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EXPLORING THE INFLUENCE OF FOCUSED STUDY HABITS AND DISTRACTING FACTORS (AGGRESSION AND ALIENATION) ON MATHEMATICS ACHIEVEMENT OF SENIOR SECONDARY SCHOOL STUDENTS

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Abstract:
The present study aimed to explore the influence of major study habit distracters, namely aggression and alienation, on the mathematics achievement of senior secondary school students. Mathematics achievement is considered an essential indicator of academic success at the senior secondary stage; however, students' performance in this subject is often affected by behavioural and psycho-social factors. To achieve the objectives, the study adopted a descriptive survey method. A sample of 800 senior secondary school students from different schools of Rohtak town was selected for the investigation. Students' mathematics achievement was assessed through their previous class academic records. The data were analyzed using appropriate statistical techniques, including Analysis of Variance (ANOVA), to examine the effect of aggression and alienation on mathematics achievement. The findings revealed that both aggression and alienation had a statistically significant effect on students' mathematics achievement. The obtained results indicated that variations in aggression and alienation levels were associated with significant differences in achievement scores, leading to the rejection of the null hypotheses formulated for the study. The findings suggest that students with higher levels of aggression and alienation are more likely to show lower achievement in mathematics due to reduced concentration, weak academic engagement, emotional imbalance, and lack of belongingness. The study highlights the importance of addressing behavioural and emotional distracters in the school environment to enhance mathematics performance. The results may be beneficial for teachers, parents, counsellors, and educational administrators in developing supportive strategies to reduce aggression and alienation and promote better academic outcomes among senior secondary school students.
Keywords: Aggression, Alienation, Mathematics Achievement, Study Habit Distracters, Senior Secondary School Students, Descriptive Survey.

1.INTRODUCTION:

Mathematics is one of the most significant subjects at the senior secondary school level, as it strengthens logical reasoning, analytical thinking, and problem-solving skills. It also plays an important role in shaping students' future academic choices and career opportunities, especially in areas such as science, technology, commerce, engineering, and competitive examinations. Despite its importance, mathematics achievement among senior secondary school students often shows wide variation. Many students experience difficulties in understanding concepts, practicing regularly, and maintaining interest and confidence in the subject. These challenges indicate that mathematics achievement is influenced not only by intellectual ability but also by various academic, psychological, and social factors.

One important factor that supports academic success is the development of focused study habits. Focused study habits include regularity in study, proper time management, concentration, goal-oriented learning, systematic practice, and effective revision. In mathematics, where continuous practice and conceptual clarity are essential, such habits become even more crucial. Students who follow disciplined and structured study routines are more likely to perform better and show improvement in achievement levels.

However, along with positive study behaviours, students may also face distracting factors that hinder learning and reduce academic performance. Among these, aggression and alienation are important psycho-social factors that can disturb students' academic functioning. Aggression may be reflected in anger, hostility, irritability, or negative behaviour, which can reduce emotional stability and interfere with classroom learning. Aggressive students may

find it difficult to adjust socially, cooperate with peers, and maintain a positive relationship with teachers, resulting in decreased academic engagement. Similarly, alienation refers to feelings of isolation, disconnection, and lack of belongingness in the school environment. Alienated students often show reduced interest in learning, low participation, poor motivation, and weak emotional attachment to school and academic activities, which may directly affect their achievement.

The senior secondary stage is a crucial period marked by academic pressure, emotional changes, and future career-related stress. Therefore, exploring the influence of focused study habits and distracting factors such as aggression and alienation is important to understand their relationship with mathematics achievement. The present study aims to examine how these factors collectively affect the mathematics performance of senior secondary school students. The findings may provide valuable insights for teachers, parents, and counsellors to improve students' study practices and minimize behavioural and emotional distractions for better academic outcomes.

2. Aggression:

In the present study, aggression refers to the extent to which senior secondary school students exhibit hostile, angry, and disruptive behaviours in their academic and social environment. It includes verbal aggression (such as shouting, threatening, arguing, or insulting) and physical aggression (such as hitting, pushing, or damaging property). Operationally, aggression is defined as the score obtained by the student on the Aggression Scale selected/constructed by the researcher. A higher score indicates higher level of aggression, whereas a lower score indicates lower level of aggression.

3. Alienation:

In the context of the present study, Alienation refers to the feeling of isolation, detachment, rejection, and lack of belongingness experienced by senior secondary school students in the school environment. It reflects students' perceived disconnection from teachers, peers, classroom activities, and the overall learning process, which may reduce their academic participation and motivation. Operationally, alienation is defined as the score obtained by the student on the Alienation Scale used in the study. A higher score represents a higher level of alienation, while a lower score represents a lower level of alienation among students.

4. Academic Achievement (Mathematics Achievement):

For the purpose of the present study, Academic Achievement refers to the level of scholastic performance of senior secondary school students in the subject of Mathematics. It indicates the extent to which students have attained the expected learning outcomes in mathematics at their grade level. Operationally, academic achievement in mathematics is defined as the marks/grades obtained by the student in Mathematics (such as final examination marks, annual board examination marks, or achievement test scores as selected by the researcher). A higher score indicates higher mathematics achievement, whereas a lower score indicates lower mathematics achievement.

5. Rationale of the Study:

Mathematics is a key subject at the senior secondary school level as it forms the foundation for higher education and career opportunities in science, technology, commerce, and professional courses. Success in mathematics depends not only on intelligence or classroom teaching, but also on learners' study habits, motivation, emotional stability, and social adjustment. However, in many schools, a considerable number of students show low achievement in mathematics due to lack of concentration, poor study routines, and various psychological and behavioural distractions. Therefore, there is a strong need to identify the factors that promote or hinder students' mathematics achievement.

Focused study habits are essential for academic success, especially in mathematics, where regular practice, logical reasoning, and conceptual clarity are required. Students who maintain consistent study schedules, manage time effectively, revise regularly, and remain attentive during study are more likely to achieve better results. On the other hand, many students experience distracting psycho-social factors that interfere with learning. Among these, aggression and alienation are important variables that can affect students' academic performance.

Aggression may create emotional imbalance, classroom disturbances, poor peer relationships, and reduced academic engagement. Similarly, alienation may lead to feelings of isolation, low belongingness, weak participation, and decreased interest in academic activities. Both aggression and alienation can reduce the student's ability to stay focused and can negatively influence learning outcomes. Since adolescence is a sensitive stage marked by emotional changes, academic pressure, and identity development, senior secondary students are more likely to be affected by such distracters.

The present study is significant because it attempts to explore the influence of focused study habits and distracting factors (aggression and alienation) on mathematics achievement among senior secondary school students. Understanding these relationships can help teachers, parents, counsellors, and school administrators develop effective interventions to strengthen students' study behaviours, improve emotional adjustment, and reduce negative distractions. The findings of the study may also guide educators in creating a supportive learning environment that enhances academic performance in mathematics. Thus, this research is meaningful for improving both academic achievement and the overall development of senior secondary school students.

6. Objective of the Study:

- "To study the effect of Aggression (High/Low) on Maths Achievement of Senior Secondary School Students."
- "To study the effect of Alienation (High/Low) on Maths Achievement of Senior Secondary School Students."

7. Hypothesis:

- "There exists no significant effect of Aggression on Maths Achievement of Senior Secondary School Students."
- "There exists no significant effect of Alienation on Maths Achievement of Senior Secondary School Students."

8. Variables of the Study:

8.1. Dependent Variables:

- Maths Achievement

8.2. Independent Variables:

- Aggression
- Alienation

9. Tools Used:

- Student Alienation Scale by Sharma (2015)
- Aggression Scale Roma Pal and Tasneem Naqvi (1980)
- Academic achievement score was taken from students' previous class results.

10. Research Design:

The present study was undertaken to examine the relationship between study habit distracters and students' achievement in Mathematics. Since the subject of interest in this investigation was Mathematics, the researcher focused specifically on how selected distracters may influence students' performance in this subject. In order to achieve the objectives of the study and to understand the existing conditions related to the research problem, the descriptive survey method was adopted.

The descriptive survey approach was considered appropriate because it enables the researcher to collect information from a large group of respondents and analyze the patterns of association among variables as they naturally exist. Through this method, the study aimed to explore the presence of various study habit distracters and their possible influence on the Mathematics achievement of senior secondary school students. By using the survey method, the researcher attempted to obtain a clear picture of students' study behaviours and the psycho-social factors that may interfere with effective learning. The findings of this research design are expected to contribute to a better understanding of the factors associated with success and difficulties in Mathematics learning at the senior secondary level.

11. METHODOLOGY OF THE STUDY:

After conducting an extensive review of related literature and previous studies concerning the selected variables, the methodology of the present study was carefully planned. The purpose of planning the methodology was to ensure that the research design remained consistent with the stated objectives and that the hypotheses could be tested systematically.

For the present investigation, a sample of 800 senior secondary school students was selected from various schools located in Rohtak town. The sample size was considered adequate to provide sufficient representation of the target population and to enhance the reliability and generalizability of the findings within the given setting. The selection of Rohtak town as the research area was done deliberately in order to study the influence of study habit distracters on Mathematics achievement within a specific geographical context. The study intends to generate meaningful educational implications that may support teachers, parents, and educational planners in developing strategies to strengthen students' learning outcomes in Mathematics.

➢ **To study the effect of Aggression on Maths Achievement.**

Aggression (High/Low) X Maths Achievement						
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***
Between Groups	1640.56	4	410.14	30.29	0.0000000312	2.866
Within Groups	270.8	20	13.54			
Total	*1911.36*	*24*				

Table : Effect of Aggression on Maths Achievement

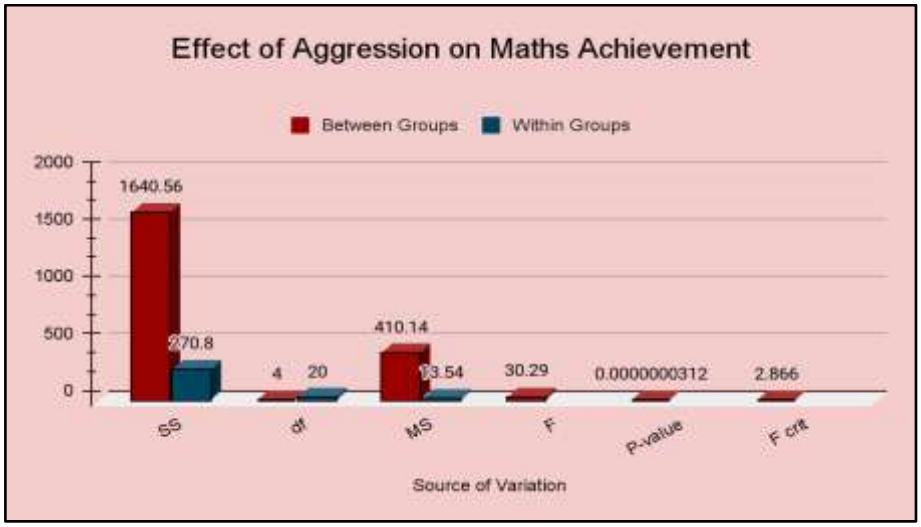

Figure : Effect of Aggression on Maths Achievement

Interpretation:- The data examines the relationship between aggression levels and mathematics achievement of senior secondary school students. The F-value for the groups (aggression levels: Saturated, High, Average, Low, Clean) is 30.29, and the P-value is 0.0000000312, which is far less than 0.05. This indicates that there is a statistically significant effect of aggression levels on mathematics achievement.

The Between Groups Sum of Squares (SS) is 1640.56, which accounts for a substantial portion of the total variability in mathematics achievement scores, while the Within Groups SS is much smaller at 270.8. The results suggest that differences in aggression levels significantly explain the variance in mathematics achievement among students.

Based on these findings, the hypothesis, "There exists no significant effect of aggression on mathematics achievement of senior secondary school students," is rejected. This highlights that aggression levels play a crucial role in determining students' performance in mathematics.

Students exhibiting higher aggression levels, such as Saturated Aggression, may struggle with concentration, impulse control, and effective problem-solving, leading to lower performance in mathematics. This aligns with the findings of Connor et al. (2004), who emphasized that high aggression can impair academic achievement due to disruptive behaviors and emotional dysregulation. Conversely, students with lower aggression levels or a "Clean" profile may have better emotional stability, allowing them to focus more effectively on academic tasks.

- **To study the effect of Alienation on Maths Achievement**

Table : Effect of Alienation on Maths Achievement

Alienation (High/Low) X Maths Achievement						
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***
Between Groups	1640.56	4	410.14	30.29	0.0000000312	2.866
Within Groups	270.8	20	13.54			
Total	1911.36	24				

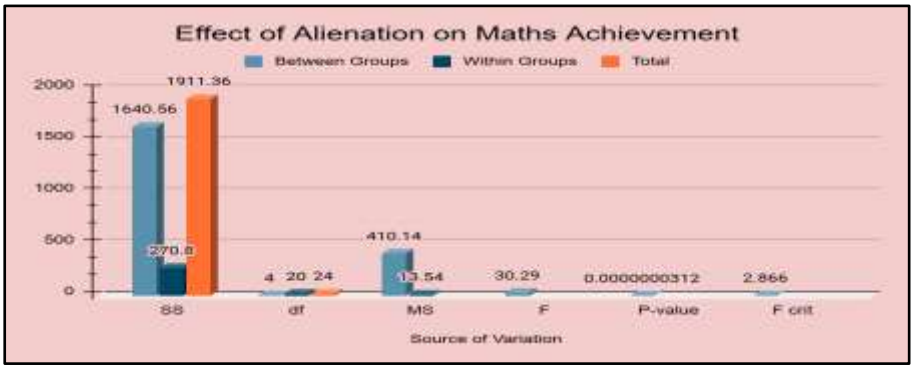

Figure : Effect of Alienation on Maths Achievement

Interpretation:- The data investigates the relationship between alienation levels (Saturated, High, Average, Low, Extremely Low) and mathematics achievement among senior secondary school students. The F-value for the

groups is 30.29, and the corresponding P-value is 0.0000000312, which is significantly less than 0.05. This indicates that there is a statistically significant effect of alienation levels on mathematics achievement.

The Between Groups Sum of Squares (SS) is 1640.56, which explains the majority of the total variance in mathematics achievement, while the Within Groups SS is relatively small at 270.8. The large F-value suggests a strong influence of alienation on students' math performance.

Therefore, the null hypothesis, "There exists no significant effect of alienation on mathematics achievement of senior secondary school students," is rejected. This demonstrates that alienation significantly impacts students' mathematics achievement. Students with higher levels of alienation, such as Saturated or High Alienation, often face feelings of disconnection, lack of belonging, and reduced motivation, which negatively affect their academic performance. Research by Battin-Pearson et al. (2000) highlights that alienated students are more likely to disengage from academic activities, leading to lower achievement levels. Alienation may also result in reduced participation in collaborative learning, further impairing students' ability to excel in mathematics.

12. Findings of the Study:

On the basis of the analysis and interpretation of the collected data, the following major findings were derived regarding the influence of **Aggression** and **Alienation** on the **Mathematics achievement** of senior secondary school students:

12.1. Effect of Aggression on Mathematics Achievement:

The results revealed that aggression has a **statistically significant effect** on the mathematics achievement of senior secondary school students. The ANOVA results showed an **F-value of 30.29** with a **p-value = 0.0000000312**, which is much lower than the significance level of **0.05**. This indicates that mathematics achievement differs significantly across different levels of aggression (Saturated, High, Average, Low, and Clean). Therefore, the null hypothesis stating that *"There exists no significant effect of aggression on mathematics achievement of senior secondary school students"* was **rejected**.

This finding suggests that students with higher aggression levels tend to show lower mathematics achievement, as aggression may negatively influence concentration, emotional control, and academic engagement. In contrast, students with low or clean aggression levels are more likely to demonstrate better emotional stability and focus, which supports higher achievement in mathematics.

12.2. Effect of Alienation on Mathematics Achievement:

The study also found that alienation has a **significant impact** on the mathematics achievement of senior secondary school students. The ANOVA results indicated an **F-value of 30.29** and a **p-value = 0.0000000312**, which is far below **0.05**, proving that mathematics achievement varies significantly across different levels of alienation (Saturated, High, Average, Low, and Extremely Low). Hence, the null hypothesis stating that *"There exists no significant effect of alienation on mathematics achievement of senior secondary school students"* was **rejected**.

This finding highlights that students who experience higher alienation are more likely to show reduced motivation, weak participation, and lower emotional connection with learning, which results in decreased mathematics performance. On the other hand, students with extremely low or low alienation are more engaged, confident, and academically involved, leading to better achievement outcomes.

13. CONCLUSION:

The present study was conducted to explore the influence of study habit distracters, particularly **aggression** and **alienation**, on the **mathematics achievement** of senior secondary school students. The findings of the study clearly indicate that both aggression and alienation have a **statistically significant effect** on students' achievement in mathematics. The ANOVA results showed a high F-value and a very low p-value ($p < 0.05$), confirming that variations in aggression and alienation levels lead to meaningful differences in mathematics achievement among students.

The null hypotheses framed for both variables were rejected, which signifies that aggression and alienation cannot be ignored while examining academic performance at the senior secondary level. Students having higher levels of aggression may face difficulties in maintaining focus, emotional control, and classroom adjustment, which negatively affects their learning outcomes in mathematics. Similarly, students experiencing alienation may develop low motivation, reduced participation, and feelings of disconnection from school and peers, which lowers their interest and performance in academic tasks. Thus, the study concludes that aggression and alienation act as significant psychological and social distracters that influence mathematics achievement.

14. Educational Implications:

The outcomes of the present study carry important educational implications for teachers, school administrators, parents, and counsellors:

- **Need for Emotional Support in Schools:** Since aggression and alienation significantly affect mathematics achievement, schools should focus on improving students' emotional well-being along with academic development.
- **Role of Teachers in Behaviour Management:** Teachers should use supportive classroom strategies to reduce aggression and encourage students toward positive behaviour and disciplined study habits.
- **Importance of Inclusive Classroom Environment:** A friendly, interactive, and cooperative classroom atmosphere can help reduce feelings of alienation and strengthen students' sense of belongingness.

- **Guidance and Counselling Services:** Regular counselling sessions can help students manage anger, stress, and emotional issues and enhance their motivation toward studies.
- **Focus on Study Habits and Motivation:** Promoting focused study routines, regular practice, and self-discipline among students may improve mathematics achievement significantly.

15. Suggestions:

Based on the findings of the study, the following suggestions are recommended to improve mathematics achievement:

- **Counselling and Anger Management Programs:** Schools should organize workshops on anger control, emotional regulation, and conflict management to reduce aggression among students.
- **Peer Group Activities and Cooperative Learning:** Group learning, peer tutoring, and collaborative classroom activities can reduce alienation and increase academic participation.
- **Strengthening Teacher–Student Relationship:** Teachers should interact positively with students, provide encouragement, and create trust to improve students' engagement and reduce isolation.
- **Parent Involvement and Supportive Home Environment:** Parents should motivate students, avoid harsh behaviour, and provide emotional support to reduce aggression and alienation.
- **Regular Monitoring of Students' Behaviour:** Schools should identify aggressive or alienated students early and provide timely interventions before it affects academic performance.
- **Motivation-Oriented Mathematics Teaching:** Mathematics teachers should adopt activity-based and student-friendly methods to increase interest and confidence in the subject.
- **Further Research Recommendations:** Future studies may include more variables such as academic stress, self-esteem, reasoning ability, study habits, and socio-economic status for deeper understanding.

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