

RELATIONSHIP BETWEEN EFFORT REGULATION AND GOAL ORIENTATION AMONG SECONDARY SCHOOL STUDENTS IN KADUNA STATE, NIGERIA

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Abstract

This study investigated the relationship between effort regulation and goal orientation among secondary school students in Kaduna state, Nigeria. The study was guided by three objectives, which were transformed into three research questions and hypotheses. The study adopted correlational research design and the population of the study comprises of seven hundred and ninety-nine (799) public secondary schools in Kaduna state, from which a sample of 384 respondents were selected using a multistage sampling technique. The instruments used for data collection were Motivated Strategies Learning Questionnaire adapted from Meijs, et al. (MSLQ-R 2019) and Achievement Goal Orientation Questionnaire adapted from Elliot, et al. (AGQ-R 2008). The result of reliability test for the pilot test using Cronbach's Alpha yielded 0.76 for Effort Regulation and 0.77 for Goal Orientation. Pearson Product Moment Correlation Coefficient (r) was used to test hypotheses at 0.05 level of significance. The findings revealed that there is a positive correlation between effort regulation and mastery approach ($r = 0.650$, $p = 0.001$), significant relationship between effort regulation and performance approach ($r = 0.700$, $p = 0.001$), and significant relationship between effort regulation and performance avoidance ($r = 0.600$, $p = 0.001$). It was concluded that a significant relationship exists between effort regulation and goal orientation among secondary school students in Kaduna state. Based on the findings, the study recommended among others that schools and teachers should promote mastery-oriented learning by incorporating effort regulatory learning into classroom activities to deepen understanding.

Keywords: Relationship, Effort Regulation, Goal Orientation, Secondary School Students.

Introduction

Education is a crucial aspect of human development and plays a vital role in shaping individuals for future endeavors. In the context of secondary school students in Kaduna state, Nigeria, the process of learning is influenced by various factors, with effort regulation and goal orientation being two essential components. Understanding the relationship between these elements is vital for educational institutions, policymakers, and educators to enhance the effectiveness of the learning process, learning environment and learners' productivity. The execution of effort regulation can sometimes occur so swiftly that students may not consciously recognize, recall, or even be aware of utilizing a specific strategy during the learning process. The effectiveness

of a chosen strategy varies, as some may enhance comprehension and retention, while others may not yield the desired learning outcomes.

Effort regulation refers to learners' capacity to persist, adjust, and maintain their mental and behavioural effort when engaging in learning tasks that are difficult, tedious, or demanding (Schunk & Greene, 2018). This strategy, part of self-regulatory learning strategy's (SRL) dimension, is derived from the literature on metacognition, an individual's knowledge of and control over his or her thoughts (Zimmerman, 2002). Effort regulation is a form of metacognitive knowledge in which a learner is cognizant of his or her intentional focus and the strategies which he or she uses to direct focus on work. Effort regulation involves constant monitoring of cognitive resources and an informal calculation of the effort and attention needed to persist and excel on a task. Low levels of effort regulation tend to result in struggle to persist through difficult or boring tasks, leading to lower academic performance, poor time management and increased procrastination (Richardson., et al: 2012). Effort regulation allows one to filter out distractors or noise which may impede performance and channel additional attention resources to important and critical features of a task.

Goal orientation is one of the concepts that have emerged in educational psychology over the last few decades Rashidi and Javanmardi (2012) believed that it is one of the most important concepts regarding learning in any educational setting. The place of students goal orientation in learning has been examined over these years; its direct and mediating effects, predictive power as well as relationship with various learning outcomes; both cognitive and affective. Goal orientation in learning is a significant area of research in educational psychology, reflecting how students' goals impact their learning strategies, motivation, and outcomes. The concept broadly categorizes into two types: mastery-oriented goals and performance-oriented goals.

Mastery-oriented goals focus on self-improvement and understanding. Students hold mastery goals (also referred to as being mastery-oriented) when their goal is to really understand or master the task at hand. Students who are mastery-oriented are interested in self-improvement and tend to compare their current level of achievement to their own prior achievement. In contrast, the second category is called a performance goal orientation. Students hold performance goals (also referred to as being performance-oriented) when their goal is to demonstrate their ability compared to others. Students who are performance-oriented focus on demonstrating their ability relative to others, aiming to gain favourable judgements or avoid negative evaluations, rather than mastering content for personal growth. They also tend to prioritize showing their competence in comparison to others, rather than themselves, which may affect the depth of learning strategies they use. This orientation can lead to surface-level engagement with material and a higher likelihood of competitive behaviour, anxiety, and fear of failure (Jianjun, et al, 2023).

In practice, educators are encouraged to foster mastery-oriented goals in students by creating supportive learning environments that emphasize growth and effort over mere performance. This can involve providing constructive feedback, encouraging a growth mindset, and designing learning experiences that challenge students while supporting their development

(Dweck & Yeager, 2019). Overall, understanding goal orientation helps in designing educational practices that enhance motivation and achievement by aligning learning goals with effective strategies.

Statement of the Problem

Secondary school students in Nigeria, particularly in Kaduna state, face significant challenges in achieving academic success. Despite efforts to improve educational outcomes, students' performance remains a concern. Research suggests that effort regulation and goal orientation play a crucial role in determining students' academic achievement. This result is consistent with the work of Pintrich (2000), who found that mastery-oriented students are more likely to engage in effort-regulated learning strategies, including goal setting, strategic planning, monitoring, and self-assessment. Similarly, Dweck and Yeager (2019) reinforced that a mastery orientation fosters adaptive academic behaviours, such as resilience, long-term motivation, and a growth mind-set, which are vital for effective learning.

However, there is limited understanding of the relationship between these two variables among secondary school students in Kaduna state. The problem is that many students in Kaduna state may be employing ineffective effort regulation, which can hinder their academic progress. Additionally, students' goal orientations may not be aligned with deep learning approaches, potentially limiting their ability to develop a growth mindset and achieve their full potential. Following about a decade of experience in the academic related enterprise in schools, the researcher has witnessed the yearly disappointment, frustration and controversies in students following the rate of failure and under-achievement of students in both internal and external examinations. In reaction to this, many parents, out of concern for their children's future continue to move them from one school to another in search for better education. For many years it has become customary everywhere to attribute the causes of success or failure of learners to factors of mainly contextual nature, such as lack of resources, the lack of parental support, teachers' incompetence and ineffective school and teaching approaches but hardly does it occur to many that the effort regulation used by students to learn is also a major factor. With this in mind it is therefore the researcher's intention to investigate the relationship between effort regulation and goal orientation among secondary school students in Kaduna state, Nigeria. By understanding this relationship, educators and policymakers can develop targeted interventions to promote effective effort regulation and goal orientations, ultimately enhancing students' academic achievement and preparing them for future success.

Objectives of the study

The following are objectives of the study:

1. to determine relationship between effort regulation and mastery approach among secondary school students in Kaduna state
2. to determine relationship between effort regulation and performance-avoidance among secondary school students in Kaduna state.
3. to determine relationship between effort regulation and performance-approach among secondary school students in Kaduna state.

Research Questions

The following research questions have been raised:

1. What is the relationship between effort regulation and mastery approach among secondary school students in Kaduna state?
2. What is the relationship between effort regulation and performance avoidance among secondary school students in Kaduna state?
3. What is the relationship between effort regulation and performance approach among secondary school students in Kaduna state?

Hypotheses

The study tested the following hypotheses:

- H₀₁.** There is no significant relationship between effort regulation and mastery approach among secondary school students in Kaduna state.
- H₀₂.** There is no significant relationship between effort regulation and performance avoidance among secondary school students in Kaduna state.
- H₀₃.** There is no significant relationship between effort regulation and performance approach among secondary school students in Kaduna state.

Methodology

The adoption of a correlational research design in this study is justified by its appropriateness in examining the nature and strength of the relationship between Effort Regulation and Goal Orientation among secondary school students without manipulating any of the variables. According to Kerlinger (1973), correlational research is a form of descriptive research that seeks to discover the degree to which variables are related without any attempt to influence them. This design fits the purpose of the study, which is to explore associations between variables rather than to determine causation. Creswell (2012) also affirms that correlational designs are ideal for studies that aim to identify predictive relationships among variables, particularly when the manipulation of variables is either impossible or unethical. Given that this study seeks to uncover how students' effort regulation relate to their goal orientations in a natural school setting, without researchers intervention, the correlational research design remains the most suitable and effective approach for addressing the research objectives.

The target population of the study comprised of seven hundred and ninety-nine (799) public secondary schools in Kaduna state with the total number of four hundred and twelve thousand, four hundred and eighteen (412418) students. The sample of the study comprised of three hundred and eighty-four (384) students. This is based on the Research advisors' sampling determination table which indicated that, for a population of one hundred thousand (100,000) and five hundred thousand (500,000) at 95% confidence interval and 0.05 margin of error, a sample of three hundred and eighty-four (384) respondents will be adequate.

Multistage sampling technique was used to select the sample. The first stage was the clustering of the schools into zones, at the second stage proportionate sampling was used to select students from the schools sampled. The last stage of the sampling technique used was simple random sampling technique in selecting the participants of the study from each school. The researcher

used simple random sampling technique, because the technique ensures that everybody has equal chance of becoming part of the selection.

The instruments used for data collection in this study are of two types namely: Effort Regulation Questionnaire and Goal Orientation questionnaire. Effort Regulation questionnaire was adapted from The Motivated strategies for Learning Questionnaire developed by Pintrich (1978) Revised by Meijs Et al (2019) was used for this study. The Instrument consists of 13-items measured on a 5-point Likert scale ranging from Always, Most of the times, Sometimes, Rarely, Not at all. Goal Orientation questionnaire was adapted from Achievement Goal Orientation Instruments Revised by Elliott et.al (2008) was used. The Instruments consists of 15-items measured on a 5-point Likert scale ranging from Always, Most of the times, Sometimes, Rarely, not at all.

The instrument was validated by experts in educational psychology. The researcher personally administered and retrieved the questionnaire with the help of two research assistants. The data collected was subjected to statistical analysis using inferential statistics of Pearson Product Moment Correlation Coefficient (r) to test hypotheses at 0.05 level of significance.

Results

Hypothesis One: There is no significant relationship between effort regulation and mastery approach among secondary school students in Kaduna state.

Table 1: Pearson product moment correlation (r) on the relationship between students’ effort regulation and mastery approach

Variables	N	Mean	SD	r	p
Effort Regulation	384	42.62	7.20	0.650	0.001
Mastery Approach	384	15.50	3.50		

The findings of the Pearson product moment correlation (r) regarding the connection between effort regulation and mastery approach of secondary school students in Kaduna state, as shown in table 1, indicated that the correlation coefficient of $r = 0.650$, $p = 0.001$ is below the alpha level of significance of 0.05. This suggests that there is a positive relationship between effort regulation and mastery approach employed by students. The data implies that students who use mastery approach are more inclined to utilize effective learning techniques. Therefore, the hypothesis is hereby rejected.

Hypothesis Two: There is no significant relationship between effort regulation and performance-avoidance among secondary school students in Kaduna state.

Table 2: Pearson product moment correlation (r) on the relationship between students’ effort regulation and performance avoidance

Variables	N	Mean	SD	r	p
Effort Regulation	384	32.40	5.50	0.700	0.001
Performance-Avoidance	384	12.50	2.80		

The results from the above shows the impact of effort regulation and performance avoidance among secondary school students in Kaduna state, as shown in table 2, indicated that the

correlation coefficient of $r = 0.700$, $p = 0.001$ is below the 0.05 alpha level of significance. This suggests that a significant positive relationship exists between effort regulation and performance avoidance among secondary school students in Kaduna state. Thus, it suggests that students concentrating on performance avoidance are likely to employ less effective effort regulation. Consequently, the hypothesis is hereby rejected.

Hypothesis Three: There is no significant relationship between effort regulation and performance-approach among secondary school students in Kaduna state.

Table 3: Pearson product moment correlation (r) on the relationship between students' effort regulation and performance approach

Variables	N	Mean	SD	r	p
Effort Regulation	384	40.20	6.50	0.600	0.001
Performance-Approach	384	14.50	3.10		

The findings from Pearson product moment correlation (r) regarding how performance approach relates to the effort regulation of secondary school students in Kaduna state as shown in table 3. Indicated that the correlation coefficient of $r = 0.600$, $p = 0.001$ which is below the 0.05 alpha level of significance. This indicates a significant positive correlation between effort regulation and performance approach among secondary school students in Kaduna state. It implies that students who adopt a performance approach are more inclined to use competitive learning techniques focused on achieving academic success. Therefore, the hypothesis is hereby rejected.

Discussion of Findings

The first finding revealed a significant positive relationship between effort regulation and mastery orientation, students' who adopt a mastery approach focus on deep understanding, skill development, and personal improvement rather than on outperforming others. They engage in effort regulation, which is crucial for academic success. This result is consistent with the work of Pintrich (2000), who found that mastery-oriented students are more likely to engage in effort-regulated learning strategies, including goal setting, strategic planning, monitoring, and self-assessment. Similarly, Dweck and Yeager (2019) reinforced that a mastery orientation fosters adaptive academic behaviours, such as resilience, long-term motivation, and a growth mind-set, which are vital for effective learning.

Recent empirical studies also support these findings as Mega et al: (2020) explored the interrelationship between emotional, motivational, and cognitive factors in academic success. Results indicated a significant positive correlation between mastery goal orientation and effort regulation, suggesting that students who adopt mastery-oriented goals are more likely to persist in learning tasks, regulate their effort, and engage in deeper learning strategies. The findings reinforce the linkage between adaptive goal orientation and effective self-regulatory behaviours, particularly effort regulation, within academic contexts.

From a theoretical standpoint, this aligns with Constructivist Learning Theory (Bruner, 1966) and Self-Determination Theory (Deci & Ryan, 1985), both of which emphasize that meaningful learning occurs when students are intrinsically motivated and actively engaged. Educationally,

these findings imply that teachers should promote mastery-focused classroom climates. Strategies such as emphasizing learning over grades, celebrating effort and improvement, and providing constructive feedback can encourage students to develop deeper learning strategies. Moreover, mastery orientation should be integrated into curriculum design, assessment practices, and school policies to foster sustainable academic growth.

The second key finding showed a significant relationship between students' effort regulation and performance avoidance orientation. Students driven by performance avoidance aim to escape failure, avoid embarrassment, and minimize exposure to academic risk. Consequently, they often engage in rote memorization and passive study techniques. This observation is in agreement with Zhou and Wang (2023), who examined how different achievement goal orientations predict academic burnout among university students. Their findings revealed that performance-avoidance goal orientation was positively associated with academic procrastination and burnout, indicating maladaptive outcomes. Students with high performance avoidance tendencies were more likely to avoid challenging tasks to escape negative judgement, which in turn led to higher stress and lower academic performance. The study emphasizes the detrimental effects of performance-avoidance orientation on students' self-regulation and well-being. Similarly, Putwain and Symes (2019) emphasized that performance avoidance is a significant predictor of academic stress, reduced motivation, and poor academic achievement.

More recently, Schwinger and Stiensmeier-Pelster (2019) found that performance-avoidant students displayed procrastination behaviours, low self-efficacy, and poor time management skills, ultimately leading to lower academic success. Likewise, Bong et al. (2020) demonstrated that performance avoidance goals undermine students' willingness to seek help, clarify doubts, or engage actively in the classroom, thereby hampering effective learning. Interestingly, this study also found that while most performance-avoidant students demonstrated ineffective learning behaviours, some still sought support under certain circumstances. This slight deviation might reflect the influence of institutional support systems, peer mentoring, and counselling interventions within the school environment, as discussed by Sierens et al. (2019), who emphasized the moderating role of supportive educational climates on maladaptive goal orientations.

The implication is that reducing performance avoidance tendencies should be a priority. Schools should decrease the emphasis on competition, normalize mistakes, build students' self-confidence, and promote collaborative learning to help students overcome fear-driven academic behaviours. Mental health interventions and academic counselling services are also recommended to address performance anxiety at an early stage.

The third finding revealed a significant positive relationship between students' effort regulation and performance approach orientation. Students who adopt a performance approach are driven by the desire to demonstrate competence and outperform peers. Unlike performance avoidance, performance approach motivation can stimulate strategic learning behaviours, such as time management, goal-setting, and self-monitoring. This finding aligns with Harackiewicz et al;

(2002), who established that performance approach goals can have positive academic outcomes when combined with high self-efficacy and low anxiety.

Recent studies further affirm this relationship. Sideridis and Stamovlasis (2019) observed that when competition is framed constructively, performance approach can enhance student engagement, academic ambition, and achievement motivation. Similarly, Wang et al. (2021) highlighted that performance approach goals were positively associated with self-regulated learning and academic perseverance, particularly among high-performing students.

Nevertheless, some caution is necessary. As Darnon et al. (2018) noted, an overemphasis on competition could potentially lead to academic stress, peer hostility, and unethical behaviours such as cheating. Thus, while performance approach can motivate strategic learning, it must be supported by a healthy learning environment that encourages ethical academic conduct and emotional well-being. Practically, teachers should channel competitive drives positively by setting challenging but achievable goals, providing opportunities for healthy competition, and fostering a culture of mutual respect among learners.

In summary, this research verifies that effort regulation has a considerable impact on students' goal orientation. The strong positive correlation between effort regulation and mastery approach highlights the necessity of promoting deep learning techniques among learners. The connection between effort regulation and performance avoidance suggests that programs should be developed to alleviate academic anxiety and avoidance tendencies. Lastly, the positive correlation between effort regulation and performance approach emphasizes the motivational advantages of academic rivalry, as long as it does not result in undue stress or harmful competition

Conclusion

Based on the findings of the study, the study concluded that significant relationship exists between effort regulation and goal orientation among secondary school students in Kaduna state, Nigeria.

Recommendations

Based on the findings of this study, the following recommendations are made:

- i. Teachers and educators should promote mastery-oriented learning by incorporating effort regulation and elaborative thinking in classroom activities to deepen understanding.
- ii. Psychologists should design intervention to reduce performance-avoidance tendencies among students by addressing test anxiety and building academic confidence.
- iii. Performance-approach learners should be encouraged to channel their competitiveness positively, through goal-setting exercises and recognition systems that reward strategic and collaborative learning behaviours.

References

Bong, M. Kim, S. Song, J. (2020). Controllability attribution as a mediator in the effect of mindset on achievement goal adoption following failure. doi:10.3389/fpsyg.2019.02943.

- Bruner, J., (1966) *Toward a Theory of Education*. Longman ISBN:0-674-89701-8
- Creswell, W. J. (2012). Educational research: planning, conducting and evaluating quantitative and qualitative research. Pp.673.ISBN:10.0131367390
- Darnon, Fabrizio, B., Fayor. M. (2018). Academic stress and its sources among university students. *Journal of Psychology*. University of Nabaska Press.
- Deci, L. E. & Ryan, M. R. (1985). *Intrinsic motivation and self determination in human behavior*. Plenum press.
- Dweck, C. S. & Yeager, D. S., (2019). Attitude and perception oa correlates of performance. *Journal of Perspective on Psychological Science*. Iss.3. pp. 481-496. doi: 10.1177/1745691618804166
- Elliot, Andrew J. & Harackiewicz, M. J., (1996). *Personality and social psychology: approach and avoidance achievement goals and intrinsic motivation: a mediational analysis*. Iss:3 pgs 461-475
- Elliot, J., Remedios, R. & Kiseleva, Z. (2008). Behavior modification. *Journal of Educational Psychology Vol. 28*. pp. 475-491. iss.3-4. doi: 10.1111/j.1467-9752.2008.00653.x
- Harackiewicz, J. M., Tauer. J. M., Baron K. E, & Elliot. J.E (2002). A Longitudinal Study of Achievement Goals and Ability Measures as Predictors of Interest and Performance From Freshman Year Through Graduation. *Journal of Educational Psychology: Predicting Success in College: Vol.94,Iss 3*. pp 562-575
- Jianjun, Z., Juan, W., & Kuan, L. (2023). A meta-analysis of the relationship between achievement goal orientation and academic achievement: The mediating role of self-efficacy and students engagement. *Advances in psychology science*, 32(7), 11104-1125.<https://doi.org/10.3724/SP.J.1042.2024.01104>
- Kerlinger. N. F. (1973). *Foundation of behavioural research*. 2nd Ed. pp.741. ISBN:0030854628
- Meece, J. L., Anderman, E. M., & Anderman, L. H. (2006). Classroom goal structure, student motivation, and academic achievement. *Annual Review of Psychology*, 57, 487–503. <https://doi.org/10.1146/annurev.psych.56.091103.070258>
- Mega, C., Ronconi. L., & De Beni, R. (2020). What makes a good student? How emotions, self-regulated learning, and motivation contribute to academic achievement. *Journal of Educational Psychology*, 112 (7), 1332-1346.<https://doi/10.1037/edu0000414>
- Meijs, C., Neroni, J. Gijsselaers, H. J. M., & Leontjevas, R. (2019). Motivated strategies for learning questionnaire part B revised: New subscales for an adult distance education setting. *Journal of Internet and Higher Education*. Vol.40. pp. 1-11
- Pintrich, P. R., McKeachie, J. W., & Lin, Y. G. (1978). Teaching a course in learning to learn. *Teaching of Psychology*, 14, 81–86.
- Pintrich, P. R. (2000). An achievement goal theory perspective on issues in motivation terminology, theory, and research. *Contemporary Educational Psychology*, 25(1), 92–104. <https://doi.org/10.1006/ceps.1999.1017>

- Putwain, W. D., Nicholson, L. J. Becker, S. & Symes, W. (2019). Expectancy of success, attainment, value, engagement and achievement: a moderate mediation analysis. *Journal of learning and instruction*. Vol.2. pp. 117-125
- Rashidi, N., & Javanmardi, F. (2012). The relationship between Iranian EFL students' achievement goal orientations and their gender. *Education journal*, 2(1), 8–15.
- Richardson, M, Abraham, and Bond (2012) Psychological correlates of university students' academic performance: A systematic review and meta-analysis. *psychological, Bulletin* 138 (2), 353-387.
<https://doi.org/10.1037/a0026838>
- Schunk, D. H, & Greene, J. A (2018) *Handbook of self regulation of learning and performance* (2nd Ed) Routledge
- Schwinger, M. & Stiensmeier-Pelster, J. (2019). Effort of motivational regulation on effort and achievement. *International journal of educational research*. Vol. 56.pp.35-47. doi: 10.1016/j.ijer.2021.07.005.
- Sideridis G. D. & Stamovlasis. D. (2019). Can the relationship between rapid automatized naming and word reading reading be explained by a catastrophe? Empirical evidence from students with and without reading difficulties. *Journal of learning disabilities*. Vol (52).iss 1. <https://doi.org/10.1177/0022219418775112>
- Sierens, B. (2019). Influence of attitude on performance od students in secondary schools. *Reseach Journal of Education*. 81(3), 329–339. <https://doi.org/10.1037/0022-0663.81.3.329>
- Wang, H., Xu, M., Xie, X., Dong, Y., & Wang, W. (2021). Relationships between achievement goal orientations, learning engagement, and academic adjustment in freshmen: Variable-centered and person-centered approaches. *Frontiers in Psychology*, 12, Article 767886. <https://doi.org/10.3389/fpsyg.2021.767886>
- Zhou, M., & Wang, Y. (2023). The impact of achievement goal orientation on academic burnout: The mediating role of academic procrastination and moderating role of mindfulness. *Current Psychology*, 42, 15102-15112. <https://doi.org/10.1007/s12144-022-03344-1>
- Zimmerman B. J. (2002) Becoming a self-regulated learner: An overview. *Theory into practice*, 41 (2), 64-70 <https://doi.org/10.1207151543042/tip4102-2>