International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

A Study of Metacognitive Skills and Emotional Intelligence Among Senior Secondary School Students of Central Kashmir

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Abstract

The present study explores the relationship between metacognitive skills and emotional intelligence among senior secondary school students in Central Kashmir. In an increasingly complex educational landscape, students' ability to regulate their cognitive processes and manage emotions plays a crucial role in academic success and personal development. This study aims to assess the levels of metacognitive awareness and emotional intelligence among adolescents and to investigate the correlation between these two psychological constructs. A quantitative research design was employed, involving a representative sample (i.e. 378, M=200, F=178) of senior secondary students. Standardized tool Metacognitive skills scale of Madhu Gupta and Suman (2017) was used to measure metacognitive skills and Emotional Intelligence Scale of A.K Singh and Shruti Narain (2022) was used to assess Emotional Intelligence. Statistical analyses revealed no significant difference on MCS on the basis of Stream. Similarly, no significant difference was found on the Emotional Intelligence among Senior Secondary School Students on the basis of their Stream. The findings underscore the importance of integrating metacognitive training and Emotional Intelligence into the school curriculum to enhance student learning outcomes. Implications for educators and recommendations for future research are discussed.

Keywords: Meta-Cognitive Skills, Senior Secondary School Students, Emotional Intelligence

Introduction

In the rapidly evolving educational landscape of the 21st century, academic achievement is no longer solely dependent on cognitive abilities such as intelligence and memory. Increasing attention is being paid to non-cognitive factors like metacognition and emotional intelligence, which play a critical role in students' learning, decision-making, and overall well-being. As students navigate complex academic and social environments, their ability to understand and regulate their thinking processes, as well as to recognize and manage emotions, becomes vital for personal and academic success.

Metacognition, commonly defined as "thinking about thinking," refers to the awareness and regulation of one's own cognitive processes. It includes planning, monitoring, and evaluating one's understanding and performance. Students with well-developed metacognitive skills are better equipped to approach learning tasks strategically, identify gaps in understanding, and adjust their efforts to meet academic goals effectively.

Emotional Intelligence (EI), on the other hand, encompasses the ability to perceive, understand, manage,

and utilize emotions in oneself and others. High emotional intelligence is associated with better interpersonal relationships, effective communication, stress management, and resilience—all of which are essential in the high-pressure environment of senior secondary education.

The region of Central Kashmir, with its unique socio-cultural and geopolitical context, presents a distinctive educational scenario where students often face academic stress compounded by socio-political uncertainties. It becomes essential to investigate how psychological factors like metacognitive skills and emotional intelligence influence students' academic journeys in such a context. While various studies have explored these constructs separately, there is a noticeable gap in the literature examining the interplay between metacognition and emotional intelligence among students in conflict-prone regions like Kashmir. This study, therefore, aims to assess the levels of metacognitive skills and emotional intelligence among senior secondary school students of Central Kashmir and to explore the relationship between the two. Additionally, the research seeks to identify any gender-based or stream-wise differences in these psychological traits. The findings of this study are expected to provide valuable insights for educators, counselors, and policymakers in designing interventions that support students' holistic development

Rationale of the Study

The senior secondary stage is a critical phase in a student's educational journey, marked by significant academic demands, emotional challenges, and decision-making pressures that shape future careers and life paths. In such a transformative period, students are expected to demonstrate not only cognitive proficiency but also the capacity to regulate their learning processes and manage emotional responses effectively. This dual demand underscores the importance of cultivating both metacognitive skills and emotional intelligence. Metacognitive skills empower learners to take control of their own learning by planning, monitoring, and evaluating their cognitive strategies. Students who are metacognitively aware are more capable of adapting to complex learning environments, thereby enhancing academic performance and fostering lifelong learning. Similarly, emotional intelligence enables students to navigate interpersonal relationships, manage stress, and make sound decisions, which are crucial for academic and personal success.

In the context of Central Kashmir, students face unique educational and emotional challenges due to the region's socio-political instability, frequent disruptions in academic calendars, and psychological stressors stemming from conflict-related uncertainties. These factors can significantly impact both metacognitive functioning and emotional regulation, making it imperative to study these constructs in the local context. Despite the growing global emphasis on emotional and metacognitive development in education, limited empirical research exists focusing on the interrelation of these variables among school students in Kashmir**,** particularly at the senior secondary level. Understanding the levels and relationship of metacognitive skills and emotional intelligence in this specific population can offer crucial insights into how students cope with learning and emotional demands under challenging conditions.

Moreover, identifying gender-based and stream-wise (Science, Arts**)** variations in these traits can inform more targeted educational interventions. The study, therefore, addresses a significant research gap and has practical relevance for teachers, school counselors, administrators, and policymakers aiming to design inclusive, responsive, and psychologically supportive educational frameworks in the region. By exploring the synergy between metacognitive skills and emotional intelligence, this research hopes to contribute to the broader goal of enhancing academic achievement, emotional resilience**,** and holistic development among students in Central Kashmir.

Objectives of the study

1. To assess the level of metacognitive skills and Emotional Intelligence among senior secondary students of Central Kashmir.
2. To compare Science and Arts Senior Secondary School Students on their Meta-Cognitive skills
3. To compare Science and Arts Senior Secondary School Students on their Emotional Intelligence

Hypotheses of the study:

1. There is a significant difference between Sciene and Arts Senior Secondary School Students on Meta-Cognitive skills
2. There is a significant difference between Science and Arts Senior Secondary School students on Emotional Intelligence

Definition of Key Terms

- **Metacognitive Skills**: It refers to the ability of learners to understand, monitor, and regulate their own learning processes.
- **Emotional Intelligence**: It refers to a student's ability to perceive, understand, manage, and regulate emotions in oneself and others in ways that promote emotional and intellectual growth
- **Senior Secondary School Students**: Students studying in Classes 11th and 12th.
- **Central Kashmir**: A region in the Union Territory of Jammu & Kashmir comprising three districts viz. Srinagar, Budgam, and Ganderbal.

Methodology :

This study is descriptive in nature. The study has been delimited to Central Kashmir only. As per the available records, thirty four thousand one hundred and thirty six (34136) Senior Secondary school students were enrolled in different Higher Secondary Schools of Central Kashmir. A sample of 378 students was chosen by the investigators using Krejcie and Morgan Method. The sample was chosen through simple random sampling technique. The required data was obtained through Meta-Cognitive Skills Scale of Madhu Gupta and Suman (2017) and Emotional Intelligence Scale of A.K Singh and Shruti Narain (2022)

Instruments:

1. **Metacognitive Cognitive Skills Scale:** This scale is developed by Madhu Gupta and Suman (2017), this standardized tool was used to assess students' metacognitive knowledge and regulation. The MCS scale consists of 42 items with four dimensions rated on a Likert scale and has been widely validated across age groups. The validity coefficient of the scale is 0.709 to 0.924 while as the reliability of the scale is 0.763
1. **Emotional Intelligence Scale:** This scale is developed by A.K Singh and Shruti Narain (2022).The scale consists of 31 items divided into four dimensions viz. Understanding Emotions, Understanding Motivation, Empathy and Handling Relations.
2. **Data collection Procedure:** Permission was obtained from the CEO'S and Principals of schools before administering the tools. The Metacognitive Skills Scale and Emotional Intelligence Scale was administered in a classroom setting under standardized instructions with appropriate consent and confidentiality measures in place.

Data Analysis

Quantitative data collected were analyzed using statistical techniques such as:

- **Descriptive statistics** (Percentage, mean, standard deviation) was used to summarize metacognitive skill levels and levels of Psychological Well- Being
- **t-test** was used to determine the differences in metacognitive skills and Psychological Well- Being among Senior Secondary School Students based on gender.

Ethical Considerations

All participants were informed about the purpose of the study and their right to withdraw at any time. Informed consent was obtained, and confidentiality of all data was strictly maintained.

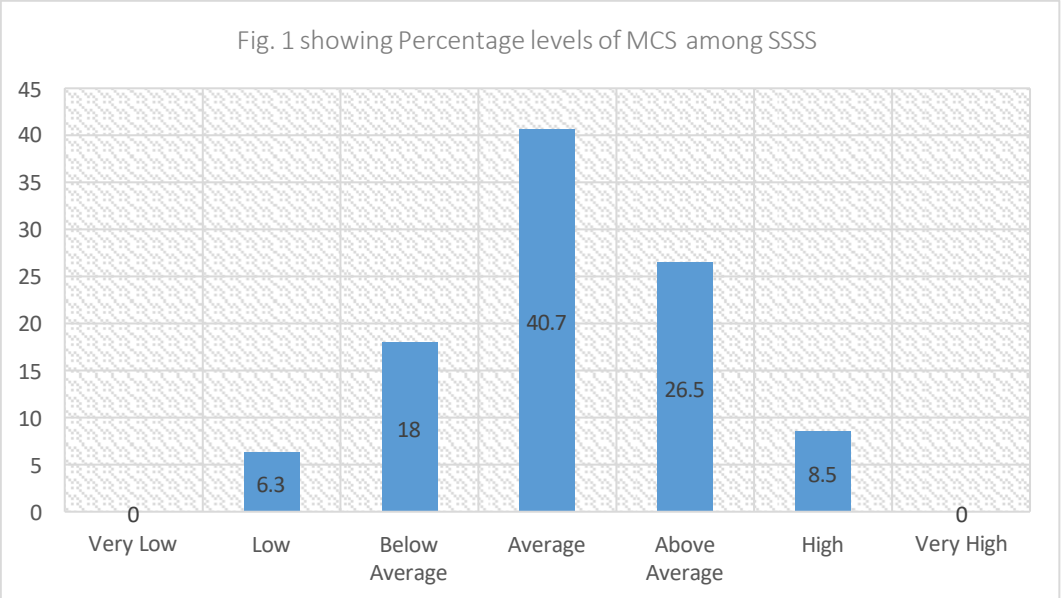
Analysis and Interpretation;

Objective No. 1; To assess the Meta-Cognitive skills and Psychological Well-Being of Senior Secondary School Students

Table 1 and Fig. 1: shows the description of Meta- Cognitive skills of Senior Secondary School Students

Table 1:

Levels of Meta-Cognition	Frequency	%age
Very Low	0	0
Low	24	6.3
Below Average	68	18.0
Average	154	40.7
Above Average	100	26.5
High	32	8.5
Very High	0	0
Total	**378**	**100**



Interpretation of Table 1 and Fig. 1:

Table 1 shows that none of the Senior Secondary school students possess very low levels of Meta-cognitive skills, 24 students which is 6.3 % of the sample students consist of Low level of Meta- Cognive Skills, 68 studets which is 18% of the sample students consist of Below Average level of Meta- Cognive Skills, 154 students i.e. 40.7% of the sample students consist of Average level of Meta- Cognive Skills. 100 students i.e. 26.5% of the sample students consist of Above Average level of Meta- Cognive Skills, 32 students i.e. 8.5% of the sample students consist of High level of Meta- Cognive Skills and none of the students consists of very high level of Meta- Cognive Skills.

Table 2 and Fig. 2: shows the description of Emotional Intelligence of Senior Secondary School Students.

Table 2:

Levels of Emotional Intelligence	Range of scores	Frequency	%age
Low	0-20	201	53.2
Average	21-26	162	42.9
High	27-100	15	4.0
Total		**378**	**100**

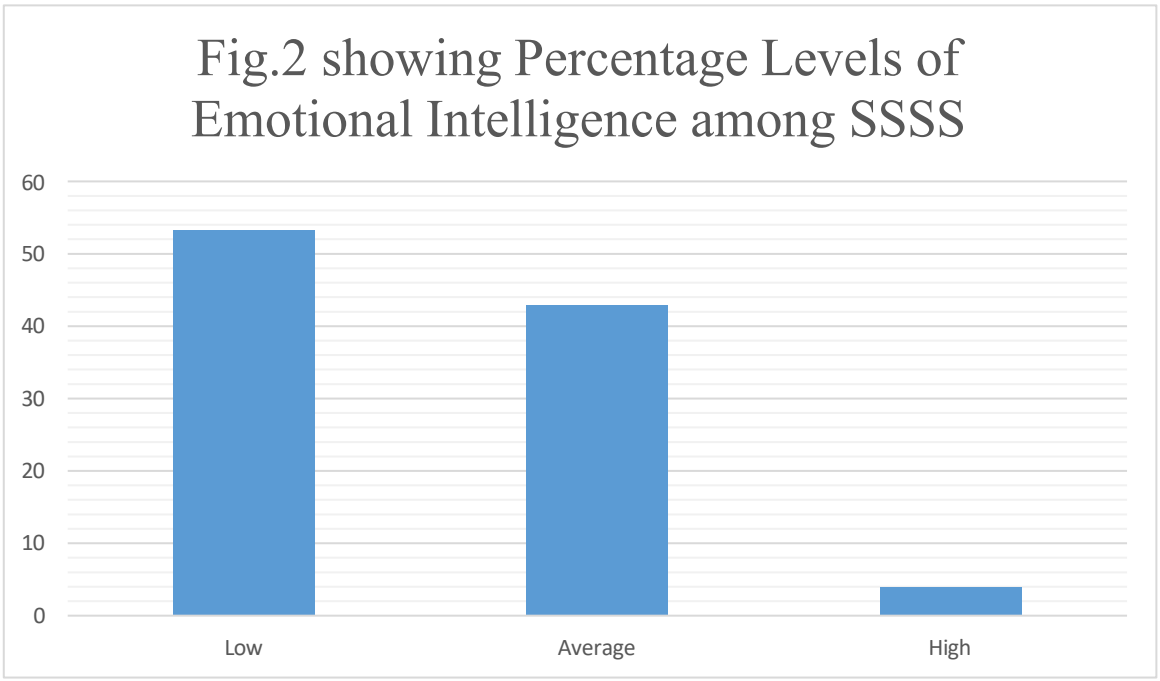


Table above reveals that 201 adolescents (53.2 % of sample) showed low level of Emotional Intelligence162 Adolescents (42.9% of participants) were average on Emotional Intelligence and 15 adolescents i.e. 4.0% of participants were average on Emotional Intelligence.

Objective No. 2; To compare Science and Arts Senior Secondary School students on their Meta-Cognitive skills

Table 3 and fig.3 shows the comparision of Science and Arts Senior Secondary School Students on their Meta-Cognitive Skills

Table 3:

Variables	SES	N	Mean	Std. Deviation	t-value	Df	Sig. (2-tailed)	Remarks
MCS	S	145	153.58	21.204	.251	376	.802	Insignificant
	A	233	153.00	22.221.				

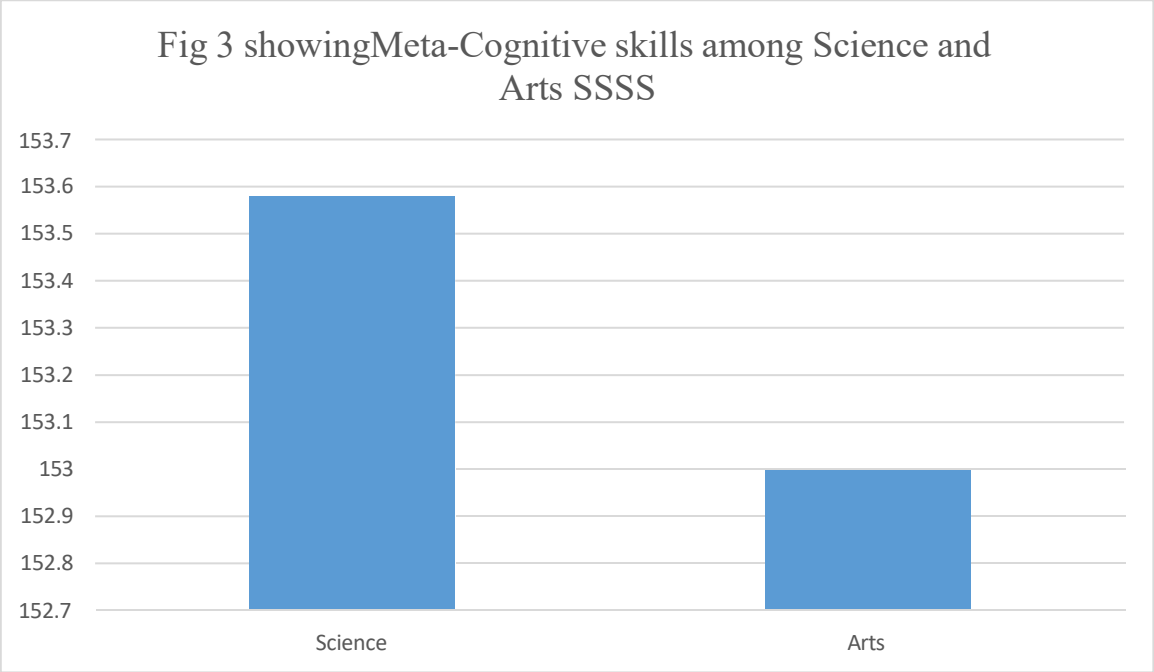


Table 3 and Fig.3 reflects the comparison between Science and Arts Senior Secondary School Students on Meta-Cognitive Skills. The mean score of Science Senior Secondary School Students was found to be 153.58 and for Arts students it was found to be 153. The t-value comes to be .251 and p-value as .802 (Insig. 2- tailed) which is greater than the 0.05α level. The table also reveals that there is an insignificant difference between Science and Arts Senior Secondary School Students on Meta-Cognitive Skills. Therefore the hypothesis "**There is a significant difference between Science and Arts Senior Secondary School Students with respect to their Meta-Cognitive skills**" stands rejected.

Table 4 and fig.4 shows the comparision of Science and Arts Senior Secondary School Students on their Emotional Intelligence

Table 4:

Variables	Stream	N	Mean	Std. Deviation	t-value	Df	Sig. (2-tailed)	Remarks
EI	S	145	19.98	3.562	-.519	376	.604	Inignificant
	A	233	20.20.	4.328				

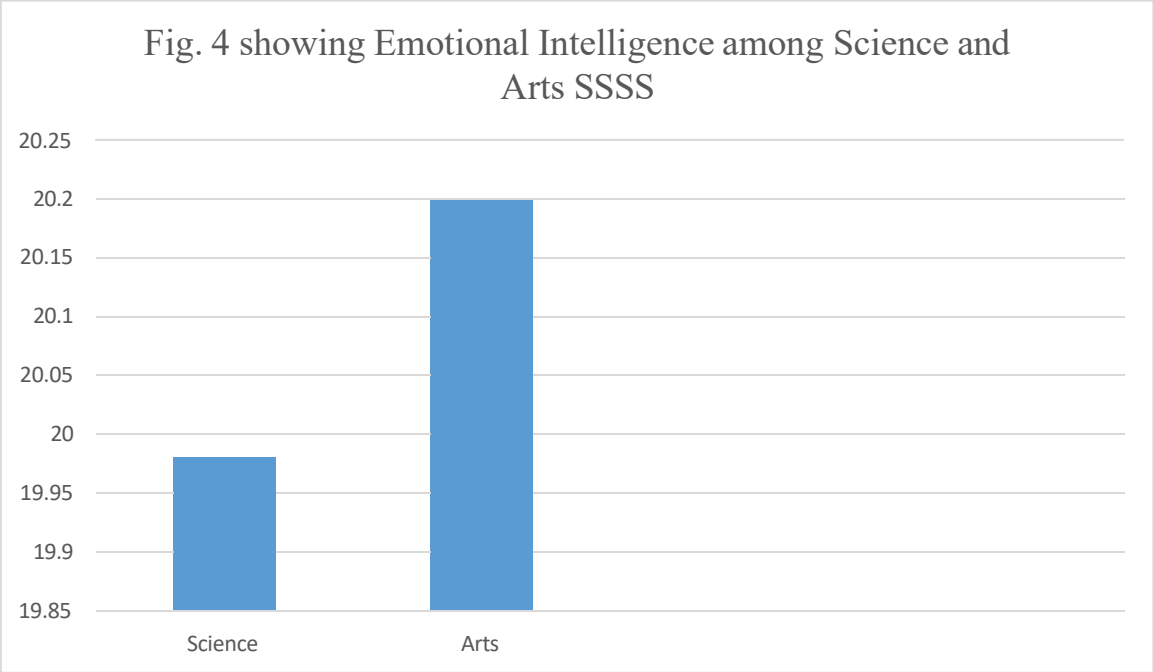


Table 4 anf fig. 4 reflects the comparison between Science and Arts Senior Secondary School Students on Emotional Intelligence. The mean score of Science Senior Secondary School Students was found to be 19.98 and for Arts students it was found to be 20.20. The t-value comes to be -.519 and p-value as .604 (Insig. 2- tailed) which is greater than the 0.05α level. The table also reveals that there is an insignificant difference between male and female Senior Secondary School Students on Emotional Intelligence. Therefore the hypothesis "**There is a significant difference between Science and Arts Senior Secondary School Students on Emotional Intelligence**" stands rejected.

Findings of the study:

The following results were revealed in this study.

1. The results reveal a difference between means of Science and Arts senior secondary school students on their Meta-cognitive skills
2. The results also reveal a difference between means of Science and Arts senior secondary school students on their Emotional Intelligence.
3. No statistically significant difference was found between Science and Arts senior secondary school students on Meta-cognitive skills.
4. No statistically significant difference was found between Science and Arts senior secondary school students on their Emotional Intelligence

Discussion of the results:.

The present study aimed to examine the levels of metacognitive skills and emotional intelligence among senior secondary school students in Central Kashmir and to explore differences based on academic stream, particularly between students from Science and Arts backgrounds. Contrary to commonly held assumptions that students in different academic streams may differ significantly in cognitive and emotional competencies, the findings revealed no statistically significant difference between Science and Arts students in both metacognitive skills and emotional intelligence**.**

This result suggests that academic stream alone may not be a determining factor in shaping students' metacognitive awareness or emotional capabilities. Both Science and Arts students appear to possess comparable levels of self-regulation, emotional awareness, and cognitive monitoring abilities, indicating that these skills might be more influenced by individual personality traits, educational environment, teacher support, and family background than by the subject stream itself. These findings align with recent research which challenges the traditional belief that science students, often assumed to be more analytical, inherently possess superior metacognitive abilities, or that arts students, typically viewed as more emotionally expressive, demonstrate higher emotional intelligence. In reality, both groups may receive similar exposure to learning strategies, classroom environments, and emotional experiences, especially in a region like Central Kashmir, where students across streams share common socio-cultural and political influences. Furthermore, the lack of difference might reflect the uniformity in teaching methods and academic pressures faced by students regardless of their stream. Teachers across disciplines may not be systematically emphasizing metacognitive strategies or emotional development, leading to a similar level of development in both groups. It is also worth noting that the regional context of Central Kashmir may play a moderating role. The stress and uncertainty associated with the socio-political climate in the region could create a shared emotional experience among students, irrespective of their academic orientation. As a result, emotional intelligence and metacognitive skills may develop more in response to external life challenges than internal academic choices. This finding has important educational implications. It highlights the need for stream-neutral interventions aimed at enhancing emotional intelligence and metacognitive skills across all students, rather than targeting specific groups based on academic disciplines. Educational programs and school counseling services in Central Kashmir should focus on creating supportive learning environments and training students in self-awareness, emotion regulation, and strategic learning - skills that are universally valuable, regardless of academic stream.

Educational Implications:

The findings of the present study, which revealed no significant difference in metacognitive skills and emotional intelligence between Science and Arts students, have several important implications for the educational system in Central Kashmir. These insights can inform the development of more inclusive and effective educational policies and practices that foster students' cognitive and emotional growth across all academic streams.

1. **Need for Stream-Neutral Skill Development Programs:** The absence of significant differences indicates that both Science and Arts students are at a similar level in terms of metacognitive awareness and emotional intelligence. Therefore, skill enhancement programs should not be limited to or tailored for a particular stream. Schools should design and implement stream-neutral interventions that focus on developing students' self-awareness, emotional regulation, and reflective thinking abilities across the board.
2. **Integration of Metacognitive and Emotional Learning into Curriculum:** The findings suggest that these skills are not automatically nurtured through subject-specific learning. Hence, it becomes essential to integrate metacognitive strategy training and emotional intelligence development into the general school curriculum. Teachers can include reflective practices, peer collaboration, goal setting, and self-assessment tasks across all subjects to build metacognitive competence.
3. **Role of Teachers and Educators:** Teachers across all streams should receive training in metacognitive instruction and emotional literacy, enabling them to model and teach these skills in their

classrooms. Since no stream-specific advantage was observed, it is evident that teacher practices and classroom climate can play a crucial role in fostering these abilities equally among all students.

4. **Emphasis on Socio-Emotional Learning (SEL):** Given the emotionally and socially challenging environment of Central Kashmir, there is a growing need to embed socio-emotional learning (SEL) as a core component of the school experience. Programs that build resilience, empathy, stress management, and emotional expression should be implemented across streams to help students cope with external stressors.
5. **Focus on Personalized Learning Approaches:** Since academic stream does not predict metacognitive or emotional skill levels, schools and educators should focus on individual differences rather than generalizing based on subject choice. Personalized learning plans that assess and support students' cognitive and emotional needs can lead to better academic outcomes and personal development.
6. **School Counseling and Support Services:** Schools should strengthen guidance and counseling **services** that support students' emotional well-being and cognitive self-regulation, irrespective of their academic stream. Counselors can conduct regular workshops and one-on-one sessions focused on improving metacognitive awareness and emotional coping strategies.
7. **Policy Implications:** Educational policymakers should recognize the need to de-emphasize academic stream stereotypes (e.g., that science students are more logical or arts students are more emotionally intelligent). Instead, policies should promote the universal development of life skills, metacognitive abilities, and emotional intelligence as part of holistic education across all subjects.

Suggestions for further research :

1. A similar study should be carried out with a large sample size
2. A Longitudinal study can be carried out on the same variables to track changes in Meta-Cognitive skills and Emotional Intelligence over time.
3. A study can be carried out comparing students from Central Kashmir with those from other regions (e.g., urban vs. rural, Kashmir vs. Jammu).
4. A study can be carried out to examine the influence of teacher support, classroom climate, or school infrastructure on students' metacognition and. Emotional Intelligence

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Conclusion:

The present study investigated the levels of metacognitive skills and emotional intelligence among senior secondary school students in Central Kashmir, with a focus on examining differences between students from Science and Arts streams. The results revealed no statistically significant difference between the two groups in either metacognitive awareness or emotional intelligence. This finding suggests that students, regardless of their academic stream, possess similar capacities for self-regulation, strategic thinking, emotional awareness, and interpersonal skills. It challenges common stereotypes that associate specific cognitive or emotional traits with particular subject areas and highlights the importance of addressing these skills as universal competencies rather than stream-specific attributes.

In the context of Central Kashmir where students face unique educational and emotional challenges due to socio-political instability, the development of metacognitive and emotional skills becomes even more critical. The findings underscore the need for equitable, stream-neutral interventions that promote holistic student development across all academic disciplines.

Ultimately, this study contributes to a growing body of research emphasizing the significance of integrating emotional intelligence and metacognitive training into mainstream education, not as add-ons, but as essential components of effective teaching and learning practices. Future research could further explore other influencing factors such as gender, socio-economic background, and school environment to provide a more comprehensive understanding of student development in the region.

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