

# Periodic Research

## An Empirical Perspective on Metacognition and Emotional Competence with Reference to Mindfulness



**Kavita Kumar**

Assistant Professor,  
Deptt. of Psychology,  
Faculty of Social Sciences,  
Dayalbagh Educational Institute,  
Dayalbagh, Agra



**Aysha Begum**

Research Scholar,  
Deptt. of Psychology,  
Faculty of Social Sciences,  
Dayalbagh Educational Institute,  
Dayalbagh, Agra

### Abstract

Metacognitive thinking is a higher order thinking that involves active control of self over the thinking process. It brings an awareness of an individual's self as a cognitive thinker. The present study intended to identify the difference in emotional competence between high and low metacognitive thinking among college students. Emotional competence refers to one's ability to express or release one's inner feelings, identification, understanding, expression, regulation and use of one's emotions and those of others in the social settings. Students' life is a time where students have to constantly deal with faculty members, peer group and interact with different age groups. This is the period where emotional competence and metacognitive thinking play a crucial role in dealing with a number of issues.

The sample of the present study constituted of 100 students between 18-25 years of age. Two scales, Metacognitive Thinking Scale (Sandhu & Goyal, 2010) and Emotional Competence Scale (Sharma & Bhardwaj, 1998) were administered and Wilcoxon signed rank test (Z) was computed for data analyses. Results indicate that there is a significant difference in emotional competence between high and low metacognitive thinking among college students ( $Z=3.82$ ,  $p< 0.01$ ). The results revealed that college students with high metacognitive thinking have higher emotional competence than college students with low metacognitive thinking. The results have been discussed in reference to mindfulness. Various previous research findings have predicted that mindfulness plays a vital role in enhancement of metacognition and emotional competence. Hence, for the future researches mindfulness-based intervention techniques are suggested to be used for the enhancement of metacognition and emotional competence.

**Keywords:** Metacognitive Thinking, Emotional Competence, Mindfulness.

### Introduction

Educational journey for students is full of opportunities to learn new things, face new challenges and deal effectively with new experiences. Academic life offers them a platform to grow their physical, social, emotional, mental and spiritual faculties to the maximum. During their college years, emotional competence and metacognitive thinking may play a crucial role in dealing with a number of issues. Being mindful would further facilitate students to be aware of their present moment and be successful in life.

Mindfulness is the psychological process of bringing one's attention to experiences occurring in the present moment which can be developed through the practice of meditation. Mindfulness is the moment to moment awareness of our thoughts, feelings, bodily sensations and surrounding environment. Mindfulness involves acceptance to attention to our thoughts and feelings without judging. According to Kabat-Zinn (2003) "mindfulness means paying attention in a particular way: on purpose, in present moment and non-judgmentally." An intended result of mindfulness practice is the development of a mental orientation of mindfulness toward daily events providing enhanced mental, emotional flexibility (Davis, Fleming, Bonus, Baker, 2007). Hayes (2006) stated that mindfulness meditation fosters self awareness, self monitoring, self-regulation as well

E: ISSN No. 2349-9435

as mindfulness practice cultivates concentration, insight and physiologic relaxation.

Metacognition refers to the higher order thinking that involves active control over the thinking process as well as it is a knowledge and awareness of one's own cognitive processes. The theory of metacognition is attributed to Flavell with his work in 1979. Metacognition is a multidimensional set of skills which involve thinking about thinking. Rasmussen (1986) with the context of human machine system suggested that, "Metacognition is an abstraction hierarchy in which higher level describes the functional process of system while lower level describes physical structure of system." Metacognition is a fundamental nature of human cognition because every human being does not possess cognitive activities only, but they have cognition about their own cognition also, i.e. metacognition. According to Akin (2007), "Metacognitive thinking is the highest level of mental activity since it keeps individuals aware of themselves and others during thinking to solve problems". The main work of Metacognitive thinking is observing and controlling mental functioning which directs to solve problems and decision formation. 'Metacognitive thinking', 'metaknowledge' or 'thinking about thinking' are the terms used for metacognition.

Emotional competence refers to one's ability to express or release one's feelings. The concept of emotional competence is rooted in understanding emotions as normal and useful aspects of being human. Emotional competence reflects the individual differences in the identification, understanding, expression, regulation and use of one's emotions and those of others in the social settings. Some psychologists believe that if appropriate emotions are not expressed on a regular basis, a misplaced or unresolved memory of them is retained. According to Krayenoord and Schneider (1999), Emotional competence can lead to improved health through avoiding stress that would otherwise result from suppressing emotions.

Emotional competence is individual's domain specific working model about how an individual appropriately manage one's emotions within interpersonal situations. Huy (1999) and Saarni (1999) stated that, "emotional competence is an individual's capacity to experience, manage, and direct emotions within social situations should have a sense of appropriateness and purpose." Emotional competence is considered as integration of unrelated proficiencies like perspective taking, strategic self presentation of emotions and acceptance of one's genuine emotional reactions. Emotional competence also consists of fostering self-authenticity, developing an ironic perspective and incorporating one's moral code into self regulation of emotions. Emotional competence is the ability of an individual how flexibly applies a set of emotion management skills to its social environment of family, friends and institute (Saarni, 1999).

# Periodic Research

## Problem

To study the difference in emotional competence between high and low metacognitive thinking among college students.

## Hypothesis

There is no significant difference in emotional competence between high and low metacognitive thinking among college students.

## Operational Definitions

### Metacognition

Metacognition refers to the higher order thinking that involves active control of self over the thinking process. Metacognitive thinking is the consciousness of individual's known capability of knowing, remembering and forgetting about known cognitive thinking (Hendy, 1993).

### Emotional Competence

Emotional competence is the integration of emotional skills which enables individual to manage their emotions appropriately with its environment (Huy, 1999).

### Justification of Problem

The progress of any society lies in the hands of young generation, their achievement, values and balanced personality. Students use metacognition in monitoring and controlling their goal, assess their own progress and if necessary adopted new strategies to achieving those goals. It is not only academics with which students are concerned; they are equally affected by the social and emotional challenges. So, the specific need for identifying the phenomena of emotional competence in respect of metacognitive thinking is natural and inevitable for students' growth and development. It may be assumed that students with high metacognitive thinking may have high emotional competence which facilitates them in good adjustment and personal growth. Mindfulness training and intervention would further benefit the students to enhance their metacognition and emotional competence and grow into balanced individuals.

### Aim of the Study

The researchers aim to understand whether there is any difference in emotional competence between high and low metacognitive thinking of college students. This would also facilitate the researchers to provide certain mindfulness training programs to increase mindfulness, metacognition and emotional competence.

### Method

#### Variables

#### Independent Variable

##### Metacognitive thinking

1. High metacognitive thinking
2. Low metacognitive thinking

#### Dependent Variable

Emotional Competence

#### Control Variables

1. Age (18- 25 years)
2. Academic Qualification (At least graduate)

#### Sample Description

The sample of present study consisted of 100 cases. The data was collected through convenient sampling from boys and girls students,

who were at least graduates from Dayalbagh Educational Institute, Dayalbagh, Agra. Their age range was between 18-25 years.

**Tools**

1. Emotional Competence Scale (ECS) by Bharadwag and Sharma (1998). This scale consists of 30 items. The reliability of this scale is 0.81 and validity is 0.72.
2. Metacognitive Thinking Scale (MCTS) by Sandhu and Goel (2010). The scale consisted of 80

items. The split- half reliability of this scale is 0.87 and validity is 0.78. Higher scale value indicates better Metacognitive Thinking.

**Research Design**

Two Group Design was used.

**Statistical Analysis**

Data was analyzed by calculating 'Wilcoxon signed rank test'.

**Analysis, Interpretation and Discussion**

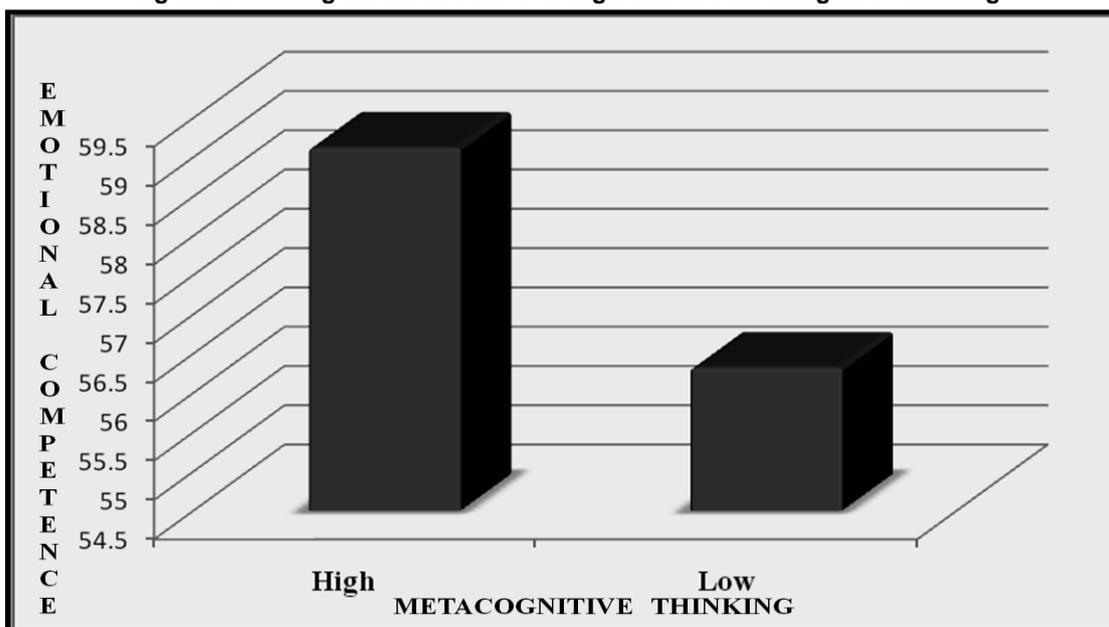
**Table- I: Showing Analysis from 'Wilcoxon Signed Rank Test'**

Metacognitive Thinking	N	Mean	SD	Z (Wilcoxon signed rank test)	Level of significance
HIGH	50	59.12	4.284	3.826	p<0.01
LOW	50	56.32	2.910		

The above Table-I indicates that the calculated Z = 3.826 was found significant at 0.01 level. This suggests that the null hypothesis which stated that, 'There is no significant difference in emotional competence between high and low metacognitive thinking among college students.' has not been accepted. This implies that the difference between the means of two groups of metacognitive

thinking i.e. high and low was found significant and cannot be attributed to chance factors. The difference between high metacognitive thinking (mean=59.12) and low metacognitive thinking (mean=56.32) indicates that students having high metacognitive thinking are superior in emotional competence. The following figure-I clearly represents the difference.

**Figure-I: Showing the Mean Values of High and Low Metacognitive Thinking**



Based on the analysis and interpretation of the present study, it can be stated that, there was a significant difference in emotional competence between high and low metacognitive thinking. The reason behind it can be that the people with high metacognitive thinking have good control over their emotions and deal effectively with their environment with more rational and logical thoughts.

**Review of Literature**

Various studies also support the present results that the people with high metacognitive thinking are more emotionally competent than people with low metacognitive thinking. Sajeew and Vaani (2015) conducted a study to investigate the relationship of metacognition, emotional competence and scholastic achievement of school students, found

a significant relationship between emotional competence and metacognition. Eichbaum (2014) also conducted a study on students stated that metacognition plays a crucial role in enhancing emotional competence among students. Rozen and Kramarski (2014) found metacognition contributes in regulation of emotions and enhancing motivation among students.

Lamothe et al. (2018) conducted a study to assess the feasibility and acceptability of a mindfulness-based stress reduction (MBSR)-based intervention and determine if the intervention is associated with a significant signal on empathy and emotional competencies. Two pre-post design was used. In Study 1, participants were recruited at the University of Montreal's Psychology Department and

E: ISSN No. 2349-9435

in Study 2 participants were selected from the CHU Sainte-Justine Department of Hematology-Oncology. In Study 1, 12 students completed the 8-week MBSR programme (mean age 24, range 18–34), while in Study 2, 25 professionals completed the 8-week MBSR programme (mean age 48, range 27–63).. Mindfulness was measured by the Mindful Attention Awareness Scale; empathy was measured by the Interpersonal Reactivity Index (IRI)'s Perspective Taking and Empathic Concern subscales; identification of one's own emotions and those of others, emotional acceptance and recognition of emotions in others was measured by standard tools. Results in both studies showed that participants who completed the programme improved on all measures except the PEC's Identify Others' Emotions and the IRI's Empathic Concern (Cohen's  $d$  median=0.92, range 45–1.72). In Study 2, favourable effects associated with the programme were maintained over 3 months on the PEC's Identify my Emotions, Acceptance and Action Questionnaire-II (AAQ-II) and the Emotion Regulation Scale (ERQ)'s Expressive Suppression and the Geneva Emotion Recognition Test (GERT). Hence, in the study it was concluded that the programme was feasible and acceptable. It was associated with a significant signal on the following outcomes: perspective taking, the identification of one's own emotions and emotional acceptance, thus, justifying moving towards efficacy trials using these outcomes.

According to Wells (2002) mindfulness activates and strengthens metacognitive mode of information processing and facilitates cognitive restructuring. Schonert (2010) found that mindfulness based educational program have a significant effect on emotional competence. Watkins and Teasdale (2000) proposed that mindfulness facilitated metacognitive insights and significantly reduced risk of psychological disorders like depression relapses. Therefore, researchers propose that further studies will be conducted on interventions to foster mindfulness, metacognitive thinking and emotional competence in students.

Sarita (2017) explained how mindfulness is key for improving metacognitive skills. Mindfulness is one of the best techniques for treating physical and psychological difficulties. As mindfulness is an attribute of consciousness and believed to promote well-being by strengthening meta-cognitive skills by changing schemas related to cognition. A mindful individual maintains enough distance from his own thoughts to view thoughts more impartially and this aspect of mindfulness makes it a meta-cognitive skill, involving cognition about cognition, and regulation of cognition. Mindfulness helps an individual to improve cognitive flexibility including meta-cognitive insight which refers to the development of high level intuitive understanding and awareness of one's own thinking processes.

#### Conclusion and Implication of The Study

Today, students are under high pressure because of increasing competition and expectations from their family and peers. If students enhance

# Periodic Research

enough metacognition with high emotional competence they may have better adjustment with their family, friends and environment and flourish with healthy mental health. Our education system and University education need to intensify its role in enhancing the effectiveness of students' metacognitive skills through various psychological interventions and training programs. The researchers propose that further studies will be conducted on mindfulness and the various intervention techniques in relation to metacognition and emotional competence, as various research findings have predicted that mindfulness plays a vital role in enhancement of metacognition and emotional competence (Wells,2002).

#### References

1. Akin, A. (2007). *Academic Locus of Control Scale: A Study of Validity and Reliability*. *Journal of Education*, 34(3), 9-17.
2. Bharadwag, H. L. and Sharama, H. C. (1998). *Emotional Competence Scale*. Agra: National Psychological Corporation.
3. Davis, J.M., Fleming, M.F., Bonus, K.A., & Baker, T.B. (2007). *A pilot study on mindfulness-based stress reduction for smokers*. *BMC Complementary and Alternative Medicine*. 7 (2), 212-217.
4. Eichbaum, Q.G., (2014). *Thinking about Thinking and Emotion: The Metacognitive Approach to the Medical Humanities that Integrates the Humanities with the Basic Clinical Sciences*. *The Permanente Journal*. 18(4), 64-75.
5. Flavell, J. H. (1979). *Metacognitive and Cognitive Monitoring: A New Area of Cognitive Developmental Inquiry*. *American Psychologist*, 34, 906-911.
6. Hayes, S.C., Bond, F.W., Barnes-Holmes, D. and Austin, J., (2006). *Acceptance and Mindfulness at Work: Applying Acceptance and Commitment Therapy and Relational Frame Theory to Organizational Behavior Management*. New York, NY: Haworth.
7. Hendy, K. C. (1993). *Measuring Subjective Workload: When Is One Scale Better Than Many?* *Human Factors*, 35, 579- 601.
8. Huy, Q. N., & Saarni, C., (1997). *Coping with aversive feelings*. *Motivation and Emotion*, 21, 45-63.
9. Huy, Q. N., (1999). *Emotional capability, emotional intelligence, and radical change*. *Academy of Management Review*, 24, 325-345.
10. Kabat-Zinn, J. (2003a). *Mindfulness-based interventions in context: Past, present, and future*. *Clinical Psychology: Science & Practice*, 10(2), 144-156.
11. Kraayenoord, M. and Schneider, W. (1999). *Domain-Specific Knowledge and Memory Performance: Comparison of High-And Low-Aptitude Children*. *Journal of Educational Psychology*, 81, 306–312.
12. Kraayenoord, M., & Schneider, W. (1999). *Domains of Emotional Competence among College Students*. *Journal of Educational Psychology*, 89, 218–325.

E: ISSN No. 2349-9435

13. Lamothe M, et al. (2018). *BMJ Open Access* 018421. doi:10.1136/bmjopen-2017-018421
14. Mikolajczak, M. (2015). A Nationally Representative Study of Emotional Competence and Health. *Emotion*, 15(5), 653-67.
15. Rasmussen, J. (1986). *Information Processing and Human Machine Interaction*. New York, NY: Holland.
16. Rosen, T. M., & Kramarski, B., (2014). Metacognition, motivation and emotions: Contribution of self-regulated learning to solving mathematical problems. *Global Education Review*, 1 (4). 76-95.
17. Sajeev, B. and Vani, M., (2015), A Correlational Study of Meta-Cognition, Emotional Competence and scholastic achievement of XIth Grade Students, M, *Journal of Ravishankar University, Part-A*, 19-20, 9-14.
18. Sandhu, K. J. and Goel, Y. (2010). *Metacognitive Thinking Scale*. Agra: Dayalbagh Educational Institute.
19. Sarita (2017). *Mindfulness: A Key to Improve Metacognitive Skills*. *International Education & Research Journal*, 3(3), 59-60.
20. Schonert, K. A., (2010). *The Effect of Mindfulness Based Education Program on Pre And Early Adolescents' Well Being Ans Social and Emotional Competence*, *Mindfulness*, 1(3), 137-151.
21. Siegel, D.J. (2007). *The mindful brain: Reflection and attunement in the cultivation of well-being*. NewYork, NY: WW Norton & company.
22. Watkins, J. M., & Teasdale, J. D., (2000). *Metacognitive awareness and prevention of relapse in depression: Empirical evidence*. *Journal of Consulting and Clinical Psychology*, 70, 275–287.
23. Wells, A., (2002). *GAD, Meta-cognition and Mindfulness: An information Processing Analysis*. *Clinical Psychology: Science and Practice* 9 (1), 95-100.

# Periodic Research