

## Exploring the Interplay of Metacognitive skills and Emotional Intelligence: The Mediating Roles of Self-Esteem and Personality

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The aim of the study is to find the relationship between metacognitive awareness, personality, emotional intelligence and self-esteem. Understanding the impact of emotional intelligence, personality and self-esteem on metacognition will help in planning future interventions. For the purpose of the study 100 students (undergraduate, postgraduate, Mphil, PhD) were selected according to the purpose and convenience of the researcher. Participants completed four sets of questionnaire- Metacognitive Awareness Inventory, Big Five Inventory-10, Brief Emotional Intelligence Scale- 10 and Rosenberg Self-Esteem Scale. The study adopted the quantitative research methods approach that concurrently integrated procedures in the collection, analysis and interpretation of the data. Result of the study shows that there is a positive correlation between metacognitive awareness, personality, emotional intelligence and self-esteem. There is a positive significant mediation of self-esteem on metacognitive awareness and emotional intelligence whereas weak moderation of personality on metacognitive awareness and emotional intelligence is observed.

**Keywords:** Metacognition, Personality, Emotional intelligence, Self-esteem, Cognition

Metacognition refers to 'thinking about thinking'. Flavell (1976) was the first person to use the term where he explains that metacognition is knowledge about one's cognition and how to control cognition. Metacognitive skills has two key elements such as metacognitive knowledge, that is one's awareness about thinking strategies and their tendencies, and another is metacognitive regulation, that is one's ability to manage and control one's cognitive processes. It is involved in a person's day to day activity where it leads to the awareness about how an individual learns, evaluates their learning needs, generates strategies to meet learning needs and at the end implement those strategies (Hacker, 2009). Personality as it is viewed as the most individual characteristic of human beings (Dörnyei, 2005). Personality is usually defined as something which allows one to

predict of what a person will do in a particular situation (Cattell, 1945). Personality implies that every person is different, personality theory explains that individuals are characterised by a unique and unchanging pattern of traits, dispositions or temperament. Earlier research has shown that Big Five personality traits such as openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism are associated with many wide ranges of human behaviour and characteristics (Komarraju et. al., 2009). According to Rosenberg (1965), self-esteem is the subjective feeling about oneself that arises from assessing one's own attitude towards oneself, personality traits, other people's actions and attitudes towards oneself, and other people's interest in oneself. People view about one's own worth is called self-esteem. There are various components such as cognitive, affective and

social components that involve as individual natures and results in the personal interaction with other people in the surrounding ad life experiences (Price, 2007). A state of high self-esteem is one in which one's thoughts have the capacity to increase one's sense of value, which in turn contributes to happiness and achievement in later life.

Metacognition helps students to become creative and flexible in the work they are performing, becoming self-directed learners to lead the life the way they want. Especially in the educational setting, metacognitive thinking helps in learning tasks, in self-organising as well as regulating their own learning. Guiding college students in developing emotional intelligence will lead to the increase in retention and persistence among college students (Mendez et al. 2018). Certain personality traits are more acceptable towards learning things and self-reflection on positions, goals and strategies. Many researchers' argues that having self-esteem will lead to academic achievement, psychological well-being and various other positive outcomes in their lives (Brett & Pelham 2007). Metacognition in context with the students' current goals will help in enhancing their competencies for learning as well as transfer of learning in the academic achievement.

## **Method**

### **Participants**

The design of the study is cross-sectional. Data was collected using convenience sampling and purposive sampling. A sample of 100 students was selected who are studying in graduation, post-graduation, M. Phil and PhD. Male to female ratio in the study was 3:1. Majority of the participants belongs to the age range of 22- 23 years old (37%) and 83% participants were undergraduate and postgraduate.

### **Tool used**

*Metacognitive Awareness Inventory* (Schraw & Dennison, 1994). MAI assesses metacognitive awareness associated with learning. MAI contains 52 items that include dimensions such as declarative knowledge, procedural knowledge and conditional knowledge. Reliability analysis indicates high internal consistency for all the scales and it has high internal validity.

*Brief Emotional Intelligence Scale- 10* (Davies et al., 2010). It is a 10-items scale that have five factors that make up the BEIS-10: using emotions, controlling one's own emotions, controlling one's own emotions, controlling others' emotions, and controlling one's own emotions (Salovey & Mayer, 1990). Howell and Miller-Graff (2014) reported reliability coefficients of.83, while Rizzo (2013) reported reliability coefficients of.84.

*Big Five Inventory-10* (Rammstedt & John, 2007). BFI-10 is a 5-point Likert scale. It consists of 2-items per scale and dimension includes extraversion, agreeableness, conscientiousness, openness and neuroticism. Test-retest reliability is .75 and there is discriminant validity.

*Rosenberg Self-Esteem Scale* (Gray-Little et. al., 1997). RSE- 10 is a 10-item scale that measures global self-worth by measuring both positive and negative feelings about the one's own self. It is a 4-point likert uni-dimensional scale that ranges from 1 (strongly agree) to 4 (strongly disagree).

### **Procedure and Ethical consideration**

A thorough analysis of the chosen issue was conducted as part of the research. The sample taken for the study is with the convenience of the researcher and with the purpose of the study. Questionnaire was prepared in the Google doc and data was collected online. Demographic details were collected from the participants. In the Google document, the participants were explained

about the purpose of the study, and consent from each participant was taken before filling the questionnaire. Every participant received assurances that their answers would be kept

private and used only for the study. Following the participants' responses, data was collected for statistical analysis.

## Results

Table 1. Descriptive Statistics and Correlation for Study Variables (N=100)

Variables	M	SD	1	2	3	4
1. Metacognition	41.34	8.654	1	.560**	.233*	.400**
2. Emotional Intelligence	37.44	5.141		1	.282**	.414**
3. Personality	32.23	3.429			1	.169
4. Self-esteem	26.03	3.844				1

\* $p < 0.05$  and \*\* $p < 0.01$

Table 1 show that there is a significant positive correlation between metacognition, emotional intelligence, personality, and self-esteem.

Table 2. Linear Regression analysis of metacognition on emotional intelligence, personality, and self-esteem

Variables	Beta	SE	95% CL		$\beta$	$p$
			LL	UL		
Emotional Intelligence	.770	.204	.460	1.080	.457	<.001
Personality	.178	.217	-.252	.607	.070	.414
Self-esteem	.449	.204	.045	.853	.199	.030
R <sup>2</sup>	.352					

Table 2 shows R<sup>2</sup> value of .352 reveals that the predictor variable explained 35.2% variance in the outcome variable with F (df=3, residual= 96)= 17.395,  $p < 0.001$ .

Table 3. Mediation analysis summary

Relationship	Direct effect	Indirect effect	Confidence interval		p-value	Conclusion
			Lower	Upper		
Metacognition skill -> self-esteem-> emotional intelligence	0.400	0.000	15.2305	22.1212	0.001	Significantly mediates
Metacognition skill -> personality-> emotional intelligence	0.197	0.014	22.0920	31.7402	0.064	Weakly mediates

Table 3 shows the mediation analysis of self-esteem and personality between metacognitive skills and emotional intelligence. The result reveals a positive significant mediation of self-esteem on

metacognitive skills and emotional intelligence ( $\beta = 0.400$ ,  $p = 0.001$ ) and metacognitive skills in the presence of personality does not significantly mediates emotional intelligence ( $\beta = 0.197$ ,  $p = 0.064$ ).

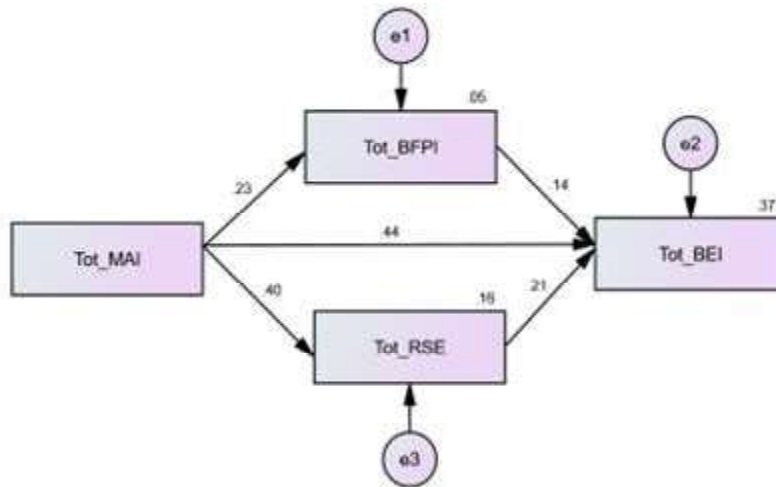


Figure1: Obtained statistical model for the mediation analysis

### Discussion

The present study focuses on examining the role of metacognition in impacting emotional intelligence among college-going students and how personality and the connection between emotional intelligence and metacognition is mediated by self-esteem. The study is done to understand the interconnection between metacognition with emotional intelligence, personality, and self-esteem there is an observed paucity of research in this area.

According to the present study, emotional intelligence and metacognition are significantly positively correlated at  $p < 0.01$  with  $r = .560$  (table 1). The person with high metacognitive awareness is high on emotional intelligence which means the way one manages their own emotion or the emotion of others is also influenced by the thoughts order that are responsible for the perceiving and self-organisation. Metacognition might be playing a role that is relevant to the psychological phenomena related to the EI. The result of the study matches with the study by Alavinia & Mollahosseini (2012) which shows that learners EI correlates with the metacognitive strategies used. In the study, metacognition is significantly positively

related to personality at  $p < 0.05$  with  $r = .233$  (table 1). There is a significant positive correlation between metacognition and agreeableness ( $r = .285$  at  $p < 0.01$ ) and between metacognition and conscientiousness ( $r = .387$  at  $p < 0.01$ ) whereas metacognition is negatively correlated with the neuroticism ( $r = -.285$  at  $p < 0.01$ ) (Appendix 1). Agreeableness does not always have a negative impact on the academic performance (Busato et al., 2000). Conscientiousness is explained as the strong desires of the person to move toward a goal with the desire to complete objective and overcome challenges and hurdles when leads to excel in the academic fields. Previous studies have supported that neuroticism is negatively correlated with the metacognition (Komarraju et al., 2009; Oz, 2014). Metacognition and self-esteem are significantly positively correlated ( $r = .400$  at  $p < 0.01$ ) (table 1). Study by Efklides (2012) shows that establishment of self-esteem has an impact on the experience of metacognition, that means that people who have high self-esteem have high metacognitive awareness. A person with high self-esteem is more confident in their efforts that leads to success, they experience less mood

swings, are less vulnerable to depression, report less negative effects when they experience that others ranks are above them in social settings (Yelsma and Yelsma, 1998).

Metacognition has an impact on the emotional intelligence, personality, and self-esteem (table 2). The model explains 16% of variance in self-esteem, 35.6% in emotional intelligence and 6.1% in personality suggesting that there is a moderate amount of variance in emotional intelligence and its ability if explain personality is limited. Metacognition can be explained as a predictive factor for emotional intelligence, personality and self-esteem. This table explains that the importance of metacognitive skills in shaping self-esteem and emotional intelligence is relatively high as the influence on the personality is less.

The result in table 3 shows that metacognitive awareness has a significant positive effect on the self-esteem ( $\beta = 0.400$ ,  $p < 0.001$ ) and emotional intelligence ( $\beta = 0.469$ ,  $p = 0.001$ ) suggesting that higher the metacognitive skill, higher is the self-esteem and emotional intelligence (Table 3). Self-esteem predicts the emotional intelligence ( $\beta = 0.226$ ,  $p = 0.010$ ) that indicates that self-esteem is strongly associates with the emotional intelligence. Self-esteem may act as a bridge that links the metacognition to emotional intelligence. A person high on metacognitive skills develops self-awareness and self-worth which enhances the self-esteem of the person and person with better self-esteem is high on emotional intelligence and manages their emotions as well as the emotions of others better. When self-esteem mediates a metacognition it leads to more balances and realistic self and in turn enhances the self-esteem. Table 3 also shows the weaker mediation of personality on metacognitive awareness and emotional intelligence ( $\beta = 0.197$ ,  $p = 0.064$ ). Hence, study shows that personality does not entirely mediate the relationship between emotional

intelligence and metacognition. It plays a very limited role. Although it shows a significant correlations (table 1), personality does not mediates the relationship. Hence, personality does not play an importance role between metacognitive awareness and emotional intelligence and exists independently without the influence and personality difference does not play a role.

Students who have metacognition view themselves as a learner and know which strategies will be beneficial for them, and when and why they should use certain strategies. This is beneficial for the students who are at the college levels and have been recently exposed to the external world. Incorporating the interventions at college-level will enhance self-esteem of the students will going to later enhance their emotional intelligence. Studies have shown that metacognition helps students in planning and monitoring their progress, and learning and evaluating their strategies (Schraw & Dennison, 1994).

### Conclusion

The result of the study shows that there is a significant correlation between metacognitive awareness, emotional intelligence, self-esteem, and personality. Findings also reveal that emotional intelligence, personality, and self-esteem significantly predicted metacognition. Positive significant mediation of self-esteem between metacognitive skills and emotional intelligence is observed whereas personality weakly predicts the relationship. The result of the study helps in understanding how metacognition is going to be beneficial for the students.

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