

**IMPACT OF MINDFULNESS TECHNIQUES ON METACOGNITION
AND RESILIENCE AMONG ADOLESCENTS**

By,

V.R.LATHAA

(17PAP006)

A thesis submitted to the

**Avinashilingam Institute for Home Science and higher Education
for women**

Coimbatore-641043



**In Partial fulfillment of the Requirement for the
Degree of Master of Science in Applied Psychology**

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April 2019

S. Gayathri Devi
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ABSTRACT

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This study aims to assess the Impact of mindfulness techniques on metacognition and resilience among adolescents. The sample of the study consisted of forty four students in the age group of 12-16 years. 31.8% of participants were male and 68.2% were female The Informed consent form ,Confidentiality Statement, Personal Profile Sheet, Meta Cognitive Inventory(MCI) developed by Punita Govil and BU Resilience Scale developed by N Annalakshmi (2009) were provided to the samples. Mindfulness techniques were given to the samples with duration of one hours and it continued for 6 sessions. The Data was analyzed using SPSS (Statistical Package for the Social Sciences). Results show that there is no correlation between metacognition and resilience. There is no significant gender difference in metacognition and resilience. Thus, mindfulness techniques improved the level of metacognition and resilience among adolescents.

Key Words: Metacognition Resilience, Mindfulness Techniques

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INTRODUCTION

CHAPTER I

INTRODUCTION

“If you are working on something exciting that you are really caring about, you don’t have to be pushed. The vision pulls you.” – Steven Jobs

Adolescence

The World Health Organization (WHO) defines adolescence as the “period from 10-19 years of age”. It is the transitional stage of both physically and psychological development. The experiences, knowledge and skills acquired during adolescence have significant implications for an individual’s prospects in adulthood.

Transitions in Adolescence

The period from childhood to adolescence is the most challenging period of development. Adolescence experiences intense and uneven physical and emotional changes associated with puberty. Young adolescents are in search of self identity.

Self identify is the most important concern that reflects and reinforces their attempts to face the crowd. In adolescent period, individual have difficulty in defining self due to the swift changes on the perception and emotional outbursts. People who have healthy transitions to adolescence exhibit the following characteristics,

- Adolescent have a positive, secure and integrated identity
- Have a commitment to learning and to participating in school
- Adolescent make healthy and appropriate behavior choices
- Adapt to change and learning to cope with adversity
- Adolescent exhibit social competency and strong interpersonal skills.

Characteristics of Adolescence

- Physical development involves bodily changes including growth, improved gross and fine motor skills, and biological maturity. They will be more concerned towards their body, because of the carrying over of menstruation arises body pain, headaches, and cramps.
- Increased production of adrenal hormones affects skeletal growth, hair production and skin changes.
- Young adolescents are eager to learn about topics they find interesting with peers during educational activities.
- They develop the capacity for the abstract thought process.
- They have a strong need to belong to a group- with peer approval becoming more important as adult approval decreases in importance.
- Adolescents seek their own sense of individuality and uniqueness. (Schultz, 2017)

During the earlier stages of development, children spend more time with the family rather than the environment, but during adolescence it is vice-versa. They are poorly adjusted towards their behavior. They develop negative feelings from the physical and environmental factors like negative life events, dissatisfaction of oneself. This negative feeling results in poor parent adolescent relationship. (Wang, 2014)

Theories of Development

Freud's Psychosexual Stages of Development

Freud sensed the strong sexual conflict in the infant and young child that seem to revolve specific regions of the body. He noted that each body region assumed a greater importance as the center of conflict at a different age. Based on these observations he derived the theory of the psychosexual stages of development. He divided an individual's development into five stages namely Oral, Anal, Phallic, Latency and Genital Stages. Each of these stages is defined by an erogenous zone of the body.

In the period of adolescence, individuals undergo the final stage of psychosexual development, the Genital stage. This is the phase when the individual's body is becoming

physiologically mature and if no major fixations have occurred at an earlier stage of development, the individual may be able to lead a normal life. It is the stage where the individual develops the sex role identity and also about the importance of relationships. In this stage conflict can be minimized through sublimation. (Schultz, 2017)

Erickson's Psychosocial Stages of Development

Erikson suggested that the developmental process was governed by Epigenetic principle of maturation. The social and environmental factors forces the individual in the ways in which the genetically determined stages of development involves a series of personal conflicts. Psychosocial developmental stages are

- ✓ Trust vs. Mistrust
- ✓ Autonomy vs. Shame
- ✓ Initiative vs. Guilt
- ✓ Industry vs. Inferiority
- ✓ Identity vs. Role Confusion
- ✓ Intimacy vs. Isolation
- ✓ Generativity vs. Stagnation
- ✓ Ego integrity vs. Despair

Adolescence has to perform different roles and therefore they start confusing their roles. Erikson noted the potentially strong impact of peer groups on the development of ego identity in adolescence. The basic strength develop in this stage when the conflict is resolved is fidelity. (Schultz, 2017)

Problems faced by adolescents

Disabilities Education Improvement Act (IDEA, 2004) identified five categories of emotional disturbance affecting the individuals. It includes

- Academic problems
- Behavior problems

- Social problems
- Depression
- Anxiety

Adolescents tend to confront other problems like health problems, mental health problems and family problems.

Metacognition

John H.Flavell, American Developmental and Educational Psychologist labeled the term Metacognition as “Higher level cognition” in the year 1978. He defines Metacognition as knowledge about cognition and control of cognition. In 1985 he concluded these two concepts as clusters of activities in metacognition.

- ✓ **Knowledge about cognition** indicates the knowledge about one’s own cognitive strengths and limitations.
- ✓ **Regulation of cognition** refers to various self-regulatory mechanisms used by a learner.

For an example: If a person notice that he has having problem in learning A than B, if it strikes him that he will double check C before accepting it as fact.

Papaleontiou-Louca referred Metacognition as second order cognition that is thoughts about thoughts, knowledge about knowledge or reflections about actions. He explained the concept “Theory of Mind” in his book. He said that metacognition is about knowledge of the contents of one’s own minds and knowledge of mind’s working principles.

Meichenbaum, 1985 explained metacognition refers to awareness of one’s own knowledge and one’s ability to understand, control, and manipulate one’s cognitive processes

Kuhn and Dean (2004) define Metacognition as awareness and management of one’s own thought.

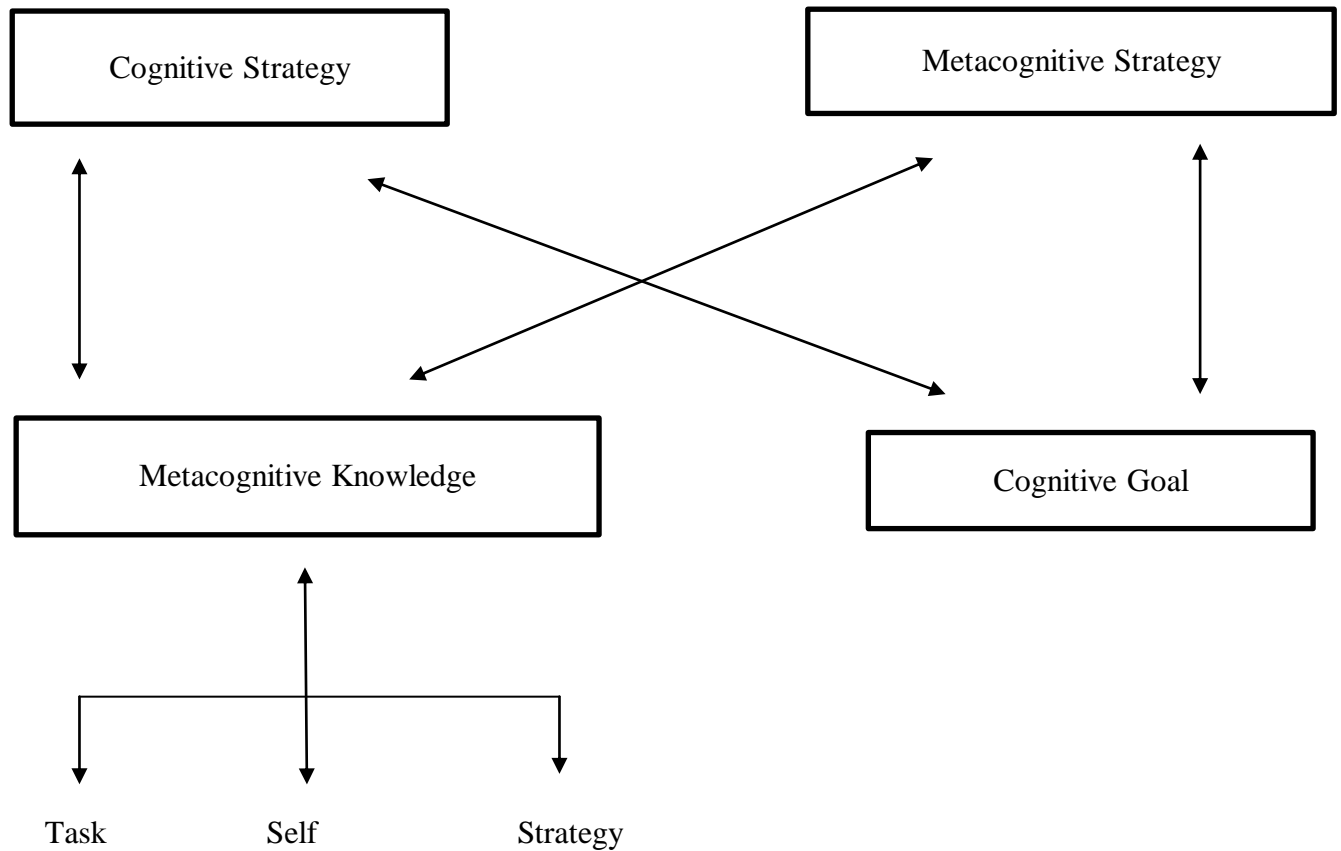
Martinez, 2006 interpreted as “The monitoring and control of thought”

Metacognitive Theory

- Schraw and Moshman Meta cognitive Theories(1995)

- Flavell's Cognitive Monitoring(1979)
- Kuhn's Metacognitive Development(2000)
- Pintrich and Krathwohls' Revised Taxonomy(2002)

Flavell's Cognitive Monitoring(1979)



Metacognition is classified into three components;

- ✓ Metacognitive Knowledge
- ✓ Metacognitive regulation

- ✓ Metacognitive experiences

Metacognitive Knowledge or Metacognitive Awareness refers to learner's knowledge about their personal strength and weakness, pertains to a specific task and it may vary between tasks strategies and goals. It also influences the course of cognitive enterprises through a deliberate and conscious memory search or through unconscious and automatic cognitive process. It leads to wide variety of metacognitive experiences. It also classified into three categories.

Person Variables refers to what an individual recognizes about their strength and weaknesses in learning and processing information.

Task Variables includes knowledge about the nature of task and the processing demands required to complete the task.

Strategy Variables includes knowledge about the strategies and individual know how to accomplish the task using the strategies.

It includes three kinds of knowledge

- ✓ Declarative Knowledge
- ✓ Procedural Knowledge
- ✓ Conditional Knowledge

Declarative Knowledge refers to factual information that one knows and can be both written or spoken.

Procedural Knowledge comprises information on how to do something or how to perform in procedural steps that make up a task. It allows the individual to perform tasks more automatically through a variety of strategies.

Conditional Knowledge concerns a person's knowledge about when, where, why to use certain cognitive strategies.

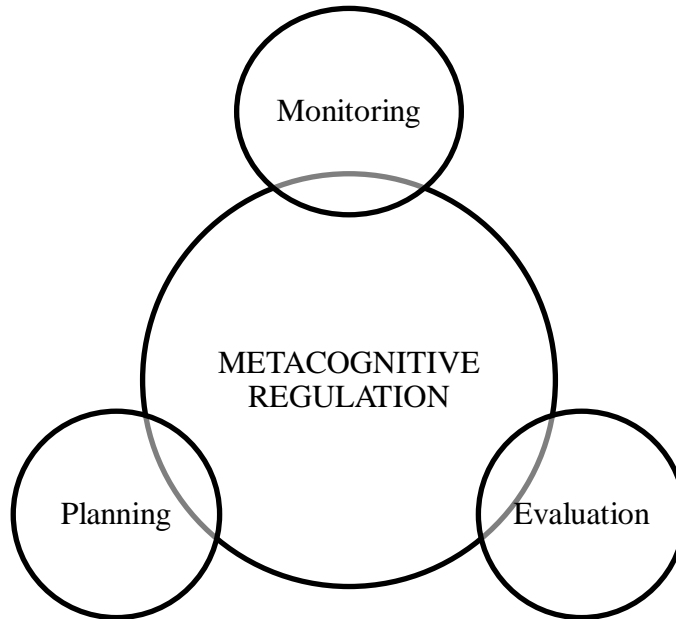
This of three kinds of knowledge is important to relate that in the learning strategies as well as content when they study. These knowledge helps the individual to perform in better way to attain their goals.

Metacognitive regulation

Metacognitive experiences involve the use metacognitive strategies or metacognitive regulation. Metacognitive regulation is how an individual control their thinking to facilitate their learning. It is also a significant part of self – regulated learning (shraw). It is ability to monitor the process of planning and evaluating the plan to attain the goals. Self regulated learners have the ability to

- Understand what a task involves
- Identify personal strength and weaknesses related to the task
- Create a plan for completing the task
- Monitoring how the plan is going on
- Evaluate and adjust the plan accordingly

These abilities form a cycle and last three processes are the key of metacognitive regulation skills. The extend to which individuals use these skills which are affected by their beliefs regarding learning and intelligence.

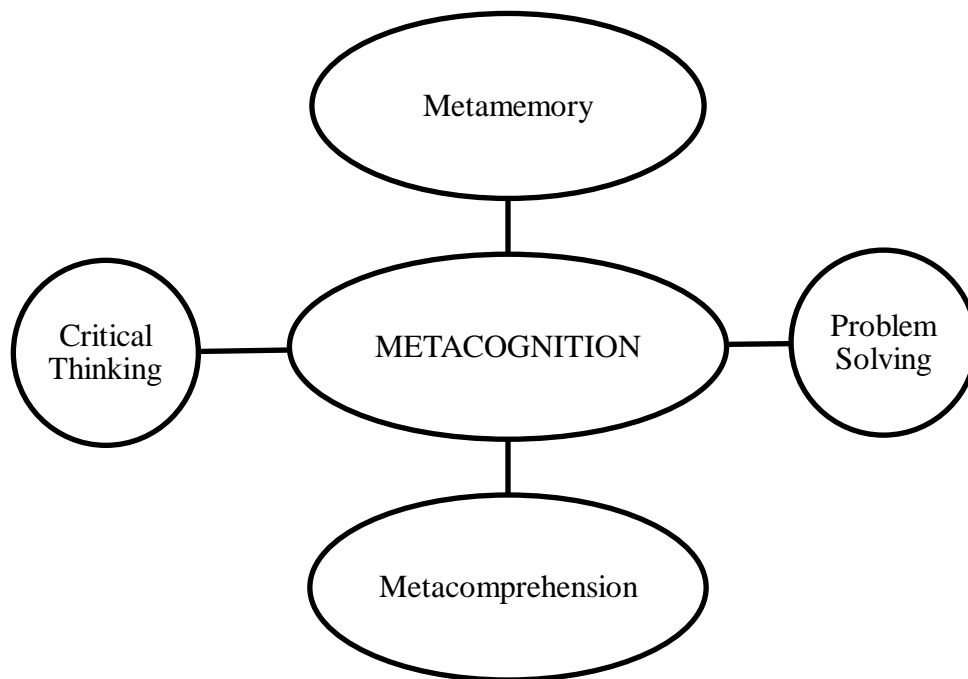


Metacognitive experiences

Metacognitive experiences are those experiences that have something to do with the current, on-going cognitive endeavor. It usually precedes or follows a cognitive activity. It has very important effects on cognitive goals or tasks, metacognitive knowledge and cognitive action or strategies. These experiences serve as “Quality Control” that helps learners modify their goals.

This model noted that metacognitive knowledge, metacognitive experiences and metacognitive skills form partially overlapping sets. Flavell argues that metacognitive experiences that allow an individual to monitor and regulate one’s cognition. It plays a foremost role in the development and refinement of metacognitive knowledge. Some experiences have such knowledge as their content that helps them to act accordingly. Some knowledge may become conscious and comprise such experiences that results in having same experiences.

Michel E. Martinez’s Model of Metacognitive Functioning



Metamemory refers to learner's awareness of and knowledge about their own memory systems and strategies for using their memories effectively. It includes

- Awareness of different memory strategies
- Knowledge of which strategy to use for a particular memory task
- Knowledge of how to use a given memory strategies most effectively

Metacomprehension is the ability to monitor the degree to which an individual understand the information being communicated, to recognize failures to comprehend and to employ repair strategies when failures are identified.

Critical Thinking is evaluating ideas for their quality, especially, judging whether do or not they make sense. It takes very specific forms.

Problem solving can be defined as the pursuit of a goal when the path to that goal is uncertain.

Benefits of Metacognition

- ✓ It helps them in their academic and professional careers
- ✓ It reduces the distractions and errors
- ✓ Enhance motivation and emotional support
- ✓ Increase visibility of cognitive process and their consequences
- ✓ Evaluate information and retrieval relevant information
- ✓ Develop understanding skills and recognize accurate ideas
- ✓ Increase the ability to learn independently and have good critical thinking skills
- ✓ Increase in self awareness helps them to have self monitoring ability

Resilience

Stress is an important tool that can aid in our survival. Our body's reaction is mediated through a complex interplay of sensory inputs-sights and sound as well as the brain and nervous system, hormones, and the body's cells and organ.

Emotions play a vital role in how an individual experience because the brain is the conductor of this system. The way the individual think about stress and what they choose to do about it can affect the impact of a stressful event. They learn to cope with stress to overcome life's challenges.

Definition

The process of adapting well in the face of adversity, trauma, tragedy, threats or even significant sources of stress (American Psychological Association, 2014).

Stein and Book stated that "The ability to withstand adverse events and stressful situations without falling apart, by actively and positively coping with stress".

The ability to bouncing back from difficult situation is called as resilience. It is about to adapting to circumstances that have been changed and one's ability to become strong, happy, and successful after facing the challenges. It is commonly term as Emotional Resilience, Resourcefulness, Mental toughness and psychological resilience.

Emmy Werner coined the term resilience in 1970. In 1995, He distinguished three contexts for protective factors.

- Personal attributes including outgoing, bright and positive self concepts.
- The family, such as having close bonds with at least one family member or an emotionally stable parent.
- The community, like receiving support or counsel from peers.

Kinds of resilience

- **Mental resilience** is the ability to pay attention and motivate the individual to do something that's difficult
- **Emotional resilience** is the ability to adapt to demanding situations
- **Social resilience** is learning to be a kind of person that others are likely to want to support and encourage
- **Physical resilience** is ability to face physical challenges or age related disease or losses.

Principles of resilience are as follows,

- It is not an innate individual trait
- The level of resiliency will change and develop throughout the life time
- Early childhood plays a vital role in development of resilience
- It is the dynamic quality that children develops interaction with persons from closest environment and through positive experiences as they solve problems and overcome their difficulties
- It is ordinary quality, not extraordinary one
- It requires shifting from “problem based deficit model into strength based model”

Susan Kobasa, defined three essential elements in resilience.

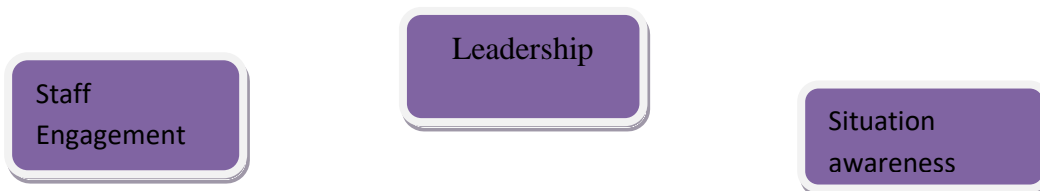
- **Challenge** – Resilient people look difficulty as a challenge, not as a muted event. This people view their failures and mistakes as a lesson and opportunities for their development.
- **Commitment** – Resilient people are committed to their lives and goals. It helps them to overcome occasional failures of motivation and remain steadfast in their efforts

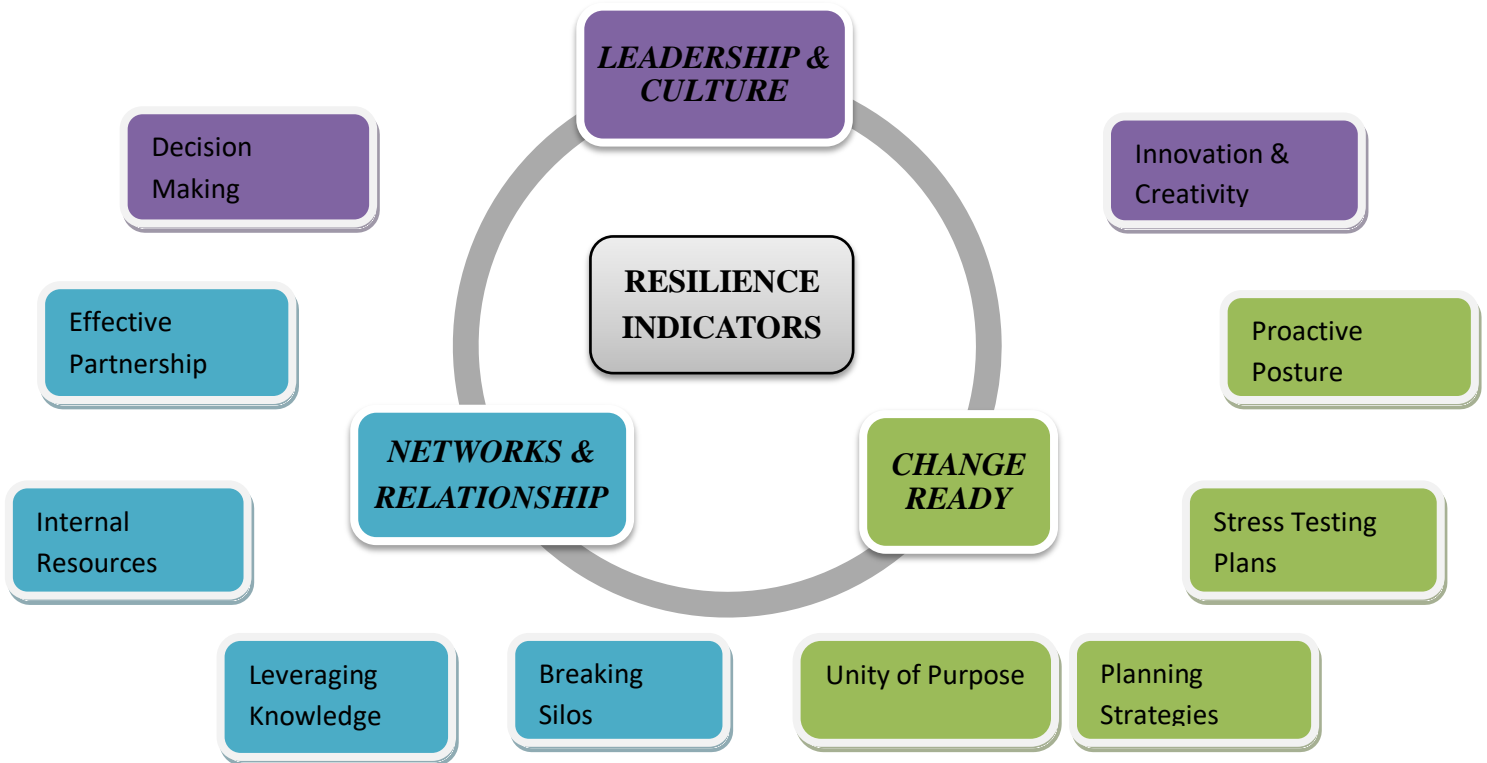
- Personal control – Resilient people use their time and energy focusing on situations and events that they can overcome. They have confident and empowerment in overcoming their difficulties.

Factors in Resilience

A combination of factors contributes to resilience. Many research shows that the main factor in resilience is having caring and supportive relationships within and outside the family. Relationship that create love and trust provide role models and offer encouragement and reassurance help strengthen a person's resilience. Some other factors related with resilience includes,

- ✓ The capacity to make realistic plans and take steps to carry out the problems.
- ✓ A positive view and confidence in one's own strengths and abilities.
- ✓ Skills in communication and problem solving
- ✓ The capacity to manage strong feelings and impulses.





Importance

- ✓ It helps to maintain balance in one's lives.
- ✓ It improves learning and academic achievement
- ✓ It increases involvement in community or family activities
- ✓ It enables mechanisms for protection against problematic situations through experiences
- ✓ It enhances problem solving ability
- ✓ It develops emotional regulation
- ✓ It encourage to create and maintain goals to overcome their problems
- ✓ Develop self confidence
- ✓ Enhancing adaptable and flexible quality

Building resilience

In adolescent stage, individual's facing many problems such as negotiating the path to independence, facing new experiences, developing their identity during transitioning into adulthood. In this case, building resilience is an important part in this stage. Some of ways to build resilience in adolescents are as follows

- Having optimistic thinking
- Encouraging themselves in positive manner in their failures
- Building a positive self esteem
- Having a strong supportive and loving relationship with others
- Recalling their strength and abilities to solve the particular problems
- Having positive and strong beliefs in their abilities
- Laughing helps to transform the emotional state. It encourage them to use correct coping strategies to solve the issues
- Allowing the individual to solve their problems rather than helping them
- They should focus on their problems which is immediate one to solve earlier

Mindfulness

Mindfulness is originated from eastern meditative practices particularly Buddhism. It is a state of consciousness involving attending one's moment to moment experience.

Mindfulness involves developing awareness and acceptance of continually changing experimental phenomena like cognitions, emotions, sensations and external stimuli (Baer). For example, in a state of mindfulness individual will become conscious to thought processes, emotions, and sensations without reacting to that.

Mindfulness has been found to be related to various positive outcomes such as physical health psychological well being, work and relationships and found four mechanisms by which mindfulness exert its effects:

- 1) Attention regulation
- 2) Body awareness
- 3) Emotion regulation
- 4) Change in perspective of self.

Mindfulness Activities to Adolescent

Mindfulness is a powerful way to know the knowledge which are present inside the individual and it will provide teenagers and adolescents coping strategies for managing stressful situations and transform difficult relationships, which will be long-lasting benefit by restoring their health and balance. It will help them to be free from those difficult thoughts about the past or the future and teaches them how to live in the 'present' moment in a non-judgmental way, to explore their values and develop a sense of purpose. Some of the benefits offered by practicing mindfulness are:

- It helps their ability to focus and pay attention, which will help with them to overcome from their school pressure
- It teaches them to deal with life situations in a less emotionally reactive way
- It teaches effective strategies for making better choices
- It helps to increase their kindness and compassion for themselves and others
- It teaches them skills for self-care
- It teaches inner resilience and how to regain control, which aids self-regulation
- It can reduce the anxiety of trying to 'fit in'
- It develops meta awareness that facilitates detachment from static sense of self
- It improves sleep and the immune system
- It helps them to become aware about themselves
- It improves social skills

NEED FOR THE STUDY

Current scenario portrays that, prevalence of Physical abuse (75%), Emotional abuse (85%) and Sexual abuse (21%) among adolescents across the state acts as a triggering factor for mental illness (Roy, 2019). Erikson stated that in this period they have role confusion, conflicts between family member and other psychological issues so he consider it as a problematic period in comparison to other stages of human development. Adolescents are not able to cope up with their problems in certain situations and a few chose to use negative coping mechanisms like substance abuse and addiction. Adolescents must be aware of helpful strategies to overcome their

issues. Hence, resilience is an important factor that would help them to bounce back to normality. To improve resilience in adolescents the techniques of mindfulness have been used widely. Metacognition is considered as a third cognitive ability in human. It will help them to become aware about the defense mechanisms, self consciousness and would provoke introspection. Thus metacognition and resilience plays a major role in adolescence. Hence in this study, the researcher focuses on improving the level of resilience and metacognition through mindfulness techniques.

REVIEW OF LITERATURE

CHAPTER II

REVIEW OF LITERATURE

The reviews of earlier studies conducted in related area of prime importance in any research to formulate an effective methodology. The literature pertaining to the present study “Impact of Mindfulness Techniques on Metacognition and Resilience among Adolescents” is reviewed and discussed in the following headings.

- Metacognition
- Resilience
- Mindfulness Techniques

Deng, Zhang, Zheng and Zhou (2019) conducted a study on “The Role of Mindfulness and Self Control in the Relationship Between Mind –Wandering and Metacognition”. The cross-sectional survey design with multiple questionnaires including the Mind-Wandering Questionnaire(MWQ), Metacognitions Questionnaire (MQ), Mindfulness Attention and Awareness Scale(MAAS), and Tangney’s Self Control Scale (SCS).The present findings provide empirical evidence of influencing factors for better control of one’s mind and indicate that mindfulness and self control play distinct roles in the regulation of self-generated thoughts Further, self control and mindfulness were found to be mediate the relationship between mind wandering and metacognition sequentially.

Sunbull, and Guneri(2019) conducted a study on “The Relationship Between Mindfulness and Resilience: The Mediating Role of Self Compassion and Emotion Regulation: In a Sample of Underprivileged Turkish Adolescents”. The sample consists of 752(426 female and 326 male) of 14-19 age. A path analysis was conducted inorder to examine the proposed model. The result showed mindfulness influences resilience by self-compassion and emotion disregulation.

Mackenzie (2018) conducted a study on “Building Resilience among Children and Youth with ADHD through Identifying and Protective Factors in Academic, Interpersonal and

Cognitive Domains”. Children and youth with ADHD become successful in both academically and interper improve their cognition. The goal of this study is to hidhlight domains at the academic,interpersonal and cognition levels that are indicative of resiliency among children and youth with ADHD and interventions to be designed and implemented with developing the resiliency of children and youth with ADHD.the research began to identify the strength and weakness of ADHD children and promote their resiliency to success academically interpersonally and cognitively.My research study will help them to know more about themselves using mindfulness techniques and this study help to promote their resilience level.

Kraayenbrink, Skaar and Clopton(2018) conducted a study on “Using Mindfulness to Promote Resilience”. Mindfulness has been shown to have positive effects on constructs related to resilience and protective factors by providing a means through to decrease ruminating response and reduce stress and promote well-being. Mindfulness intervention may prove an effective strategies to help students in difficult environment. By removing the external environment struggles students would able to direct their attention towards learning and strive to reach their point that they can change their environment for better.Siripornpanich, Sampoon, Chaithirayanon, Kotchabhakdi and Chutabhakdiku (2018) conducted a study on “Enhancing Brain Maturation Through a Mindfulness-Based Education in Elementary School Children: a Quantitative EEG Study”. Participants are 53 typically developing children (27 girls) studying in the 6th grade, mean aged 11.7 years, SD = 0.4. They were divided into the Mind-Edu group ($N = 22$) and the control group ($N = 31$). These two groups are different in school curriculums. One school uses the Mind-Edu curriculum for all levels of education, and another one uses the country’s core curriculum. Electroencephalography (EEG) was recorded; eye-closed EEG segment was used for quantitative analysis and compared between groups. Our results suggested that implementation of the Mind-Edu into the regular elementary school curriculum would be of benefit for enhancing maturation in brain areas involved with cognitive control and self-regulation, which might provide support for a smooth transition into the adolescence.

Asgarabad, Ahangi, Feizi, Sarmasti, and Sharifnezhad (2018) conducted a study on “The Effectiveness of Detached Mindfulness Techniques - Oriented Poetry Therapy on Cognitive Attentional Syndrome” Three participants were selected by purposeful sampling method. The intervention included 6 sessions of 60 min of DM - oriented poetry therapy once a

week. Analysis of results demonstrated that the highest level of improvement on the CAS was 40% and the lowest level was 33% with this effect persisting at follow-up. Further, identifying both the DM mechanisms and changing those into the poetic metaphors played a significant role in reducing the CAS; empowering participants to observe their thoughts and emotional experiences in a detached manner.

Love, Dymand, and Lovell (2018) conducted a study on “Metacognitions and mindfulness in Athletes: An investigation on the determinants of flow”. The study consist of 232 samples used metacognitions questionnaire and five facet mindfulness questionnaire-short form to analysis whether metacognition would associate with mindfulness. Regression analyses showed that metacognition individually predicted mindfulness facets. The result suggested that metacognition may play role in the occurrence of flow than mindfulness.

Pagini, and Langer (2018) conducted a study on “Longitudinal associations between mindfulness and wellbeing in people with multiple sclerosis”. The study aims to examine the longitudinal relationships between two forms of mindfulness (Langerian and contemplative) and QOL, anxiety, depression, fatigue and sleep. The sample consist 156 people with multiple sclerosis was recruited and assessed for both mindfulness constructs, QOL, anxiety, depression, fatigue and sleep problems. Assessments were repeated after 2months and after another 6 months. The results suggested that mindfulness constructs were highly correlated with all investigated outcomes. Both Langerian and Contemplative mindfulness predicated higher QOL, lower depression, anxiety, fatigue and sleep in people with MS.

Zelazo, Forston, Masten, Carlson (2018) conducted a study on “Mindfulness plus Reflection Training: effects on executive function in early childhood”. This study is assessed by pre-test, post-test and follow-up randomized control trail assessed the impact of an intervention targeting reflection and stress reduction on children’s Executive function. The result suggest that school based intervention teaching mindfulness and reflection did not improve EF skills.

Slatyer, Craigie, Davis and Rees(2018) conducted a study on “evaluating the effectiveness of a brief mindful self-care and resiliency (MSCR) intervention for nurses: a controlled trial”. This study trailed the effectiveness of brief mindful self-care and resiliency intervention for 91 nurses(n=65 intervention condition; n=26 control condition).The findings demonstrate that a brief mindfulness-based self –care intervention is effective at improving the emotional functioning of nurses.

Kang, Rahrig, Eichel and Britton (2018) conducted a study on “Gender Differences in Response to a School-Based Mindfulness Training Intervention for Early Adolescents”. The current study focused on gender as a potential moderator for affective outcomes in response to school-based mindfulness training. Self-reported measures of emotional wellbeing/affect, mindfulness, and self-compassion were obtained at pre and post intervention Sixth grade students ($N=100$) were randomly assigned to either the six weeks (2-3 times per week)of mindfulness meditation or the active control group as part of a history class curriculum. The result suggested that gender differences were detected, such that female meditators reported greater increases in positive affect compared to females in the control group, whereas male meditators and control males displayed equivalent gains. These findings support the efficacy of school-based mindfulness interventions, and interventions tailored to accommodate distinct developmental needs of female and male adolescents.

Mak, Whittingham, Cunnington and Boyd (2018) conducted a study on “Efficacy of mindfulness-based interventions for attention and executive function in children and adolescents – a systematic review”. The purpose of the study want to evaluate the efficacy of mindfulness based interventions including mindful movements such as yoga on attention and executive functions in shildren and adolescents. 13 samples were selected by randomized control trails were identified as meeting inclusion criteria including mindfulness based psychological interventions (n=7),yoga (n=3) and traditional meditation techniques (n=3).The result of this present study indicate that multiple interventions were given so affect of mindfulness training affects are undetermined. They suggested that quality trails are needed to assess the effectiveness of mindfulness techniques to enhancing the attention and executive function in children and adolescent.

Dailey(2018) conducted a study on “Association Of Mindfulness And Resilience With Sress,Depression And Anxiety Among Freshman Undergraduate Students ”.The purpose of the study was to examines the relationship between resilience and mindfulness with student stress,depression and anxiety before and after using mindfulness and resilience techniques to undergraduate saint Louis university. Mindfulness was found to be a significant predictor for student stress and depression and contributed to students self reported levels of stress and depression. This study shows that mindfulness techniques help in enhancing resilience.

Slatyer, Craigie, Heritage, Davis and Rees(2017) conducted study on “Evaluating The Effectiveness Of A Brief Mindful Self-Care And Resiliency (MSCR) Intervention For Nurses:A Controlled Trail”.It consists of 91 nurses (n=65 intervention condition;n=26 control condition).The findings demonstrate that a brief mindfulness based self care intervention is effective at improving the emotional functioning of nurses. This is a recent study which provides evidence on the effectiveness of the mindfulness techniques.

Sarita and Kaur(2017) conducted a study on “Effect of mindfulness training on planning and self regulation skills among students with dyslexia”. The study was conducted to assess the effectiveness of mindfulness training on planning and self regulation skills among students with dyslexia consist of 40 sample(20 in experiment group and 20 in control group).The experiment group was exposed to 6weeks of mindfulness intervention. The shows that mindfulness intervention has significantly improve planning and self regulation skills among students with dyslexia.

Vliet, Foskett, Singhal, Dolcos and Vohra (2017) conducted a study on “Impact Of A Mindfulness-Based Stress Reduction Program From The Perspective Of Adolescents With Serious Mental Health Concerns”. The purpose of this qualitative study was to explore the impact of MBSR from the subjective perspective of adolescents with serious mental health concerns. Adolescent of 28 members undergone MSBR program for 8 weeks and follow up of 3 months. Six main themes were found, including improved mood, enhanced relationship to self, increased self-control, improved problem-solving, awareness of the present, and enhanced interpersonal relationships. Result suggests that the MBSR program was perceived as beneficial

both in the short-term and follow-up in several aspects of emotional, cognitive, and interpersonal functioning.

Sarita (2017) conducted a study on “Mindfulness: A Key to Improve Meta Cognitive skills”. A mindful individual maintains enough distance from their own thoughts to view them impartially, and this aspect of mindfulness makes it a meta-cognitive skill, involving cognition about cognition, which is the essential component of several skills like knowledge of cognition (meta-cognitive knowledge) and regulation of cognition. Mindfulness helps an individual to improve cognitive flexibility including meta-cognitive insight which refers to the development of greater intuitive understanding and awareness of one's own thinking processes. This research support my study that mindfulness technique increase level of meta cognition.

Sanger and Dorjee(2016) conducted a study on “Mindfulness training with adolescents enhances metacognition and the inhibition of irrelevant stimuli: Evidence from event-related brain potentials”. This non-randomized study of 16-18 years with wait-list control group examined possible enhancements to brain indexes of attention processing after school-based mindfulness training using event-related potentials.(n=40).The research suggest that school-based mindfulness training can enhance older adolescent task relevant inhibitory control of attention and perceived mental competency. This study support my study by saying mindfulness training is important aspect in adolescent to improve their metacognition.Solem, Thunes, Hjemdal, Hagen and Wells(2015) conducted a study on “Metacognitive Perspective on Mindfulness: An Empirical Investigation”.The aim of study is to explore whether metacognition or mindfulness best predicted symptoms of emotional disorder. Data was collected from 224 community controls on the Five Facet Mindfulness Questionnaire (FFMQ), the Metacognitions Questionnaire-30 (MCQ-30), the Patient Health Questionnaire 9-item (PHQ-9), the Generalized Anxiety Disorder 7-item (GAD-7), and the Obsessive-Compulsive Inventory Revised (OCI-R).The result suggest that metacognition correlated strongly with symptoms of depression, anxiety and obsessive-compulsive disorder and metacognitive theory which focuses on metacognitive beliefs, enhancing awareness of thoughts and disengaging extended processing.

Weil, Fleming, Dumontheil, Kilford, Weil and More (2013) conducted a study on “The development of metacognitive ability in adolescence”. The aim of the study is to

investigated how one specific metacognitive ability (the relationship between task performance and confidence) develops in adolescence, a period of life associated with the emergence of self-concept and enhanced self-awareness. A visual task associated with objective performance of 56 participants aged between 11 and 41 years. The results suggest that awareness of one's own perceptual decisions shows a prolonged developmental trajectory during adolescence. This research support my research by saying that metacognition is developing in adolescent period.

Holzel (2011) researched to find out "How Does Mindfulness Meditation Work? Proposing Mechanisms of Action from a Conceptual and Neural Perspective". It includes practitioners self reports and experimental data provides evidence supporting these mechanisms. The mechanism work synergistically establishing a process of enhanced self regulation. This study supports the present study with the evidence that mindfulness techniques helps in enhancing self-regulation.

Zeidan, Johnson, Diamond, David and Goolkasian (2010) conducted study on "Mindfulness Meditation improves cognition: Evidence of brief mental training". They 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. Brief mindfulness training significantly improved visual spatial processing, working memory, and executive functioning. Our findings suggest that 4 days of meditation training can enhance the ability to sustain attention; benefits that have previously been reported with long-term meditators.

Narayanan(2009) conducted a study on "Resilience, Metacognition and Complexity ". The study investigated the relationship between resilience and certain cognitive abilities. Resilience was assessed by using Resilience Scale for Adolescents. The Attributional Complexity Scale to measure complexity of the attributional schemata people used to explain human behaviour. The sample consisted of 114 high school students in age group 15-16 years. The results examines the highly resilient had higher preference for complex rather than simple explanation for explaining human behaviour and used metacognition concerning explanations more than those who had low resilience. This study was an comparative study whereas the

current study aims to improve level of metacognition and resilience using mindfulness techniques.

Fergus and Zimmerman (2005) conducted a study on “Adolescent Resilience;:A Framework For Understanding Healthy Development In the Face of The Risk”. The aim of study is focusing on the assets and resources that enable some adolescents to overcome the negative effects of risk exposure. They discuss three models of resilience—the compensatory, protective, and challenge model and implications that resilience research has for intervention and describe some resilience-based interventions.

Cunningham, Brandon and Frydenberg.(1999) conducted a study on “Building resilience in early adolescence through a universal school based preventive program”. A universal school based preventive program that adaptive technique cognitive therapist use for depressed children and directly based on work of Seligman was implemented over six-week period to whole class groups by classroom teachers within a regular curriculum. The pre and post program is done with the tools Self-efficacy, Coping and Attributional style. There is a significant improvement on optimistic thinking and self-efficacy as well as reduction in the use of the non-productive coping strategies of worry. The preventive program is ultimately depends upon the extent to which such programs can be integrated in to the main stream curriculum practice of school.

METHODOLOGY

CHAPTER III

METHODOLOGY

The Procedures pertaining to the study, ‘Impact of Mindfulness Techniques on Metacognition and Resilience Among Adolescents’ was carried with the following steps:

- Objectives
- Research Questions
- Hypotheses
- Area
- Sample
- Inclusion Criteria
- Exclusion Criteria
- Tools
- Procedure
- Experimental Design
- Analysis of Data

Objectives

The main objectives of the study are as follows:

- To assess the level of metacognition among adolescents
- To assess the level of resilience among adolescents
- To examine the socio demographic details of the adolescents
- To find out the relationship between metacognition and resilience among adolescents
- To study the effect of mindfulness techniques in enhancing metacognition
- To study the effect of mindfulness techniques to increase the level of resilience

Research Questions

- Is there is any relationship between Metacognition and Resilience?

- How do the demographic variables influence Meta-cognition and Resilience?
- Does mindfulness technique help in Enhancing the level of Meta-cognition and Resilience among Adolescents?

Hypotheses

- There will be a significant relationship between Metacognition and Resilience
- Mindfulness Techniques will improve the level of Metacognition among adolescents
- Mindfulness Techniques will improve the level of Resilience among adolescents
- There is no significant gender difference in metacognition and resilience

Area

Amrita Vidyalayam Matric Higher Secondary School, Tirupur was selected for the study.

The reasons for choosing this area are as follows:

- Availability of the required number of samples for the study
- Permission and Facilities provided by the authorities to conduct the action research
- Convenience in transport
- Openness of the students to participate in the study

Sample

90 students in the age group of 12-18 years were identified for the study. The purposive sampling method was used to classify the study. A Purposive Sampling is a non-probability sample that is selected based on characteristics of a population and objective of the study (Ashley Crossman).

Inclusion Criteria

- Adolescents range from 12-18 years

- Adolescents with low level of meta-cognition
- Adolescents with low level of resilience
- Adolescents who are willing to participate

Exclusion Criteria

- Adolescents who have high level of metacognition and resilience.
- Adolescents with severe physical and psychological disabilities
- Adolescents who are not willing to participate

Operational Definition

Metacognition

Metacognition is a higher level thinking process to know more about one self.

Resilience

Resilience refers to bouncing back from difficult situation and does not lead to any psychological issues.

Tools

The Present research used the following research instruments (tools) for the purpose of collecting the data.

Consent Form (Annexure I)

The Consent Form was developed by the researcher and this form helps to understand the willingness of the participants in the study.

Socio Demographic Status Profile

Socio Demographic Status Profile developed by the researcher was used for gathering information about the sample including initials, age, gender, birth order, number of siblings, and place of living.

Meta Cognition Inventory

Meta Cognition Inventory (MCI) developed by Punita Govil. This inventory consists of 30 items to respond on 4-point scale (Not at all to Very much so). The reliability of the test determined by two methods: Cronbach's alpha coefficient and test-retest method. The value of reliability coefficient was found to be 0.82. To ascertain the validity of the test, the draft test was given to a panel of experts consisting of 20 eminent experts of different universities. According to their views, the test possesses satisfactory content validity.

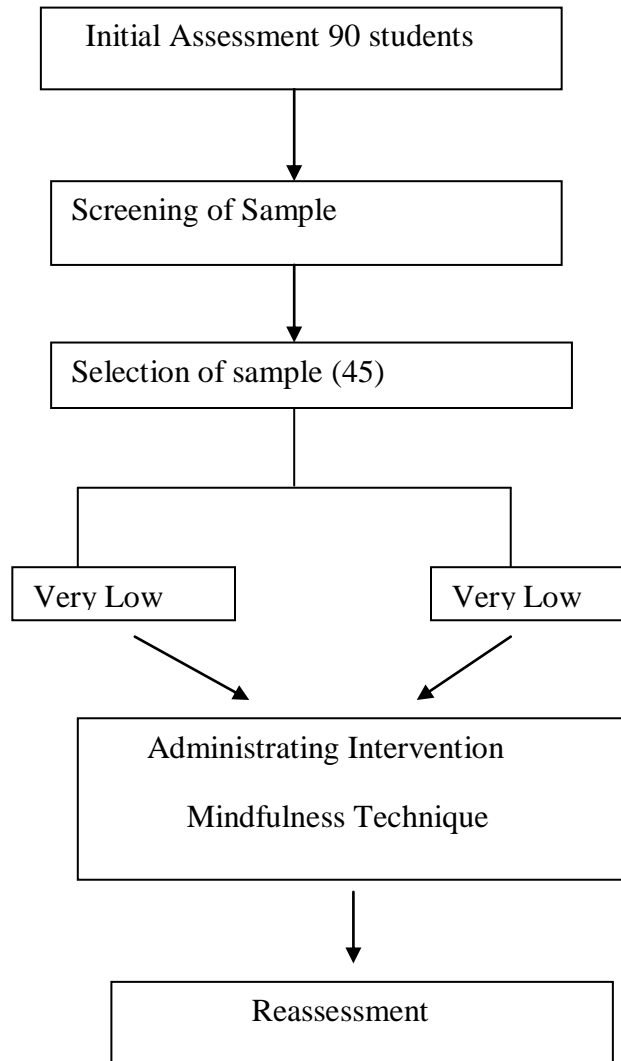
BU Resilience Scale

BU Resilience Scale developed by N Annalakshmi(2009). The scale consists of 30 items with 5 point rating scale (Not at all appropriate to most appropriate). The Cronbach Alpha for the scale was found to be 0.82, hence the tool holds good reliability. The scale has adequate concurrent validity.

Procedure

Rapport was built with 45 students. Consents were taken from the samples before proceeding with the therapy. Personal profile was collected from the subjects. The pre-test was used to collect the data from 90 samples and the screening was made to select the required number of the subjects for the therapeutic session. The Mindfulness technique was given for 6 sessions with the duration of one hour, weekly twice. The intervention session is completed and after 5 days the Re-assessment with the same questionnaires was given to the samples.

Experimental Design



Psychological intervention

Mindfulness Techniques involves developing awareness and acceptance of constantly changing experiential phenomena such as cognitions, emotions, sensations and external stimuli (Baer).

- **Initial stage** rapport was built to have a better communication and for effectiveness of the therapy. Self introduction was given by the students. I explained about Mindfulness Techniques and some activities were given before practicing mindfulness techniques. Activities includes

SWOT Analysis helps them to know about their strength, weakness opportunities and threats. It is a useful tool that helps to set goals and act on it.

Story Telling is to analysis their creative thinking and it act as a fantastic teaching tool, imparting lessons of life to individuals of all ages. It has proven its resilience and necessity beyond any shadow of doubt.

Missing Cards is the memory game given to improve their attention. It also helps them in recalling.

- **Mindfulness technique**

Step 1: All sit straight, close your eyes and now all place your attention on the sound you are about to hear. Listen until the sound is completely gone

Step 2: Just focus on your breathing

Step 3: Focus on your legs and concentrate on your breathing. Autosuggestion was given to other parts of the body and concentrate on your breathing.

Step 4: Relax for 5 minutes and open your eyes.

- **Recreational Activities**

Crazy Train – Students are grouped into 10 or 12 and are lined up and connect among themselves to represent as a train. They are asked to move forward slowly and gave them commands during their journey such as fast, slow, turn etc., It will help them to follow the commands and work according.

Analysis of Data

The data was analyzed statistically using SPSS (Statistical Package for the Social Sciences).

RESULTS AND DISCUSSION

CHAPTER IV

RESULTS AND DISCUSSION

The study on “Impact of Mindfulness Techniques on Metacognition and Resilience among Adolescents” was conducted. The results of the study were analyzed, tabulated and discussed.

TABLE I*Demographic Data of the sample (N=44)*

Demographic Data		Number	Percentage
Gender	Male	14	31.8%
	Female	30	68.2%
Birth Order	Single child	5	11.3%
	First Born	20	45.5%
	Second Born	18	41%
	Third Born	1	9%
Family Type	Nuclear	25	56.8%
	Joint	19	43.2%

The analysis and documentation of the demographic data collected from the sample is an important aspect in the study. It helps us to gather more information about the sample. The samples are between 12-13 years of age. The group consists of 31.8% of male students and 68.2% female students. The study consists of 11.3% of single child, 45.5% of first born, 41% of second born and 9% of third born respectively. The type of family type they belongs to nuclear type is 56.8% and joint type is 43.2%. The above data gives a comprehensive outline of the general information of those participants included in this study.

TABLE II*Correlation between Metacognition and Resilience among Adolescents (N=44)*

Variables		Metacognition	Resilience
Metacognition	Pearson Correlation	1	0.104 ^{NS}
	Sign.(2-tailed)		0.500
	N	44	44
Resilience	Pearson Correlation	0.104 ^{NS}	1
	Sign.(2-tailed)	0.500	
	N	44	44

NS – Not Significant

Table II shows the correlation between the variables Metacognition and Resilience among adolescents calculated by Pearson’s Product Moment Correlation Method. The statistical values indicate that **there is no significant relationship between the variables**. This indicates that thinking pattern of individual does not influence the ability to bounce back to normality. This may be because the study is done with adolescent samples where the samples are in the ages between 12-16 and they might not have clarity in decision making to solve their problems. They may use their potential of being resilient but they might not be aware of the same. The sample size is limited so the relationship between metacognition and resilience was not significant.

Hence the hypothesis stating that “There will be a significant relationship between Metacognition and Resilience” is not accepted.

TABLE III

Effect of Mindfulness techniques on Metacognition among Adolescents (n=44)

Variable	Before intervention Mean (S.D)	After intervention Mean (S.D)	t value	Significance
Metacognition	74.45 (7.302)	75.02 (6.621)	-2.858**	0.007

** Significant at 0.01 level

LEVEL OF METACOGNITION

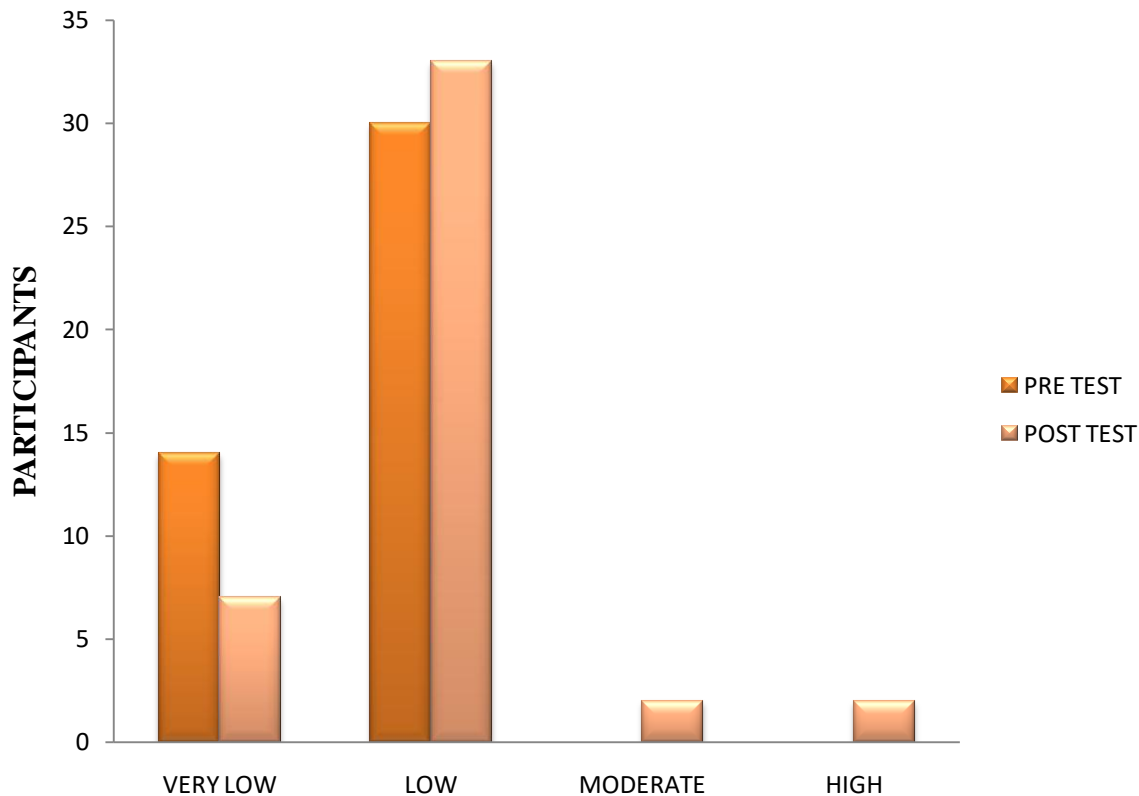


Table III shows the Effect of Mindfulness techniques on Metacognition among Adolescents calculated by Paired sample t-test. The statistical values indicate that **there is a significant difference between the level of metacognition before and after intervention.**

In the stage of late adolescence, metacognitive ability is developed and improved. It also includes that developmental trajectory prolonged during this period. (Leonara.G., 2013). They possess advanced executive functioning which includes attentional control, planning and fluid intelligence. Hence metacognition is considered as an important development in the period of adolescence. A study by sarita in 2017 identified mindfulness as a helpful technique for an individual to improve cognitive flexibility includes meta-cognitive insight which refers to the development of greater intuitive understanding and awareness of one's own thinking processes. Mindfulness techniques works on metacognition which helps to focus on their problem and to use better strategies to overcome them.

The result suggested that mindfulness techniques help to improve the level of metacognition in adolescents. This study serves as an evidence for similar results of the present study. Hence the hypothesis “Mindfulness Techniques will improve the level of Metacognition among adolescents” is accepted.

TABLE IV

Effect of Mindfulness techniques on Resilience among Adolescents (n=44)

Variable	Before intervention Mean (S.D)	After intervention Mean (S.D)	t value	Significance
Resilience	66.50 (17.100)	68.43 (16.347)	-6.284**	0.000

** Significant at 0.01 level

LEVEL OF RESILIENCE

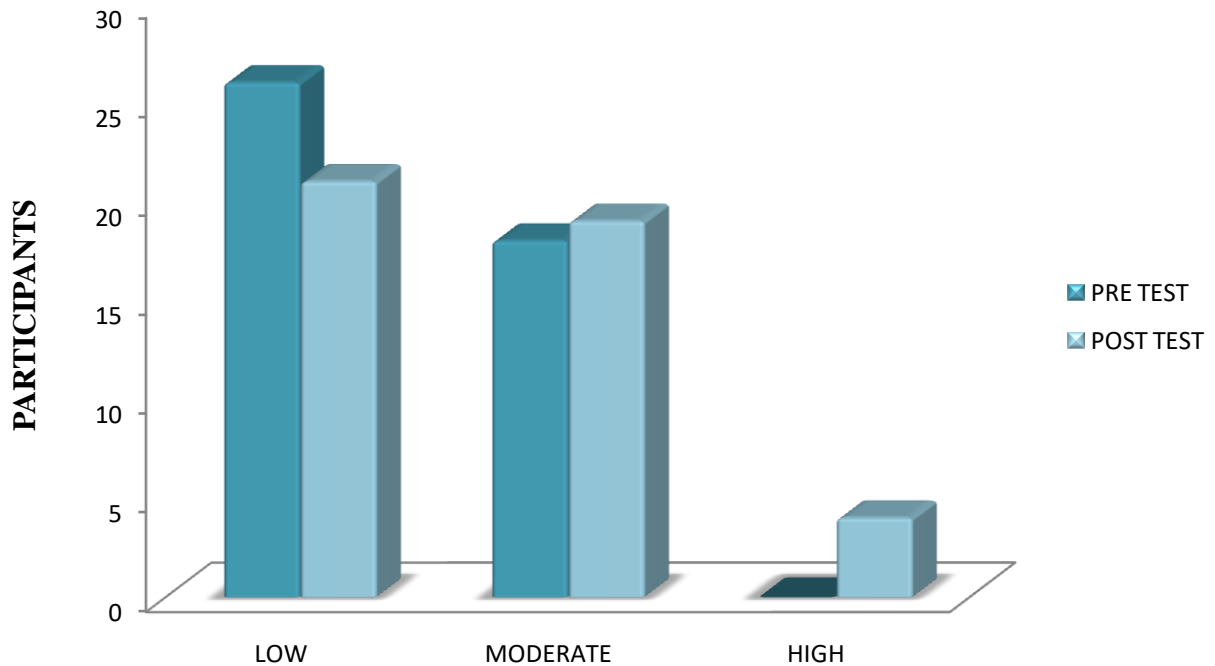


Table IV shows the Effect of Mindfulness techniques on Resilience among Adolescents calculated by Paired sample t-test. The statistical values indicate that **there is a significant difference between the level of Resilience before and after intervention.**

The ability to adapt to new circumstances and bouncing back from difficult situations is called as Resilience. It is important for adolescents because they should know the coping strategies to overcome the issues. The absence of resilience may lead to psychological issues such as addiction, anxiety, behavioral problems and academic drawbacks in their later period. Mindfulness technique teaches inner resilience and how to regain control, which aids self-regulation. This technique improves level of resilience and increase the level of desirable coping strategies to overcome their problems. The result suggested that mindfulness techniques help to improve the level of metacognition in adolescents. Hence the hypothesis “Mindfulness Techniques will improve the level of Resilience among adolescents” is accepted.

TABLE V

Mean scores and level of significance of the variable on the bases of gender

Variable	Gender	Mean (S.D)	t value	Significance
Metacognition	Male	73.86 (6.112)	-.367 ^{NS}	.715
	Female	74.73 (7.878)	-.403 ^{NS}	.690
Resilience	Male	68.50 (19.552)	-.526 ^{NS}	.602
	Female	65.57 (16.105)	.489 ^{NS}	.630

NS- Not Significant

Table V shows the gender differences in Metacognition and Resilience among Adolescents calculated by Independent Sample t-test. The statistical values indicate that **there is no significant gender difference in metacognition and resilience.**

Now a days, children are reared in similar ways where in they do not face discrimination and the parental attitude towards both sexes are indifferent. The adolescents possess adequate problem solving abilities irrespective of their gender and they also have the freedom to decide their career according to their interest and potential. The societal norms and gender stereotypes associated with roles have reduced when compared to early times. In addition to this, the patterns of social interactions, the amount of exposure to societal changes are not varied with gender in the present scenario .Thus gender differences are not evidently seen in the variables of metacognition and resilience.

Hence the hypothesis “There is no significant gender difference in meta-cognition and resilience” is accepted.

SUMMARY AND CONCLUSION

CHAPTER V

SUMMARY AND CONCLUSION

A study on “Impact of Mindfulness Techniques on Metacognition and Resilience among Adolescents” was conducted with the following objectives.

- To assess the level of metacognition among adolescents
- To assess the level of resilience among adolescents
- To examine the socio demographic details of the adolescents
- To find out the relationship between metacognition and resilience among adolescents
- To study the effect of mindfulness techniques in enhancing metacognition
- To study the effect of mindfulness techniques to increase the level of resilience

The study was conducted in Amrita Vidyalayam Matric Higher Secondary School, Tirupur. Out of 90 samples, 44 screened students with low level of Metacognition and Resilience in the age group 12-16 years were chosen for the study. They were screened using Meta Cognition Inventory (MCI) developed by Punita Govil and BU Resilience Scale developed by N Annalakshmi(2009). Mindfulness techniques were given for the selected samples. After six session of the intervention, the samples were reassessed using the same questionnaires.

HYPOTHESES

- There will be a significant relationship between Metacognition and Resilience
- Mindfulness Techniques will improve the level of Metacognition among adolescents
- Mindfulness Techniques will improve the level of Resilience among adolescents
- There is no significant gender difference in metacognition and resilience

CONCLUSION

From this research study, the following conclusions have been arrived

- 31.8% of participants were male and 68.2% were female.
- Initially, 32% of samples had very low level of metacognition and 68% had low levels of metacognition
- After the psychological intervention, 15% samples have very low, 75 % have low, 5% possess moderate and 5% has high level of metacognition.
- Initially, 59% of samples had low level of resilience and 41% had moderate level of resilience
- After the psychological intervention, 47% had low level, 43% had moderate level, 10% had high level of resilience were resulted in the chosen samples.
- There is no significant relationship between Metacognition and Resilience.
- Mindfulness Techniques had improved the level of Metacognition among adolescents.
- Mindfulness Techniques had improved the level of Resilience among adolescents.
- There is no significant gender difference in metacognition and resilience.

Limitations

The study has the following limitations:

- Sample belonged to a particular locality and hence results cannot be generalized.
- Extraneous variables such as health conditions are not considered.

Recommendations

- Sample size to be increased proportionately.
- Psychological intervention should be followed in the school.

Suggestions for Further Research

- The sample size can be increased to get true representation of the population
- The other extraneous variables that influence metacognition and resilience can be studied.
- The research might be expanded to the diversified and cross-cultural samples.

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ANNEXURES

CONSENT FORM

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Conducted by the Department of Psychology, Avinashilingam Institute of Home Science and Higher Education for Women, Coimbatore.

TITLE OF THE PROJECT

Impact of Mindfulness Techniques on Metacognition and Resilience among Adolescents

RESEARCHER

Ms.V.R.Lathaa, II M.Sc., Applied Psychology student, Avinashilingam Institute of Home Science and Higher education for Women, Coimbatore.

RESEARCH GUIDE

Ms. Srinithi, A.M., Assistant Professor, Department of Psychology, Avinashilingam Institute of Home Science and Higher education for Women, Coimbatore.

I have been asked to participate in a research study conducted by Ms. V.R.Lathaa (9786288412) and Ms. Srinithi, A.M., (ph: 9626310144)

INTRODUCTION

In this consent form I will learn about the proposed research and, my rights if I agree to participate in it. I will read this form carefully and, if I agree to be interviewed, I will sign this form and receive a copy.

PROCEDURE

In any report written about this research, my name will not be disclosed without my consent.

RIGHT TO REFUSE AND TO WITHDRAW

I understand that participation in this research is voluntary. I may agree to an interview or I may decline an interview. If I agree to an interview, I may refuse to answer any question and I may end the interview at any time.

OFFER TO ANSWER ANY QUESTION

If I have any questions about the study, I may call Ms. V.R.Lathaa (9786288412). If I have any question about my rights as a participant I may call the research guide, Ms. Srinithi, A.M., (9626310144)

I AGREE TO PARTICIPATE IN THIS RESEARCH.

Name _____

Date _____

RESEARCHER’S STATEMENT

I have explained the nature and purpose of this research. I agree to answer any question regarding the rights of the participant. I will provide the participant with a copy of this consent form.

Name _____

Date _____

CASE STUDY SCHEDULE

PERSONAL PROFILE

1. Name :
2. Age :
3. Gender :
4. Birth order :
5. Locality :
6. Type of family :
7. No. of members in the family :
8. Health complaints, if any :

METACOGNITIVE INVENTORY

S.N O	STATEMENTS	NO T AT ALL	SOM E WHA T	TO BE CONSID ERABL E	VERY MUCH SO	SCORE
1	Before attempting any task, I make a working planning in my mind and work accordingly					
2	I know whether my hunger should be satisfied or not during study hours					
3	I am satisfied with what I know about given concept					
4	If I am fail in my attempts, I try to find the cause of the failures and try again with more confidence					
5	I always learn some lesson from every task					
6	After the completion of every work I contemplate if the adoption of some other strategy would have lead to better results					
7	I know I have my style of studying and dislike any kind of interference					
8	I do not like any type of disturbances during study hours					
9	I know the things which I need during the period of studying					
10	While studying ,I do not involve myself in any other work					
11	I know where does my attention divert while studying					

12	I know how much I try to know more about certain concepts					
13	Once I memorize anything , I remember it forever					
14	While studying , whatever I feel that particular strategy is not working . I modify it immediately					
15	I am satisfied with my style of studying and feel that there is no need for change					
16	I know the type of the atmosphere needed to me to study with concentration					
17	I know why I forget certain events while remembering certain others quite well					
18	I try my best to make arrangement of certain things so as to study in better way					
19	I want to create a suitable atmosphere for studying but I do not bother to do so					
20	If I fail in my attempts, I do not get disappointed					
21	I know the goal of my life and try my best to achieve it					
22	I know how I can understand a difficult concept					
23	I usually check myself to see whether my attempts are in the right direction					
24	I know how to control my attention and concentration on studies					
25	I know that if I had adopted the particular strategy, I would have remembered those concepts which I had forgotten					

26	If I am so conscious about my goal that I can resist any temptation and continue my studies					
27	I know what should I do to memorize a concept					
28	I know how sharp my memory is					
29	If I do not get suitable atmosphere to study, I get perplexed					
30	I know the method of knowing more about given concepts					

ANNEXURE IV

BU RESILIENCE SCALE

S. NO.	STATEMENTS	RESPONSE				
1	I can remain balanced in my emotion irrespective of whether I succeed or fail in my effort.	1	2	3	4	5
2	I can easily revise my plans without accepting defeat when I get stuck up.	1	2	3	4	5

3	I usually get back to my cheerful self pretty soon no matter what failures occur in my life.	1	2	3	4	5
4	When the situation is very demanding I can pull up myself and handle all of it efficiently.	1	2	3	4	5
5	I do not waste my time on lamenting over the past however bad it might have been.	1	2	3	4	5
6	During times of trouble I sink with feeling helpless.	1	2	3	4	5
7	I easily breakdown at the crisis and it takes longer time for me recover myself.	1	2	3	4	5
8	People say that I have a strong heart which can withstand any disappointment.	1	2	3	4	5
9	I can recover from bad mood quickly and easily after facing any sad event.	1	2	3	4	5
10	I suffocate a lot when facing problems.	1	2	3	4	5
11	When in trouble I get impatient and am impulsive.	1	2	3	4	5
12	Challenges are not problems but are opportunities for rising to the occasion.	1	2	3	4	5
13	My efficiency significantly drops down at difficult times.	1	2	3	4	5
14	When I fight, I fight only to have the gusto feelings it gives me, no matter whether I am going to win or lose.	1	2	3	4	5
15	When I am in a difficult situation, I can usually find my way out of it.	1	2	3	4	5
16	I don't venture on any project where I had failed earlier.	1	2	3	4	5
17	I cannot recover from frustration for long time.	1	2	3	4	5
18	Life will be barren if there were no problem at all.	1	2	3	4	5
19	I stay cool even when things do not go the way I expect.	1	2	3	4	5
20	I can handle any critical situation with confidence since I have successfully done so	1	2	3	4	5

21	Nothing can stop me from proceeding on any task once I begin my work.	1	2	3	4	5
22	Even a severe setback can only make me to bend down but never to breakdown.	1	2	3	4	5
23	If am defeated in anything the first thing that comes to my mind is how to bounce out of it.	1	2	3	4	5
24	I usually get so confused about which way to move when I face problems.	1	2	3	4	5
25	Problems do not ditch me out of my source but enrich me with finding new resource.	1	- 2	3	4	5
26	Whether the disappointment is small or big I feel miserable about it.	1	2	3	4	5
27	The greater the problem I confront with the greater will be my efforts to solve them.	1	2	3	4	5
28	I feel so weak to begin any venture as I have experienced a large number of frustration in life.	1	2	3	4	5
29	Past failures can not deter me from taking up any project I want to take.	1	2	3	4	5
30	Failures and frustrations can never deter me from my efforts for long.	1	2	3	4	5



INSTITUTIONAL HUMAN ETHICS COMMITTEE

Avinashilingam

Institute for Home Science and Higher Education for Women

Deemed to be University Under category 'A' By MHRD, (Estd. u/s 3 of UGC Act 1956)

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Dr.G.Victoria Naomi
Dr. Judith Justin
Dr.AnithaSubash

18th March 2019

To
Ms. Lathaa.V.R.
Department of Psychology
Avinashilingam Institute for Home Science and
Higher Education for Women
Coimbatore - 641 043

Dear Lathaa.V.R.,

Ref: Your presentation of the proposal No. IHEC/18-19/PSY/13
entitled "Impact of Mindfulness Techniques on Metacognition and
Resilience among Adolescents" to the IHEC on 01.03.19

The Institutional Human Ethics Committee of our University hereby
grants approval to your research proposal No. IHEC/18-19/PSY/13
entitled "Impact of Mindfulness Techniques on Metacognition and
Resilience among Adolescents" submitted and presented by you. The
Approval number for the same is AUW/IHEC-18-19/PSY/FHP-13.

We wish you all the best in your research endeavours.

Regards,

Uma Mageshwari
Dr.S.UmaMageshwari
Member Secretary

