

MINDFULNESS MEDITATION AND ADOLESCENTS

SarikaKhandelwal*

Kavita koradia*

Abstract

Meditational practices after being embraced by clinicians are making its way to educators. There is increased frequency of inclusion of meditation in educational setting around the world. This paper aims at reviewing the empirical evidence of Mindfulness Meditation (MM) which facilitates in achieving the traditional goals of education, to help in alleviating stress and anxiety and in achieving overall psychological well-being. Preliminary studies suggest that introduction of MM has high potential in educational setting as it positively relates to reduced stress and anxiety, improvement in attention, self- regulation, cognition and intra personal behavior and overall psychological well- being of a child. However, the research of MM in children is still in its infancy phase and it is proposed that high methodological rigor is required to attain its full benefits.

Keywords: Mindfulness Meditation (MM); Mindfulness based Intervention (MBI).

* **Research Scholar, Human Development,Rajasthan University, Jaipur**

Real education consists in drawing the best out of yourself.

- Mahatma Gandhi

Adolescence is a phase which separates childhood with adulthood. It is a transitional period requiring special attention and protection. It is a time of major cognitive advances and gains in physical strength and vitality, but this period of development is also distinguished by the onset of many physical, behavioral, and mental health problems that are preventable and may persist into adulthood, interfering with educational achievement and work productivity in long-lasting ways. It is estimated that around 20 per cent of the world's adolescents are afflicted by mental health or behavioral problem. Suicide is one of the three leading causes of mortality among people aged 15–35 years and Depression accounts for being the single largest contributor to global burden of disease for people of age range, 15–19 years (UNICEF, 2011). The incidence of mental disorders among adolescents has increased in the past 20–30 years; which can be attributed to a giant shift in terms of lifestyle and culture, the contemporary society is seeing. American Academy of Pediatrics has also updated their list of potential threats to adolescents' well-being referring them as “new morbidities” which includes school problems like learning disorder, attention deficit, anxiety, mood disorders, suicide, school violence, alcohol and drug abuse, media exposure of violence, sexuality. These morbidities can be amplified by emotional and behavioral dysregulation (Dahl, 2004).

Besides evidence suggests that advancement in emotional and social skills is crucial for decision making ability, stress resilience, innovation, learning and to maintain prosperity and civility with dynamic world in future (Payton et al., 2008). Proficiency in this arena forms the basic in learning to manage life efficiently.

Hence, intervening in the school setting seems to be the ideal ground for promoting healthy brain development and fostering stress resilience in a very efficient and cost effective manner. Around the world, lot of mainstream schools are now actively implementing programs that recognize the importance of fostering a child's social, emotional, mental, spiritual and cognitive well-being (Garrison Institute Report, 2005; Tregenza, 2008; Yager, 2009). Student well-being has become a key agenda for schools, and many now consider it an educational outcome that is of equal significance to academic achievement (Seligman et al., 2009; Waters, 2011).

Also it has been well evidenced that classroom based preventive programs which are adequately designed and implemented results in reduction of conduct problems and also improvement in mental health, social relationships and academic achievement (Broderick and Jennings, 2012). Though there are several such programs for younger children, very few exist for adolescents representing a substantial scholastic gap (Greenberg, Kusche, Cook and Quamma, 1995).

This review paper would concentrate on exploring ways, mindfulness can impact adolescent population in coping up with wide variety of challenges faced by them. A broad outline is constructed on the basis of previous and current research literature present on the subject to find out practicality and outcomes of systematic implementation of mindfulness intervention in school curriculum.

Meditation

The National Center for Complementary and Alternative Medicine (NCCAM) defines meditation as a “mind-body” method. This section of alternative medicine includes interventions that utilize a variety of techniques that facilitate the mind’s capacity to affect bodily function and symptoms. Meditation fundamentally teaches a person to focus attention. Some forms of meditation train the student to become mindful of thoughts, feelings, and sensations, and to view them in a nonjudgmental way. Many believe this practice induces state of greater calmness, relaxation, and psychological balance (NCCAM, 2012).

According to Shapiro (2008), meditation is a family of techniques which have in common conscious attempt to focus attention in non-analytical way, and an attempt not to dwell on discursive, ruminating thought.

Mindfulness Meditation

Although there are various types of meditation as stated above, investigator would be exploring mindfulness meditation technique in the study.

Mindfulness has been described as a process of bringing a certain quality of attentiveness to moment-by-moment experience and a combination of the self-regulated attention with an outlook of curiosity, openness, and acceptance toward one's experience.

The word mindfulness originally comes from the Pali word *sati*, meaning awareness, attention, and remembering (Bodhi, 2000). It can simply be defined as “moment-by-moment awareness” (Germer et al., 2005) or as “a state of psychological freedom that prevails when attention remains limber and quiet, without attachment to any particular point of view” (Martin, 1997). In a state of mindfulness, thoughts and feelings are observed on par with objects of sensory awareness, and without reacting to them in an automatic, habitual way. Thus, mindfulness allows a person to respond to situations reflectively rather than impulsively.

As defined by Kabat-Zinn (1994), it is paying attention in a particular way, on purpose, in the present moment and non-judgmentally. According to him, it is not a static technique to be practiced in certain way and segregated into work to-do per day, rather it’s a “way of being” which should be considered as a dynamic process and can be ingrained into both inter and intra personal spheres of life.

While reviewing the literature it was found out that mindfulness has been defined in different ways with various focuses, namely: cognition, metacognition and emotion.

Huss and Baer (2007), highlighted cognitive feature of mindfulness and stated that it allows the person to observe the occurrence without gauging its importance, truth or value and also with no intention to escape, elude or change it. This acceptance towards both extrinsic and intrinsic stimuli leads to development of affectionate, compassionate quality and sense of open heartedness and friendliness.

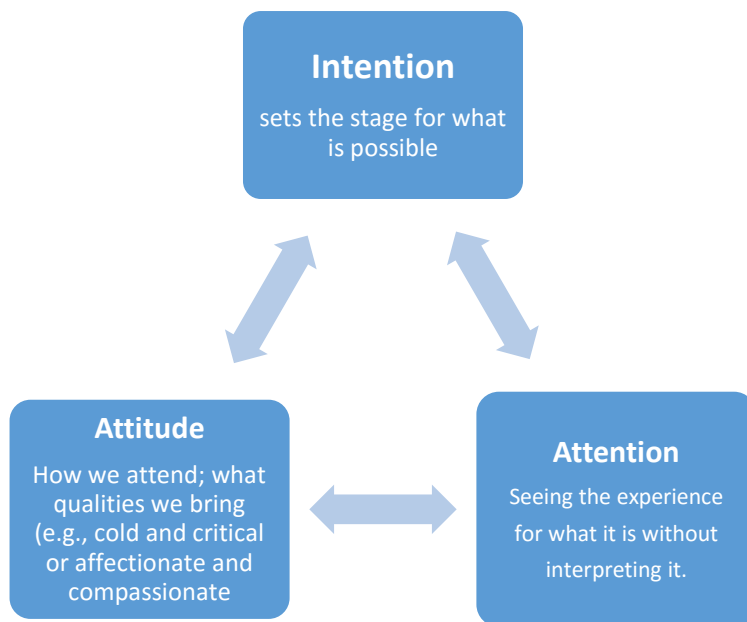
Also, Brown and Ryan (2003), propose mindfulness to be a trait of consciousness; suggesting that it comprise of both awareness and attention. When practiced decisively, it leads to increased awareness by focusing attention in an open and non-judgmental way.

Another definition suggests that mindfulness is summing total of self-regulated attention which involves constancy of attention, attention switching and the inhibition of secondary processing. Overall meditation sums up to be a collaborative process between mind, body and behavior and thus, affects all the social, emotional, mental and spiritual and behavioral factors. The ultimate

goal is to gain inner peace, self-reflection and to learn to let go. It quietens the very nature of wandering mind and allows practioner to let go off the burdens and decipher the nature of any experience occurring in the body. Such constant awareness can help one to access deeper levels of consciousness (Brahmavamso, 2003).

Hence it has been established helpful with adult population in ailing various illness like psychological stress and preventing relapse of depression (Marlatt and Kriseller, 1999), increasing empathy, decreasing affinities to take on others negative emotions , improving coping skills (Bedow and Murphy, 2004), trait anger and state anger (Del Vecchio and O’Leary, 2004). Thus, implicating that introducing mindfulness practice to children who usually possess high receptivity and openness to learning might prepare them for future challenges.

Mechanism of mindfulness: Intention Attention and Attitude theory



This is a formal theoretical model which has been proposed by Shapiro et al. (2006) for explaining the mechanism underlying mindfulness meditation practice.

Shapiro defines mindfulness on basis of three fundamental axioms namely: Intention, Attention and Attitude (Kabat-Zinn, 1994).

Figure 1: Mechanism of mindfulness: Intention Attention and Attitude theory

(Source: Shapiro, Carlson, Astin and Freedman, 2006)

When the three happens concurrently, it leads to moment- to – moment awareness called mindfulness. A substantial change in perception ensue this process, which is termed “reperceiving” by Shapiro (2006).

Reperceiving here means that instead of complete identification with an experience, person becomes open to observation. It involves change through four direct mechanisms:

1. Self-Regulation
2. Value Clarification
3. Cognitive, Emotional and Behavioral Flexibility
4. Exposure.

Mindfulness aims to inculcate unblemished insight of both inner and outer world experiences which comprise of thoughts, actions, feelings, sensations and our environment as it is present in a given period of time. When one is mindful enough, this awareness is reperceived non-judgmentally and our habitual and mindless affinity to label, judge or compare any experience (like good, bad, neutral etc.) is separated. It also expedites the vision of reality including the one which might be concealed because of their threatening nature to the self- concept. Therefore, the individual becomes more steady and adjustable during any unpleasant state and hence, self-regulation makes maladaptive behavior become less controlling.

This concludes that mindfulness develops the faculty of observing any experience (thoughts, sensation, emotion, and physical pain) clearly with awareness and without any judgements which declines the counter-productive, self-justifying and spontaneous response to demanding situations and assists in cognitive, emotional and behavioral flexibility and thus leading to constructive reaction.

Value clarification can be done by molding these reactions according to ones needs and values without being conditioned by past experience or unsupportive family or society facets. (Shapiro et al., 2006). For example, an individual with low self-worth, who exceedingly relies on others approval disregarding his needs for the fear and insecurity of potential rejection. If through reperceiving, he understands this recurrent ignorance of self has led to unhappiness, he may become emotionally flexible and risk this rejection by setting personal confines (constructive reaction) according to his values which might led to better relationship and serve his needs.

Moreover, reperceiving also facilitates an individual to cope any unpleasant or negative external situation by enabling one to be mere observer by stripping the experience to what it is and not being tainted by mind's previous experiences. Brain has an ability to skip ahead or behind in

time, taking away the person from present. This habit of ruminating on past or future to escape adverse emotional states, is a prospect of surviving through such states. Such pattern of succumbing to fear and avoidance leads to negative emotional cycle in long term. Exposure can be used to break this negative cycle (Shapiro et al., 2006).

A study by Carmody et al, (2009), sought to examine the above mentioned Shapiro's theory. They assessed 309 participants of seven week MBSR program on all the four variables of change (Self-Regulation, Cognitive, Behavioral and Emotional Flexibility, Values Clarification and Exposure). The results reported significant increase over the progression of the treatment and psychosomatic signs were also greatly reduced. However, increase in re-perceiving wasn't interrelated to increases in mindfulness and the other four variables. It was proposed that both the concepts of Mindfulness and Re-perceiving are too alike, and both alter with the participation of MBSR. Or re-perceiving might not be the vehicle for change. More research is required to establish this.

Mindfulness Meditation based Intervention (MBI)

The wide utilization of eastern mindfulness philosophy with western medical science has led to so called "third-wave" approach with behaviorist. Thus, there are various such programs that are devised and integrated to promote overall well-being.

Following are the main program that have been substantiated through research in clinical intervention (Baer, 2003):

- **Mindfulness based Stress Reduction (MBSR)**

Zinn (2003) developed MBSR integrating the use of meditation and yoga for a comprehensive stress reduction program (O'Brien, Larson, and Murrell, 2008) and also for patients with history of varied medical and psychological diagnoses. These practices include mindful eating, body scan, sitting meditation, Hatha yoga, walking meditation, and mindfulness in daily living (Baer and Krietemeyer, 2006).

- **Mindfulness based Cognitive Therapy (MBCT)**

It combines components of MBSR with traditional cognitive behavior therapy to treat depression relapse (Segal, Williams and Teasdale, 2002), generalized anxiety disorder (Evans et al., 2008).

- **Acceptance and Commitment therapy (ACT)**

It involves observation of thoughts, sensations and emotions, and their acceptance in such a way that continued problematic behavior is prevented (Hayes, Strosahl and Wilson, 1999). It is used in stress reduction clinic to treat addiction and related problems.

- Dialectical Behavior Therapy (DBT)

It utilizes CBT with mindfulness to achieve personal goals and to improve self- regulation in patients with personality disorders. To particularly reduce harmful effects of impulsive behavior, mindfulness component of this approach is used (McQuillan et al., 2005).

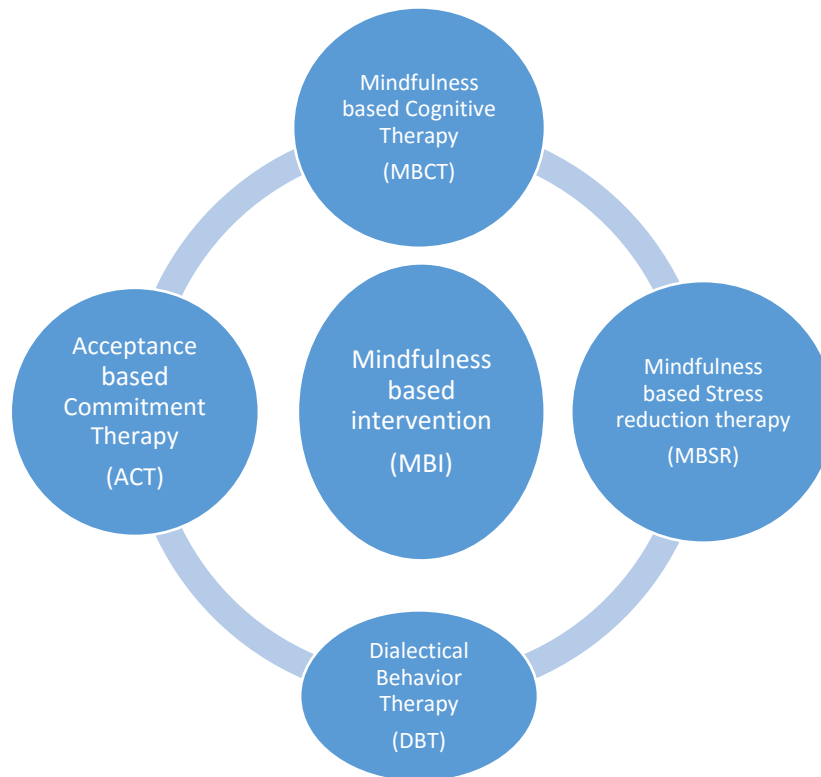


Figure 2: Mindfulness Meditation based Intervention (MBI)

All the above mentioned programs have been effectively utilized with clinical and non-clinical adult population and their positive effects have also been well documented.

Yet children are not ‘mini- adults’ and thus, difference in terms of cognition, attention span, interpersonal functioning may occur (Semple et al., 2006).

Hence developmentally appropriate changes to meet up the needs of children are being done and adapted programs are researched and implemented with them and giving promising results (Wall, 2005; Semple et al., 2006; Miller et al., 2000).

Research on mindfulness meditation and adolescents: Empirical evidence

Children and adolescents are experiencing stress at unparalleled levels (Barnes, Bauza, and Treiber, 2003; Fisher, 2006; Mendelson et al., 2010). This increased state of stress might result in anxiety, anger, depression and other externalizing behaviors (e.g., conduct disorder), and also depleted self-esteem and confidence (Barnes et al., 2003; Mendelson et al., 2010). Research suggests that such behavior can negatively influence students' school performance by disrupting their thoughts and hamper their learning (Barnes et al., 2003; Fisher, 2006; Mendelson et al., 2010).

Preliminary researches suggest that adolescents are more susceptible to the negative effects of stressful life events (Brown and Millicent, 1986) as it is usually a period of adjustments; to self and others.

Therefore, a strong need is felt to equip adolescents at the right time and in the right way which will help them to understand their selves, and discover tranquil, harmony and balance within.

Positive impact of Mindfulness on mental health like reducing stress, anxiety and enhancing psychological well-being has been unanimously accepted by the in-field researchers over past four decades (e.g., Baer, 2003; Brown, Ryan and Creswell, 2007).

Murphy and Donovan's (1999) review of literature alone accounted almost hundred studies reporting decrease in acute and chronic anxiety by meditation. Lozzio (2000) suggested meditation intervention to be the preferential choice for treatment of anxiety.

Kabat-Zinn et al. (1992) conducted a pilot study on the effectiveness of MBSR (Meditation based Stress Reduction) as a treatment for anxiety disorder on twenty two participants who met criteria for generalized anxiety disorder, or panic disorder, with or without agoraphobia. The subjects after completion of 8-week stress reduction program through mindfulness showed a marked improvement in coping with both anxiety and depression. This improvement was maintained at three month follow-up

Studies suggest that even in clinical population MM might be useful in reducing anxiety, promoting social skills and improving academic performance.

A pilot study was conducted by Beauchemin, Hutchins and Patterson (2008), with 34 Learning Disabled adolescents for a period of 5 week. MM Intervention using a pre-post design was administered to study feasibility, attitude and outcome on learning disabled students. The outcomes suggest that MM reduces anxiety and also diminishes their attention of self which might otherwise be detrimental and thus, encourages positive growth in academic achievement and social skills. The study reported substantial progress in participants with reduced state and trait anxiety, improved social skills and enhanced academic achievement.

Another randomized clinical trial on 102 adolescents aging 14- 18 years was implemented to analyze impact of mindfulness-based stress reduction (MBSR) on clinical psychiatric patients. The result revealed reduction in self- reported anxiety, depression and somatic diseases and also improvement in sleep quality and boost in self -esteem. When compared to controls, they also displayed greater diagnostic improvement and functioning over a period of 5 months (Biegel, Brown, Shapiro and Schubert, 2009).

Even in non-clinical population encouraging results have been documented though the amount of research done on these subjects is minimal. A variety of mindfulness based interventions have been implemented effectively with children and youth (Abrams, 2007; Galantino, Galbavy, and Quinn, 2008; Mendelson et al., 2010).

A qualitative study by Ames et al. (2013), conducted an intervention using mindfulness based cognitive therapy for eight week on youth who continue to have residual symptoms post treatment of anxiety, mood problems and depression. It reported positively on reducing depressive symptoms, higher levels of satisfaction, reduced rumination and overall elevated quality of life.

Mendelson et al. (2010), studied the effect of MBI on stress, utilizing techniques like yoga, breathing exercises and guided meditation practice on 97 students for a period of twelve week. Intervention aimed at reducing involuntary stress response, improving attention and also

increasing awareness and regulatory capabilities on cognitive, physical and bodily states. Results indicated decreased stress symptoms which included rumination, intruding thoughts and emotional arousal and also participants found the study enjoyable. Instructing mindfulness practices to children gives them an opportunity to learn to accept all their thoughts and behavior without being judgmental and thus, helps one to learn to sooth himself, and be more calm and present in the moment (Abrams, 2007).

Another research aiming to assess the effect of integrating mindfulness with higher education curriculum was piloted by Bruin, Meppelink and Bogels (2015) with 104 students at University of Amsterdam. The seven week curriculum included weekly lectures, reading of scientific literature on mindfulness and also experimental learning in meditation. Five Facet Mindfulness Questionnaire (FFMQ) was filled at wait list, pre course, post course and at 7 weeks follow up depicting powerful difference in levels of mindfulness at all levels i.e. during waitlist ($d = -0.11$), pre course to post course ($d = 0.36$), follow up ($d = 0.53$). This shows a gradual in increase in the levels of awareness which is sustained even after completion of program. Thus, the elevated levels of non -reactivity and non -judgmental stance towards feelings, thoughts and emotions might be beneficial in coping with high levels of stress and pressure experienced by students, hence boosting their performance and life quality.

Frequent meditators reported significantly fewer stressors and illness symptoms, lower levels of anxiety, hostility, depression and dysphoria and higher levels of positive affect and sensation seeking than did infrequent meditators (Turner et al., 1992).

A study conducted by Semple, Reid and Miller (2005) found that intervention of mindfulness in children resulted in clinical improvements for anxiety symptoms. A six week trial was conducted with five anxious children aged 7 to 8 years old by concepts adapting fundamentals from adult MBSR and MBCT (Meditation based Cognitive Therapy) program. Mindfulness was integrated by training children to focus on body sensations and perceptions like simple breathing, walking, gustatory, visual, auditory, olfactory and tactile exercises. Results reflected positive gains in several areas of adaptive functioning and in reported reductions behavioral problems.

Another study by Deckro et al. (2010) also reported similar findings. A significant reduction in psychological distress, state anxiety and perceived stress in the experimental group (n= 63) was accounted as against control group (n=65) of college going students after providing mindfulness intervention for a period of six weeks.

Findings of a study conducted by Napoli, Krech and Holley (2005) also suggests significant improvements in children's attention and social skills with decreased test anxiety in students of 1st-3rd grade as against the control group.

Another program that combined elements of MBSR and tai chi (a form of Chinese meditation)) for a small group of middle school students in a 5-week program found that students reported an increased sense of calm, connection to nature, and improved sleep after going through the training(Wall, 2005).

In a study demonstrating beneficial effect of even short term meditation program on college students, Tang et al. (2007) assigned Chinese undergraduate students (n= 40) meditation training using technique called integrative body- mind training program (IBMT) for five days. As against the control group , experimental group reported greater improvements in conflict scores on the Attention Network Test, lower anxiety, depression, anger, and fatigue, and higher vigor on the Profile of Mood States scale, a significant decrease in stress-related cortisol, and an increase in immune-reactivity.

Greater focus, increased regulation in behavior and improved sleep has also been reported by adolescents after practicing a simple MBI named Meditation on Soles of Feet. It was developed by Singh, Wahler, Adkins, and Myers (2003) for children, adolescents and young adults with behavior problem and mild intellectual debility. It was devised using an idea that by shifting attention to a neutral stimulus and anchoring the mind there (soles of feet here) from an anger or anxiety provoking situation, one can gain bit control on the behavior and regulate their actions (Singh et al.,2007).

Mindfulness Meditation increases happiness and hence more confident students. Studies by researchers have revealed that meditation practice results in high psychological well-being, increased self-compassion and empathy (Bare et al., 2012). The attribution of these qualities results in positive affect of children which leads to better adjustment with oneself and others. Fibert and Mead (1981) suggests that when participants regularly meditate before studying and examinations, academic scores tend to improve.

Hall (1999) randomized controlled trial with college students, randomly assigned 56 undergraduates to two study groups, one of which included concentration-based meditation. The meditation intervention included a one-hour session of meditation instruction twice a week for the academic semester, which included guidance in simple attentional focusing and in relaxation exercises. Meditation was practiced for 10 minutes at the start and conclusion of each one-hour study group session, and this group was instructed to meditate at home and before exams. The control group also met for one hour of study a week but was not introduced to meditation. The groups did not differ in grade point average (GPA) at the beginning of the study, but at the end of the Spring academic semester after the Fall semester training, the treatment group had significantly higher GPA scores compared to the control group.

Thus, research suggests that introduction of meditation in school leads to children who are more focused, attentive and shows improved cognition. In addition, the children report more self-confidence and happiness which eventually sums up to be a precursor for high academic performance and stable academic environment.

Consequently reviewed research in this article indicates that training in mindfulness helps in shaping of character of youths who are composed, well adjusted, exhibit creativity and improved interpersonal behavior and shows enhanced cognition.

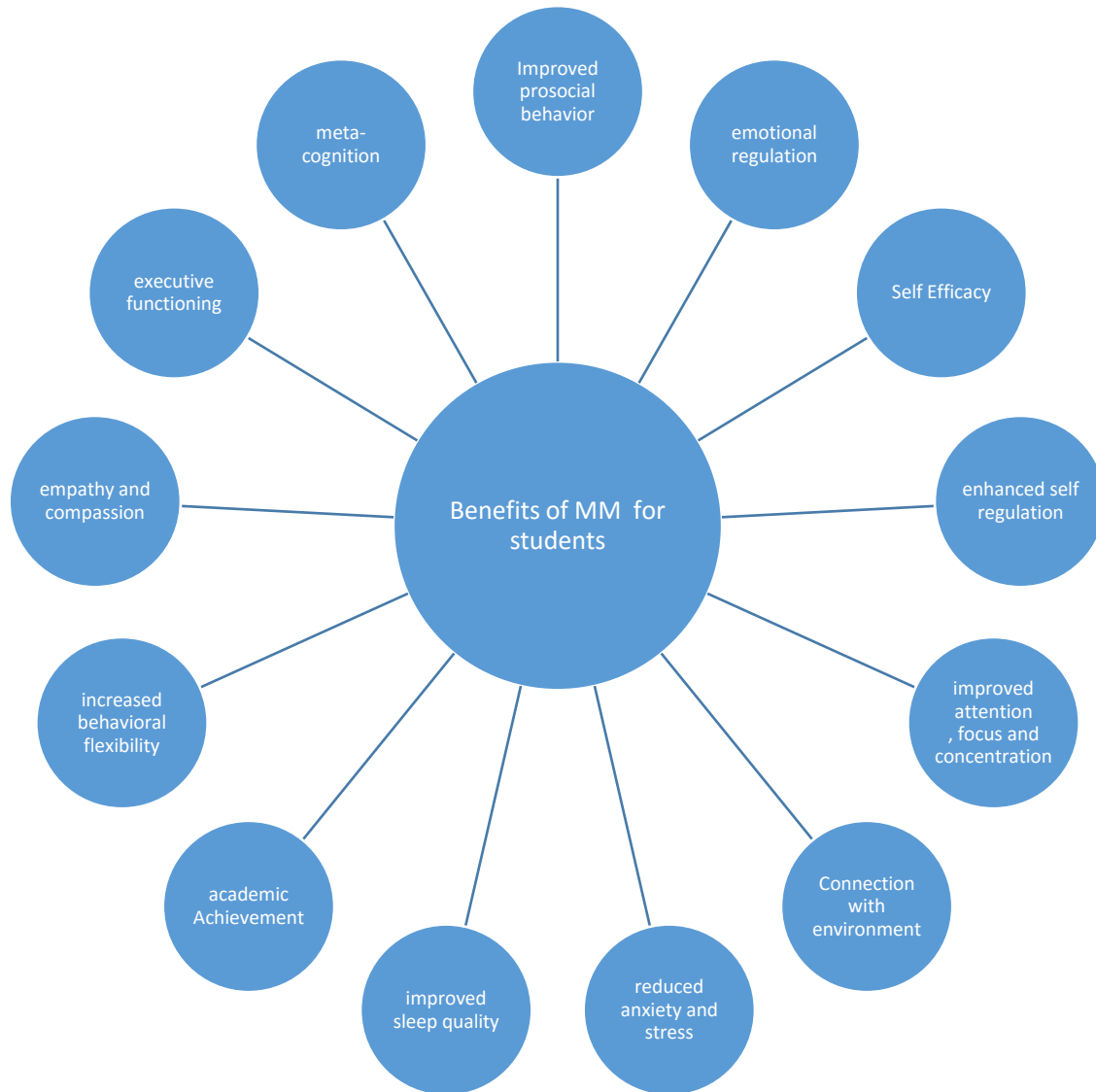


Figure 2: Benefits of Meditation

(Source: Albrecht, 2014; Burke, 2009; Carelse, 2013; Coholic, 2011)

CONCLUSION

Holistic development of a student's is taking a center stage in today's educational scenario. With the aim of bringing forth a wholesome personality with physical, emotional, intellectual and ethical integration, schools are turning towards contemporary techniques. Therefore, application of meditation in educational setting is finding its way as it seems to have high potential and widespread domains (e.g. cognition, intra personal, emotional). It is increasingly being

recognized as an essential educational tool, supporting a host of pedagogical approaches, providing optimal conditions for learning and teaching.

Researches reviewed in this paper implicate that introduction of meditation to children positively correlates to educational outcome and also seems to be a potent and enduring instrument for optimizing ones' social and emotional interaction, and for increasing self-regulation. It develops skills such as attention, concentration and interpersonal awareness and simultaneously minimizes stress and anxiety, enhancing feeling of well-being.

However, research on meditation in children is still in its early phases. After observing reliable and fruitful benefits of introducing meditation in adults, researchers are now evaluating its implication in school setting. According to Greenberg and Harris (2012) the mindfulness interventions for school children might be viable and operational in producing resilient school children, yet the empirical evidence to support it has been overshadowed by the eagerness for the program. The research lacks methodological rigor, control groups, cross sectional assessment, small sample size and has partial conclusions.

Therefore a need for well- designed research with methodological rigor in terms of duration of intervention, heterogeneity of samples, type of meditation technique utilized, qualification of meditation teacher and the reliability and validity of assessment tools, is felt. This would ensure ample amount of information and findings to educators and management and guide them to incorporate mediation and other contemplative practice in educational settings.

And also a major lacunae has been observed in terms of number of studies on mindfulness meditation conducted internationally with that in India. The latter being minimal or even negligible.

Given the Eastern roots and traditions of meditation, it would be interesting to see students revert to the ancient practice of contemplation with academics and observe its effect on them.

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