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METACOGNITIVE SKILLFULNESS AND EMOTIONAL INTELLIGENCE AMONG EMERGING ADULTS IN BETHANY COLLEGE

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Abstract

Metacognition is one of the unique concepts that help students strategize their learning, identify and understand the concepts, and manage their study plans along with their working hours. This skill set also makes them capable of making decisions for their field of study and makes them emotionally competent and efficient. Studies have suggested that people with higher levels of metacognitive skills perform better academically, are good with their learning capacities, manage themselves better with unfavorable scenarios, and outperform their metacognitively unaware counterparts. Emotional intelligence can strengthen social relationships, and lead to academic success. The present study investigated the relationship between metacognitive skillfulness and emotional intelligence. The study was conducted in Bethany College with 100 undergraduate emerging adults, 25 students from each year. Metacognitive Awareness Inventory (MAI) by Schraw and Dennison (1994) was used to assess the metacognitive skillfulness of the respondents and emotional intelligence was assessed with a survey adapted from the concept of emotional intelligence given by Daniel Goleman (1995). The results reflected a positive but weak correlation between metacognitive skillfulness and emotional intelligence among emerging adults. Results suggested that students with higher levels of metacognitive skillfulness and emotional intelligence are better planners, expert-like thinkers, and overall perform better academically.

Keywords

Metacognition, Emotional Intelligence, Emerging Adulthood, Emerging Adults

Humans are blessed with the advanced brain capacities which make them unique and differentiate them from other species. During the transition from the birth of a child to infancy, preceded to adolescence to young adult maturation, cognitive functions exhibit marked advancement, characterized by both quantitative growth and qualitative refinement. This developmental change is impacted by both their genes as well as their environment. They are born with basic organic structure with basic development but actual change happens when they start interacting with other people, their surroundings, and the number of experiences they gain with the scenarios they face as they grow. Interestingly, the early experiences always add to the later learning. The transition from adolescence to adulthood is a critical time frame where young adults redefine their lives.

The notion of emerging adulthood is relatively recent and gained traction primarily in Western societies. Emerging adults refer to those individuals aged 18 to 25 who undergo distinct developmental changes and experiences (Arnett, 2000). This age group faces a unique array of challenges, including pursuing higher education, securing employment, making decisions about early marriage or delaying it to advance career goals, and considerations about parenthood. This trend is also prevalent among the Indian population; consequently, with a predominantly youthful demographic, researchers are particularly interested in investigating this concept within the context of our country.

In several Western cultures, emerging adults (EAs) often delay marriage, prioritize higher education, and frequently alter their living arrangements. This life stage challenges conventional developmental norms (Arnett, 2006). During this period, they undergo emotional development (Reio & Sanders-Reio, 2020), cultivate more profound personal and social relationships, and solidify their political, academic, and career goals (Hochberg & Konner, 2020). By approximately age 25, significant neurological changes take place i.e. neurons are refined, white matter increases (Hochberg & Konner, 2020), and the frontal lobe reaches full maturation. These changes signify the transition from adolescence to adulthood (Meyer et al., 2019).

As they become adults, they become smarter in utilizing capacities which involves critical thinking processes such as reasoning, problem solving skills etc. Emerging adults are comparatively more apt at modifying and managing their cognitive skills to bring desirable changes than adolescents.

Arnett (2005) explained the emerging adulthood life stage in elaboration and discussed the life stage where these young emerging adults explores and fulfills new and difficult developmental tasks of a new stage, where they even explore further their identity, self-focused, and instable changes, and these changes are very common when an individual entering into their adulthood. This stage provides them with an opportunity to open up about themselves, their life choices and decisions, where they explores various aspects of their lives to feel more confident for career choices, family and loved ones connections, and most important about themselves.

King and Kitchener (2015) explored the changes in the executive functions, self-understanding, and increment in the cognitive complexity during the emerging adulthood stage. This complexity basically indicates the enhancement of metacognitive understanding which may points towards the strong connection with metacognitive self in emerging adults where they become more self-reflective in comparison to their previous stage.

Metacognition is one of the unique concepts that help students strategize their learning, identify and understand the concepts, and manage their study plans along with their working hours. This skill set also makes them capable of making decisions for their field of study and makes them emotionally competent and efficient.

The concept of metacognition was proposed by Flavell (1979) and it is defined as thinking about your own thinking which is elaborated as the awareness and understanding of one's cognitive processes. This skill encompasses the basic understanding of your thinking; its patterns along with knowing your strengths and weaknesses, and simultaneously working towards making yourself better day by day. Flavell classified metacognitive experiences as a representation of high order thinking processes where individuals are highly activated for their understanding of learning process. Metacognitive skills are self-motivated abilities where people keep self improving and directed towards the goals of their learning (Aşık & Erktin, 2019).

Metacognitive skills are further divided into knowledge and regulation components. Metacognitive knowledge or awareness indicate learner's understanding about their personal capacities both positive and negative, related to any particular task or may differ between tasks, and may also include goals, strategies, and achievements (Efklides, 2008; Perry, 2013; Tanner, 2012). Metacognitive knowledge comprise of three types, for ex. declarative, procedural, and conditional knowledge (Jacobs & Paris, 1987).

Declarative knowledge connotes the knowledge of you as a learner and factors that impact the learning performance (Schraw & Moshman, 1995; Schraw et al., 2006). It comprise of individuals' knowledge of their internal states such as self-efficacy, self-confidence, motivation, etc. and how these internal states play a major role in their performance (Harris et al., 2009). Collectively, declarative knowledge denotes to the individual, task at hand, and applied strategies for the attainment of the specified task.

Procedural knowledge points out to individual's understanding about the learning approaches and implementation of the procedural skills. Approaches to learning can be diverse, such as note taking, scanning and skimming through unimportant information, using mnemonics, etc. (Schraw et al., 2006).

Conditional knowledge deals with an individual's understanding about when, where, and why to utilize cognitive approaches (Flavell, 1979; Harris et al., 2009). Schraw et al. (2006) documented that when students are in the process of finishing a task, they estimate the demands of certain learning scenarios and select the most appropriate strategy based on a specific task.

Efklides (2008) explained the eetacognitve experiences as the knowledge of a person and how they feel when they encounter a task and how they process the information. Whereas, metacognitive skills are the strict use of strategies as in procedural knowledge in order to control cognition.

Metacognitve regulation comprise of metacognitive activities that assist controlling an individual's thinking or learning (Schraw & Moshman, 1995). The regulation of metacognitve processes consists of three important steps, i.e. planning, monitoring, and evaluating (Schraw, 1998; Tarricone, 2011; Veenman et al., 2006).

The first step is planning which is basically forecasting, deciding how the time and effort will be divided, choosing approaches, setting goals, and making plans to attain the set goals (Brown, 1987; Pintrich, 2004; Schraw et al., 2006; Schraw & Moshman, 1995; Zimmerman, 2002). Schraw and Moshman (1995) emphasized the positive outcomes of engaging oneself in planning. They documented that the outcomes of a particular task improves when people are involved in the planning step.

The next step is monitoring, is further divided into comprehension monitoring, information management strategies, and debugging strategies. Comprehension monitoring is basically checking if the text or process makes sense to the learner in which they are involved in. Information management strategies are the approaches to organize and manage the cognitive resources available to the learner. Debugging strategies are essential cognition regulation strategies that are used by the learner to recognize the weak areas in learning and accordingly plan and improve their performance. According to Schraw and Moshman (1995), monitoring is related to the recognition of comprehension and self-assessment during a learning scenario. Cera et al. (2013) mentioned the idea of period control of the proper use of approaches applied to achieve a particular task.

According to Zimmerman (2002), monitoring comprises self-observation activities, which is inclusive of monitoring their cognition, motivation level, emotional states, task-related demands, time and need for help. With monitoring, a learner controls their learning and how they complete their task and whether the strategies are working towards achieving the goal or not (Perry, 2013; Zimmerman, 2002). Eventually, learners can make improvements to their approach toward the task based on their understanding of declarative, procedural, and conditional knowledge, and also make further adjustments (Schraw et al., 2006).

Monitoring is a unique interesting process where learners' self-awareness of their learning and continuous scanning can improve the understanding of content and develop better problem-solving skills (Metcalfe, 2009; Serra & Metcalfe, 2009; Schraw & Moshman, 1995).

The third step is regulation of cognition is evaluation, which conveys assessment and regulation of an individual's learning (Schraw et al., 2006). This process linked with the achieved results and estimation of a learner's reactions to their results. Basically, evaluation is connected to planning process of metacognitive regulation. Tarricone (2011) concluded that when learners assess their learning, they may self-question if they were to retry the activity, and there may be scenario where they might apply the approaches differently. Moreover, they might reconsider the planning stage, focusing more on the skills and strategies differently, and keep in mind the conditional factors that impacted their performance (Tanner, 2012).

Studies have provided enough evidence of confirming the important role metacognition in academic success, as understanding metocognitive skills provides capacity to control their own learning. A number of studies had positively proved that students with high metaconotive capacities perform better than those who possess low metacognitive skills (Artelt et al., 2010; Thillmann, 2008; Winne & Nesbit, 2010). Moreover, studies had established positive correlation between metocognitive skills and learning objectives (Sungur &Senler, 2009; Veenman et al., 2004), academic success and learning environment (Dimmitt & McCormick; 2012; Dunlosky & Metcalfe, 2009; Efklides, 2014; Hacker et al., 2008), writing and reading skills (Chonan & Sawa, 2009; Harris et al., 2010), emotional responses in learning scenarios (Efklides, 2011; 2016; Karagiannides et al., 2015), and problem solving skills (Antonietti et al., 2000).

Learners who are metacognitively aware are more strategic and accomplish better than their counterparts, and it allows these individuals to plan, arrange, and monitor their learning in such a way that directly makes their performance better. Pintrich (2002) documented the characteristics of learners with higher levels of metacogntive knowledge. He mentioned that these individuals are able to adjust their cognition and thinking and can be more adaptive during solving the problems, are more capable to disseminate their understanding of approaches to new learning scenarios, and they can learn and perform in the classroom than who have little or no knowledge of their cognition.

Likewise, Zimmerman (1990) mentioned that learners who can regulate their learning and problem solving skills, they exhibit higher quality of academic functioning, i.e. could be placed in advanced level courses, etc. Alexander (2008) concluded that once students regulate their own learning eventually realize that they are effective learners and can apply additional approaches to control and monitor their motivation. Pintrich and De Groot (1990) documented that metacognitively active learners perform excellently on classroom tasks and assignments. Studies had concluded that the learners who are highly aware of their learning, they generally possess higher levels of academic success (Gaskill & Hoy, 2002).

Students with higher levels of metacognition, are better planners, expert-like thinkers, and perform better academically. In a study conducted by Wang et al (1990), they found strong connections between students' metacognitive skills and their overall performance in comparison to the students who are still in the process of making their metacognitive skills better. People with metacognitive skills perform better academically, are good with their learning capacities, manage themselves better with unfavorable scenarios, and outperform their metacognitively unaware counterparts.

In a longitudinal study conducted by Kleka et al. (2019), they set out to explore how young adults begin to recognize and understand their own cognitive biases which is a concept referred to as the metacognitive self (MCS). This research study aimed to uncover whether this self-awareness develops during a life stage known as emerging adulthood. This life stage was typically spanning the late teens to early twenties. The researchers tracked nearly 400 undergraduate students between the ages of 18 and 23 throughout the first three years of their university education. They collected the data at five different points during this period to monitor changes over time.

The findings revealed a noticeable increase in students' metacognitive self-awareness as they progressed through their studies. This growth was believed to be driven by the unique cognitive and motivational shifts that occur during emerging adulthood such as, increased independence, identity exploration, and critical thinking. Interestingly, the study also found that students who initially scored higher on the MCS scale tended to experience more pronounced growth in self-awareness compared to their peers who started with lower scores. These results suggested that emerging adulthood is a crucial window for developing the ability to recognize and reflect on one's own biases. Additionally, individuals may differ significantly in how this awareness unfolds with time and experience.

Emotional Intelligence

The concept of emotional intelligence is comparatively new to other types of intelligence. Mayer and Salovey (1990) proposed the concept of emotional intelligence, and define it as an essential capability of a person to understand and manage the emotions and simultaneously taking care of other people emotions, and it is like guiding force which guides us to facilitate our emotions in the best possible way.

Goleman (1995) proposed a model of emotional intelligence which presents a framework consisting of five key dimensions, which are organized into two primary categories of personal and social competencies. Personal competencies encompass three distinct aspects: ability to recognize and understand one's own emotions, capacity to control and direct one's emotional responses, and skill of self-motivation and maintaining a positive outlook. Whereas, social competencies are comprise of two crucial aspects, i.e. empathy and social aptitude. Empathy is the ability to understand and relate to others' emotions, and social aptitude involves effective interaction and relationship management with others. This model highlights the importance of both internal emotional management and external social skills in developing overall emotional intelligence. Being a personal competency, emotional intelligence reflects self-awareness, which a holding a clear cut perspective of your own personality, such as strengths, weaknesses, beliefs, motives, and feelings (Ferrari & Sternberg, 1998). As this personal competency grows, you develop the capacity to change your emotions and accordingly change your actions as well. Crisp and Turner (2014) explained self-awareness as a psychological condition in which people recognize their traits, feelings, and behaviors.

Another remarkable model for emotional intelligence was presented by Salovey and Mayer (1997), which is also known as the ‘ability model’. Ability model describes emotional intelligence as a set of mental capacities that contribute to logical thinking, and consists of four dimensions of emotions, namely perceiving emotions, using emotions, understanding and analyzing emotions, and managing emotions. They explained perceiving emotions as the ability to identify emotions in an individual’s ideas, language, and behavior; using emotions can understood as the various ways how an individual forms their ideas and cognitive activities by experiencing emotions in their lives, so basically, using emotions can be described the way we think is the way we feel. Understanding and analyzing emotions comprise of the capacity to differentiate among the complex emotions like feelings of love and hatred, and the understanding the sequence of these emotions lead to compound emotions, for example, with further addition of emotions to anger leads to fury. This dimension is also related to be aware of the references or meanings applicable to or exhibited by these emotions. Lastly, the fourth dimension of the ability model is managing emotions, which is the capacity to manage or control our own emotions as well as of other people around us, deals with controlling negative emotions and feelings along with that escalate the positive feelings without suppressing or exaggerating them. Additionally, it comprise of the capacity to be open to accept, manage, and regulate the emotions thoroughly in order to motivate and thrive to achieve the cognitive and emotional growth.

Emotional Intelligence is an understanding of emotions, facilitating thoughts, and managing emotions of your own and people around you. Developing emotional intelligence can make social relationships stronger lead to success in academics, and make your life satisfying. It has components of self-awareness, self-regulation, motivation, etc. embedded, which can further lead to overall academic achievement among college students (Mayer & Salovey, 1990).

Johnson (2008) conducted study on individual’s learning styles and emotional intelligence and concluded that the emotional intelligence is the capacity of emotions to reinforce thinking patterns. It also activates expression by shifting attention towards essential information as well as the capacity to identify and use the important emotions for sharing emotions to others or utilizing them in other cognitive processes.

Ekaterina and Byzova (2019) conducted a study to understand the attitude between emotional intelligence and metacognitive awareness on a group of university students. They conducted analyzed the data through multiple regression and the results indicated that the Metacognitive knowledge and Metacognitive regulation is influenced by the ability to understand and control other people's emotions.

A dynamic foundation for human development and sound decision-making is formed by the close relationship between metacognitive skillfulness and emotional intelligence. The capacity to examine one's own thoughts, or metacognition, enables people to identify emotional trends, evaluate their reactions, and modify their tactics for improved results. Through the development of empathy, self-control, and social awareness, emotional intelligence in turn improves metacognitive awareness. When frustration levels rise during a group chat, for example, someone can use metacognitive strategies to pause, examine their emotional state, and choose a more constructive course of action. Deeper interpersonal understanding, careful self-management, and fortitude in the face of adversity are all made possible by this synergy. When combined, they foster an introspective and emotionally sensitive attitude that is crucial for negotiating challenging social and cognitive environments.

Being in emerging adulthood stage which is considered as a transitioning phase between adolescence and adulthood, emerging adults are in the process of redefining their roles, emotions, relationships, decisions, and careers choices, etc., in this scenario, the intertwined role of metacognitive skills and emotional intelligence became even more important and thus, individuals need to strengthen their capacities even more. Therefore, the present

study investigates the relationship between metacognitive skillfulness and emotional intelligence among emerging adults in Bethany College.

Method

Sample

After receiving approval from the Institutional Review Board (IRB), participants were recruited for the study. This study included 100 participants, who were distributed into each academic year: freshman, sophomore, junior, and senior. The differentiation was not based on gender. The participants were belonging to various majors. The random sampling was used to recruit the participants in the study. Participants' names were replaced by participant numbers to further assist with confidentiality.

Instruments

The metacognitive skillfulness of the respondents of the study will be assessed through the Metacognitive Awareness Inventory (MAI) by Schraw and Dennison (1994). This inventory comprises questions based on the two components of metacognition i.e. knowledge of cognition and regulation of cognition. The Metacognitive Awareness Inventory is a 52-item inventory that provides quantitative data and measures the levels of metacognitive skillfulness in individuals. Each of the items is answered as True or false rated as '1' and '0'. The questions regarding emotional intelligence was adapted from the concept of emotional intelligence given by Daniel Goleman (1995), which is basically the competencies based on self-awareness, emotional management, etc. The overall time for filling out both of the surveys took less than 50 minutes.

Procedure

The study was conducted among the undergraduate students at Bethany College. The students were contacted in the classroom and communicated the purpose of the study. Those who willing to participate in the study, were presented with the informed consent form which had the details of the study. The levels of metacognitive skillfulness and emotional intelligence were investigated via questionnaire. The first step was to share the consent form and participants were given chance to read it thoroughly and sign. Participants who agreed and signed the consent form were provided with the questionnaire to begin the study. Each participant started by filling in demographic details which were combined with the questions related to main section of Metacognitive Awareness Inventory as well as the emotional intelligence scale. The data was collected offline, preferably in the classroom. All the ethical guidelines proposed by APA were thoroughly followed throughout the whole process.

Results

Table 1 ***Demographic profile of the emerging adults***

Variables	Categories	n	%
Gender	Male	42	42
	Female	53	53
	LGBTQIA2S+	4	4
	Non-binary	1	1
	Don't want to answer	0	0
Age	18-19	39	39
	20-21	41	41
	22-23	15	15
	Above 23	5	5
Academic Year	Freshman	26	26
	Sophomore	24	24
	Junior	27	27
	Senior	23	23

The demographic profile of the participants is presented in Table 1. It comprised of the gender, age range, and academic year of the participants. Most participants identified as either *male* (42%) or *female* (53%), indicating a relatively balanced gender distribution. A smaller percentage identified as part of the *LGBTQIA2S+* community (4%) or as *non-binary* (1%), reflecting the presence of gender diversity in the sample. No participants chose the "Don't want to answer" option, suggesting a general comfort in disclosing gender identity. The respondents under study were emerging adults (18-25 years) and the input was gathered across all levels of undergraduate study. A majority of respondents were aged *18–19* (39%) or *20–21* (41%), participants in the *22–23* age group made up 15%, while those *above 23* were only 5%, indicating fewer older students in the surveyed population. Students from all academic years were almost fairly equally represented—*Freshmen* (26%), *Sophomores* (24%), *Juniors*

(27%), and *Seniors* (23%). This demographic data helps paint a clearer picture of the participant pool and is essential for contextualizing the results of the research. Understanding who the participants are makes it easier to interpret their responses and see how representative the findings might be for a broader population.

Table 2 *Level of Metacognitive Skillfulness among emerging adults at Bethany College*

Levels of Metacognitive Skillfulness	n	%
Low	0	0
Medium	36	36
High	64	64

Table 2 reflected the levels of metacognitive skillfulness among the college students. The results indicated that a significant majority of the college students (64%) exhibit high metacognitive skillfulness, which suggests that they are aware of their learning styles and strategies and are capable of regulating and monitoring their learning and eventually attain academic success. The rest of the participants were found in the medium level of metacognitive skillfulness, whereas there was none into the low level of metacognitive skillfulness. This suggests that overall most of the students were well-equipped with reflective learning strategies.

Table 3 *Level of Emotional Intelligence among emerging adults at Bethany College*

Levels of Emotional Intelligence	n	%
Low	0	0
Average	56	56
High	44	44

Table 3 presents the distribution of emerging adults as per their levels of emotional intelligence (EI). The findings revealed that 44 per cent of the emerging adults belonged to higher levels of emotional intelligence, which suggests that these respondents were having the essential skill set to understand and manage their own as well as understand others' emotions. Additionally, handle social situations efficiently as well as demonstrating stronger interpersonal communication. Following with 56 per cent of the students holding average level of emotional intelligence, which is the indicative of a balanced capacity of recognizing and responding appropriately towards challenging times. Interestingly, there were no students classified in the lower level of emotional intelligence, which clearly introduces that the student population at the college is emotionally equipped to handle stress, maintain healthy relationship, and support learning. Overall, the data suggests that Bethany College's environment may support the development of emotional intelligence in its students through providing appropriate resources and support at the college campus. **Conclusively,** with no students in the lower range and a strong representation in the high and average categories, emotional well-being seems to be strength among emerging adults at the institution.

Table 4 *Correlation between Metacognitive Skillfulness and Emotional Intelligence*

		MAI	EI
MAI	Pearson Correlation	1	0.353**
	Sig. (2-tailed)		0.000
	N	100	100
EI	Pearson Correlation	0.353**	1
	Sig. (2-tailed)	0.000	
	N	100	100

** Correlation is significant at the 0.01 level (2-tailed).

Table 4 reflects the relationship between participants' metacognitive skillfulness and their emotional intelligence (EI). The results revealed a moderate positive correlation between MAI and EI, with a Pearson correlation coefficient of r = 0.366, which was statistically significant at the 0.01 level (two-tailed)**.** This indicates that as individuals' metacognitive awareness increases, their emotional intelligence also tends to increase. The significance value (p = 0.000) suggests a highly reliable association, meaning the likelihood that this result occurred due to chance is extremely low. These findings highlight the potential interconnectedness of cognitive self-awareness and emotional processing skills, suggesting that fostering metacognitive abilities may also support the development of emotional intelligence.

Table 5 *Correlation between Components and sub-components of Metacognition and Emotional Intelligence*

		EI	KOC	ROC	DK	PK	CK	P	CM	IMS	DS	E
EI	Pearson Correlation	1	.301**	.332**	.276**	.089	.240*	.337**	.236*	.204*	.149	.232*
	Sig. (2-tailed)		.002	.001	.005	.381	.016	.00 1	.018	.042	.140	.020
	N	100	100	100	100	100	100	100	100	100	100	100
KOC	Pearson Correlation	.301**	1	.547**	.778**	.642**	.650**	.349**	.283**	.471**	.458**	.419**
	Sig. (2-tailed)	.002		.000	.000	.000	.000	.000	.004	.000	.000	.000
	N	100	100	100	100	100	100	100	100	100	100	100
ROC	Pearson Correlation	.332**	.547**	1	.272**	.469**	.474**	.728**	.789**	.718**	.554**	.722**
	Sig. (2-tailed)	.001	.000		.006	.000	.000	.000	.000	.000	.000	.000
	N	100	100	100	100	100	100	100	100	100	100	100
DK	Pearson Correlation	.276**	.778**	.272**	1	.180	.217*	.125	.121	.279**	.301**	.180
	Sig. (2-tailed)	.005	.000	.006		.074	.030	.217	.232	.005	.002	.073
	N	100	100	100	100	100	100	100	100	100	100	100
PK	Pearson Correlation	.089	.642**	.469**	.180	1	.302**	.418**	.345**	.287**	.186	.395**
	Sig. (2-tailed)	.381	.000	.000	.074		.002	.000	.000	.004	.064	.000
	N	100	100	100	100	100	100	100	100	100	100	100
CK	Pearson Correlation	.240*	.650**	.474**	.217*	.302**	1	.253*	.169	.461**	.500**	.371**
	Sig. (2-tailed)	.016	.000	.000	.030	.002		.011	.093	.000	.000	.000
	N	100	100	100	100	100	100	100	100	100	100	100
P	Pearson Correlation	.337**	.349**	.728**	.125	.418**	.253*	1	.576**	.299**	.248*	.381**
	Sig. (2-tailed)	.001	.000	.000	.217	.000	.011		.000	.003	.013	.000
	N	100	100	100	100	100	100	100	100	100	100	100
CM	Pearson Correlation	.236*	.283**	.789**	.121	.345**	.169	.576**	1	.334**	.302**	.507**
	Sig. (2-tailed)	.018	.004	.000	.232	.000	.093	.000		.001	.002	.000
	N	100	100	100	100	100	100	100	100	100	100	100
IMS	Pearson Correlation	.204*	.471**	.718**	.279**	.287**	.461**	.299**	.334**	1	.438**	.422**
	Sig. (2-tailed)	.042	.000	.000	.005	.004	.000	.003	.001		.000	.000
	N	100	100	100	100	100	100	100	100	100	100	100
DS	Pearson Correlation	.149	.458**	.554**	.301**	.186	.500**	.248*	.302**	.438**	1	.209*
	Sig. (2-tailed)	.140	.000	.000	.002	.064	.000	.013	.002	.000		.037
	N	100	100	100	100	100	100	100	100	100	100	100
E	Pearson Correlation	.232*	.419**	.722**	.180	.395**	.371**	.381**	.507**	.422**	.209*	1
	Sig. (2-tailed)	.020	.000	.000	.073	.000	.000	.000	.000	.000	.037	
	N	100	100	100	100	100	100	100	100	100	100	100

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Table 5 reflects the interrelationship between emotional intelligence (EI) and components and sub-components of metacognition. The interrelationship was assessed through Pearson correlation analysis to quantify the strength and significance of associations across 100 participants under study. Broadly, metacognition is divided into two components, i.e. knowledge of cognition (KOC), and regulation of cognition (ROC). The Knowledge of Cognition (KOC) component of metacognition comprise of gaining and understanding of knowledge, and it further divides into three subcomponents, i.e. Declarative Knowledge (DK), Procedural Knowledge (PK), and Conditional Knowledge (CK).

The second component of the metacognition is Regulation of Cognition (ROC), and it deals with the conscious use of strategies of planning, monitoring, and evaluation of the cognition processes. The regulation of cognition is further divided into five subcomponents, i.e. planning (P), comprehension monitoring (CM), information management strategies (IMS), debugging strategies (DS), and evaluation (E). The overall correlation between Emotional Intelligence and various components and sub-components of Metacognitive skills reflected a

significant positive correlation. The results supported the hypothesis that emotionally intelligent individuals are more adept at self-regulation, strategic thinking, and reflective learning. The significant inter-component correlations within metacognition further reinforce the integrated nature of cognitive self-management. The majority of the correlations exhibited weak to average positive correlation between the variables.

Further probe into the data demonstrated that Emotional Intelligence (EI) was statistically significant positive correlations with Metacognitive components, such as Knowledge of Cognition ($r = .301$, $p < .01$), and Regulation of Cognition ($r = .332$, $p < .01$). Furthermore, Emotional Intelligence (EI) was also statistically and significantly positive correlated with the sub-components of Knowledge of Cognition i.e. Declarative Knowledge ($r = .276$, $p < .01$), and Conditional Knowledge ($r = .240$, $p < .05$). Emotional Intelligence (EI) showed no significant correlation with Procedural Knowledge ($r = .089$, $p = .381$) which reflected that Emotional Intelligence (EI) may not be directly associated with procedural knowledge.

In addition to Knowledge of Cognition, Emotional Intelligence (EI) was also statistically and significantly positive correlated with the sub-components of Regulation of Cognition (ROC), i.e. Planning ($r = .337$, $p < .01$), Comprehensive Monitoring ($r = .236$, $p < .05$), Information Management Strategies ($r = .204$, $p < .05$), and Evaluation ($r = .232$, $p < .05$). These results suggested that individuals with higher emotional intelligence tend to exhibit stronger metacognitive regulation, particularly in planning, monitoring, and strategic information management. Likewise in sub-component of Knowledge of Cognition, Emotional Intelligence (EI) showed no significant correlation with Debugging Strategies ($r = .149$, $p = .140$), indicating that emotional intelligence may not be directly associated with the capability to recognize their weaknesses in learning and adjusting accordingly in order to make their performance better.

Overall, these findings align with theoretical models suggesting that emotional intelligence enhances metacognitive functioning by fostering self-awareness, adaptive thinking, and emotional regulation. For instance, individuals with high Emorional Intelligence may be better equipped to plan and monitor their cognitive processes, and evaluate outcomes effectively.

Pearson correlation analyses were conducted to examine the relationships among key components of the study. The results revealed several statistically significant and robust inter-component correlations suggesting meaningful patterns in how these individuals engage with and process educational content. Notably, Knowledge of Cognition (KOC) was strongly correlated with Declarative Knowledge (DK), r=.778,p<.01$r = .778$, $p < .01$, indicating a substantial positive association between these constructs.

Additionally, Regulation of Cognition (ROC) demonstrated consistently strong correlations with multiple components. Regulation of Cognition was most strongly associated with Comprehension Monitoring (CM), r=.789,p<.01$r = .789$, $p < .01$, followed by Planning (P), r=.728,p<.01$r = .728$, $p < .01$, Information Management Strategies (IMS), r=.718,p<.01$r = .718$, $p < .01$, and Evaluation (E), r=.722,p<.01$r = .722$, $p < .01$. These findings suggest that Regulation of Cognition may play a central role in integrating various instructional and cognitive processes within the framework examined. These findings highlight the internal coherence of metacognitive processes, where regulation of cognition is tightly linked to strategic planning, monitoring, and evaluation.

This study underscores the importance of fostering emotional intelligence in educational and professional settings to enhance metacognitive skills. These findings suggest that emerging adults who engage in reflective observation are more likely to organize information conceptually, plan effectively, manage instructional strategies, and evaluate learning outcomes. Such interconnections may reflect the developmental shift toward metacognitive awareness and strategic learning that characterizes this life stage.

Overall, the strength of these correlations highlights the integrated nature of cognitive and instructional processes among emerging adults, with reflective practices playing a pivotal role in their academic and personal development.

Discussion

The present study investigated the relationship between metacognitive skillfulness and emotional intelligence among emerging adults enrolled at Bethany College. Drawing on Schraw and Dennison's (1994) Metacognitive Awareness Inventory and Daniel Goleman's (1995) framework of emotional intelligence, the study aimed to explore how cognitive regulation and emotional competencies interact during a critical developmental period.

The results revealed that a majority of participants demonstrated high levels of metacognitive skillfulness and average to high levels of emotional intelligence. These findings align with existing literature suggesting that emerging adulthood—a phase marked by increased autonomy, identity exploration, and academic responsibility—is associated with the development of higher-order thinking and emotional regulation skills (Arnett, 2000).

A statistically significant but moderate positive correlation was found between overall metacognitive skillfulness and emotional intelligence. This supports prior research indicating that individuals who are more emotionally aware and capable of managing their emotions tend to engage more effectively in metacognitive processes (Alavinia & Mollahossein, 2012; Sharei et al., 2012). However, the strength of this correlation was weaker than expected, particularly when compared to studies conducted with adolescents. This may reflect

developmental differences in how emotional intelligence is conceptualized and applied during emerging adulthood, or it may be influenced by the trait-based model used in this study.

Further analysis of inter-component correlations revealed that Regulation of Cognition (ROC) was strongly associated with several subcomponents of metacognition, including Planning , Comprehension Monitoring, Information Management Strategies, and Evaluation. These findings suggest that reflective practices are central to the regulation of cognition among emerging adults, reinforcing the importance of self-monitoring and strategic planning in academic contexts.

Interestingly, Knowledge of Cognition (KOC) showed a strong correlation with Declarative Knowledge, indicating that foundational factual knowledge remains a key predictor of content mastery. Emotional intelligence was positively correlated with several metacognitive components, suggesting that emotional competencies may support cognitive engagement and strategic learning behaviors.

These findings contribute to the growing body of literature emphasizing the interconnectedness of emotional and cognitive development in emerging adulthood. They also highlight the need for educational programs that foster both metacognitive awareness and emotional intelligence to support holistic student development.

This study underscores the relevance of emotional and cognitive competencies in shaping academic success during emerging adulthood. By fostering reflective thinking and emotional regulation, educators can better support students in navigating the complex demands of higher education and personal development.

There is no doubt that metacognitive skillfulness and emotional intelligence holds strong impact towards learning in adolescents, therefore, this study explored the impact for emerging adults. Majority of the studies reflected on the strong positive connection between metacognitive skillfulness and emotional intelligence in adolescence, suggesting that both of the processes often go hand in hand towards enhancing the learning and overall positively impacting the academic success. In a study by Wilson and Bai (2010), students with the high level of metacognitive awareness, are more successful in learning, as well as in decision making in general because they are aware of effective learning strategies.

Although multiple studies are consistent with the findings of the present study, such as exhibiting a positive connection between the two components under study. Study conducted by Alavinia and Mollahossein (2012), in which they concluded a positive relationship between learners' emotional intelligence and their use of metacognitive approaches.

In another study by Sharei et al (2012), the researchers concluded that the emotional intelligence and metacognitive skillfulness both play a major role in predicting problem solving ability.

Kalia and Saini (2022) investigated the level of emotional intelligence among undergraduate students and examine its association with metacognitive capabilities across gender. The sample was comprised of a total of 200 students (100 male and 100 female) that were randomly selected from the four constituent colleges of Punjab Agricultural University. This study had used the concept of emotional intelligence through the ability model (Mayer et al., 2000) and the Metacognitive Awareness Inventory (Schraw & Dennison, 1994). The findings indicated a strong positive correlation between emotional intelligence and metacognitive skills across genders.

However, in this study the moderate strength of the correlations and the variability across components suggest that emotional intelligence may not uniformly influence all aspects of metacognition. This raises important questions about the conceptualization of emotional intelligence—whether as a trait (Goleman) or as a cognitive ability (Mayer & Salovey)—and its implications for learning. Future research should consider comparing these models directly to determine which framework better predicts metacognitive outcomes in emerging adults.

To conduct a deeper evaluation of why the results may not be prominent, the future study should be conducted as a comparison between the models, i.e. idea of emotional intelligence based on Daniel Goleman's perspective and ability model by Mayer and Salovey. Future research should explore the differential impact of trait-based versus ability-based models of emotional intelligence on metacognitive processes. Comparative studies may clarify which framework better predicts academic and psychological outcomes in emerging adults.

In conclusion, while the study provides foundational evidence of the interplay between metacognitive skillfulness and emotional intelligence in emerging adults, addressing its limitations through broader, more nuanced research will deepen our understanding and improve educational outcomes for this pivotal age group.

Implications

The findings of this study carry important implications for higher education and student development. The observed connection between metacognitive skillfulness and emotional intelligence suggests that fostering both reflective thinking and emotional regulation can significantly enhance academic performance and personal growth in emerging adults. Educational institutions should consider integrating emotional intelligence training and metacognitive strategy instruction into their curricula to support holistic learning. Additionally, the variability in correlation strength across components highlights the need for more nuanced approaches, including comparative research on different models of emotional intelligence. Such efforts could inform targeted interventions and help educators better support students during this critical developmental stage.

Conclusion

This study offers valuable insight into the moderate yet meaningful relationship between metacognitive skillfulness and emotional intelligence among emerging adults. While the findings affirm a positive correlation, particularly between cognitive regulation and emotional competencies, they also reveal variability across components, suggesting that emotional intelligence may influence metacognition in complex, non-uniform ways. These results underscore the importance of fostering both reflective thinking and emotional regulation in higher education. Future research comparing trait-based and ability-based models of emotional intelligence could further clarify their distinct roles in shaping metacognitive development and academic success during this formative life stage.

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