



Study Time Management as a Predictor of Academic Achievement of Secondary School Students in Mombasa County, Kenya

Rehema Nthenya Yaki, Edward Kigen, Samuel Mutua Mutweleli

Department of Educational Psychology, Kenyatta University, Nairobi, Kenya
Email: yakirnthenya@yahoo.co.uk, emkigen@gmail.com, mutweleli.samuel@ku.ac.ke

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Abstract

The central problem of this study is academic underachievement of secondary school students over the years. Schools in Kenya, especially in Mombasa County are facing a big problem of poor quality grades which may be attributed to students' spending minimal time on school activities and giving up easily when faced with difficulties. Poor quality grades have been consistently realized due to students' inability to identify with academics and failure to connect current school performance to future outcomes. Therefore, the study sought to find out the extent to which study time management predicts academic achievement of secondary school students. The Future-Oriented Motivation and Self-Regulation Theory was used to explain the study. This study used an ex post facto design. Purposive, stratified and simple random sampling were employed. Nine schools were purposively selected from a population of 49 public secondary schools from which a total of 542 students were selected in Mombasa County. Document analysis and self-report questionnaires were used. The questionnaire comprised the following scales: Assessment of Time Management Scale was used to measure study time management; identification with academics was measured using the identification with academics Scale and Students' academic achievement was measured using examination records obtained from school. Data was analysed using quantitative approach. Study time management significantly and positively predicted achievement. Findings help to inform policy makers, teachers, parents, and students on the importance of valuing academics for optimal academic achievement.

Subject Areas

Educational Reform

Keywords

Academic Achievement, Identification with Academics, Study Time Management

1. Introduction

Academic underachievement has remained a persistent concern among educators, parents and policymakers. Although education is seen as a route out of poverty [1] with teachers and parents encouraging students to work hard for a better future, recent trends show that an increasing number of students are spending minimal time on schoolwork and performing below their potential. Study time management refers to students' ability to plan and organize their daily academic tasks effectively. Empirical evidence shows that students who manage their study time effectively generally perform better. While those with ineffective and weak time management strategies attain lower grades [2]-[4]. However, research remain inconsistent, while some studies show a positive link between study time management and academic achievement [3] [5] [6], others report weak or negative relationship [7]-[9]. Further, confounding variables such as teacher characteristics and course difficulty may influence these results. Such contradictions necessitated the current study [9].

Study time management not only predicts academic achievement but also strengthens students' identification with academics. When students consistently plan, organize, invest time and effort on schoolwork, they are more likely to engage deeply with academics, which deepens their identification with academics and enhances their performance [3] [10] [11]. Schoolwork and learning activities are then viewed as crucial steps towards long-term goals, making studying and achievement an important part of how they view themselves. This reflects identification with academics, which is the belief that academic success plays a central role in how students define themselves [12]. In turn, this identification fosters persistence and focus by helping students sustain consistent effort toward academics. As they experience the benefits of disciplined study habits they begin to view academic engagement as part of who they are. Thus, effective time management enhances performance while strengthening academic identification. Academic identification is also similar to attainment value, a motivational construct of the expectancy-value theory on task value defines as the perceived importance of doing well in academics for one's self-worth and personal identity [10].

This study is grounded in the Future Oriented Motivation and Self-Regulation Theory, which posit that students' are more motivated when they understand how current study efforts contribute to achieving future goals [6]. This in turn fosters self-regulation, sustained effort and effective study time management, enabling students to persist despite difficulties. Similarly, expectancy theorists argue that students' engagement in academic tasks arises from the perceived task value and

expectancy of success which in turn enhances performance, promotes effective time management and deepens students' identification with academics [12].

According to the future oriented theorists, future goals improved performance by enhancing motivation, self-regulation and tasks relevance [6]. However, many students struggle to manage and plan their study time effectively [13]. Those who find schoolwork irrelevant often exert only the minimal effort needed to complete tasks, which undermines their academic outcomes. As students advance through school, academic demands intensify, yet their motivation and effort tend to decline. According to Eccles and Wigfield's theory this decline occurs when students' expectations of success and perceived value of tasks decreases over time, reducing effort and effective time management [10]. Highly motivated students, in contrast, plan and monitor their study time, set long term goals, organize schedules and develop good study habits which give them a sense of control over their learning [3]. The less motivated often find studying boring, engaging in poor study habits like last minute cramming affecting their grades necessitating examining time management and achievement.

Persistent low academic performance in Kenya particularly, Mombasa County has raised serious educational concerns, with Kenya Certificate of Secondary Education (KCSE) results showing that 60% of students scored D or below between 2011 and 2023. In addition to reporting poor performance, a report by National Council for Population and Development revealed a 28% drop out in the County [14]. Prior research in Kenya has focused on issues like, prior and immediate motivation with little research done on study time management. It is against this background that this study sought to examine the predictive power of study time management on academic achievement mediated by identification with academics among secondary school students in Mombasa County.

2. Literature Review

2.1. Study Time Management and Academic Achievement

Study time management refers to the way students plan, organize and coordinate school activities and tasks so as to successfully complete them and achieve set goals. It involves students managing goals, setting priorities, monitoring and controlling their time while engaging in everyday activities within a certain period of time resulting in effective use of time and improved performance [2] [3] [15]. It is hypothesized that students' who spent more time learning and processing the learning content more deeply and persist until tasks are completed achieve better grades.

Empirical research shows that efficient study time management is associated with self-regulation, study organization and increased students' effort investment in studying which significantly predicts achievement [2] [3] [15] [16]. Effective time management is a self-regulatory practice linked to higher motivation and grades [17], while poor time management leads to poor grades [18] [19]. Studies show identification with academics can strengthen students' study time manage-

ment strategies leading to increased time and effort expenditure on academics and grades [3] [6].

A cross-sectional study was conducted to examine the effect of perceived instrumentality and time management planning on achievement of 750 students in grade 7 - 9 aged 12 - 15 in Portugal. Data was analysed using the structural equation modelling and they reported that planning time significantly influenced achievement [3]. Similarly, a cross-sectional study in Portugal on the predictive power of volitional control strategies, time management planning and procrastination on self-regulation and academic success of 565 grade 7 - 9 students aged 12 - 15 was done. The researchers employed correlational analyses and structural equation modelling and found self-regulation was strongly predicted by volitional control strategies, planning and procrastination. Time management aspect of self-regulation significantly influenced achievement [4].

A large study in China using PISA 2018 survey data of 9343 students aged 15 years, examined students' attitudes toward school and subjective well-being in relation to how much time in minutes they spend per week learning and how it affects their performance in math (200 - 240), reading (200) and science (440 - 520). They found that more study time helped improve scores in math and science, but only up to a certain point, after that, too much time was found to reduce performance. Moderate time use was linked to more positive attitudes and well-being, while excessive time reduced both, which then lowered achievement. This study predicted weekly learning time with quantified minutes for specific subjects while the current study examined general study time management across subjects [2].

A meta-analysis of 53 studies among 53,957 student and employee samples across Western and Asia regions found that time management was significantly related to achievement. Stronger correlations were observed with students well-being and study behaviours than test scores. Indicating that time management skills may partly influence achievement through non-cognitive ways (task completion, productivity, reduced stress, and better engagement). Moderator analysis found strong link of time management and achievement among Western samples than in Asian ones especially when scores measured with self-reports unlike GPA scores. This shows the role of cultural and methodological context like self-perfection and study habits which may act as mediators in other contexts [20].

A correlational study on the relationship between time management and academic achievement was conducted among 213 education students at San Agustin Institute of Technology, Philippines. Findings revealed no significant relationship between time management and academic achievement. However, higher academic achievement was reported while time management levels were low. The study used university students, the current study will use a larger sample of high school students in Kenya to find out whether time management predicts students' achievement [7]. In the same region a study of 2000 high school students in Jordan found a moderate and significant relationship achievement and time manage-

ment. However, no significant differences were found of time management and achievement in relation to hours studied [21]. These findings show the importance of having effective time management skills on grades which informed carrying out the current study.

In Africa, a survey study was done in the University of the Free State, South African self-regulated learning and time perspective as predictors of achievement in Economics. Using 200 year two undergraduates Keyser found a positive correlation between effort regulation, time management and achievement. Future oriented students were found to engage in effort regulation and efficient study time management enhancing achievement [22]. Similarly, in South Africa another study obtained different results among 100 black engineering undergraduates at Vaal University of Technology. The ex-post facto study on students' time management skills and achievement found that 40% of the students did not set a study schedule while 60% - 80% were found to be organized though time management did not predict achievement [23]. The study sample was restricted to black engineering undergraduates. This study examined high school students' time management from the general population in Kenya.

A case study at the University of Venda, South Africa, examined time management challenges on achievement of six students from first to third year and found poor organization led to work overload and stress which resulted to poor achievement. Use of social media was reported linked to low scores while last minute studying increased students stress leading to low scores. Poor time management and absenteeism were negatively correlated with achievement [24]. However, the sample used was small limiting generalizability.

In West Africa, Nigeria a study of 200 students attending Ekiti State tertiary institution found a positive and significant relationship between achievement, procrastination and time management [25]. A significant negative relationship was found between time spent on social activities and achievement. A survey of 1920 senior school students in Osun State, Nigeria on time management strategies, study habits and achievement reported that time management strategies significantly predicted achievement, study habits and achievement. Last minute studying and cramming shortly before the exam were found to have a negative effect on achievement [26]. Surveying 500 students from seven public senior high schools in Northern Ghana, findings revealed that students who spend more time on self-study had significantly high grades [27]. On the contrary, an ex-post facto study among 120 students of Covenant University, Nigeria revealed no correlation between time management and students' academic achievement [28].

In East Africa, a survey of 120 business and economics undergraduates at Dire Dawa University, Ethiopia on time management and achievement was done. A strong correlation of time management and achievement was reported. Students' short-term planning was the most preferred way of managing time and was correlated with achievement. Better time management among high performers compared was found. Effective time management was associated with more engage-

ment in academics, less stress and better grades [29].

In Kenya, a convergent mixed methods design was done to test students' time management skills on KCSE performance. Interviews were conducted in 13 public schools in Kiambu Sub-County among 1759 form two's, 52 class teachers and 13 principals. Students were reported to have difficulties in managing their time in preparation for KCSE. Students' effective time use was reported to help in preparing for KCSE [30]. Using a similar sample, the current study replicated findings with qualitative insights to enhance time management. In a larger area, a survey of 381 students from 20 top and 20 bottom performing high schools in five Counties of Central Kenya was conducted. The study revealed higher achievement among students who utilized the allocated time effectively for studies. They used students from top and bottom performing schools while the current study randomly sampled students [31]. Using an ex-post facto study and a sample of 300 orphaned high school students in Bondo Sub-County, a positive relationship between time management and achievement was found [32]. The current study replicate the results using an urban sample of mixed backgrounds in Mombasa County.

Overall, reviewed studies have used mixed methodologies and reported contradictory results on time management and achievement. Majority of them have used college students who may be better in time management compared to high school students. The current study sought to find out whether the same can be replicated among high school students in Kenya. Given the important role of time management in achievement as shown in the literature and few local studies in this area, the current study was necessary to address the gap in literature.

2.2. Identification with Academics and Academic Achievement

Identification with academics is "the extent to which academic pursuits and outcomes form the basis for global self-evaluation conceptually distinct from, though related to, self-esteem and self-concept" [33]. It reflects a student's sense of belonging to school where school becomes a part of one's self-definition and has been found to predict stronger persistence and higher achievement [11] [34]. This link shows that achievement contributes to self-esteem, making school success a key part of self-definition [33]. Academic identification is the emotional part of academic engagement where students high on identification feel a sense of belonging to school and value academics [11].

Academic identification is closely related to academic disidentification defined as a low link between how students feel about academics (academic self-esteem) and how one may feel about themselves as a person [33]. It involves perceptions of belonging and valuing within an academic context. Another perspective that is similar to academic identification is identification with school or school belonging. Defined as the feelings of acceptance and belonging within school and the valuing of school [11]. Students who believe that success in academics relates to how they feel about themselves identify with academics, are motivated to attain

highly, to set clear goals, stay engaged and are more satisfied with such success [33] [35] [36].

Research shows that students' academic identification and study time management is strongly shaped by feelings of school belonging, peer relations and school culture which in turn enhances sense of self, hence optimal performance [6] [11] [37]-[39]. Supportive peer environments enhance belonging and motivates students to plan and manage their time effectively leading to sustained academic success [11]. Yet, there is a peer culture that ridicules schoolwork, for instance, two peer groups exists, one that mocks effort and one that values it, achievement is affected [11]. Since working hard is seen as uncool or feminine [38] [39], some students may conceal ability to fit in, discouraging hard work, making success seem unpopular, hindering motivation and identification. According to Rentzsch and others "nerds", labels [40] and Feather's Tall Poppy Syndrome (negative attitude towards the high achievers) stereotypes against high achievers impairs performance [41]. Such student reduced effort in order to fit in, while low achievers protect their self-esteem by devaluing academics or dropping out [37]-[40]. Fear of rejection or academic failure and stigma may reduce identification and achievement resulting in disengagement or devaluing of academics aligning with the disidentification hypothesis [33]. The hypothesis shows how repeated social or academic failure causes students to detach from academics to preserves self-worth with some identifying more with the social domain. Effective study time management, therefore, relies not only on discipline but also on supportive peer cultures that sustain identification.

Longitudinal studies on identification and academic outcomes of high school students were conducted in southwest, USA. Study one used 24,599 students from the National Educational Longitudinal Survey data of racially diverse schools. Identification was correlated with academic outcomes, revealing that students who withdrew from school started disidentifying two years prior to withdrawing, with significant differences noted among disidentified students who withdrew and those who remained in school. Using more than 200 students the second study showed that identification was related to intrinsic valuing of academics, use of self-regulation strategies, learning goals and a mastery orientation, absenteeism, behaviour referrals and withdrawal [34] [42]. A follow up study explained the paradox of the most identified students at risk of underachievement and school dropout. Identification and withdrawal from school of ethnic minority was examined to determine whether it is a racial paradox. They argued that achievement is central to the self for most students and was an important motivator which influenced students' identification. Yet, for some minority students' identification may increase the chances of poor performance or even withdrawal [34] [36]. Replicating these studies in needed to confirm whether identification influences students' study time management and achievement.

Another longitudinal study of 131 ninth grade students in Midwestern, USA on identification with academics, stereotype threat and achievement found highly

identified student had higher grades and lower absenteeism. Identification predicted differently early withdrawal from school for blacks and whites [12]. School withdrawal was reported among 39 students who disidentified within the two years of the study. Corroborating the stereotype hypothesis that academically stigmatized students especially highly identified students of color will withdraw due to anxiety making school a hostile place while whites withdrew due to low identification [12] [33]. Feelings of disconnect lowered identification and achievement as they saw no reason to invest in academics. The current study sought extend the findings.

A sense of belonging study showed that students who felt connected to school persisted more when faced with challenges increasing their grades. A significant relationship was found between school belonging, enjoyment of schoolwork and grit [43]. While another study found rural and private school students spent more time studying than those in urban and public school, although urban students often did well. School belonging and mastery goals predicted students reading through perceived usefulness of the task and increased engagement [2]. using survey data from PISA 2018 of 11,364 Chinese (5455 girls, 5909 boys) from 332 schools aged 15 years to examine school belonging and reading literacy. Multilevel modelling and moderated mediation was used to analyze data. School belonging positively influenced reading literacy, mastery goal orientation mediated the relationship moderated by school disciplinary climate. Schools with stricter discipline weakened the mastery goal orientation and achievement link. Students with stronger belonging adopted mastery goal orientations improving reading outcomes [43]. Supporting the mediating role of identification, motivational beliefs and achievement.

Using 1700 middle school students in Germany, Canada and Israeli, a survey study on the impacts of high peer pressure on maths achievement showed that valuing maths achievement by high achievers cushioned the effects of peer pressure. High achieving German participants showed stronger peer pressure in achievement compared to Canadians and Israeli students. A significant correlation was reported between fear of social seclusion and achievement of high achieving German students. Peer pressure was found to be less prevalent in societies that value achievement highly compared to those that devalue high achievement. Since many students' value peer opinion the current study examined instrumentality and achievement among adolescents experiencing peer pressure in a culturally different setting [36].

The future oriented theory highlights the importance of social support in achievement [6]. Positive role models strengthen students' identification. Studies [36] [44] show that a lack of visible, successful role models leads to disidentification and poor performance. Further, students begin school strongly identified with academics, this connection weakens in adolescence [33]. Reviewed literature focused on minority samples who may be subject to bias, it was expected that the findings would only be applicable to the minority groups. Thus, it was necessary

to conduct research with a diverse sample from the general population.

In Africa, studies have looked at specific subjects, gender role stereotype, school type and academic disidentification [34] [42]. A study in Northern Uganda looked at mathematic identification and its relation to school type and achievement. The study surveyed 89 girls' in 10th grade in two high performing boarding high schools with an aim of comparing their level of maths identification and achievement in mixed and single sex schools. Findings revealed higher achievement, efficacy and identification with maths among the girls in single schools. Gender role stereotype in mixed schools and low students' identification was reported [42]. In South Africa, a survey of 442 high school girls in Lesotho on stereotype endorsement and maths achievement found low engagement and achievement in maths among girls who endorsed maths as a male-only subject. Stereotypes were found to lower achievement, efficacy and maths identification [45]. The current study replicated the findings using a larger mixed sample across all subjects. Locally, studies on identification and achievement are scarce, but the link can be inferred from studies examining other related factors. For instance, a study in Kisii County examined the mediating role of academic disidentification on achievement goals, perceived teacher support and math achievement among 392 form three students. They found that academic disidentification partially mediated the effects of achievement goals and teacher support on math performance. Students with stronger approach-oriented goals and greater perceived teacher support were less likely to disidentify from academics, hence better performance. Identifying with academics, the opposite of disidentifying motivated students to stay engaged in academics. Otanga reported higher achievement among students who identified with academics [34]. Conversely, a study on achievement goals and ability beliefs found that students who did not see the need to set goals nor bother about schooling, were extreme disidentified affecting their grades [46]. These studies shows that effective study time management and valuing school can sustain identification and achievement.

3. Methodology

The study used an ex post facto design to measure variables without manipulating them with an aim of allowing predictions of outcomes [47]. The study employed quantitative techniques to determine the extent, direction and magnitude of the relationship of measured variable. Quantitative data were obtained using questionnaires and analyses included correlation and regression.

3.1. Research Variables

The study measured the following variables: Study time management (time management, planning and organization) measured at interval level as the independent variable. The intervening variables was identification with academics. The dependent variable was students' academic achievement, average scores of all subjects in one term were converted into T-scores for comparison across the sample

and measured at interval level.

3.2. Sampling

The study used stratified, purposive and simple random sampling procedures. Purposive sampling was used to choose Mombasa County public secondary schools from 6 Sub-Counties and form two students. The County has two national schools (boys and a girls' school) which were purposely selected for the study. Stratified sampling was used to classify schools into national and Sub-County. Simple random sampling was used to select seven Sub-County schools by gender, two boys' schools, two girls' schools and three mixed schools using the lottery method. In total, nine schools were selected to participate in the study. Five hundred and forty two participants, were chosen using simple random sampling.

3.3. Research Instruments

The data collection tools included a questionnaire and document analysis for students. The questionnaire was used to collect students' information on study time management, identification with academics and academic achievement. Study time management was measured using the Assessment of Time Management Skills, The ATMS [48]. The instrument was selected because it is reliable and practical for adolescents with a reliability index of 0.77. While Identification with Academics Scale (IAS) [33] measured students' identification with academics with an alpha value of 0.72. Students' academic achievement was measured by document analysis. Teachers from selected schools were requested to provide students' academic achievement records for one term. Data on academic achievement was acquired from the students' performance records. Aggregate scores of subjects examined at end of the term exams were used. This were transformed into T-scores to be able to compare them among the schools selected. Teachers rating of students' academic achievement were considered adequate since they had been used previously in related studies [3] [12]. In all the cited studies grades were obtained from school records and an overall mean computed.

3.4. Data Collection Techniques

The researcher with permission from administrators administered the questionnaires to the students during normal school hours. The researcher briefed selected students about the study and requested them to sign the consent form before inviting them to fill the questionnaires. Filled questionnaires were then collected. The researcher requested the class teachers to provide students end of term achievement records. All questionnaires for students took between 20 - 30 minutes to complete. The completed questionnaires were collected for analysis.

3.5. Data Analysis

Data was analysed using Statistical Packages for the Social Sciences (SPSS). The following null hypotheses were tested at $\alpha = 0.05$ using inferential statistics as

shown.

H_{01} : Study time management does not significantly predict academic achievement controlling for identification with academics. Multiple linear regression was done.

4. Findings, Interpretation and Discussion

The purpose of this study was to establish the extent to which study time management predicts students' academic achievement controlling for identification with academics. This section therefore contains the analysis of data collected. Data was analysed in line with the following objective. To find out the extent to which study time management predicts academic achievement of secondary school students controlling for identification with academics.

4.1. General and Demographic Information

This section provides a general overview of the information on the participants and the return rate of the study instruments. The researcher visited all the nine schools and administered the questionnaires to students in person. Questionnaires were collected immediately after administration resulting in a high returned rate of 98%. Out of the expected 553 students targeted, 542 were used in the final analysis, the missing eleven were excluded due to incomplete exam records. The student sample for the study is presented in **Table 1**.

Table 1. Return rate of the questionnaires.

Type of school		Male	Female	Total
National	n	72	70	142
	%	13.3	12.9	26.2
Sub-County	n	191	209	400
	%	35.2	38.6	73.8
Total	n	263	279	542
	%	48.5	51.5	100.0

Results from **Table 1** indicate that schools were sub-divided into national and Sub-County categories. Mombasa County has two national schools (girls and boys) both were sampled in addition to seven Sub-County schools. Results from **Table 1** indicate that majority of the sampled population was obtained from seven Sub-County schools. Overall sample consisted of 263 (38.5%) male and 279 (51.5%) female.

4.2. Results of the Study

The study findings were presented in line with the study objectives. Quantitative results were given through descriptive statistics and inferential statistics used to test the stated hypotheses. A discussion of findings from quantitative analyses was

then done.

4.3. Prediction of Study Time Management on Academic Achievement Controlling for Identification with Academics

The study sought to establish the extent to which study time management predicted academic achievement controlling for identification with academics. Study time management was measured at two levels, that is, time management and organisation and planning. The means and standard deviations of measured variables are presented in **Table 2**.

Table 2. Means and standard deviations of study time management.

Variable	Minimum	Maximum	Mean	Std. Dev	Skewness
Time management	14	39	25.37	4.26	0.26
Organisation and Planning	10	38	27.68	4.88	-0.47

Findings in **Table 2** indicate comparatively higher scores reported in organization and planning but not time management.

To classify students by whether they reported high or low study time management, the two variables were recoded using their median and presented in **Table 3**.

Table 3. Descriptive analysis of study time management.

Variable	Low		High	
	f	%	f	%
Time management	342	62.8	203	37.2
Organization and planning	131	24.0	414	76.0

As also reported in **Table 2**, findings in **Table 3** indicate that students reported higher organization and planning and lower time management.

4.4. Hypothesis Testing

Two hypotheses were formulated:

H₀₁: Time management does not significantly predict academic achievement controlling for identification with academics.

H₀₂: Organisation and planning do not significantly predict academic achievement controlling for identification with academics.

Hypothesis 1. Time management does not significantly predict academic achievement controlling for identification.

Significant direct effects of time management on academic achievement, $F(2, 542) = 6.85$, $p = 0.001$, $R^2 = 0.03$ were found when controlling for identification. The indirect effect through identification was significantly different from zero for academic achievement ($\beta = 0.10$, $SE = 0.05$, $CI [0.018, 0.200]$). Evidence leads to

the conclusion that identification significantly mediates the relationship between time management and academic achievement. The increase in achievement is via an increase in identification. The findings were presented in **Table 4**.

Table 4. Mediation of identification on the relationship between time management and achievement.

Step	β	SE	t	p	95% CI	
					LLCI	ULCI
1 State Self-Esteem	0.277	0.049	5.625	0.000	0.181	0.374
2 Time management	0.355	0.173	2.049	0.041	0.015	0.696
Identification	0.369	0.147	2.516	0.012	0.081	0.657
3 Achievement	0.458	0.169	2.702	0.007	0.125	0.790
Indirect effect	0.102	0.047			0.018	0.200

4.5. Discussion of Quantitative Results on the Relationship between Time Management and Academic Achievement Controlling for Identification

The hypothesis that time management does not significantly predict achievement controlling for identification was supported by data. Evidence leads to the conclusion that identification significantly mediates the relationship between time management and academic achievement. The increase in achievement is via an increase in identification. Under this conceptualization, the link between time management and achievement is due to students' identification. This finding aligns with previous research that suggests that students who identify with academics view school as a part of their self-view [11], considers it as an important part of their future success. Consequently, they invest time and effort in school activities to sustain that success [49].

Bandura's as cited in Miller and Brickman [6] showed that identification with academics mediated the effect of time management skills on individuals learning outcomes by influencing one's effort and persistence in the face of obstacles. Miller and Brickman's theory helps explain the findings by showing that when students internalize the value of education through identification, they are more likely to utilize their time well and engage in purposeful study behaviours that support academic success. Identification thus, explained how time management enhanced achievement thus the study outcome.

Findings revealed that identification with academics is related to intrinsic valuing of academics, use of self-regulation strategies, holding learning goals and a mastery orientation, which correlates with increased academic achievement [50]. Osborne and Walker corroborate this finding that identification with academics is associated with motivation to achieve and that academics is an important source of self-esteem which strongly influences students' academic achievement [51]. Voelkl as cited in Virtanen [11] found that identification with academic is influenced by students' social context, since interaction with peers and support from

teachers and parents form the basis of students' perception of school belonging which in turn increases engagement and performance in academics. Conversely, a negative relationship was found between identification and achievement [44]. Attributing it to students' failure to link their lives with school, finding no value in investing in academics.

The expectancy theory emphasizes that students' achievement behaviors are shaped by both the value they place on tasks and their sense of identification with them [10]. They noted that students who see school tasks as meaningful and connected to their goals possess strong academic identification. Such students plan and monitor their study time more effectively to achieve their goals, suggesting identification may drive time management. Similarly, in this study, time management predicted higher achievement indirectly through identification, suggesting that effective time use reflects not only self-regulation but also a deeper connection to academic goals and values. Managing time well requires not just organization but also motivation and identification [52]. In this study, identification mediated the relationship between time management and achievement, implying that identification overrides the direct effect of time management.

Hypothesis 2. Organisation and planning does not significantly predict academic achievement controlling for identification.

Significant direct effects of organization and planning on academic achievement, $F(2, 542) = 4.92, p = 0.008, R^2 = 0.02$ were found when identification was added to the model. The coefficient for organization and planning went into insignificance when identification was added to the model predicting academic achievement, ($\beta = 0.09, SE = 0.15, p = 0.532$) indicating full mediation. The indirect effect through identification was significantly different from zero for academic achievement ($\beta = 0.06, SE = 0.03, CI [0.014, 0.122]$). Findings provide support for the hypothesis and were presented in **Table 5**.

Table 5. Mediation of identification on the relationship between organisation and planning and achievement.

Step	β	SE	t	p	95% CI	
					LLCI	ULCI
1 State Self-Esteem	0.141	0.044	3.226	0.001	0.055	0.227
2 Organisation	0.093	0.149	0.626	0.532	-0.199	0.386
Identification	0.427	0.144	2.957	0.003	0.143	0.711
3 Achievement	0.154	0.149	1.034	0.302	-0.138	0.445
Indirect effect	0.060	0.028			0.014	0.122

4.6. Discussion of Quantitative Results on the Relationship between Organization and Planning and Academic Achievement Controlling for Identification

Quantitative results show that identification with academics fully mediated the link between organization, planning and achievement. Theory also confirms that

students who set future academic goals and identify with school tasks are more motivated to plan and persist, suggesting identification mediates the link between planning and achievement [6]. Students' achievement depends on the value they place on schoolwork and their ability to succeed, factors that are strengthened by academic identification and school belonging. Literature also supports the quantitative findings that perceptions of utility value of science classes predicted students' later involvement and identification with science classes [53].

In their identification with academics model the theorist emphasize that when students strongly identify with academics, motivation and performance are enhanced, especially when schoolwork is viewed as meaningful [34] [39]. While future-oriented socialization and parental emphasis on the value of schoolwork were reported to increase identification and achievement, indirectly validating the role of perceived utility [54]. School belonging enhanced reading literacy [43] mediated by mastery goal orientation [10]. The school disciplinary climate (supportive, harsh or strict) moderated the relationship indicating poor outcomes in schools with poorer discipline. Supporting the findings of the current study where the role of organization and planning on achievement was fully explained through identification. Indicating that high motivation can lead to weaker results if the school context is not supportive or the students are not identified with academics. This helps to explain the results while highlighting the importance of social context and personal factors in students' achievement.

Finn and Voelkl as cited in Virtanen models assert that school identification enhances classroom engagement, which directly improves academic outcomes [11]. This shows that perceived instrumentality strengthens identification, which in turn influences achievement. Research shows that valuing school activities encourages participation and leads to better grades [11]. However, Steele's and Osborne's work shows that students may disengage from academics when performance is poor, even if they value education highlighting the vulnerability of identification in translating utility into achievement [35] [49]. MacCann and Roberts highlighted that conscientiousness, mediated the relationship between planning and achievement, implying that organization and planning do not predict achievement independently of identification [52].

In line with the disidentification hypothesis [33], these results indicate that when academic identification is undermined, organisational skills alone are insufficient to sustain achievement. The results demonstrated that these skills may not be enough in predicting academic success without supportive motivational and social context.

5. Discussion

The study set out to establish the extent to which study time management predicts academic achievement of high school students in Kenya. Identification with academics was the intervening variable that was tested for mediation. It was carried out among a sample of 542 students in Mombasa County, Kenya. Document anal-

ysis and self-report questionnaires were used in data collection. Findings show that study time management positively predicted achievement and identification with academics significantly mediated the relationship between study time management and achievement. This seems to confirm that identification with academics is a key mechanism through which study time management translates into academic achievement. From the findings, we can conclude that students perform better when they identify with academics, possess study time management skills and feel supported by significant others. However, findings also illustrate that despite having time management skills, majority of the students are not utilizing them consistently affecting achievement. It has been established that most students are underachieving due to fear of academic failure and the fact that they are not prepared to fail, consequently interfering with the effort required to be successful in academics. It is evident that identified students have a strong connection with academic achievement. Such students feel like learning is a part of the self and are more willing to keep on learning, forgo their short-term wants, persevere and remain motivated even when faced with difficulties or when learning is not enjoyable in order to attain their valued future educational goals. As a result, they perform better than those who give up when faced with setbacks. Findings also show that most students find academic tasks boring, tedious, and uninteresting thus invest minimal time on schoolwork hence low achievement.

Findings lead to the conclusion that social context has implications for students' study time management and performance. Students who have supportive peers are highly motivated, not easily bored and do well in school. Additionally, support by significant others is linked to engagement in schoolwork. However, students are receiving less support from parents and teachers in high school which may lower their engagement in school affecting their effective study time management and achievement. Since parents' value scholastic competence and discipline, whereas most adolescents' value social, physical appearance and athletic competence, it is important that students balance between social and academic activities. The behavioural nature of study time management makes this relevant for interventions, as it can be taught and trained in schools.

Recommendations

Findings lead to the following recommendations for research. This study adopted survey methodology. It will be important to carry out similar studies using experimental methods (e.g., randomised controlled trials) to establish the effect of instrumentality on achievement. Since the study established that study time management improves and achievement and literature suggests that it does so in supportive environments, this should be examined as social context was outside the scope of the current study. Recommendations for practice includes; Policy makers need to incorporate the learning of multiple skill sets such as time management skills apart from regular schoolwork in the curriculum. Curriculum developers and teachers need to make learning relatable to promote school identification and

school administrators should strengthen school career guidance programs, mentorship programs, identity-building programs to build academic identity and foster positive peer norms as well as promote study time management skills and grit training through Life Skills education.

Conflicts of Interest

The authors declare no conflicts of interest.

References

- [1] Ngutuku, E. (2022) Education as Future Breakfast: Children's Aspirations within the Context of Poverty in Siaya Kenya. *Ethnography and Education*, **17**, 224-240. <https://doi.org/10.1080/17457823.2022.2071591>
- [2] Liu, A., Wei, Y., Xiu, Q., Yao, H. and Liu, J. (2023) How Learning Time Allocation Make Sense on Secondary School Students' Academic Performance: A Chinese Evidence Based on PISA 2018. *Behavioral Sciences*, **13**, Article 237. <https://doi.org/10.3390/bs13030237>
- [3] Lourenço, A., Valente, S. and Paiva, O. (2025) Perceived Instrumentality and Time Management Planning as Predictors of Academic Achievement. *Creative Education*, **16**, 1270-1292. <https://doi.org/10.4236/ce.2025.169078>
- [4] Lourenço, A.A. and Paiva, M.O.A. (2024) Self-Regulation in Academic Success: Exploring the Impact of Volitional Control Strategies, Time Management Planning, and Procrastination. *International Journal of Changes in Education*, **1**, 113-122. <https://doi.org/10.47852/bonviewijce42022392>
- [5] Miller, R.B., Greene, B.A., Montalvo, G.P., Ravindran, B. and Nichols, J.D. (1996) Engagement in Academic Work: The Role of Learning Goals, Future Consequences, Pleasing Others, and Perceived Ability. *Contemporary Educational Psychology*, **21**, 388-422. <https://doi.org/10.1006/ceps.1996.0028>
- [6] Miller, R.B. and Brickman, S.J. (2004) A Model of Future-Oriented Motivation and Self-Regulation. *Educational Psychology Review*, **16**, 9-33. <https://doi.org/10.1023/b:edpr.0000012343.96370.39>
- [7] Calonia, J.T., Pagente, D.P., Desierto, D.C., Capio, R.T., Tembrevilla, J.A.P., Guzman, C.A. and Nicor, A.J.S. (2023) Time Management and Academic Achievement: Examining the Roles of Prioritization, Procrastination and Socialization. *International Journal of Innovative Science and Research Technology*, **8**, 766-775.
- [8] Nonis, S.A. and Hudson, G.I. (2006) Academic Performance of College Students: Influence of Time Spent Studying and Working. *Journal of Education for Business*, **81**, 151-159. <https://doi.org/10.3200/joeb.81.3.151-159>
- [9] Olivares, O.J. (2002) An Analysis of the Study Time-Grade Association. *Radical Pedagogy*, 4. http://radicalpedagogy.icaap.org/content/issue4_1/06_Olivares.html
- [10] Eccles, J.S. and Wigfield, A. (2024) The Development, Testing, and Refinement of Eccles, Wigfield, and Colleagues' Situated Expectancy-Value Model of Achievement Performance and Choice. *Educational Psychology Review*, **36**, Article No. 51. <https://doi.org/10.1007/s10648-024-09888-9>
- [11] Virtanen, T.E., Rääkkönen, E., Lerkkanen, M., Määttä, S. and Vasalampi, K. (2020) Development of Participation in and Identification with School: Associations with Truancy. *The Journal of Early Adolescence*, **41**, 394-423. <https://doi.org/10.1177/0272431620919155>

- [12] Osborne, J.W. and Walker, C. (2006) Stereotype Threat, Identification with Academics, and Withdrawal from School: Why the Most Successful Students of Colour Might Be Most Likely to Withdraw. *Educational Psychology*, **26**, 563-577. <https://doi.org/10.1080/01443410500342518>
- [13] Eilam, B. and Aharon, I. (2003) Students' Planning in the Process of Self-Regulated Learning. *Contemporary Educational Psychology*, **28**, 304-334. [https://doi.org/10.1016/s0361-476x\(02\)00042-5](https://doi.org/10.1016/s0361-476x(02)00042-5)
- [14] National Council for Population and Development (2018) Kenya Demographic Report. NCPD
- [15] Wolters, C.A., Brady, A.C. and Lee, H.J. (2025) Time Management and Achievement Motivation: A Review of What We Know and Directions for Where to Go. *Educational Psychology Review*, **37**, Article No. 58. <https://doi.org/10.1007/s10648-025-10032-4>
- [16] Peetsma, T. and van der Veen, I. (2011) Relations between the Development of Future Time Perspective in Three Life Domains, Investment in Learning, and Academic Achievement. *Learning and Instruction*, **21**, 481-494. <https://doi.org/10.1016/j.learninstruc.2010.08.001>
- [17] Yeager, D.S., Henderson, M.D., Paunesku, D., Walton, G.M., D'Mello, S., Spitzer, B.J., et al. (2014) Boring but Important: A Self-Transcendent Purpose for Learning Fosters Academic Self-Regulation. *Journal of Personality and Social Psychology*, **107**, 559-580. <https://doi.org/10.1037/a0037637>
- [18] Stinebrickner, R. and Stinebrickner, T.R. (2004) Time-Use and College Outcomes. *Journal of Econometrics*, **121**, 243-269. <https://doi.org/10.1016/j.jeconom.2003.10.013>
- [19] Balduf, M. (2009) Underachievement Among College Students. *Journal of Advanced Academics*, **20**, 274-294. <https://doi.org/10.1177/1932202x0902000204>
- [20] Aeon, B., Faber, A. and Panaccio, A. (2021) Does Time Management Work? A Meta-analysis. *PLOS ONE*, **16**, e0245066. <https://doi.org/10.1371/journal.pone.0245066>
- [21] Al-Zoubi, M. (2016) The Effect of the Time Management art on Academic Achievement among High School Students in Jordan. *Journal of Education and Practice*, **7**, 158-167.
- [22] Keyser, J.N. (2013) Self-Regulated Learning and Time Perspective as Predictors of Academic Performance in Undergraduate Economic Studies. Master's Thesis, University of the Free State.
- [23] Swart, A.J., Lombard, K. and de Jager, H. (2009) Exploring the Relationship between Time Management Skills and the Academic Achievement of African Engineering Students—A Case Study. *European Journal of Engineering Education*, **35**, 79-89. <https://doi.org/10.1080/03043790903480316>
- [24] Mukwevho, M.H. (2018) Time Management Challenges on Students' Academic Performance: A Case Study of a Rural University in Limpopo Province, South Africa. *Journal of Gender, Information and Development in Africa*, **1**, 225-241. <https://doi.org/10.31920/2050-4284/2018/s1n1a12>
- [25] Florence Aduke, A. (2015) Time Management and Students Academic Performance in Higher Institutions, Nigeria—A Case Study of Ekiti State. *International Research in Education*, **3**, 1-12. <https://doi.org/10.5296/ire.v3i2.7126>
- [26] Sulaiman, B.K. (2016) Study Time Management Strategies, Study Habits and Academic Performance of Secondary School Students in Osun State. Ph.D. Thesis, University of Ilorin.

- [27] Bosu, R.S. (2015) Students Time Allocation to School Activities and Its Effect on Academic Performance in Senior High Schools. *The International Journal of Humanities & Social Studies*, **3**, 267-271.
- [28] Olowookere, E.I., Alao, A.A., Odukoya, J.A., Adekeye, O.A. and Agbude, G.A. (2015) Time Management Practices, Character Development and Academic Performance among University Undergraduates: Covenant University Experience. *Creative Education*, **6**, 79-86. <https://doi.org/10.4236/ce.2015.61007>
- [29] Nigussie, T. (2019) The Effect of Time Management Practice on Academic Achievement: A Case of Dire Dawa University, Ethiopia. *European Journal of Business and Management*, **11**, 43-50.
- [30] Obiekwe, S.M., Elizabeth, S.D. and Ndanu, C. (2019) Students' Time Management Skills on KCSE Academic Performance in Public Secondary School, Kiambu Sub-County, Kenya. *Journal of Education*, **2**, 1-24.
- [31] Waweru, S.N. and Nyagosia, P.O. (2013) Utilization of Allocated Time and Academic Achievement: A Survey of Secondary School Students in Kenya. *International Journal of Education and Research*, **1**, 157-166.
- [32] Oyuga, P.A., Raburu, P. and Aloka, P.J. (2016) Relationship between Time Management and Academic Performance among Orphaned Secondary School Students of Kenya. *International Journal of Applied Psychology*, **6**, 171-178.
- [33] Osborne, J.W. (1997) Race and Academic Disidentification. *Journal of Educational Psychology*, **89**, 728-735. <https://doi.org/10.1037/0022-0663.89.4.728>
- [34] Otanga, H.F. (2016) Predictors of Academic Disidentification among Form Three Secondary School Students in Mombasa County. Master's Thesis, Kenyatta University.
- [35] Osborne, J.W. (2004) Identification with Academics and Violence in Schools. *Review of General Psychology*, **8**, 147-162. <https://doi.org/10.1037/1089-2680.8.3.147>
- [36] Osborne, J.W. Walker, C. and Rausch, J.L. (2002) Identification with Academics, Academic Outcomes and Withdrawal from School in School Students: Is There a Racial Paradox? *The Annual Meeting of the American Education Research Association*, Seattle, 10-14 April 2002.
- [37] Bursztyn, L., Egorov, G. and Jensen, R. (2018) Cool to Be Smart or Smart to Be Cool? Understanding Peer Pressure in Education. *The Review of Economic Studies*, **86**, 1487-1526. <https://doi.org/10.1093/restud/rdy026>
- [38] Jackson, C. (2002) 'Laddishness' as a Self-Worth Protection Strategy. *Gender and Education*, **14**, 37-50. <https://doi.org/10.1080/09540250120098870>
- [39] Jackson, C. (2003) Motives for 'Laddishness' at School: Fear of Failure and Fear of the 'Feminine'. *British Educational Research Journal*, **29**, 583-598. <https://doi.org/10.1080/01411920301847>
- [40] Rentzsch, K., Schütz, A. and Schröder-Abé, M. (2011) Being Labeled Nerd: Factors That Influence the Social Acceptance of High-Achieving Students. *The Journal of Experimental Education*, **79**, 143-168. <https://doi.org/10.1080/00220970903292900>
- [41] Feather, N.T. (1998) Attitudes toward High Achievers, Self-Esteem, and Value Priorities for Australian, American, and Canadian Students. *Journal of Cross-Cultural Psychology*, **29**, 749-759. <https://doi.org/10.1177/0022022198296005>
- [42] Picho, K. and Stephens, J.M. (2012) Culture, Context and Stereotype Threat: A Comparative Analysis of Young Ugandan Women in Coed and Single-Sex Schools. *The Journal of Educational Research*, **105**, 52-63. <https://doi.org/10.1080/00220671.2010.517576>

- [43] Hemphill, A.M. (2018) Grit and Belonging in One Rural High School: A Survey Study. Master's Thesis, Drake University.
- [44] Bell, E.E. (2009) Impact of Self-Esteem and Identification with Academics on the Academic Achievement of African American Students. Master's Thesis, Liberty University
- [45] Nenty, H. (2008) Stereotype Endorsement and Mathematics-Related Behaviour among Female Secondary School Students in the Kingdom of Lesotho. *Gender and Behaviour*, **6**, 1494-1518. <https://doi.org/10.4314/gab.v6i1.23400>
- [46] Mwangi, J.M. (2018) Ability Beliefs, Achievement Goals and Fear of Negative Evaluation as Predictors of Academic Achievement among Form Three Students in Mombasa County, Kenya. Master's Thesis, Kenyatta University.
- [47] Cohen, L., Manion, L. and Morrison, K. (2017) Research Methods in Education. Routledge.
- [48] White, S.M., Riley, A. and Flom, P. (2013) Assessment of Time Management Skills (ATMS): A Practice-Based Outcome Questionnaire. *Occupational Therapy in Mental Health*, **29**, 215-231. <https://doi.org/10.1080/0164212x.2013.819481>
- [49] Steele, C.M. (1997) A Threat in the Air: How Stereotypes Shape Intellectual Identity and Performance. *American Psychologist*, **52**, 613-629. <https://doi.org/10.1037/0003-066x.52.6.613>
- [50] Osborne, J.W. and Jones, B.D. (2011) Identification with Academics and Motivation to Achieve in School: How the Structure of the Self Influences Academic Outcomes. *Educational Psychology Review*, **23**, 131-158. <https://doi.org/10.1007/s10648-011-9151-1>
- [51] Osborne, J.W. and Rausch, J.L. (2001) Identification with Academics and Academic Outcomes in Secondary Students. American Education Research Association.
- [52] MacCann, C. and Roberts, R.D. (2010) Do Time Management, Grit, and Self-Control Relate to Academic Achievement Independently of Conscientiousness? In: Hicks, R.E., Ed., *Personality and Individual*, Bowen Hills, Australian Academic Press.
- [53] Hulleman, C.S. and Harackiewicz, J.M. (2009) Promoting Interest and Performance in High School Science Classes. *Science*, **326**, 1410-1412. <https://doi.org/10.1126/science.1177067>
- [54] Strambler, M.J., Linke, L.H. and Ward, N.L. (2013) Academic Identification as a Mediator of the Relationship between Parental Socialization and Academic Achievement. *Contemporary Educational Psychology*, **38**, 99-106. <https://doi.org/10.1016/j.cedpsych.2012.11.001>