the possibility that the emotional intelligence instrument may be assessing reading and language rather than emotional intelligence.

Kafetsios (2004) had reported in his study among 239 adults aged between 19-66 years, that older participants scored higher on three out of four branches of EI i.e. facilitation, understanding and management. This study supports the view that emotional intelligence develops with age.

Srivastava and Bharamanaikar (2004) concluded from their study among the sample of 291 Indian army officers regarding the relationship between EI and their age that EI had increased with age.

Goleman (1996) have also stated that emotional intelligence increases with age and it can be learned, cultivated and increased in adulthood.

Goleman (1995) found that the signs of EI appear among very young children.

Reflections by the investigator

Based on the literature review, it can be concluded that emotional intelligence has been put forward for about two decades and many related studies have been carried out to study it. It is understood from the previous studies that emotional intelligence is associated with factors like life satisfaction, adaptability, optimum overall intelligence, personality and emotional disorders like alexithymia, depression and anxiety, birth order, gender and family size. Studies in gender differences are inconclusive. Lower emotional intelligence has also been found to be associated with violent behavior, illegal use of drug, alcohol and participation in delinquent behaviour. Hence a cognitive learning technique must be utilized to reach emotional intelligence which encompasses components like vision around
reaching one’s ideal self, self-assessment and self-awareness of current strength and weakness, active and frequent experimentation with new behaviours that support and develop emotional intelligence.

### 3.6 Studies Related to Mood States

Brady, Ongur and Kesavan (2014) reviewed the neurobiology of mood states shifts in bipolar disorder and observed that the current body of longitudinal BPD imaging studies is heterogeneous and incomplete, and does not lend itself to the construction of an explanatory model of mood-state transitions.

Melillo (2014) studied the effect of emotional intelligence on the relationship between negative mood and risk taking among undergraduate students. Findings revealed that individuals with higher emotional intelligence may engage in less risk taking when in negative mood and where as individuals with lower emotional intelligence may be prone to risky behaviours.

Sato, Thomas, Florian, Andreas and Ann (2014) studied the replication of the correlation between natural mood states and working memory-related prefrontal activity measured by near-infrared spectroscopy in a German sample. The study observed that, for the verbal working memory task POMS total mood disturbance score was negatively correlated with baseline corrections (NIRS) near infrared spectroscopy mainly over the left dorso-lateral prefrontal cortex.

Emiley, Manel and Emmanuel (2013) studied the negative mood states of adolescent secondary school students and found that frequencies of negative mood states increased with age and also observed that girls consistently reporting more frequent negative mood states than boys.

Trimmer (2013) used drift diffusion model of decision making to mood states of individuals and observed that two dimensions of variation ie, expectation and preparedness which enable individuals to maximize the overall benefits of behavioural decisions by modulating the choices of approach/ withdrawal.

Manocha, Black, Sarris and Stough (2011) in their study observed that Sahaja Yoga meditation, is a safe and effective strategy for dealing with work stress and depressive feelings. The findings suggest that “thought reduction” or “mental
silence” may have specific effects relevant to work stress and hence occupational health.

Yoshihara, Hiramoto, Sudo and Kubo (2011) studied the profile of mood states and stress related biochemical indices in long term yoga practitioners and observed that yoga training has a stress reduction effect and also improves an individual’s mental state and lowers stress related biochemical indices like self related anxiety, anger and fatigue in comparison with non experienced participants.

In a study Fadel, Susan, Bruce, Zhanna and Paula (2010) examined whether brief meditation training affects cognition and mood when compared to an active control group. After four sessions of either meditation training or listening to a recorded book, participants with no prior meditation experience were assessed with measures of mood, verbal fluency, visual coding, and working memory. The findings revealed that brief meditation training reduced fatigue, anxiety, and increased mindfulness. Moreover, brief mindfulness training significantly improved visuo-spatial processing, working memory, and executive functioning.

Nicola, John and Maureen (2010) reported that two studies investigated the relationship between emotional intelligence and mood and emotional intelligence and self-esteem. The results of the studies revealed that higher EI is associated with positive affect and self-esteem. The third study revealed that high emotional intelligence showed a less of a decrease in positive mood and self-esteem after a negative state induction using velton method, but showed increase in positive mood but not in self-esteem after a positive state induction.

Lane (2009) found that mood states are associated with positional and dysfunctional performance. This indicated that mood states are associated with performance, but nature of these relationships is situation specific.

Tang, Yi, Yingua, Junhong, Yaxin and Shiga (2007) reported that a group randomly assigned to 5 days of meditation practice with the integrative body–mind training method shows significantly better attention and control of stress than a similarly chosen control group given relaxation training.

Kenneth, Yuen and Lac (2003) examined the influence of different mood states on risk taking tendencies that govern one’s decision during respective mood.
The findings indicated that the depressed mood were significantly more conservative in taking risk than those who were in neutral mood. While people in induced elated mood did not differ significantly from those in neutral mood. Correlation between mood ratings with risk taking tendency was positive among people with induced depressed mood would have a lower willingness to take risk than people in neutral and positive mood.

Thayer, Godes, Nicole, Maccellino, Hernandez and Sandra (2003) reported an important health indication that walking, energy and mood are interrelated. They observed positive correlation between numbers of steps taken over ten days and energy level. But tension level is not related to number of walking steps.

Speca, Carlson, Goodey and Angen (2000) observed that after the 7 weeks intervention, 90 patients (aged 27-75 yrs) in the treatment group had significantly lower scores on Total Mood Disturbance and subscales of Depression, Anxiety, Anger, and Confusion and more Vigor than control Subjects. The treatment group also had fewer overall Symptoms of Stress; fewer Cardiopulmonary and Gastrointestinal symptoms; less Emotional Irritability, Depression, and Cognitive Disorganization; and fewer Habitual Patterns of stress. Overall reduction in Total Mood Disturbance was 65%, with a 31% reduction in Symptoms of Stress.

Whybrow (1998) described that moods develop from emotions and because emotional life lies at the very core of being a person to accept that emotion and mood can be disordered calls in to question the very experiences that most of the individuals take for granted the presence of a defined predictable and unique subjective entity that finally refered as intuitive self.

Mayer, Salovey and Caruso (1995) observed that mood congruence memory has not yet been found in normal people in every day mood. This supports prior clinical and experimental findings that mood and memory constantly co varies in every day experience.

Reflections by the investigator

By analysing the above studies, it is observed that mood and emotions are separable in theory. But, in practice its distinction is not always crystal clear. In some areas researchers have studied mostly moods and in some other areas mainly
emotions. While reviewing the studies the terminology can be confusing. Most of the studies are focused on negative mood states. Few studies revealed that negative mood states increased with age and also found that girls showed frequent negative mood states than boys. Some researchers argued that positive mood states played a major role in decision making. Some others argued that people in good moods are creative than those in bad mood. In some studies total mood disturbance is assessed mainly on the basis of negative mood states. But in theory one’s mood state encompasses both positive and negative mood state. Hence it is important to focuses these two dimensions of mood states while interpreting the mood state of an individual. Repeated observations are necessary for interpreting mood states because moods are fluctuating and when a specific mood is lasting longer which becomes the mood state of an individual. But in most of the studies such repeated observations are not taken. In few studies mood induction programmes are given for assessing the mood state of an individual. More than that mood is an affective aspect which cannot be clearly understood by one’s facial expression. Hence verbal tools may be more effective for measuring the mood state of an individual.

**Concluding Reflections**

While analyzing the studies related to secular meditation, emotional intelligence and mood states the investigator found that secular meditative techniques are not yet practiced in schools of India. This may be due to the misconception that still exists in a secular, democratic republic nation like India that meditation is a religious practice mostly followed by Hindu religion. But secular practices are widely followed in western countries, even though they are scarce in secular India. There is still misunderstanding in the society that meditation is purely religious and ‘Om’ is a sacred mantra of Hindu religion. History proves that meditation is not restricted to any religion. As India being a secular nation, all religious practices are given equal consideration. ‘Om’ is the primordial sound from which all other sounds and creation emerge. It underlies all phonetic creations. The utterance of ‘Om’, consisting of the three letters A, U, and M, covers the whole process of articulation. Due to this power of ‘Om’- this mystical Sanskrit word is widely used in tantric rituals. But in secular India ‘Om’n is still considered as a sacred word that can be chanted only by the Hindus. Instead
of focusing on spiritual growth, secular meditation emphasizes stress reduction, relaxation and self-improvement. The review of studies related to the different aspects concerning the present study helped the researcher to have an extensive knowledge of trends in research. Of the various studies discussed above only a few studies were found within the conceptual framework designed by the investigator. The secular practices selected by the investigator for the present study were not yet followed in other studies. In most of the studies either any one meditative technique was practised. In order to clarify the confusions arise in the overlapping methodology of different techniques, the investigator decided to frame a design that helps to compare the different secular techniques to assess the relative effectiveness.

The present school curriculum encompasses different activities like Junior Red Cross (J.R.C), Student Police, National Cadet Corp (N.C.C), National Service Scheme (N.S.S) etc to empower the students. But only those students who have real interest were selected for these activities. These are carried out in only in government and government aided schools. In the case of private schools they follow relaxation activities like dance, instrumental music, karate, meditation etc along with sports and games. All these practices are given once in a week for selected group of students.

Even though there are many studies, there exists a dilemma about incorporating meditation into education, the methodologies that effectively capture the multi-dimensional effects of meditation. The investigator failed to identify any studies that experiment secular practices like meditation by dance and drawing. Only a few studies focused on meditation by music and walking. But they are mainly in therapeutic field. Walking meditation is mostly practised in Buddhist monasteries. Such practices are not conducted in school environment especially for cognitive and behaviour modification of students and also for the enhancement of their emotional literacy. Hence the investigator decided to develop a new intervention programme based on secular meditative practices to enhance emotional intelligence and regulate mood states of secondary school students.
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