Journal of Innovative and Creativity
Journal Homepage: https://joecy.org/index.php/joecy
e-mail: journaljoecy@gmail.com

Faculty of Education
University of Pahlawan Tuanku Tambusai
ISSN 2776-771X (Online)
ISSN 2962-570X (Printed)
5 (3) 2025, Page: 51971-51981

The Influence of Time Management and Economic Literacy on the Academic Performance of Students Who Work While Pursuing Higher Education

Athaillah Farrel Inandra[1], Eogenie Lakilaki[2], Alfan Syihabul Haq[3], Febri Pramudya Wardani[4], [5]Muhammad Rizky
[1]Universitas Pelita Harapan, [2]Perpustakaan Nasional RI, [3]Telkom University Surabaya, [4]IBM ASMI Jakarta, [5]INTI International University of Malaysia
Corresponding Author: Muhammad Rizky, Rizky, e-mail: i26038918@student.newinti.edu.my

Published: October , 2025

ABSTRACT
Balancing paid employment with university studies can place competing demands on students' time and financial resources. This study examined the individual and joint associations of time management and economic literacy with academic performance among employed undergraduates. Using a quantitative, cross-sectional, ex post facto correlational design, the study surveyed 315 working students from three public and private universities, selected through purposive and proportional stratified sampling. Time management and economic literacy were assessed using five-point Likert-scale questionnaires, while academic performance was measured using cumulative grade point averages obtained from university records. Data were analyzed using descriptive statistics and partial least squares structural equation modeling with SPSS 27 and SmartPLS 4. Time management ($\beta = 0.412$, $t = 6.345$, $p < .001$) and economic literacy ($\beta = 0.368$, $t = 5.122$, $p < .001$) were positively associated with academic performance. Together, they explained 52.3% of its variance ($R^2 = 0.523$), with positive predictive relevance ($Q^2 = 0.314$). These findings suggest that both capabilities are relevant to academic achievement among working students and may inform integrated academic scheduling and financial education support, although the cross-sectional design precludes causal conclusions.

Keywords: Academic Performance, Economic Literacy, Higher Education, Time Management, Working Students

© The Author(s). 2021 Open Access This article is licensed under a Creative Commons Atibution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. To view a copy of this licence, visit http://creativecommons.org/licenses/by/4.0

INTRODUCTION
The number of university students who combine their studies with part-time or full-time employment has drawn growing attention in higher education research. For many students, working while studying is not simply a personal choice but a response to financial circumstances that make it difficult to rely entirely on family support or other sources of funding. Rising educational expenses and the economic pressures experienced in the post-pandemic period have further complicated students' efforts to finance their education (Canto et al., 2024). Yet the implications of student employment extend beyond financial concerns. Managing academic responsibilities alongside paid work requires students to make difficult decisions about how they spend their time, maintain their well-being, and pursue their educational goals. Employment may provide financial stability and valuable experience, but it can also place additional demands on students who are already navigating the expectations of university life. Understanding these experiences is therefore relevant to discussions of academic achievement and student well-being, particularly as employment increasingly becomes part of how some students sustain their participation in higher education (Pacheco-Castillo et al., 2021).

For working students, one of the most persistent difficulties is finding enough time and energy to meet academic expectations while fulfilling employment responsibilities. University schedules, assignments, examinations, and other learning activities do not always align with working hours. When

these responsibilities overlap, students may have to reduce their study time, postpone academic tasks, or sacrifice opportunities for adequate rest. Previous research has associated competing academic and employment demands with fatigue, psychological stress, and difficulties maintaining concentration during learning activities (Pagon & Ponce, 2021). Financial circumstances can make this situation even more difficult. Although employment provides an additional source of income, earning money does not necessarily mean that students can manage their financial obligations effectively. Limited economic literacy may affect how students evaluate financial choices, allocate available resources, and prioritize educational expenses. As a result, financial pressure may continue even when students are earning an income (Jiang et al., 2021). These conditions suggest that academic achievement among working students cannot be understood solely through the number of hours they spend working. Their ability to manage time and make informed economic decisions may also shape how successfully they balance the demands of employment and education.

Previous studies have examined several factors that may help working students maintain their academic performance, with time management and economic literacy receiving particular attention. Time management is often discussed in relation to students' ability to organize activities, establish priorities, and distribute their available time across competing responsibilities. Students who plan their schedules carefully may be better positioned to complete academic assignments and respond to unexpected demands without allowing work commitments to disrupt their studies. Research has reported positive associations between effective time management and academic performance, suggesting that the ability to organize daily responsibilities can help students navigate competing roles (Wilson & Abbasi, 2021). Another line of research has focused on financial knowledge and decision-making. Studies of financial literacy suggest that understanding how to budget, manage expenses, and evaluate financial priorities may help students cope with economic pressures, particularly when their financial resources are limited (Ali et al., 2021). Although financial literacy and economic literacy are related, they are not entirely interchangeable. Economic literacy also concerns how individuals understand choices, resource limitations, and the consequences of economic decisions. This broader perspective may be relevant to working students, who must continually decide how to allocate both their financial resources and their time.

Despite these findings, the relationship between employment and academic achievement remains difficult to interpret consistently. Working while studying does not necessarily produce the same outcomes for every student. Some studies suggest that employment can encourage independence, responsibility, discipline, and confidence in managing competing demands. Students who adapt successfully to these responsibilities may develop habits that support their academic progress (Bias & Bias, 2023). Other research, however, has reported less favorable experiences, particularly when employment demands interfere with attendance, study routines, and opportunities for academic engagement. Long working hours and accumulated fatigue may place students at greater risk of experiencing academic difficulties (Dungon et al., 2024). These contrasting findings suggest that employment itself may not adequately explain differences in academic achievement. Attention must also be given to the personal capabilities and circumstances that influence how students manage their dual responsibilities. Although time management and economic literacy have been discussed in previous research, their combined relationship with academic performance among working students deserves closer examination. Considering these variables together may provide a clearer understanding of why some students maintain satisfactory academic outcomes despite employment pressures, while others encounter greater difficulties.

A further issue concerns the possible connection between students' financial decisions and the amount of time they can devote to academic activities. Time management and economic literacy are often treated as separate areas of competence, yet the decisions students make in one area may have consequences for the other. For example, students who struggle to plan their expenses may find themselves needing additional working hours to meet financial obligations. Such circumstances could reduce the time available for studying, even when students attempt to maintain an organized academic schedule. This possibility illustrates why examining time management without considering economic decision-making may provide an incomplete picture of the challenges experienced by working students (Taseer et al., 2023). At the same time, employment decisions may reflect different

motivations, including the need to finance education, contribute to household expenses, acquire professional experience, or achieve greater financial independence (Putra et al., 2021). These motivations may influence how students distribute their time and resources. Building on this perspective, the present study examines the relationship between time management, economic literacy, and academic achievement among university students who are employed while pursuing their studies. Specifically, it investigates the individual and combined contributions of time management and economic literacy to differences in students' academic achievement.

The present study aims to examine how time management and economic literacy relate to the academic achievement of working university students, both independently and when considered together. This investigation responds to the need for a better understanding of the capabilities that may help students maintain academic progress while managing employment responsibilities. Rather than examining time allocation and economic knowledge as unrelated aspects of student life, the study brings them into a common analytical framework. Its proposed contribution lies in connecting the behavioral dimension of time management with the economic reasoning involved in allocating limited resources. By examining these two dimensions simultaneously, the research seeks to extend existing discussions of working students' academic performance and provide a basis for further investigation into how personal resource management relates to educational outcomes. The findings may also offer practical insights for universities seeking to develop more responsive support for employed students. Such support could include flexible academic guidance, time management assistance, and financial education programs that reflect the circumstances students face while balancing work and study. Ultimately, the study seeks to contribute evidence that can inform both academic discussions and institutional efforts to support working students in achieving their educational goals.

LITERATURE REVIEW

The theoretical framework of this study draws primarily on Conservation of Resources (COR) Theory, which explains how individuals seek to acquire, maintain, and protect the resources they need to manage everyday demands. These resources may include time, energy, attention, and psychological well-being. For university students who work while pursuing their studies, managing these resources can be particularly challenging. Academic assignments, examinations, employment schedules, and personal responsibilities often compete for the same limited amount of time and energy. When work commitments become difficult to manage alongside academic expectations, students may experience fatigue, psychological pressure, and difficulties maintaining their academic engagement (Dungon et al., 2024). However, the consequences of these competing demands are not necessarily the same for every student. Some individuals develop strategies that allow them to maintain their responsibilities without experiencing the same degree of disruption. Research suggests that the ability to organize personal resources and adapt to competing expectations may contribute to how students manage their academic and employment roles (Bias & Bias, 2023). From this perspective, academic achievement among working students can be examined in relation to how effectively they manage the resources available to them.

Time management represents one way students can regulate their limited resources while balancing employment and academic responsibilities. In this study, time management is examined through three indicators: planning daily schedules, establishing priorities, and minimizing work-related interruptions during study periods (Wilson & Abbasi, 2021). These practices reflect how students organize their responsibilities and make decisions about which activities require immediate attention. For example, a student who plans academic tasks around employment schedules may have greater opportunities to complete assignments before deadlines and avoid unnecessary conflicts between work and study. Prioritizing activities can also help students distinguish between urgent responsibilities and tasks that can be completed later. Nevertheless, effective time management involves more than preparing a schedule. Students must also adjust their plans when unexpected work demands, academic deadlines, or personal circumstances arise. Previous research has associated competing employment and academic responsibilities with fatigue and difficulties maintaining concentration, suggesting that the organization of study time may be relevant to students' academic experiences (Pagon & Ponce, 2021). In this sense, time management can be understood as a

behavioral strategy that may help working students maintain academic engagement while responding to the demands of employment.

Alongside time management, students' economic decisions provide another perspective for understanding how they balance employment and higher education. Human Capital Theory offers a useful explanation for why individuals may view education as an investment in their future capabilities and employment opportunities. Rational Choice Theory, meanwhile, emphasizes how individuals make decisions by considering available alternatives, expected benefits, and the costs associated with each choice. These perspectives are relevant to working students because employment and education often involve decisions about limited financial and personal resources. For some students, paid work provides the income needed to cover tuition fees, transportation, learning materials, and everyday living expenses. Employment may therefore represent a practical response to the financial demands of continuing higher education (Putra et al., 2021). Yet receiving an income does not automatically resolve financial difficulties. Students must also decide how their earnings should be distributed across competing needs and how current spending decisions may affect their educational plans. The financial pressures associated with pursuing higher education make these decisions especially relevant, particularly when students have limited access to alternative sources of financial support (Canto et al., 2024). Understanding students' economic reasoning may therefore help explain differences in how they manage the financial demands of studying while working.

Economic literacy provides a way to examine students' ability to understand and respond to these financial circumstances. Although closely related to financial literacy, economic literacy extends beyond knowledge of budgeting and personal finance. It also involves understanding scarcity, opportunity costs, and the consequences of choosing one alternative over another. In this study, economic literacy is assessed through three indicators: understanding fundamental financial concepts, evaluating everyday economic decisions, and managing budgets associated with academic expenses (Ali et al., 2021). These indicators reflect how students interpret financial information and apply economic reasoning to situations they encounter in daily life. A student who understands the importance of prioritizing essential expenses, for instance, may be better prepared to allocate income toward tuition, transportation, and learning materials before making less urgent purchases. Such decisions may help reduce avoidable financial pressures, although their effectiveness also depends on income adequacy and broader economic circumstances. Financial knowledge alone cannot eliminate difficulties caused by low wages or high educational costs. Nevertheless, the ability to evaluate spending priorities may influence how students respond to financial constraints. When financial decisions are poorly planned, some students may feel compelled to increase their working hours to meet outstanding expenses, potentially reducing the time available for academic activities (Jiang et al., 2021). Economic literacy is therefore examined as a cognitive resource that may support students in making more informed decisions about the relationship between employment income and educational needs.

Time management and economic literacy may also be connected through the decisions working students make about allocating their limited resources. Academic achievement, commonly assessed through grade point average (GPA) or cumulative grade point average (CGPA), reflects one dimension of how students perform in their studies. For students who combine employment and higher education, academic performance may be associated with both the time available for learning and their ability to manage financial obligations. These two considerations do not necessarily operate independently. For example, students experiencing financial difficulties may choose to work additional shifts, leaving fewer hours for assignments, examination preparation, or academic participation. Even students with well-organized study schedules may encounter difficulties when financial circumstances require unexpected changes to their working hours. Conversely, students who make informed financial decisions and organize their time effectively may be better positioned to maintain a manageable balance between employment and study. Previous literature has discussed the relationship between economic pressures, time allocation, and students' academic experiences, suggesting that these factors deserve consideration within the same analytical framework (Taseer et al., 2023; Pacheco-Castillo et al., 2021). Their relationship should not, however, be assumed to be uniformly positive or causal. Academic achievement may also depend on employment intensity,

institutional support, prior academic ability, and individual circumstances. Examining time management and economic literacy together may therefore offer a broader understanding of how working students navigate competing academic and financial demands.

Building on these theoretical perspectives, the present study brings time management and economic literacy into a single framework for examining academic achievement among working university students. Time management represents the behavioral dimension of organizing activities and regulating competing responsibilities, while economic literacy reflects the cognitive dimension of understanding resource limitations and making informed economic decisions. Considering both variables allows the study to examine their individual relationships with academic achievement while also assessing their combined contribution within the proposed analytical model. The framework is informed by Conservation of Resources Theory, Human Capital Theory, and Rational Choice Theory, each of which offers a different explanation of how students manage their responsibilities and make decisions about limited resources. Rather than assuming that these factors necessarily produce academic success, the study investigates whether students with stronger time management skills and higher levels of economic literacy tend to demonstrate better academic achievement. Accordingly, the research proposes that time management is positively associated with academic achievement, that economic literacy is positively associated with academic achievement, and that both variables jointly contribute to explaining variation in academic achievement among working students. These propositions provide the theoretical basis for the study's hypotheses and subsequent empirical analysis.

METHOD

This study employed a quantitative approach with an ex-post facto correlational design using a cross-sectional survey method. This specific approach was selected to examine and analyze the causal relationship between time management skills, economic literacy, and the academic achievement of working students. A survey design is considered the most appropriate method for collecting large-scale data within a single timeframe to empirically identify behavioral trends without administering treatment manipulation (Emzir, 2021; Sugiyono, 2022). This quantitative research design enables objective measurement of the interdependent variables affecting the educational resilience of working students, as recommended in recent educational psychology literature (Pacheco-Castillo et al., 2021). Furthermore, testing the regression relationship between personal resource allocation and educational outcomes aligns with the methodological direction of prior research seeking to explore the macroeconomic conditions of students in a structured manner (Canto et al., 2024; Sudaryono, 2021).

The population in this study encompassed all active undergraduate students across three public and private universities who were concurrently engaged in part-time or full-time employment. The sampling technique utilized a purposive sampling method combined with proportional stratified random sampling to ensure respondent representation based on academic semester and working hour duration. The established inclusion criteria required participants to be active students in at least their third semester, to have been employed for a minimum of the past six months, and to carry a minimum workload of 15 hours per week. Establishing these strict criteria aimed to filter participants who genuinely experienced real-world dual role conflicts (Bias & Bias, 2023). The sample size was calculated using the G*Power formula considering a five percent significance level, which resulted in an estimated target of 315 valid respondents. An adequate sample size is highly crucial to detect variances in academic achievement that are frequently masked by cognitive fatigue resulting from accumulated workloads (Dungon et al., 2024; Sugiyono, 2022).

Primary data collection was conducted through a structured questionnaire instrument based on a five-point Likert scale, while secondary data in the form of Cumulative Grade Point Average (CGPA) was obtained from the faculty academic information system as an objective indicator of learning achievement. The time management instrument was adapted and modified from a standardized scale measuring daily schedule planning capabilities, priority setting, and the ability to reduce work interruptions during the learning process (Wilson & Abbasi, 2021). Concurrently, the economic literacy instrument was developed based on the dimensions of fundamental financial knowledge, economic decision evaluation, and academic operational budget allocation management

(Ali et al., 2021). Prior to mass distribution, all instruments underwent a pilot test involving 35 working students outside the main sample to measure construct validity using exploratory factor analysis and reliability through the Cronbach's Alpha value (Sudaryono, 2021). The prerequisite testing results ensured that all statement items were statistically valid and possessed consistent reliability coefficients above the 0.75 threshold, making them reliable as precise measurement tools (Emzir, 2021).

The research procedures were executed systematically and chronologically, beginning with the preparation phase of obtaining institutional permissions and synchronizing data with the academic administration department. Following administrative approval, the questionnaires were distributed in a hybrid format, specifically through online form platforms linked in various working student communication groups and physical questionnaire distribution in several target cluster areas. During the data collection process, which lasted for four weeks, the research team proactively conducted periodic monitoring to minimize non-response bias and ensure completion by every participant. The modification to a hybrid distribution method was justified by the high mobility of working students and their campus schedules, which tend to be erratic due to employment demands (Pagon & Ponce, 2021). The synchronization between self-reported questionnaire data and objective CGPA records was meticulously conducted using unique identification codes to prevent recording errors that could potentially degrade the integrity of the final analysis (Jiang et al., 2021).

The validated data were subsequently analyzed using descriptive and inferential statistical approaches utilizing IBM SPSS version 27 and SmartPLS 4.0 software. The descriptive analysis aimed to map the demographic profiles of the respondents and categorize their levels of time management and economic literacy proficiency into percentage frequency distribution ranges. The research hypothesis testing was executed through the variance-based Structural Equation Modeling (SEM) technique using Partial Least Squares to dissect the significance of both simultaneous and partial effects of the independent variables on academic performance. The SEM-PLS approach was selected due to its superior capability in handling complex structural models while facilitating the testing of variables operating simultaneously, thereby minimizing rigid data distribution assumptions (Taseer et al., 2023). Before conducting the hypothesis tests, a series of evaluations for the outer measurement model and inner structural model ensured that the goodness of fit criteria were met to guarantee the predictive accuracy of the research (Putra et al., 2021; Sugiyono, 2022).

The execution of these research stages was strictly governed by social research ethics guidelines, initiated by obtaining ethical clearance from the relevant university research ethics committee. Every prospective respondent was required to read and agree to a voluntary informed consent form embedded on the initial page of the questionnaire before they could provide their personal data and perceptions. The confidentiality of participants' personal identities and historical academic data was absolutely guaranteed, where the research reporting process will only display aggregate numerical data collectively without referring to specific individuals. This anonymity protocol was rigorously implemented to avoid potential stigmatization or adverse impacts that could affect the students' future employment status or academic standing (Pacheco-Castillo et al., 2021). As a form of respect for respondent autonomy, every participant was also granted the full right to withdraw from the research process at any time without facing any academic consequences whatsoever (Canto et al., 2024).

FINDING AND DISCUSSION

FINDINGS

The data collection process yielded 315 valid responses from undergraduate students who met the rigorous inclusion criteria of maintaining active enrollment while working a minimum of 15 hours per week. A descriptive statistical analysis was initially conducted using IBM SPSS version 27 to map the distribution and central tendencies of the primary variables. The empirical data indicated that the respondents generally exhibited moderate to high levels of resource management capabilities. Specifically, the time management construct yielded a mean score of 3.42 with a standard deviation of 0.65, while economic literacy recorded a slightly higher mean of 3.55 accompanied by a standard deviation of 0.58. The endogenous variable, measured through the students' Cumulative Grade Point Average (CGPA), demonstrated a mean of 3.15 out of a maximum 4.00, with a standard deviation of

0.42. These descriptive metrics reveal that although the working students in the sample maintained satisfactory academic standings overall, there was a noticeable variance in their behavioral and cognitive management scores.

Table 1. Descriptive Statistics of Research Variables

Variable	N	Minimum	Maximum	Mean	Std. Deviation	Category
Time Management	315	1.80	4.90	3.42	0.65	Moderate
Economic Literacy	315	2.10	5.00	3.55	0.58	High
Academic Performance	315	2.25	3.95	3.15	0.42	Satisfactory

Following the descriptive assessment, the measurement model (outer model) was evaluated utilizing SmartPLS 4.0 to confirm the construct validity and reliability before testing the structural relationships. The outer model assessment focused strictly on indicator reliability, internal consistency, and convergent validity (Hair et al., 2021). The computational results demonstrated that all indicator outer loadings ranged between 0.745 and 0.882, successfully exceeding the recommended baseline threshold of 0.70. Internal consistency was robustly verified through Cronbach's Alpha and Composite Reliability (CR) values, all of which surpassed the strict 0.75 benchmark established in the methodology framework. Furthermore, the Average Variance Extracted (AVE) for both time management and economic literacy exceeded the 0.50 minimum requirement (Sarstedt et al., 2022). This confirms that the latent variables captured more than half of the variance of their respective indicators, thereby establishing excellent convergent validity for the survey instruments.

Table 2. Measurement Model Evaluation (Construct Reliability and Validity)

Construct	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)	Status
Time Management	0.842	0.885	0.612	Valid & Reliable
Economic Literacy	0.815	0.864	0.588	Valid & Reliable

With the measurement model statistically validated, the analysis proceeded to the structural model (inner model) evaluation to determine the predictive power of the independent variables on the endogenous construct. The inner model assessment revealed an R-square value of 0.523 for the academic performance variable. This coefficient indicates that time management and economic literacy simultaneously explain 52.3 percent of the variance in the academic achievement of the sampled working students (Hair et al., 2021). The remaining 47.7 percent of the variance is attributed to external factors and variables not encapsulated within this specific structural model. The predictive relevance of the model was further supported by a Q-square value of 0.314, which is significantly greater than zero. This positive Q-square metric confirms that the PLS path model possesses adequate and robust predictive capabilities for forecasting the endogenous construct based on the observed data.

The final phase of the analysis involved testing the proposed research hypotheses through a bootstrapping procedure utilizing 5,000 subsamples in SmartPLS to generate precise t-statistics and significance levels. The structural path analysis demonstrated a positive and highly significant relationship between time management and academic performance. The path coefficient (beta) for time management was recorded at 0.412 with a t-statistic of 6.345 and a p-value of 0.000, leading to the definitive acceptance of the first hypothesis. Similarly, the statistical analysis revealed a significant positive impact of economic literacy on academic performance. The path coefficient for economic

literacy stood at 0.368, supported by a t-statistic of 5.122 and a p-value of 0.000, which consequently confirms the acceptance of the second hypothesis.

Table 3. Path Coefficients and Hypothesis Testing Results

Hypothesis	Relationship	Original Sample (Beta)	T-Statistics	P-Values	Decision
H1	Time Management -> Academic Performance	0.412	6.345	0.000	Supported
H2	Economic Literacy -> Academic Performance	0.368	5.122	0.000	Supported

The compiled statistical evidence objectively confirms that both independent variables operate as significant predictors of academic success among the studied population. The structural data explicitly show that time management exerts a slightly stronger direct effect on academic performance compared to economic literacy, as evidenced by the higher beta coefficient (0.412 versus 0.368). Concurrently, the simultaneous testing parameters validate that both behavioral and cognitive resource management variables jointly play a critical role in shaping educational outcomes. The empirical data effectively support the proposed structural model, proving factually that optimal academic grades among working students are structurally dependent on their proficiency in executing daily schedule planning and applying rational financial decisions.

Discussion

The findings of this study provide insight into how time management and economic literacy are associated with academic performance among undergraduate students who combine higher education with paid employment. The structural model explained 52.3% of the variance in academic performance ($R^2 = 0.523$), suggesting that these two variables collectively account for a substantial proportion of the differences observed in students' academic outcomes. This finding is particularly relevant to working students, whose educational experiences are shaped by the need to distribute limited time, energy, and financial resources across competing responsibilities. However, the relationship between employment and academic achievement is not straightforward. In a systematic review of 347 publications, Nidogon Višnjić et al. (2024) identified both positive and negative associations between student employment and academic performance, with unfavorable outcomes more commonly linked to greater time commitments at work. Similarly, Kroupova et al. (2024), in a meta-analysis of 69 studies, found considerable variation in the estimated educational consequences of student employment, with an overall negative but relatively small average effect after accounting for methodological differences and potential biases. These findings suggest that employment status alone may not adequately explain students' academic outcomes. The present study extends this discussion by examining two individual capabilities that may help account for variation in academic performance among students who are already employed. Although the model demonstrates considerable explanatory capacity within the analyzed sample, the remaining unexplained variance also indicates that academic achievement is associated with factors beyond time management and economic literacy.

Time management demonstrated the larger standardized path coefficient in the proposed model ($\beta = 0.412$), indicating a positive association with academic performance after accounting for economic literacy. This finding suggests that working students who are better able to organize daily activities, establish academic priorities, and manage interruptions tend to report or achieve more favorable academic outcomes. The result is consistent with the meta-analysis conducted by Aeon et al. (2021), which identified a positive relationship between time management and academic achievement across 76 effect estimates involving 30,605 participants ($r = 0.262$, 95% CI [0.223, 0.300]). The agreement between these findings supports the relevance of time management to academic performance, although the standardized regression coefficient obtained in the present study should not be compared directly with the pooled correlation reported in the meta-analysis because

the statistics represent different estimands. For working students, effective time management may be particularly valuable because their academic schedules must accommodate employment obligations that are not always flexible. Planning study activities around working hours, anticipating assessment deadlines, and protecting time for independent learning may help students maintain consistent academic engagement. Nevertheless, the findings of Aeon et al. (2021) also indicate that time management is associated with well-being and academic outcomes to different degrees, suggesting that its benefits should not be reduced to improvements in grades alone. From the perspective of Role Strain Theory, time management may help students navigate the competing expectations associated with their roles as employees and university students. The present findings are consistent with this interpretation, although the statistical model does not directly establish whether time management reduces role conflict, fatigue, or psychological strain.

The relationship between time management and academic achievement becomes more meaningful when considered alongside evidence regarding employment intensity. Ecton et al. (2023), using longitudinal administrative records from colleges and universities in Tennessee, found that working while enrolled was associated with lower credit accumulation and a reduced likelihood of degree completion. Their analysis indicated that employed students were approximately four to seven percentage points less likely to complete college, depending on institutional context and model specification. Interestingly, students who successfully completed their degrees had grade point averages comparable to those of nonworking students, despite generally taking longer to graduate. This distinction suggests that academic performance and educational progression do not necessarily respond to employment demands in the same way. A student may maintain satisfactory grades while experiencing difficulties completing coursework at the expected pace. The present study therefore contributes a complementary perspective by identifying time management as a variable positively associated with academic performance among employed students. Rather than implying that effective scheduling can eliminate the consequences of demanding employment, the findings suggest that students' capacity to organize their responsibilities may be relevant to how they experience academic pressures. This interpretation is also consistent with Kroupova et al. (2024), who emphasized that estimates of the effects of student employment vary according to research context, methodological choices, and the treatment of endogeneity. Future research should therefore examine whether working hours, job flexibility, and employment intensity alter the relationship between time management and academic outcomes.

Economic literacy also exhibited a positive standardized path coefficient ($\beta = 0.368$), suggesting that students with stronger economic understanding tend to demonstrate better academic performance when time management is included in the model. Although this coefficient was numerically smaller than the coefficient for time management, the difference should not be interpreted as statistically meaningful without a formal comparison of the two estimates. The finding is relevant because students who work while studying are required to make decisions about how their earnings should be distributed among educational expenses, personal needs, and other financial obligations. Economic literacy may support these decisions by helping students understand resource scarcity, opportunity costs, budgeting priorities, and the consequences of alternative spending choices. Nevertheless, the relationship between financial knowledge and educational outcomes is likely to be more complex than a direct pathway from knowledge to achievement. Andrews et al. (2024), using data from 21 community colleges, found that financial stress and financial precarity were associated with several academic outcomes, with financial stress explaining more variation in some outcomes than financial knowledge and several demographic characteristics. This finding suggests that financial circumstances and psychological responses to economic pressure may be as relevant as knowledge itself. Similarly, Danahy et al. (2024), analyzing data from 25,310 college students, reported that greater student loan debt and limited emergency savings were associated with higher financial stress, while financial self-efficacy and supportive financial socialization were associated with lower stress. These studies do not directly establish that economic literacy improves academic achievement among working students, but they provide empirical context for understanding why financial decision-making deserves consideration. The positive association identified in the present study may reflect students' capacity to make informed economic choices while managing educational expenses. However,

whether this association operates through reduced financial stress, greater financial stability, or changes in working hours remains an empirical question that requires additional investigation.

Considering both variables together provides a useful perspective for interpreting the findings through Conservation of Resources (COR) Theory. This theoretical approach emphasizes the importance of acquiring, preserving, and managing resources when individuals encounter competing demands. For working students, time represents a limited resource that must be distributed between academic activities and employment, while economic literacy can be understood as a cognitive capability that informs decisions about financial resources. The positive coefficients for both variables are consistent with the view that academic performance is related to more than the amount of time or income students possess. How students organize their available time and evaluate their economic choices may also matter. The model's explained variance ($R^2 = 0.523$) supports the usefulness of considering these capabilities within a shared analytical framework. In addition, the reported Q^2 value of 0.314 indicates positive predictive relevance according to the procedure used to estimate this statistic. However, Q^2 should be interpreted in relation to the specific predictive assessment method and does not, by itself, demonstrate generalizability to new populations. The findings also do not establish that time management and economic literacy interact synergistically, since an interaction effect was not separately estimated. Rather, the study's contribution lies in examining their distinct associations with academic performance within the same model. This approach adds to the literature on working students by connecting the behavioral organization of time with the cognitive evaluation of economic resources, two dimensions that may become particularly relevant when academic and employment responsibilities compete.

These findings have implications for how universities understand and support students who are employed during their studies. Academic assistance for working students may benefit from addressing practical scheduling difficulties rather than assuming that all students have equivalent time available for learning. Guidance on planning assignments, prioritizing academic responsibilities, and adapting study routines to employment schedules may be useful, particularly when accompanied by institutional flexibility where appropriate. At the same time, the positive association between economic literacy and academic performance suggests that economic education may be worth considering alongside more conventional academic support. Practical discussions of budgeting, opportunity costs, educational expenses, and responsible financial decision-making could help students evaluate the financial choices they encounter while pursuing higher education. Such measures, however, should complement rather than replace institutional responses to structural difficulties, including high educational costs, insufficient financial assistance, and inflexible employment arrangements. The findings must also be interpreted within the limitations of the proposed model. Relationships between the variables may be influenced by factors not included in the analysis, such as socioeconomic background, prior academic achievement, employment intensity, family responsibilities, and access to institutional support. Without an experimental or otherwise causally identifying design, the observed coefficients cannot establish that improving time management or economic literacy will necessarily lead to higher academic achievement. Future studies could address these limitations through longitudinal research, broader institutional samples, and models that examine potential mediating or moderating mechanisms. In particular, assessing financial stress, working hours, and role conflict would help clarify whether these factors explain or modify the relationships identified in the present study. Overall, the findings suggest that academic performance among working students is associated with both the organization of time and the understanding of economic choices, providing a basis for further research into how these capabilities relate to students' educational experiences.

CONCLUSIONS

This study examined the relationships between time management, economic literacy, and academic performance among undergraduate students who balance higher education with employment responsibilities. Based on data from 315 working students, the findings revealed that both time management ($\beta = 0.412$, $p < .001$) and economic literacy ($\beta = 0.368$, $p < .001$) were positively and significantly associated with academic performance. Together, these variables explained

52.3% of the variance in academic achievement ($R^2 = 0.523$), while the Q^2 value of 0.314 indicated positive predictive relevance within the analytical framework. These results suggest that organizing academic responsibilities and making informed economic decisions are both relevant to understanding how working students maintain their educational progress. The study contributes to the existing literature by examining behavioral resource management and economic understanding within a unified analytical model, offering additional insight into the academic experiences of employed students.

Nevertheless, the cross-sectional design, sampling approach, and limited institutional coverage restrict causal interpretation and the generalizability of the findings. Furthermore, employment intensity, financial stress, socioeconomic circumstances, and institutional support were not incorporated into the model. Future research should employ longitudinal or intervention-based designs, include more diverse student populations, and examine potential mediating and moderating mechanisms to clarify these relationships. From a practical perspective, universities should consider integrating time management guidance, financial education, and flexible academic support into student assistance programs, particularly for those managing substantial employment commitments. Such initiatives may help institutions respond more effectively to the academic and economic challenges experienced by working students.

REFERENCES

Aeon, B., Faber, A., & Panaccio, A. (2021). Does time management work? A meta-analysis. *PLOS ONE, 16*(1), Article e0245066. https://doi.org/10.1371/journal.pone.0245066

Andrews, B. D., Rehr, T., & Regan, E. P. (2024). The link between financial stress, financial precarity, and educational outcomes at community colleges. *Community College Journal of Research and Practice, 48*(4), 233–249. https://doi.org/10.1080/10668926.2022.2100009

Danahy, R., Loibl, C., Montalto, C. P., & Lillard, D. (2024). Financial stress among college students: New data about student loan debt, lack of emergency savings, social and personal resources. *Journal of Consumer Affairs, 58*(2), 692–709. https://doi.org/10.1111/joca.12581

Ecton, W. G., Heinrich, C. J., & Carruthers, C. K. (2023). Earning to learn: Working while enrolled in Tennessee colleges and universities. *AERA Open, 9*(1), 1–16. https://doi.org/10.1177/23328584221140410

Emzir. (2021). *Metodologi penelitian pendidikan: Kuantitatif dan kualitatif*. Rajawali Pers.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). Sage Publications.

Kroupova, K., Havranek, T., & Irsova, Z. (2024). Student employment and education: A meta-analysis. *Economics of Education Review, 100*, Article 102539. https://doi.org/10.1016/j.econedurev.2024.102539

Nidogon Višnjić, S., Pažur Aničić, K., & Divjak, B. (2024). A systematic review of the literature on student work and academic performance. *Industry and Higher Education, 38*(5), 473–484. https://doi.org/10.1177/09504222241241974

Sarstedt, M., Hair, J. F., Pick, M., Liengaard, B. D., Radomir, L., & Ringle, C. M. (2022). Progress in partial least squares structural equation modeling use in marketing research in the last decade. *Psychology & Marketing, 39*(5), 1035–1064. https://doi.org/10.1002/mar.21640

Sudaryono. (2021). *Metodologi penelitian pendidikan*. Kencana.

Sugiyono. (2022). *Metode penelitian kuantitatif, kualitatif, dan R&D*. Alfabeta.