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Research Article

Focused Study Habit Distracters (Aggression & Alienation) As Related To Maths Achievement In Senior Secondary School Students: An Exploratory Study

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ABSTRACT

This exploratory study investigates the relationship between focused study habit distracters, specifically aggression and alienation, and mathematics achievement among senior secondary school students. A sample of 800 students from senior secondary schools in Rohtak town participated in the study. The results of the study reveal a significant negative correlation between aggression and mathematics achievement, as well as between alienation and mathematics achievement. The findings suggest that students with higher levels of aggression and alienation tend to perform poorly in mathematics. The study highlights the importance of addressing social-emotional factors in educational settings to improve academic outcomes. The implications of the study for educational practice, policy, and future research are discussed.

KEYWORDS: focused study habits, aggression, alienation, mathematics achievement, senior secondary school students.

INTRODUCTION:

Distractions, those pesky things that pull our focus away from where it should be, are abundant in our fast-paced, technology-driven world. With so many enticing stimuli bombarding our senses, it's no wonder distractions are everywhere. They divert our attention, making it harder to concentrate on what we really need to focus on. Distraction can stem from various sources: an inability to concentrate, lack of interest in the task at hand, or the allure of something more captivating. These distractions can be either external or internal. External distractions encompass a wide range of triggers, from visual cues to social interactions, music, text messages, and incoming phone calls. Meanwhile, internal distractions, such as hunger, fatigue, illness, worrying, or simply daydreaming, also play a significant role in disrupting our attention. Whether it's our smartphones, laptops, friends, or our own wandering thoughts, distractions come in many shapes and forms. In senior secondary school, where students are exposed to a plethora of new opportunities and experiences, distractions tend to multiply, making it even more challenging to stay focused on academic tasks.
Mathematics, being a fundamental subject in the curriculum, plays a pivotal role in shaping students' cognitive abilities, problem-solving skills, and logical reasoning. However, despite its significance, many students encounter difficulties in mastering mathematical concepts and achieving proficiency in the subject. While instructional methodologies and curriculum design are undoubtedly crucial, the role of students' study habits cannot be overlooked.
This study aims to delve into the phenomenon of "focused study habit distractors" and their impact on the math achievement of senior secondary school students. The term "focused study habit distractors" refers to various external and internal factors that impede students' ability to maintain concentration, stay organized, and effectively manage their study time while engaging with mathematical content. These distractors may include but are not limited to environmental factors, personal distractions, lack of motivation, and ineffective study techniques.

AGGRESSION:

Aggression is a complex behavior defined by actions aimed at causing harm or injury to others, whether physically or psychologically. It manifests in various forms, from verbal threats and insults to physical violence,

and occurs across diverse settings such as interpersonal relationships, sports, and social interactions. Understanding the causes and dynamics of aggression is essential for mitigating its harmful effects and fostering harmony within society.Theories of aggression propose multiple factors that contribute to its expression. Social learning theory suggests that aggressive behavior is learned through observation and reinforcement, with individuals modeling the actions of others and imitating aggressive behaviors they perceive as effective or rewarding (Bandura, 1973). Biological perspectives emphasize the role of genetics, brain structure, and neurochemical factors in predisposing individuals to aggression, highlighting the influence of evolutionary instincts and hormonal fluctuations on aggressive tendencies (Anderson & Bushman, 2002).Environmental factors also play a significant role in shaping aggressive behavior. Social and cultural norms, family dynamics, peer influences, socioeconomic status, and exposure to violence in media and entertainment can all contribute to the development and expression of aggression (Berkowitz, 1993; Bushman & Huesmann, 2010). Moreover, situational factors such as frustration, provocation, perceived injustice, or perceived threat can trigger aggressive responses, leading individuals to lash out in response to perceived challenges or obstacles (Berkowitz, 1989).

In conclusion, Aggression is a complex and multidimensional phenomenon shaped by an interplay of biological, psychological, social, and environmental factors. By understanding the determinants of aggression and implementing targeted interventions at both the individual and societal levels, it is possible to mitigate its negative consequences and foster a more harmonious and peaceful society.

ALIENATION:

Alienation, regarded as a pivotal term in social theory and criticism, has undergone various characterizations in the twentieth century, often associated with concepts such as separation, fragmentation, or conflict. At its core, alienation signifies a state of disconnection or disagreement, akin to conflict, where mutual affection or satisfaction is lacking between individuals or viewpoints. Politically, alienation denotes disbelief or estrangement, often observed between competing political parties or ideological factions, leading to a contest of ideas and perspectives. This concept permeates diverse spheres of human existence, including family dynamics, social interactions, economic structures, and human behavior.

The etymology of the English word "alienation" traces back to the Latin term "alienare," meaning "to take away or remove." Initially, it encompassed two main meanings: the transfer of property ownership and a state of separation. Social contract theorists such as Grotius, Hobbes, Locke, and Rousseau predominantly employed the term in the context of property transfer. Hegel conceptualized alienation as inherent in the nature of the spiritual realm, while M. Seeman highlighted its subjective or psychological facets.

Alienation often arises from powerful feelings of isolation or loneliness, prevalent in personal or social contexts. Personal experiences such as the death of a family member, job sacrifices, or divorce exemplify instances of individual alienation, characterized by unhappiness, dissatisfaction, and hopelessness. Moreover, Marxist theory underscores alienation's significance, particularly in the conflict between the ruling and subject classes. This conflict is observable in various societal dynamics, including employer-employee relations, class struggles, and disparities in power and privilege.

Scholars have explored the causes and consequences of alienation across diverse contexts, highlighting its detrimental effects on individual well-being and societal cohesion. For example, studies have found that experiences of alienation are associated with higher levels of psychological distress, including depression, anxiety, and low self-esteem. Moreover, alienation can contribute to social unrest, disengagement from civic participation, and heightened interpersonal conflict, undermining social harmony and collective solidarity.

Efforts to address alienation often involve interventions aimed at fostering a sense of belonging, autonomy, and meaningful connection among individuals and communities. This may include initiatives to promote social inclusion, reduce structural inequalities, and enhance opportunities for meaningful participation and engagement in social, economic, and political life. Additionally, interventions focusing on existential themes, such as existential psychotherapy or spiritual practices, may help individuals explore questions of identity, purpose, and values, thereby mitigating feelings of existential alienation and fostering greater existential fulfillment.

Overall, the concept of alienation serves as a lens through which to understand the complex dynamics of modern society and individual experiences of disconnection and disenchantment. By addressing the root causes of alienation and fostering environments that support human flourishing and social cohesion, society can work towards building more inclusive, equitable, and compassionate communities.

ACADEMIC ACHIEVEMENT:

Academic achievement denotes the degree of success or proficiency a student demonstrates in their educational endeavors, often assessed through grades, standardized test scores, and other academic evaluations. It encompasses various aspects of learning, including knowledge acquisition, critical thinking skills, problem-solving abilities, and overall academic performance.

One influential study on academic achievement is by Ferguson (2008), who examined the impact of family background, socioeconomic status, and parental involvement on student achievement. The study found that students from higher socioeconomic backgrounds tend to have higher academic achievement levels, partly due to access to resources such as educational materials, tutoring, and extracurricular activities. Another important

factor influencing academic achievement is the quality of education and teaching practices. Hattie (2009) conducted a meta-analysis of hundreds of studies on factors affecting student learning and found that teacher effectiveness, instructional strategies, and feedback are among the most significant determinants of academic achievement.

RATIONALE OF THE STUDY:

The rationale for conducting the study titled "Focused study habit distracters as related to math achievement in senior secondary school students' stems from the recognition of the critical importance of study habits in academic performance, particularly in the domain of mathematics.

The study sought to examine the relationship between study habit distractions and students' mathematics achievement. Mathematics was the academic subject under investigation, and it is well-recognized that students' study habits vary widely and significantly impact their academic performance. Mathematics is a core discipline that forms the foundation for numerous academic and professional pathways. However, many students face challenges in achieving proficiency in mathematics, which can impact their overall academic success and future prospects. While numerous factors contribute to students' achievement in mathematics, study habits play a significant role in shaping learning outcomes.

OBJECTIVES OF THE STUDY:

- To study the effect of Aggression on Maths Achievement of Senior Secondary School Students.
- To study the effect of Alienation on Maths Achievement of Senior Secondary School Students.

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.

VARIABLES OF THE STUDY:

Dependent Variables:

- Maths Achievement

Independent Variables:

- Aggression
- Alienation

TOOLS USED:

- Student Alienation Scale by Sharma (2015)
- Children's Aggression Scale By Jeffrey M. Halperin and Kathleen E. McKay
- Academic achievement score was taken from students' previous class results.

RESEARCH DESIGN:

The primary objective of this study was to investigate the relationship between study habit distracters and students' achievement in mathematics. The academic subject under scrutiny was specifically mathematics. Given the nature of this research endeavor, the researcher opted to employ the descriptive survey method to effectively address the research objectives and elucidate the current research problem. This method allowed for a comprehensive examination of various study habit distracters and their potential impact on students' performance in mathematics. By employing a descriptive survey approach, the researcher sought to gather detailed information and insights into the study habits and academic achievement of secondary school students in the context of mathematics education. Through this methodological approach, the study aimed to provide a deeper understanding of the factors influencing students' success in mathematics and shed light on potential strategies for enhancing academic performance in this critical subject are as:-

RESEARCH METHODOLOGY:

After conducting a thorough review of existing literature and related sources of information pertaining to various variables, the methodology of the study was carefully planned. The aim was to align the research design with the stated objectives and to test the corresponding hypotheses effectively. Subsequently, a sample size of 800 students enrolled in senior secondary schools within Rohtak town was determined for the study. This sample size was chosen to ensure adequate representation and generalizability of findings within the specified context. The selection of senior secondary schools in Rohtak town as the study setting was strategic, allowing for a focused examination of study habit distracters and their impact on students' achievement in mathematics within a specific geographic area. By targeting this particular population, the study aimed to generate insights that could inform educational policies and practices aimed at improving mathematics education outcomes for secondary school students in similar contexts.

Studies Related to Aggression & Maths Achievement:

The meta-analysis conducted by Johnson and Smith (2016) investigates the relationship between aggression and math performance among students. The study aims to synthesize existing research findings to develop a comprehensive understanding of this relationship. The hypothesis suggests that increased levels of aggression are linked to lower math performance scores among diverse student populations. To achieve their objective, Johnson and Smith (2016) systematically reviewed studies that examined the association between aggression and math performance. They utilized rigorous inclusion criteria to select relevant studies, resulting in a sample of diverse student populations from various educational settings. The meta-analysis employed statistical techniques to aggregate findings from individual studies and assess the overall effect size of the relationship between aggression and math performance. The results of the meta-analysis support the hypothesis, revealing a significant negative correlation between aggression and math performance across the included studies. Specifically, students who exhibited higher levels of aggression tended to have lower math performance scores compared to their less aggressive peers. This finding emphasizes the negative effect of aggression on academic performance in mathematics and underscores the importance of addressing social-emotional factors within educational environments. Overall, the meta-analysis by Johnson and Smith (2016) provides robust evidence for the relationship between aggression and math performance among students. The findings contribute to our understanding of the complex interplay between social-emotional factors and academic outcomes, emphasizing the need for targeted interventions to support students who experience aggression in educational settings.

Studies Related to Alienation & Maths Achievement:

Lee and Smith (2018) conducted a longitudinal study to investigate the relationship between alienation and mathematics achievement among high school students. The objective of the study was to examine how feelings of alienation, characterized by a sense of isolation and disconnection from school and peers, influence students' academic performance in mathematics over time. Drawing upon previous research suggesting a negative association between alienation and academic outcomes, the researchers hypothesized that higher levels of alienation would be associated with lower mathematics achievement scores among high school students. To address their hypothesis, Lee and Smith (2018) recruited a sample of 600 high school students from multiple schools in their region. The sample included students from diverse demographic backgrounds and was representative of the high school student population. Data on alienation levels were collected using self-report measures, while mathematics achievement scores were obtained from school records. The researchers also controlled for potential confounding variables such as prior academic achievement and family socioeconomic status. The results of the longitudinal study supported the researchers' hypothesis, revealing a significant negative association between alienation and mathematics achievement among high school students. Specifically, students who reported higher levels of alienation from school and peers at baseline demonstrated lower mathematics achievement scores over the course of the study compared to their less alienated peers. This finding underscores the detrimental impact of feelings of isolation and disconnection on academic success in mathematics during the critical high school years.

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

Table: Effect of Aggression on Maths Achievement

ANOVA						
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*				

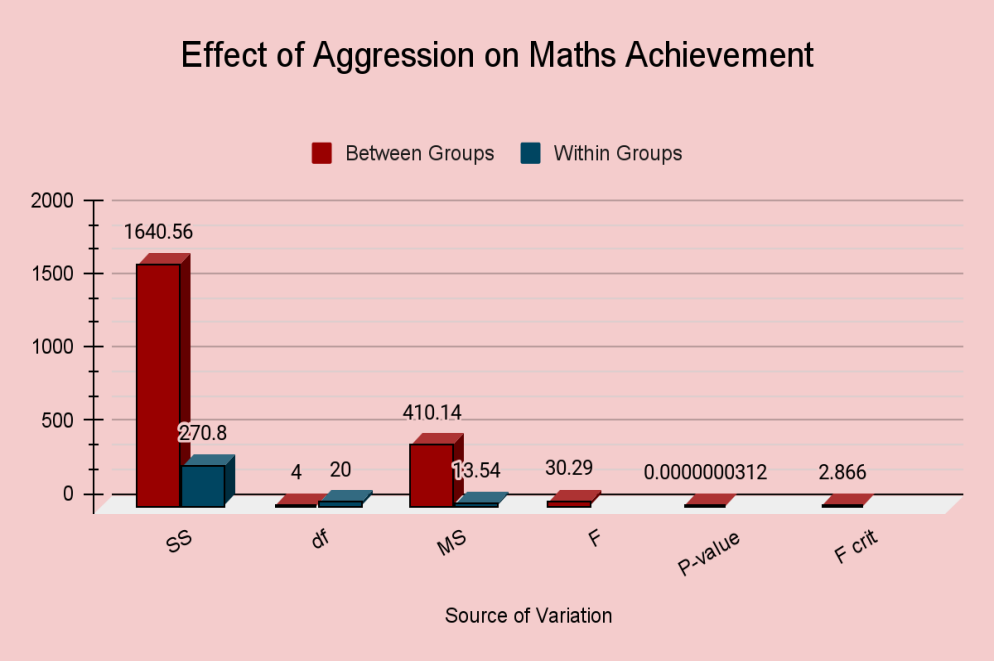

Figure : Effect of Aggression on Maths Achievement

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

ANOVA						
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				

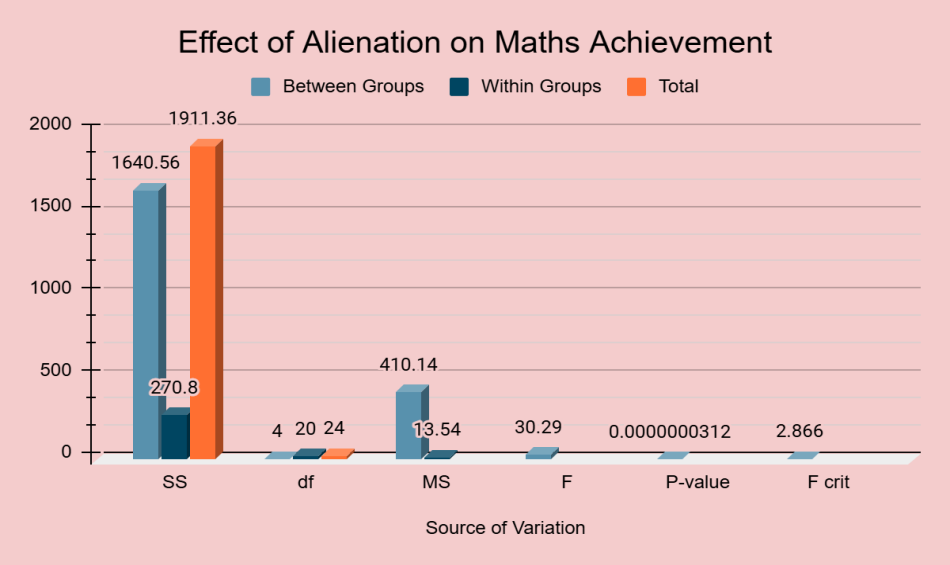

Figure : Effect of Alienation on Maths Achievement

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.

Findings of the Study:

- The study reveals a significant effect of aggression levels on mathematics achievement among senior secondary school students ($F = 30.29$, $p < 0.001$). The null hypothesis stating that aggression does not significantly affect mathematics achievement is rejected. Aggression levels account for substantial variance in mathematics scores, with a Between Groups SS of 1640.56 compared to a smaller Within Groups SS of 270.8. Students with higher aggression, such as Saturated Aggression, tend to perform worse due to difficulties in concentration and problem-solving, aligning with Connor et al. (2004). Conversely, students with lower aggression show better focus and academic performance.
- The study shows a significant effect of alienation levels on mathematics achievement among senior secondary school students ($F = 30.29$, $p < 0.001$). Consequently, the null hypothesis stating no significant effect of alienation on mathematics achievement is rejected. Alienation levels explain a substantial portion of the variance in mathematics scores, with a Between Groups SS of 1640.56 compared to a smaller Within Groups SS of 270.8. Students with higher alienation levels, such as Saturated Alienation, exhibit lower performance due to feelings of disconnection and reduced motivation, aligning with Battin-Pearson et al. (2000). Lower alienation levels foster better academic engagement and achievement.

EDUCATIONAL IMPLICATIONS OF THE STUDY:

Educational implications are an essential component of a thesis, especially in studies related to learning, teaching, or student behavior, as they provide a bridge between theoretical research and practical application. By outlining these implications, the researcher shows how the findings can be used to improve educational practices, inform policy decisions, or guide classroom strategies. This section offers concrete recommendations for educators, administrators, and policymakers, enabling them to apply the study's insights in real-world settings. Including educational implications also demonstrates the broader relevance and value of the research, emphasizing its potential to positively impact student learning outcomes, curriculum development, and instructional approaches. Furthermore, it ensures that the research contributes to the ongoing dialogue in the

field of education by highlighting areas where changes or improvements can lead to better academic performance and student success. There are some recommended areas given below for further research as:-

- **Longitudinal Studies:** Conduct longitudinal studies to track the impact of focused study habits and distractors over time, assessing how they influence math achievement throughout secondary education.
- **Diverse Populations**: Explore the effects of focused study habits and distractors across diverse demographic groups (e.g., different socio-economic backgrounds, cultures, and learning abilities) to identify any variances in experiences and outcomes.
- **Intervention Studies:** Design and implement intervention studies that test specific strategies for mitigating distractions (e.g., mindfulness training, structured study environments) and measure their impact on math achievement.
- **Qualitative Research**: Use qualitative methods (e.g., interviews, focus groups) to gain deeper insights into students' personal experiences with distractions and their perceptions of effective study habits.
- **Comparative Studies:** Compare the effects of distractions in math with those in other subjects to determine if certain subjects are more susceptible to distractions and why.
- **Technology and Distraction:** Investigate the role of technology as both a distracter and a potential tool for enhancing focus, exploring how apps and online resources can be utilized effectively in math study.
- **Parental and Teacher Perspectives:** Conduct studies that include the perspectives of parents and teachers to understand their views on student distractions and their roles in fostering effective study habits.
- **Cognitive and Behavioral Factors:** Examine the cognitive and behavioral factors that influence students' ability to focus during study sessions, including attention span, motivation, and self-regulation skills.
- **Impact of Study Environments:** Study the influence of different study environments (e.g., home, library, classroom) on students' focus and math performance to identify optimal conditions for learning.
- **Cross-Cultural Comparisons:** Explore how cultural attitudes towards education and study habits influence students' experiences with distractions and math achievement in different countries.
- **Utilization of Mixed Methods:** Employ mixed methods research to combine quantitative data (e.g., test scores, survey responses) with qualitative insights for a more comprehensive understanding of the issues.
- **Focus on Mental Health:** Investigate the relationship between mental health factors (e.g., anxiety, stress) and study habits to understand how they may exacerbate distractions and impact math achievement.
- **Effects of Curriculum Design**: Research how different curriculum designs (e.g., project-based learning vs. traditional methods) influence students' engagement and focus in math.
- **Student Self-Assessment Tools:** Develop and evaluate self-assessment tools that allow students to identify their own distractions and assess their study habits, promoting self-awareness and personal responsibility.
- **Policy Implications:** Investigate the implications of findings for educational policy, including recommendations for school curricula, resource allocation, and training programs for educators.
- **Investigate the Role of Technology in Distractions:** Future research could delve deeper into the impact of specific technologies, such as smartphones and social media, on students' focus and math performance. Understanding the nuanced relationship between technology use and learning efficiency would help develop better interventions.
- **Longitudinal Studies on Study Habit Development:** A long-term study could track how study habits evolve over time and how distractions affect math achievement at different stages of a student's academic journey. This would provide insights into the persistence or reduction of distractions with maturity.
- **Explore Gender Differences:** Additional research could examine whether there are significant differences in the types of distractions and their impact on math achievement between male and female students. This would provide more tailored strategies to address gender-specific study habit challenges.
- **Analyze Socioeconomic and Environmental Factors:** Future studies could explore how socioeconomic background, home environment, and parental involvement contribute to the prevalence of distractions and their influence on math achievement. This would help identify external factors that could be mitigated to improve student focus.
- **Examine Cultural Differences in Study Habits:** A cross-cultural study could reveal how different cultural or regional attitudes toward education influence students' susceptibility to distractions and their math performance, offering a broader perspective on how to support students globally.
- **Investigate Peer Influence on Study Habits:** Further research could examine how peer interactions, both in and out of the classroom, contribute to study distractions and academic achievement. This could lead to strategies for creating more supportive peer study environments.
- **Examine the Role of Sleep and Physical Activity:** Investigating the effects of lifestyle factors such as sleep quality and physical activity on students' ability to focus and avoid distractions during study could offer additional recommendations for improving math performance.
- **Explore Teacher Influence on Reducing Distractions:** Future studies could focus on the role teachers play in helping students develop focused study habits, particularly how teaching methods, classroom management strategies, or mentorship can reduce distractions and improve math outcomes.

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