IntegrationThe Perspective of Time Management Theory and Role Strain Theory in the Correlational Study of Time Management, Role Conflict and Academic Achievement of Prior Learning Recognition (RPL) Students of Toraja Christian University of Indonesia

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Abstract

Keywords:

Time Management, Role Conflict, Academic Achievement

This study aims to analyze the relationship between time management and academic achievement of Recognition of Prior Learning (RPL) students at the Indonesian Christian University of Toraja, and to determine whether role conflict moderates the relationship between time management and academic achievement from the perspective of time management theory and role strain theory. This study uses a quantitative approach with a moderated regression analysis method (MRA). The population in this study were all RPL students at the Indonesian Christian University of Toraja, with a sampling technique using saturated sampling. Data were collected through questionnaires distributed to respondents and analyzed using the SEM-Smart PLS program. The results showed that time management had a positive and significant effect on academic achievement of RPL students with a path coefficient of 0.607, T of 3.769, and a p-value of 0.000. This means that the better the student's ability to manage time, the higher the academic achievement achieved. However, role conflict did not act as a moderating variable in the relationship between time management and academic achievement with a path coefficient of 0.180, T of 1.289, and a p-value of 0.197. Thus, the level of role conflict experienced by students does not change the strength or weakness of the influence of time management on academic achievement

INTRODUCTION

Higher education is a level of education that is not only accessible to high school graduates or formal education but also those who come from non-formal education or have work experience such as students in the Recognition of Prior Learning (RPL) program. RPL students generally have to divide their time between academic activities and work responsibilities, where these two roles can cause increased stress levels due to fatigue in managing schedules, especially when working on college assignments and the professional demands of work at the student's workplace.(Ni Wayan Lasmi et al., 2024). The dual roles that RPL students play simultaneously create challenges in managing time effectively.(Sharan et al., 2014).

In this context, time management theory explains that the effectiveness of time managementpositively correlated with student academic achievement(Britton et al., 1991)Time management is not only related to the ability to schedule activities but also the ability to control time, manage goals, set priorities and how to perceive the time you have.(Vinahapsari & Rosita, 2020)RPL students who can implement good time management strategies tend to be able to complete academic assignments and achieve better academic performance. Students who implement effective learning strategies can help them achieve their goals.(Rajendran et al., 2019). But not all RPL students are able to apply good time management, some of them experienceconflict between work and study which is correlated with stress, anxiety and depression which leads to decreased academic performance(Samaratunga & Kamardeen, 2025)

Time efficiency in the student context can be interpreted as students who are able to

allocate time effectively and can optimize their productivity for various tasks and other activities.(Beban et al., 2024)Students who are starting to work need to have good time management skills so they can organize their schedules efficiently and complete assignments at two different times: one for lectures and one for part-time work.(Agustina & Mardalis, 2024)There is a positive and significant relationship between time management and academic achievement in students who work part-time, the better they manage their time, the higher their academic achievement.(Puspita, 2023).MStudents are required to be individuals who can manage their time effectively. They will be constantly engaged in learning activities to complete both academic and non-academic assignments.(Hardani, 2024).Students who work are believed to have stability in terms of managing time, income and career hopes(Fitriana et al., 2021).

The decision to work also has significant implications for time management and academic achievement. Students' work activities can disrupt their study time and concentration, thus disrupting their academic achievement.(Zuhair et al., 2024). Declining academic achievement can result in RPL students experiencing difficulties in graduating on time, thus correlating with delays in completing their studies.(Jatmoko et al., 2024)There are factors that can influence the relationship between work and student academic achievement. One of these is the student's level of busyness and workload outside of class.(Moreno-Marcos et al., 2020)Working students not only have to focus on their studies but also on their work, which results in divided study time, reduced study duration, and decreased concentration levels. This condition has the potential to lead to lower academic achievement.(Mardelina & Muhson, 2017).

However, RPL students face challenges not only in managing their time but also in carrying out multiple roles simultaneously. Role Strain Theory explains that the more roles a person plays, the greater the potential for role strain and role conflict.(Dharmmesti)RPL students who play dual roles as workers, students, and parents are more susceptible to stress that disrupts concentration, motivation, and time allocation for studying.(Bandaso et al., 2024).RPL students also experienced a decline in problem-solving abilities, which had an impact on their achievement index.(Yuliasih & Akmal, 2017)

Time Management Theory emphasizes an individual's ability to plan, organize, and control time effectively to achieve goals.Effective time management is not just about keeping track of time, but making the most of every moment, those who are good at time management know how to prioritize their responsibilities which will impact their success. (Maharani et al., 2024).In the context of higher education, time management has been shown to contribute significantly to academic performance, as it supports learning efficiency, consistent effort, and reduces procrastination. Role Strain Theory explains the tension that arises when a person faces conflicting demands from various roles. In the academic world, students often face multiple roles, such as being a worker, a parent, or an organizational activist, which can lead to role conflict, role overload, and role ambiguity. Failure to predict time causes conflict caused by the tension from one role interfering with another role, this conflict results in stress in both academic and work matters.(Affrida, 2017).The dual role conflict in working students is a little more complex considering that the demands of the workplace and college are relatively intolerable, unresolved dual roles can trigger stress and without social support will result in burnout.(Yahya et al., 2018). This study simultaneously integrates Time Management Theory and Role Strain Theory as a conceptual framework to explain the complex relationship between time management, Role Conflict, and academic achievement. This approach has not been used simultaneously in the context of higher education students in Indonesia, especially in students with multiple roles. This study targets a group of non-traditional students (RPL) who have unique characteristics, such as already working, having a family, or having other social responsibilities. This provides a strong contextual contribution to theory development, as most previous studies have only focused on

regular students. Based on this, this study aims to answer two main questions: whether there is an influence of time management on the academic achievement of RPL students at the Christian University of Indonesia Toraja, and whether role conflict moderates the relationship between time management and academic achievement of RPL students. This study has the novelty of simultaneously integrating Time Management Theory and Role Strain Theory as a conceptual framework to explain the complex relationship between time management, role conflict, and academic achievement in non-traditional students in Indonesia, which has not been widely explored before.

METHODS

This research method uses a mixed research method, namely a method that combines or combines quantitative methods and qualitative methods to be used together in a study, so that more comprehensive, objective, reliable and valid data is obtained.(Sugiyono, 2018)This approach was chosen so that the research would not only rely on statistical data but also gain in-depth insight into the problems studied. The research subjects were students of the RPL Program at UKI Toraja who were selected using a purposive sampling technique, namely deliberate sampling based on relevance to the research objectives. The sample consisted of 33 active students spread across the Management, Elementary School Education, and Mechanical Engineering Study Programs.

Data collection was conducted using two main instruments: questionnaires and interviews. The questionnaire was used to measure students' time management skills and academic achievement, while semi-structured interviews were conducted to gain a deeper understanding of the students' experiences of role conflict. The questionnaire was distributed to the entire study population, while interviews were conducted by the lead researcher with selected students. The research procedure began with observation to identify time management difficulties and stress resulting from dual role conflict. Next, a literature review was conducted on time management theory and role strain theory. After data collection, descriptive analysis was conducted to describe the characteristics of the respondents and to test the validity and reliability of the variable indicators. Then, inferential analysis in the form of correlation and regression was conducted to determine the relationship and influence between the studied variables.

The data recorded included demographic characteristics such as gender, marital status, weekly work hours, and weekly lecture hours. The analysis techniques used were standard statistical methods appropriate to the research questions and sample size, allowing for future replication of the study.

The following is descriptive data about the respondents' identities based on gender, marital status, weekly working hours, and weekly lecture hours.

Table 1. Respondents by Gender

No.	Gender	Amount	Percentage (%)
1	Man	19	57.6%
2	Woman	14	42.4%
	Total	33	100

Based on Table 1, it can be seen that the number of respondents based on gender was 19 respondents (57.6%), and 14 respondents (42.4%) were female. Therefore, it can be concluded that the respondents in this study were mostly male students, with a total of 19 people or a percentage of 57.6%.

Table 2, Respondents Based on Marital Status

No.	Marital status	Amount	Percentage (%)

1	Marry	30	90.9%
2	Single	3	9.1%
	Total	33	100

Based on Table 2, it can be seen that the number of respondents based on marital status is 30 respondents (90.9%) with married status and 3 respondents (9.1%) with unmarried status. Therefore, it can be concluded that the majority of respondents in this study were married, with a total of 30 people or a percentage of 90.9%.

Table 3, Respondents Based on Working Hours Per Week

No.	Working Hours Per Week	Amount	Percentage (%)
1	Full-time 35 – 48 hours	25	75.8%
2	Part-time 15 – 34 hours	7	21.2%
3	Freelancer/Temporary < 15 hours	1	3.0%
	Total	33	100

Based on table 3, it can be seen that the number of respondents based on working hours per week is 25 respondents (75.8%) with full-time working hours of 35-48 hours, 7 respondents (21.2%) with part-time working hours of 15-34 hours, and 1 respondent (3.0%) with freelancer/temporary working hours <15 hours. So it can be concluded that the respondents in this study mostly have full-time working hours of 35-48 hours per week with a total of 25 people with a percentage of 75.8%.

Table 4, Respondents Based on Lecture Hours Per Week

No.	Weekly Lecture Hours	Amount	Percentage (%)
1	0-2.5 Hours (0-3 Credits)	13	39.4%
2	5-7.5 Hours (6-9 Credits)	12	36.4%
3	12.5-17.5 Hours (15 Credits-21 Credits)	8	24.2%
	Total	33	100

Based on table 4, it can be seen that the number of respondents based on lecture hours per week is 13 respondents (39.4%) with lecture hours per week 0-2.5 hours (0-3 credits), 12 respondents (36.4%) with lecture hours per week 5-7.5 hours (6-9 credits), and 8 respondents with lecture hours per week 12.5-17.5 hours (15 credits-21 credits). So it can be concluded that the respondents in this study mostly have lecture hours per week with a total of 13 people with a percentage (39.4%)

RESULTS AND DISCUSSION

Evaluation of Measurement Model (Outer Model)
1) Reliability Indicator
outer loading

In the evaluation of reflective indicators, indicators with an outer loading of 0.40–0.70 do not have to be deleted, the indicators are still worth retaining if the overall construct quality meets the minimum criteria, namely adequate internal reliability (Cronbach's alpha ≥ 0.70), and achieved convergent validity (Average Variance Extracted/AVE ≥ 0.50) (Hair et al., 2022).

Table 5, External Load Test Results

	Role Conflict	Time Management	Academic Achievement	Role Conflict x Time Management
X1.1		0.678		
X1.10		0.693		
X1.11		0.658		
X1.12		0.768		
X1.13		0.865		
X1.14		0.815		
X1.2		0.726		
X1.3		0.744		
X1.4		0.745		
X1.5		0.807		
X1.6		0.876		
X1.7		0.664		
X1.8		0.513		
X1.9		0.654		
X2.1	0.352			
X2.10	0.829			
X2.11	0.793			
X2.12	0.821			
X2.13	0.637			
X2.14	0.772			
X2.15	0.508			
X2.2	0.829			
X2.3	0.798			
X2.4	0.908			
X2.5	0.829			
X2.6	0.817			
X2.7	0.853			
X2.8	0.792			
X2.9	0.852			
Y1.1			0.706	
Y1.10			0.399	
Y1.11			0.639	
Y1.2			0.391	
Y1.3			0.879	
Y1.4			0.693	
Y1.5			0.779	

Y1.6		0.79	
Y1.7		0.743	
Y1.8		0.64	
Y1.9		0.681	

The following are the results of eliminating indicators with outer loading <0.4 with adequate internal reliability (Cronbach's alpha ≥ 0.70, and
convergent validity achieved (Average Variance Extracted/AVE ≥ 0.50).

Table 6, Results of Indicator Elimination	Role Conflict	Time Management	Academic Achievement	Role Conflict x Time Management
X1.1		0.678		
X1.10		0.693		
X1.11		0.659		
X1.12		0.769		
X1.13		0.866		
X1.14		0.816		
X1.2		0.725		
X1.3		0.744		
X1.4		0.745		
X1.5		0.807		
X1.6		0.877		
X1.7		0.664		
X1.8		0.513		
X1.9		0.654		
X2.10	0.828			
X2.11	0.792			
X2.12	0.823			
X2.13	0.643			
X2.14	0.77			
X2.15	0.523			
X2.2	0.827			
X2.3	0.79			
X2.4	0.911			
X2.5	0.826			
X2.6	0.811			
X2.7	0.852			
X2.8	0.799			
X2.9	0.85			
Y1.1			0.705	

Y1.11			0.629	
Y1.3			0.874	
Y1.4			0.697	
Y1.5			0.769	
Y1.6			0.804	
Y1.7			0.747	
Y1.8			0.655	
Y1.9			0.685	

The next step was to eliminate several indicators that were indicated to have high correlations with indicators from other variables. The researchers used a cross-loading test to determine which indicators had the highest correlation. The following are the results of eliminating indicators with high correlations to meet the discriminant validity test.

Table 7, Indicator Elimination Results	**Role Conflict**	**Time Management**	**Academic Achievement**	**Role Conflict x Time Management**
X1.10		0.751		
X1.11		0.665		
X1.12		0.802		
X1.14		0.835		
X1.2		0.761		
X1.3		0.785		
X1.6		0.877		
X1.7		0.753		
X1.9		0.61		
X2.10	0.808			
X2.11	0.761			
X2.12	0.792			
X2.13	0.631			
X2.14	0.742			
X2.15	0.46			
X2.2	0.846			
X2.3	0.817			
X2.4	0.908			
X2.5	0.85			
X2.6	0.846			
X2.7	0.847			
X2.8	0.785			
X2.9	0.837			
Y1.1			0.734	

Y1.11			0.677	
Y1.3			0.893	
Y1.5			0.783	
Y1.6			0.783	
Y1.7			0.805	

Based on the validity test results in the table, it can be seen that all indicators have an outer loading value of ≥ 0.40, and all indicators with high correlations have been eliminated. Therefore, all indicators in this study can be declared to have met the criteria.

2) Cronbach's Alpha and Composite Reliability (Internal Consistency Reliability)

The next test that needs to be performed on the outer model is the internal consistency reliability test. This test is performed using Cronbach's alpha and composite reliability values. Cronbach's alpha describes the correlation of indicators within a construct, while composite reliability examines the differences in outer loadings of the indicator variables. (Hair et al., 2022) state that acceptable Cronbach's alpha and composite reliability values must be greater than 0.7 (Hair et al., 2022).

Table 8, Cronbach's Alpha and Composite Reliability	**Cronbach's alpha**	**Composite reliability (rho_a)**	**Composite reliability (rho_c)**	**Average variance extracted (AVE)**
Role Conflict	0.955	0.99	0.958	0.622
Time Management	0.909	0.92	0.926	0.583
Academic Achievement	0.871	0.882	0.904	0.611

The test results in the table show that all latent variables meet the reliability test criteria. This is based on the Cronbach's alpha and composite reliability values for all latent variables, which were >0.7. Therefore, all latent variables were declared reliable after meeting all measurement criteria.

3) Convergent Validity (AVE)

Convergent validity refers to the extent to which a construct is able to measure each of its indicators. Convergent validity testing can be performed by evaluating the Average Variance Extracted (AVE). According to Hair et al. (2022), when the AVE value is greater than 0.5, the construct is able to explain more than 50% of the variance in its indicators.

All constructs meet convergent validity because the AVE value is above 0.50, namely Role Conflict 0.622, Time Management 0.583, and Academic Achievement 0.611. This indicates that the indicators in each construct are able to explain more than fifty percent of the construct's variance so that the measurement quality is considered adequate for structural analysis.

4) Discriminant Validity

Evaluation to assess how different a construct is from other constructs in capturing their respective phenomena can be conducted using discriminant validity tests. Researchers generally use several tests for discriminant validity, such as the Fornell-Larcker criterion, cross-loading, and heterotrait-monotrait ratio (HTMT) (Hair et al., 2022).

The first criterion to consider in discriminant validity is the Fornell-Larcker criterion. To meet this criterion, the square root of the AVE must be greater than the highest correlation value

with other constructs, as shown in Table 1.

Table 9, Discriminant Validity

	Role Conflict	Time Management	Academic Achievement
Role Conflict	0.788		
Time Management	0.411	0.764	
Academic Achievement	0.393	0.734	0.782

Based on the table above, the square root value of AVE for each construct is greater than the correlation with other constructs, which means that the figure meets the Fornell-Larcker criterion.

The next criterion to consider is the cross-loading value. According to this criterion, the outer loading of an indicator on a related construct must be greater than the cross-loading on another construct. The loading factor values can be seen in the following table:

Table 10, cross loading

	Role Conflict	Time Management	Academic Achievement	Role Conflict x Time Management
X1.10	0.323	0.751	0.462	0.239
X1.11	0.312	0.665	0.506	0.377
X1.12	0.36	0.802	0.52	0.324
X1.14	0.355	0.835	0.669	0.44
X1.2	0.351	0.761	0.544	0.197
X1.3	0.172	0.785	0.583	0.426
X1.6	0.34	0.877	0.718	0.43
X1.7	0.483	0.753	0.41	0.312
X1.9	0.177	0.61	0.524	0.409
X2.10	0.808	0.166	-0.03	0.198
X2.11	0.761	0.339	0.086	0.102
X2.12	0.792	0.38	0.198	0.323
X2.13	0.631	0.337	0.442	0.377
X2.14	0.742	0.321	0.14	0.264
X2.15	0.46	0.346	0.04	0.154
X2.2	0.846	0.27	0.325	0.442
X2.3	0.817	0.21	0.22	0.389
X2.4	0.908	0.29	0.246	0.34
X2.5	0.85	0.183	0.295	0.368
X2.6	0.846	0.412	0.513	0.347
X2.7	0.847	0.393	0.298	0.346
X2.8	0.785	0.387	0.206	0.357
X2.9	0.837	0.359	0.181	0.145
Y1.1	0.319	0.497	0.734	0.324

Y1.11	0.454	0.509	0.677	0.651
Y1.3	0.226	0.672	0.893	0.413
Y1.5	0.095	0.49	0.783	0.27
Y1.6	0.38	0.686	0.783	0.382
Y1.7	0.34	0.53	0.805	0.472
Role Conflict x Time Management	0.427	0.467	0.537	1,000

Based on the table, it can be stated that the value of each outer loading is higher than the cross loading on the other constructs.

Another important criterion to consider in discriminant validity is the heterotrait monotrait ratio (HTMT). HTMT is the mean of all relationships between indicators across constructs. According to(Hair et al., 2022),The maximum HTMT correlation value is 0.9. An HTMT correlation value greater than 0.9 indicates a lack of discriminant validity.

Table 11, heterotrait monotrait ratio (HTMT)

	Role Conflict	**Time Management**	**Academic Achievement**	**Role Conflict x Time Management**
Role Conflict				
Time Management	0.443			
Academic Achievement	0.337	0.797		
Role Conflict x Time Management	0.382	0.483	0.575	

Based on the table, no HTMT correlation values exceed 0.9. This value meets the HTMT criteria and meets the discriminant validity test.

OnAt this stage, each construct has met all the criteria required in the discriminant validity test, so it can be concluded that each construct is empirically different from the other constructs and is able to capture phenomena not represented by other constructs in the model. Therefore, each indicator is declared to meet the discriminant validity test criteria.

Inner Model Evaluation (Structural Model Assessment)

The next evaluation conducted once the model measurements are declared valid and reliable is the Structural Model Assessment, also known as the inner model evaluation. According to Hair et al. (2022), the inner model evaluation is conducted using several tests, including collinearity, significance and relevance of model relationships, model explanatory power, and model predictive power, which will be discussed below.

1) *Assess the structural model for collinearity issues (VIF)*

Collinearity is a condition in which two or more predictor (independent) variables in a model have a strong linear relationship, meaning they are highly correlated with each other. Collinearity testing can be performed by examining the VIF value. If the VIF value is <5, the model is fit and can be continued with further analysis. The results of the VIF test can be seen in the following table:

Table 12, VIF Test Table

	VIF
Role Conflict -> Academic Achievement	1,315

Role Conflict x Time Management -> Academic Achievement	1,398
Time Management -> Academic Achievement	1,376

It can be seen in the table above that the VIF value between research variables has met the test limit, namely <5. From the inner model test, it was found that the model is generally quite good.

2) Assess the significance and relevance of the structural model relationships
path coefficient and t value

OnAt this stage, the test carried out is by looking at the path coefficient value and the t value.

A path coefficient value close to 1 indicates a positive relationship, while a value close to 0 indicates a weak relationship within the model structure. Furthermore, the t-value indicates the significance of a relationship between variables at a certain error level. In this study, the researchers used a 5% error level, meaning the t-value must be greater than 1.96.(Hair et al., 2022). The following are the path coefficient and t value values displayed in the following table:

Table 13, Path Coefficients and t-Values

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Role Conflict x Time Management -> Academic Achievement	0.18	0.145	0.139	1,289	0.197
Time Management -> Academic Achievement	0.607	0.616	0.161	3,769	0.000

Time Management has a significant positive effect on Academic Achievement with a path coefficient of 0.607, T of 3.769, and a p-value of 0.000. This means that a one-unit increase in Time Management is followed by an increase in Academic Achievement, and this effect is consistently strong at a five percent error rate.

The interaction between Role Conflict × Time Management on Academic Achievement is not significant with a path coefficient of 0.180, T of 1.289, and a p-value of 0.197. This means that the strength of Time Management does not significantly change the relationship between Role Conflict and Academic Achievement in this model, so the moderation hypothesis is not supported.

3) Assess the model's explanatory power
R-Square Value

The third step in evaluating a structural model involves assessing its explanatory power. A model's explanatory power relates to its ability to fit the existing data by measuring the strength of the associations demonstrated by the PLS path model. The most commonly used measure to evaluate the explanatory power of a structural model is the coefficient of determination (R^2), the R-square value, or coefficient of determination, which is used to evaluate the strength of a

structural model. A higher R-square value indicates a better predictive model for the proposed research model. The table shows the results of the analysis of the R-square value.

Table 14, R-Square Value

	R-square	R-square adjusted
Academic Achievement	0.588	0.546

The R square value for Academic Achievement of 0.588 indicates that fifty-eight point eight percent of the variability in Academic Achievement is explained by the constructs in the model, while the remaining forty-one point two percent is influenced by other factors not included. The adjusted R square value of 0.546 is only slightly lower, indicating that the model is quite stable without any indication of overfitting.

Effect Size Value

The next test that needs to be performed at the Assess the Model's Explanatory Power stage is to examine the effect size, or f2, value. Effect size evaluation is performed by examining the f2 value to determine the magnitude of the influence of exogenous variables on endogenous variables in a model. The guideline for assessing f2 is that values of 0.02, 0.15, and 0.35 represent small, medium, and large effects, respectively (Hair et al., 2022). The following table shows the f-square values for each construct:

Table 15, Effect Size Value Test

	Academic Achievement
Role Conflict	0.003
Time Management	0.649
Role Conflict x Time Management	0.096

The contribution to Academic Achievement is dominated by Time Management with a relatively large f-square of 0.649, followed by a small interaction of Role Conflict × Time Management of 0.096 and Role Conflict of 0.003 which can be considered very small or negligible. This pattern confirms that time management is the main lever for improving achievement, while the direct role of Role Conflict and its moderating effect are relatively weak in this model.

PLS Predict

PLS Predict is a model validation method used to assess the predictive power of a proposed PLS model. According to Hair et al. (2019), the evaluation is conducted by examining the Q^2 predict value at the indicator level in the PLS model. Most indicators show higher Q^2 predict values compared to the LM model, indicating better predictive ability. Furthermore, lower RMSE and MAE values also indicate better predictive power for the model.

Table 16, PLS Predict Test

	Q^2predict	PLS-SEM_RMSE	PLS-SEM_MAE	LM_RMSE	LM_MAE

Y1.1	0.161	0.536	0.365	0.707	0.548
Y1.11	0.324	0.413	0.26	1,265	0.968
Y1.3	0.355	0.422	0.292	1,083	0.816
Y1.5	0.061	0.539	0.349	1,468	1,057
Y1.6	0.393	0.456	0.298	1,014	0.721
Y1.7	0.281	0.543	0.375	1,329	0.989

The results of the PLS Predict analysis show that the model has excellent predictive relevance, as all Q²predict values are positive, indicating that the model is able to predict the dependent variable validly. The highest Q²predict value was obtained for the Y1.6 indicator (0.393), followed by Y1.3 (0.355) and Y1.11 (0.324), indicating that the model is most accurate in predicting aspects related to Academic Achievement. In terms of Root Mean Square Error (RMSE), the PLS-SEM model shows consistent superiority over linear regression (LM) in all indicators, with a fairly large difference, such as in Y1.11 (0.413 vs. 1.265) and Y1.6 (0.456 vs. 1.014), indicating that PLS-SEM is significantly better at reducing the squared error of prediction. The same thing is also seen in the Mean Absolute Error (MAE), where PLS-SEM has a lower MAE than LM in all indicators, such as in Y1.3 (0.292 vs. 0.816) and Y1.7 (0.375 vs. 0.989), which indicates that PLS-SEM provides more precise prediction results in absolute terms. Since none of the indicators show superiority over linear regression, either in RMSE or MAE, it can be concluded that PLS-SEM is superior overall in the predictive aspect. In the context of the model, the relationship between Time Management on Academic Achievement and Role Conflict as a moderator is supported by the strong predictive ability of this model, making it a very feasible and reliable approach in explaining the variables in this study.

The following is the structure of the relationship between Time Management, Role Conflict, and Academic Achievement:
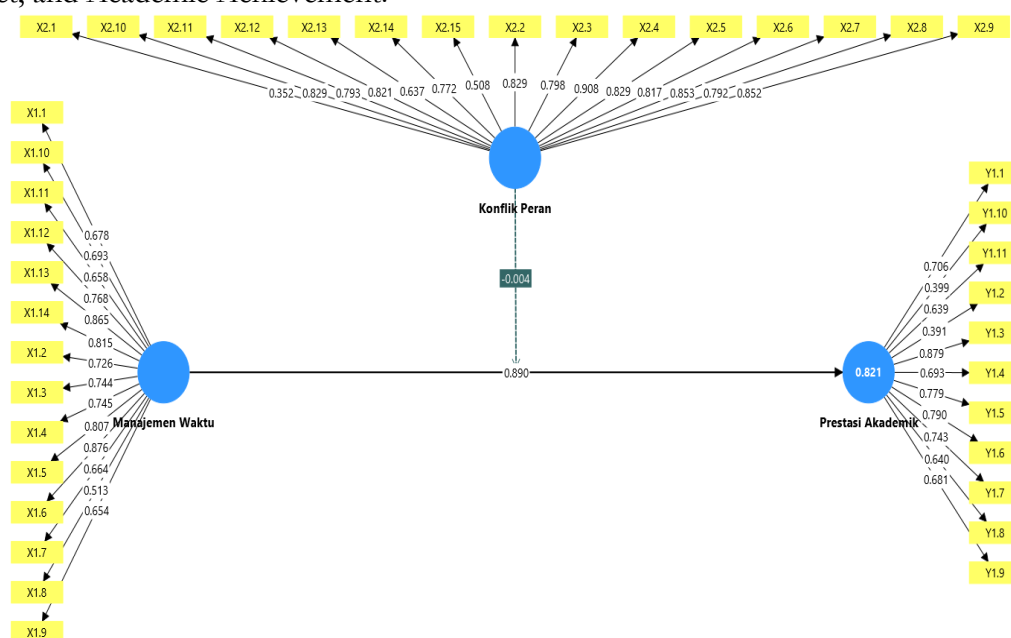

Figure 1, Results of structural model analysis

Hypothesis Testing
Direct Influence

Time Management → Academic Achievement. The path coefficient is 0.607 with a p-

value of 0.000, which is smaller than 0.05, so the hypothesis is accepted and the null hypothesis is rejected. A positive coefficient sign means that better time management leads to higher academic achievement; interpretively, every one standard unit increase in time management is followed by an increase of approximately 0.607 standard units in academic achievement, so the ability to plan, prioritize, and execute a study schedule has been proven to have a significant impact on academic achievement.

Interaction Effect (Moderation)

Role Conflict × Time Management → Academic Achievement. The path coefficient of 0.180 with a p-value of 0.197 is greater than 0.05, so the hypothesis is rejected and the null hypothesis is accepted. This means that the interaction between role conflict and time management does not show a significant effect on academic achievement; although the positive coefficient sign suggests that good time management may help mitigate the impact of role conflict, the available statistical evidence is not strong enough to conclude the existence of a moderating effect in this context.

CONCLUSION

Time management has a significant positive effect on academic achievement with a coefficient of 0.607, a T-value of 3.769, and a p-value of 0.000. Time management is a crucial aspect of academic success because this ability includes planning, prioritizing, and implementing a study schedule effectively. Through good time management, students are not only able to complete assignments on time but also improve the quality of learning and understanding of the material, which has a direct impact on improving academic achievement. Time management skills also help students deal with academic pressure in a more structured manner, thereby increasing learning productivity. Thus, effective time management is an important foundation in achieving student academic success.

The interaction between role conflict and time management on academic achievement did not show a significant effect, with a coefficient of 0.180, an insignificant T-value, and a p-value of 0.197. Although theoretically good time management can help reduce the negative impact of role conflict—such as dual demands between academic tasks and other responsibilities—the results of this study do not provide strong empirical evidence to support the existence of this moderating effect. This indicates that the influence of time management on academic achievement is predominantly direct, and role conflict in the context of this study does not significantly influence this relationship.

Suggestion
As a next step, it is recommended that future research expand the population and include other variables that may play a role in influencing academic achievement, such as academic stress, learning motivation, and social support. A longitudinal approach can also be used to more deeply understand the dynamics of the relationship between these variables. Practically, educational institutions should develop structured time management training programs to improve students' ability to manage study time effectively, while also considering specific strategies for students experiencing role conflict to minimize its impact on achievement. Thus, this research makes a significant contribution to the development of educational science and psychology by emphasizing the importance of time management in the context of academic success

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