



## An analytical study of aggression level among art and science stream students

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### Abstract

This study aimed to examine the level of Aggression among Adolescent Based on Arts and Science Stream in the age range of 18-24 years. The research was conducted on 60 Adolescent out of 100 Adolescent, where 30 were from science and 30 were from arts. These 30 Adolescent in each stream were further bifurcated into 15 boys and 15 girls. The random sampling method was employed to chose the sample for the research study. Aggression Scale (AS) developed by Dr. (Mrs.) G.P. Mathur and Dr. (Mrs.) Raj Kumari Bhatnagar (2004) was used to access the level of Aggression Among Adolescent. The data obtained was to subjected to analysis using mean, SD, t-value, p-value, level of significance. The results indicated there is statistically significant difference of aggression levels between Adolescent based on arts and science stream. The study aims at establishing findings that would help manage the aggression levels of the Adolescent that has been on increase and also curb it in order to increase the efficiency and working of the Adolescent: resulting in the growth and development of the society.

**Keywords:** Aggression, Adolescent, Arts and Science

### Introduction

Aggression is a complex emotional behavior often characterized by actions intended to harm or assert dominance over others. It can be verbal, physical, or emotional, and may be reactive (impulsive) or proactive (planned). In the context of psychology, aggression is viewed not just as an individual trait but also as a response to environmental and social stimuli. Aggression is one of the most studied yet complex behaviors in psychology. It is broadly defined as any behavior directed toward another individual carried out with the intent to cause harm, and where the perpetrator believes that the behavior will harm the target. While aggression can be a normal reaction to certain stimuli, excessive or misdirected aggression can lead to personal, social, and academic difficulties.

### Understanding Aggression

Aggression can stem from a range of psychological, biological, and social influences. Biologically, it is associated with brain regions such as the amygdala and hypothalamus, and hormones such as testosterone and cortisol. Psychologically, aggression may be linked to learned behaviors, personality traits (e.g., low agreeableness, high neuroticism), or cognitive distortions. Social factors such as peer pressure, media influence, and family dynamics also contribute to its development.

Aggression is not always physical. It includes: Verbal aggression (e.g., yelling, insults), emotional or psychological aggression (e.g., manipulation, intimidation), relational aggression (e.g., exclusion, gossiping), passive-aggressive behavior (e.g., silent treatment, procrastination).

### Types of Aggression

- 1. Physical Aggression:** Includes actions such as hitting, pushing, or destroying property.
- 2. Verbal Aggression:** Includes yelling, insulting, or using threatening language.

- 3. Relational or Social Aggression:** Indirect behaviors like spreading rumors, social exclusion, or manipulation.
- 4. Passive Aggression:** Subtle expressions of hostility, such as procrastination, stubbornness, or intentional inefficiency.
- 5. Instrumental Aggression:** Aggression used as a means to achieve a goal (e.g., bullying to gain popularity).
- 6. Reactive Aggression:** A defensive, angry response to a perceived threat or frustration.
- 7. Proactive Aggression:** A deliberate and calculated act to dominate or gain control.

### Characteristics of Aggression

- **Intentionality:** Aggressive acts are usually deliberate.
- **Harmful Nature:** Aggression aims to hurt another person emotionally or physically.
- **Provocation:** Often triggered by frustration, conflict, or threat.
- **Expression Variability:** May be overt (physical/verbal) or covert (silent treatment, sabotage).
- **Emotional Instability:** Frequently accompanied by anger, anxiety, or lack of impulse control.

### Causes and Contributing Factors:

- **Biological Factors:** Hormones (e.g., testosterone), brain structure, and genetics.
- **Psychological Factors:** Personality traits like low frustration tolerance or impulsiveness.

- **Social Learning:** Imitation of aggressive models (family, media, peers).
- **Environmental Stressors:** Academic pressure, social conflicts, economic background.
- **Cognitive Processing:** Misinterpretation of social cues may increase aggressive responses.

### Aggression in Academic Settings

In academic environments, Adolescents often face performance pressure, competition, identity issues, and social adjustment challenges. These stressors can contribute to aggressive behavior, either directly or as a by-product of emotional dysregulation. The college period is particularly sensitive because students are transitioning into adulthood and forming long-term identity, beliefs, and behaviors. Understanding how aggression manifests among Adolescents in different academic streams can help educators and psychologists develop tailored interventions. Adolescents in the Arts stream, who are more engaged in interpretive and emotional disciplines, may experience and express emotions differently than Science students, who often engage with structure, logic, and precision.

### Objectives

1. To assess the level of aggression among college students (aged 18–24) in the Arts and Science streams.
2. To statistically assess aggression scores between the art and science stream students.
3. To assess the level of aggression scores between girls and boy art and science streams.
4. To determine whether academic stream influences aggression levels.

### Significance of the Study

**Aggression Among Adolescents: Why Study It?** Students, particularly at the college level, are in a developmental phase where they face emotional, academic, and social challenges. Academic stress, peer competition, identity exploration, and exposure to diverse ideologies can impact their emotional regulation. This makes them vulnerable to emotional outbursts and aggressive behavior.

Different academic streams often cultivate different thinking styles and emotional coping mechanisms. Arts students might be more emotionally expressive and subjective in thinking, while Science students often rely on logical reasoning and structure. This divergence may influence how aggression is experienced and expressed.

This study compares aggression levels between Arts and Science students, as well as between male and female students, using a standardized aggression scale. By identifying significant differences, the study aims to: Highlight the influence of academic orientation on behavior. Encourage educational institutions to consider emotional education help mental health professionals design better counseling strategies for youth. In today's world, where student mental health is a growing concern, such research is essential for building supportive academic and emotional environments.

### Adolescent across streams helps in

- Designing effective mental health interventions.
- Promoting positive peer interactions.

- Guiding educational reforms focused on emotional development.

### Review of Literature

The existing literature on this topic presents a mixed and often contradictory picture. One study found that arts stream students had a higher percentage of aggression and stress compared to science students. This research also noted that science students exhibited higher levels of anxiety and depression, suggesting they may internalize stress differently. Conversely, other research has found that students in industrial sciences reported higher levels of anger and aggression than arts students, though there was no significant difference in physical aggression. These findings underscore that the relationship between academic discipline and aggression is not straightforward and is likely mediated by other variables. A study by D. A. P. Yadav, "Aggression among Students: Comparative Study" (2021)<sup>[15]</sup> compared aggression levels between male and female students and found no significant difference between the two groups. Samani, S. (2008)<sup>[16]</sup> addresses the comparison of aggression between arts and industrial science students and finding that the latter reported higher anger and aggression. According to the study by Goel, S., & Naaz, M. (2021)<sup>[17]</sup>, the aggression among student teachers of humanities and sciences. This study provides a comparison between students in humanities and sciences, finding a higher percentage of aggression and stress in the former group while noting higher anxiety and depression in the latter. According to the study by Wang, M., Chen, M., & Chen, Z. (2023)<sup>[19]</sup>, the effect of relative deprivation on aggressive behavior of college students: A moderated mediation model of belief in a just world and moral disengagement. *BMC Psychology*, 11(1), 272. This modern study offers insight into the social psychological factors, such as relative deprivation, that can contribute to aggression in university students

### Several psychological theories offer potential explanations for these differences

**Frustration-Aggression Theory:** This theory posits that aggression is a result of a blocked goal or frustration. The highly competitive and demanding nature of some science disciplines may lead to increased frustration, potentially manifesting as aggression.

**Social Learning Theory:** This perspective argues that aggression is a learned behavior. Students may model aggressive behavior observed in their peers, teachers, or even through media, regardless of their academic field.

**Personality and Emotional Factors:** Research consistently shows that personality traits are a stronger predictor of aggression than academic discipline. High neuroticism and low agreeableness are strongly linked to aggression across the board. Depression, low life satisfaction, and lack of spiritual well-being have also been identified as significant predictors of aggressive behavior.

Previous studies in psychology and education have shown that academic environments influence emotional development. According to research by Baron & Richardson (1994)<sup>[1, 4]</sup>, environmental stressors such as academic load, peer competition, and emotional expression affect

aggression levels. Further, Buss (1961) indicated that males and females demonstrate aggression differently due to both biological (testosterone levels, neurological activity) and sociocultural factors (gender norms, upbringing). Studies on student behavior show that Arts students may experience more stress due to interpretive assessments and emotional content, which might lead to higher frustration levels. Conversely, Science students often work under pressure of accuracy and deadlines, which can also contribute to aggression but may be managed differently due to training in analytical reasoning. Singh & Dey (2018) [7] investigated emotional regulation among university students in urban India and found that students in humanities exhibited greater impulsive aggression, partially due to identity exploration and social media exposure. Ali & Kumari (2020) studied aggression in relation to online behavior and discovered that excessive screen time and online gaming were positively correlated with increased irritability and verbal aggression among college students. Rao & Verma (2022) [6] examined gender dynamics and concluded that male students are more likely to externalize aggression, while female students tend to show relational aggression-behavior intended to damage social relationships rather than cause physical harm. Sharma & Bansal (2024) [5] conducted a study across five Indian universities, finding that Arts students reported higher emotional dysregulation while Science students showed signs of cognitive fatigue and burnout-related aggression. This supports the General Aggression Model (Anderson & Bushman, 2002) [3], which emphasizes the interaction of individual and situational variables in aggressive behavior. These studies reinforce the idea that aggression is shaped by evolving cultural, educational, and technological influences, making stream- and gender-based interventions necessary.

**Methodology**

**Sample**

The study involves 60 students out of 100 students, aged 18–24 years, divided into:

- 30 Arts students (15 boys and 15 girls)
- 30 Science students (15 boys and 15 girls)

the data of the form was collected from different colleges of Aligarh, Uttar Pradesh. The participant for the study were collected through survey method.

**Tool Used**

The Aggression Scale by Dr. G.P. Mathur and Dr. Raj Kumari Bhatnagar was used, the scale consists of 55 with 5 points rating Scale. The Scale measure the only one dimensions of Aggression. The scale having reliability (reliability coefficient was.88 in boys and.81 in girls) and validity (validity was.80 in boys and.78 in girls).

Comparison Group	N	Mean	SD	t-value	df	p-value	Significance
Arts	30	43.0	6.2	2.47	58	0.017	Significant
Science	30	39.0	5.5				
Boys	30	44.1	6.4	2.35	58	0.022	Significant
Girls	30	40.2	5.6				

Arts students demonstrated higher levels of aggression compared to Science students. The independent samples t-test yielded a statistically significant difference (t=2.47, p=0.017), indicating that academic stream has a notable

**Procedure**

Participants were briefed about the study and consent was taken. The Aggression Scale was administered in a controlled classroom setting. Responses were scored, and data was subjected to independent sample t-tests to examine differences between groups. The study was conducted on the sample of 60 students among 30 Arts and 30 science streams in which there are 15 boys and 15 girls each. The sample for the study was taken using Random Sampling technique. The required data is collected in a class room setting. The age limit is from 18-24 years. A good Rapport was maintained with the individuals and then the Aggression Scale Questionnaire was given. A brief introduction about the project has been explained to the individuals. Then they were instructed as: This is a personal information schedule. There are some set of questions in the questionnaire where you should answer it correctly. The information given by you will be used only for the research purpose and it will be kept strictly confidential. Please feel free to ask any clarification. With these instructions the data will be collected and further scoring will be done. The test was administered very carefully. Further scoring and interpretation was done. All the responses of the subject in the Aggression Scale Questionnaire was recorded following the scoring procedure as mentioned in the answer key and the norms. The data obtained is further subjected to analysis.

**Scoring**

Aggression Scale is a self reporting five-point scale. Items of the scale are in question form, which demands the information for each in either of the options such as strongly accepted, accepted, undecided, disagree, strongly disagree. As described above, it is a 5-point scale. In the scale, statements are in two form i.e positive and negative. The total no of answer constitutes the final score, maximum score is 275 and minimum is 55. Higher scores show higher Aggression and lower scores show lower Aggression level.

**Statistical analysis**

Mean, Standard deviation, ‘t’ test, are applied and the result are analyzed to find out the level of significance. There will be no significant gender difference in aggression among students.

**Results and Interpretation**

In this study, the aggression levels of 60 students (30 Arts and 30 Science), including 15 boys and 15 girls from each stream, were analyzed using the Aggression Scale by Dr. G.P. Mathur and Dr. Raj Kumari Bhatnagar. The data was statistically evaluated using Mean, Standard Deviation (SD), and Independent Sample t-test to determine significant differences between groups

effect on aggression levels among students. The data also revealed that boys had a higher aggression mean score than girls. The independent samples t-test indicated a statistically significant gender-based difference (t = 2.35, p = 0.022).

These findings suggest that both academic orientation and gender play influential roles in shaping aggression levels among college students.

### Discussion

The study aimed at the level of Aggression Among Arts and science stream and between boys and girls, the result shows that there is statistically significant difference in the level of Aggression Among Arts and science stream and between boys and girls. The result of the mean applied to each group reflects that there is little more aggression in boys than girls. And from the table the value found to be significant. The above result supports by the studies conducted by Dr. (Mrs.) G.P Mathur and Dr. (Mrs.) Raj Kumari Bhatnagar proved statistically significant difference in aggression among students based on arts and science stream.

### Conclusion

The current study aimed to assess aggression levels among students based on academic stream (Arts vs. Science) and gender (Boys vs. Girls),

1. Arts students demonstrated significantly higher aggression levels than Science students. This suggests that the nature of academic content and emotional engagement in Arts may contribute to more expressive or unregulated emotional behavior.
2. Male students were found to be significantly more aggressive than female students. This is consistent with existing literature suggesting males are more prone to express aggression due to both biological predispositions and social conditioning.

These results are in line with psychological theories such as Bandura's Social Learning Theory, which highlights the role of modeled behavior and environmental influence, and the General Aggression Model, which considers the interaction of personal and situational factors in shaping aggressive behavior.

- Arts stream students are significantly more aggressive than Science students.
- Male students exhibit significantly higher aggression levels than female students.

These findings support the study's hypotheses and reinforce the importance of considering both academic environment and gender in understanding aggression among college students.

### Implications

- Emotional regulation training
- Counseling support programs
- Curricular adjustments to address mental health alongside academic goals.
- Final Note: Aggression among students should not be overlooked or dismissed as a simple behavioral issue. It reflects deeper psychological, social, and academic stressors that require targeted support and educational reform.

### Limitations

While the study offers meaningful conclusions, it is not without limitations: Small sample size (N = 60) limits generalizability. Restricted to one institution or geographic region, which

may not reflect broader student populations. Self-report bias in responses, as students may underreport aggressive tendencies due to social desirability.

### Suggestions

Counseling & Emotional Skills Training: Colleges should implement programs to help students develop emotional regulation.

- **Curriculum Reforms:** Include mental health awareness in both Arts and Science programs.
- **Further Research:** Expand sample size and include socio-economic and family background factors.

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