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# STUDY OF ACADEMIC RESILIENCE AMONG ADOLESCENTS IN RELATION TO METACOGNITION

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## ABSTRACT

*The main objective of the present study was to correlate the academic resilience of the adolescents with their meta-cognition. To achieve this objective, Academic Resilience Scale (2018) by Mallick and Kaur, and Meta-Cognition Inventory (2003) by Govil were used. The sample consisted of 160 students of 11th class, selected randomly from private senior secondary schools affiliated to CBSE, New Delhi of Hoshiarpur District of Punjab, India. The sample was equally categorized between Boys & Girls and Science, Arts and Commerce streams. Statistical techniques viz.-Mean, Standard Deviation, Standard Error of Means, t-test, F-test and Coefficient of Correlation (r) were used to analyze the data. The results revealed that there exists significant difference in the academic resilience and meta-cognition of the boys and girls. Girls depicted greater academic resilience as compare to boys. Further, results revealed that there exists no significant difference in the academic resilience and meta-cognition of science, arts and commerce students. Also, a significant and positive relationship was found between academic resilience & meta-cognition of the private senior secondary school students.*

**KEYWORDS:** *Academic Resilience, Adolescents, Meta-Cognition*

## INTRODUCTION

Adolescence is a turbulent time charged with conflict and mood swings. The time period of transition from childhood is of great stress due to physical, cognitive, and emotional transformations (Hall, 1904). The capacity of resilience is one of the most essential personal factors influencing academic achievement. Resilience is a multidimensional construct (Cicchatte, 2013) and it is the ability to pass the hardest problems and overcome the most complex situations (Jackson, 2008). Adolescents face a lot of problems in their personal, academic, social, emotional, adjustment etc. spheres. In that situations, meta-cognition plays a significant role. It involves self-awareness of one's cognitive processes, including planning, monitoring, and evaluating learning strategies. This awareness helps students identify weaknesses, adjust their approaches, and persist in the face of difficulties, thus enhancing academic resilience. Students with strong meta-cognitive skills are better equipped to manage their learning, adapt to new situations, and cope with academic stress, leading to increased resilience. So, keeping in view the discussion made in preceding paragraph, the investigator made an attempt to study academic resilience of the adolescents in relation to meta-cognition.

### Academic Resilience

Academic resilience is described as good academic achievement despite adversity in the educational process. It is the ability to successfully deal with academic drawbacks and challenges that are typical of ordinary academic life (Martin & Marsh, 2006). In other words, it is a student's ability to handle the academic pressure, stress and difficulties in the academic or school life e.g. less marks or grades, exam pressure and stress, difficult school work etc. Broadly, academic resilience is a child's ability to maintain academic performance in the face of life. Academic resilience is a dynamic developmental process that involves many types of protective factors like individual, familial, institutional, or socio-environmental and these factors helps to nurture resilience in the child. Every child has a capacity to be a resilient child but it can only be possible if it is nurtured properly. Home or family is the first institution that encourages developing resilience in the child. After home, child is nurtured at school because they spend large amount of time within the educational system. Academically resilient students are able to transform difficult environments into a source of motivation by maintaining personal high expectations and aspirations, being goal-oriented, having good problem-solving skills, and being socially competent (Wang & Gordon, 1994).

### Metacognition

It is an awareness of one's thought processes and an understanding of the patterns behind them. The term 'meta-cognition' comes from the root word *meta*, meaning "beyond", or "on top of". Metacognition can take many forms, such as reflecting on one's ways of thinking, and knowing when and how oneself and others use particular strategies for problem-solving (Janet and Shimamura 1994). There are generally two components of meta-cognition such as cognitive conceptions and (2) a cognitive regulation system. Research has shown that both components of meta-cognition play key roles in meta-conceptual knowledge and learning.

According to Arslan and Akin (2014), meta-cognitive thinking, which makes people conscious of both themselves and other people while addressing problems, is the greatest level of mental activity. It is also the capacity to consider, comprehend, and manage one's learning. Culture and social learning also help

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to improve meta-cognition. Children learn meta-cognitive skills through informal experiences and formal schooling. Individuals use a variety of ways to build meta-cognition. Individual constructs may involve phenomenological bootstrapping, in which individuals project their cognitive experiences onto others and use these experiences as the foundation for a broader study on the nature of cognition (Beckwith, 1991).

## REVIEW OF RELATED STUDIES

Liliana and Lavinia (2011) studied gender differences in meta-cognitive skills. a study of the 8th grade pupils in Romania and found that generally both girls and boys use their meta-cognitive skills in learning. In addition, the results further indicate that there are significant differences in meta-cognitive skills between boys and girls.

Baniani and Davood (2021) Predicting academic resilience based on metacognitive beliefs and achievement motivation in high school students in Shiraz, Iran. Results revealed that meta-cognitive beliefs and motivation for progress significantly predict students' academic resilience.

Rasheed & Sultan (2021) studied academic resilience among male and female secondary school students and found that a notable difference in academic resilience between male and female secondary school students. The findings of this study suggested that female secondary school students tend to be more resilient than their male counterparts.

Devi and Fernandes (2023) studied the influence of meta-cognition on the academic resilience of senior secondary school students and found that gender of a child have no impact on his or her meta-cognitive awareness and academic resilience.

Pai and Sekhar (2023) investigated academic resilience and self-efficacy among young adults and found that Significant variations were identified concerning academic resilience when evaluated with academic qualifications, but no significant differences when concerning gender and streams of study. Furthermore, self-efficacy variations were not based on academic qualifications, gender, or educational stream. Also, the study's findings suggested a moderate negative association between the two variables.

DSouza and Singh (2024) studied academic resilience of boys and girls of higher secondary level and found that no significant difference in academic resilience between boys and girls in ISC schools.

Ozdemir, Sert and Yildirim (2024) examined the effect of mathematical meta-cognition awareness on academic resilience in mathematics and found that mathematical monitoring, one of the sub-dimensions of mathematical meta-cognition, directly affected academic resilience in mathematics while mathematical knowledge and mathematical determination indirectly affected academic resilience in mathematics.

Roy and Guha (2024) studied metacognitive awareness of higher secondary learners: the west Bengal perspective and found that there are no significant variations in the metacognitive awareness of West Bengal higher secondary learners based on their gender and academic stream but a discernible difference exists based on their locale.

Ali and Kumar (2025) studied gender differences in academic resilience: a study among secondary school students and found that the academic resilience of male and female secondary school students does not differ significantly and maximum secondary school students (47.26%) have an Average level of academic resilience.

Panda (2025) investigated academic resilience among rural and urban school students. The results showed that there was no significant difference in academic resilience between boys and girls in both rural and urban areas. However, urban students showed significantly higher levels of academic resilience than rural students.

Rajathi and Karthiyayini (2025) studied meta-cognition and academic resilience among higher secondary school students and found that there is a positive relationship between meta cognition and academic resilience among higher secondary school students.

## OBJECTIVES

The study was carried out with the following objectives:

1. To study the academic resilience of the adolescents.
2. To study the academic resilience of the boys and girls adolescents.
3. To study the academic resilience of science, arts and commerce stream adolescents.
4. To study the meta-cognition of the adolescents.
5. To study the meta-cognition of the boys and girls adolescents.
6. To study the meta-cognition of the science, arts and commerce adolescents.
7. To find out the relationship between academic resilience and meta-cognition of the adolescents.

## HYPOTHESES

The study was conducted to test the following hypotheses:

1. There exists no significant difference in the academic resilience of the boys and girls adolescents.
2. There exists no significant difference in the academic resilience of science, arts and commerce stream adolescents.
3. There exists no significant difference in the meta-cognition of the boys and girls adolescents.
4. There exists no significant difference in the meta-cognition of the science, arts and commerce stream adolescents.
5. There exists no significant relationship between academic resilience and meta-cognition of the adolescents.

## DELIMITATIONS

The study was carried out with the following delimitations:

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1. The study was delimited to Hoshiarpur district of Punjab only.
2. The study was delimited to Private Senior Secondary Schools affiliated to CBSE, New Delhi only.
3. The study was delimited to 11th class students only.
4. The study was delimited to 120 students only.
5. The study was delimited to 60 boys and 60 girls students only.
6. Further, study was delimited to 40 Science, 40 Arts and 40 Commerce students.

## METHOD

Keeping in view the nature of the study, the descriptive research method was used in the present study.

**Population**

Class 11th students of the all private senior secondary schools affiliated to CBSE, New Delhi of the Hoshiarpur District of Punjab was the population of the study.

**Sample**

The present study was conducted on a sample of 120 students of the 11th class selected through simple random method of probability sampling. The sample was equally categorized between boys-girls and science-arts and commerce students.

**Tools Used**

The following tools were used to collect the data for the present study:

1. Academic Resilience Scale (2018) by Mallick and Kaur.
2. Meta Cognition Inventory (2003) by Govil.

**Statistical Techniques Used**

Statistical techniques viz. Mean, Standard Deviation (SD), Critical Ratio (t-test), F-Test and Co-efficient of Correlation (r) were used to analyze and interpret the collected data.

## ANALYSIS AND INTERPRETATION

The results of the present study are elucidated as below:

**Table-I Showing the Significance of Difference in the Mean Scores of Academic Resilience of the Boys and Girls**

| Group | N | Mean | SD | $SE_M$ | 't'-Value |
|---|---|---|---|---|---|
| Boys | 60 | 191.55 | 10.55 | 1.93 | 5.64 |
| Girls | 60 | 202.43 | 10.59 | | |

Table-I depicts that 't'-value of academic resilience of boys and girls is 5.64 which is significant at both the levels of significance. Hence, there is significant difference in the academic resilience of boys and girls and the $H_0$1 is not accepted.

**Table-II Showing the Significance of Difference in the Academic Resilience of Science, Arts and Commerce Students**

| Source of Variation | SS | Df | MSS | F-Value |
|---|---|---|---|---|
| Between Groups | 9.45 | 2 | 4.725 | 0.034 |
| Within Groups | 16346.25 | 117 | 139.712 | |
| **Total** | 16355.7 | 119 | | |

Table-II depicts that F-value of academic resilience of science, arts and commerce students is 0.034 which is non-significant at both the levels of significance. Hence, there is no significant difference in the academic resilience of the science, arts and commerce students and $H_0$2 is accepted.

**Table-III Showing the Significance of Difference in the Mean Scores of Metacognition of the Boys and Girls**

| Group | N | Mean | SD | $SE_M$ | 't'-Value |
|---|---|---|---|---|---|
| Boys | 60 | 99.73 | 7.62 | 1.38 | 5.38 |
| Girls | 60 | 107.15 | 7.48 | | |

Table-III depicts that 't'-value of metacognition of the boys and girls is 5.38 which is significant at both the levels of significance. Hence, there is significant difference in the metacognition of boys and girls and the $H_0$3 is not accepted.

**Table-IV Showing the Significance of Difference in the Mean Scores of Meta Cognition of Science, Arts and Commerce Students**

| Source of Variation | SS | df | MSS | F-Value |
|---|---|---|---|---|
| Between Groups | 0.2167 | 2 | 0.10833 | 0.000764 |
| Within Groups | 16591.76 | 117 | 141.810043 | |
| **Total** | 16591.992 | 119 | | |

Table-IV depicts that F-value of meta-cognition of science, arts and commerce students is 0.000764 which is non-significant at both the levels of significance. Hence, there is no significant difference in the meta-cognition of science, arts and commerce students and the $H_0$4 is accepted.

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**Table-V Showing the Coefficient of Correlation between Academic Resilience and Metacognition of the Adolescents**

| Sr. No. | Variables | N | 'r' | Result |
|---|---|---|---|---|
| 1 | Academic Resilience | 60 | 0.383 | Positive Correlation |
| 2 | Metacognition | 60 | | |

Table-V depicts that the coefficient of correlation between academic resilience and metacognition of the adolescents is 0.383, which is positive and significant at both the levels of significance. Hence, there exists significant relationship between academic resilience and metacognition of the adolescents and $H_0$5 is not accepted.

## FINDINGS OF THE STUDY

On the basis of the interpretation of hypotheses, the following findings have been drawn:

1. There exists significant difference in the academic resilience of boys and girls adolescents (t=5.64). Girls depicted greater academic resilience (M=202.43) as compare to boys (M=191.55).
2. There exists no significant difference in the academic resilience of science, arts and commerce stream adolescents (F=0.034).
3. There exists significant difference in the meta-cognition of boys and girls adolescents (t=5.38). Girls depicted greater meta-cognition (M=107.15) as compare to boys (M=99.73).
4. There exists no significant difference in the meta-cognition of science, arts and commerce stream adolescents (F=0.000764).
5. There is significant positive relationship between academic resilience and meta-cognition of the adolescents (r=0.383). If meta-cognition of the adolescents will increase, their academic resilience will also be increased and vice-versa.

## CONCLUSION

In the present study it was found that there exists significant difference in the academic resilience and metacognition of the boys and girls adolescents. Girls depicted better academic resilience and metacognitive skills as compare to boys. Also, no significant difference exists in the academic resilience and metacognition of the science, arts and commerce stream adolescents. Further, a positive and significant relationship was found between academic resilience and metacognition of the adolescents. If the metacognition of the adolescents will increase, their academic resilience will also be increased and vice-versa.

### Educational Implications

The following are the educational implications of the present study:

- These results will give immense help to Teachers, Principals, Administrators, Curriculum Planners, Policy Framers, and Guidance & Counseling Workers etc. to know the problems of the adolescents, their causes and solutions.
- More efforts could be done to improve the academic resilience and metacognition of the boys adolescents.
- These results will also help the Teachers, Principals and Administrators to make school and class environment supportive.
- These results will help in the development of new teaching methods.
- Schools can incorporate Metacognition training into the curriculum to enhance students' ability to plan, monitor, and evaluate their learning strategies.
- Integrate metacognitive instructions in the classroom.
- Use of metacognitive prompts should be followed by the teacher during the teaching-learning process.
- Growth mindset, teaching coping strategies, promoting positive emotions, encouraging goal setting, and strengthening relationships should be followed by the teachers to enhance the academic resilience among the adolescents.
- Frequent Teachers-Parents meetings should be there.
- The present study will help the teachers and parents in the harmonious development of the adolescents.
- These results could help the teachers and parents that they should be regularly involved in the academic process of the students.

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