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The Impact of Academic Load, Time Management, And Work-Study-Life Balance on Graduate Students' Anxiety Levels

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Abstract: Postgraduate students often face complex academic and professional pressures that can trigger anxiety and affect their mental well-being. This research purpose is to analyze the impact of academic workload, time management, also work-study-life balance on the anxiety levels of postgraduate students at Universitas Pelita Harapan. In this research, Author use a quantitative method which use a descriptive correlational and cross sectional approach. In this research, the populations is allof students in the Master of Management (MM) and/or Master of Hospital Administration (MARS) programs at Universitas Pelita Harapan (UPH), with a sample of 35 students selected using purposive sampling techniques. The results showed that the influence of Academic Workload on Student Anxiety was significant with a p-value of 0.038 ($p < 0.05$), the influence of Time Management on Student Anxiety was significant with a p-value of 0.041 ($p < 0.05$), and the influence of Work-Study-Life Balance on Student Anxiety was highly significant with a p-value of 0.000 ($p < 0.05$).

Keyword: Academic Workload, Time Management, Work-Study-Life Balance, Anxiety, Graduate Students.

INTRODUCTION

In recent years, Indonesia has seen a 20% increase in postgraduate student enrollment, aligning with national initiatives to enhance human resource quality (Ministry of Health, 2023). Despite this growth, data from the same source show that 35–40% of postgraduate students experience high levels of anxiety. A survey conducted among 28 Master's students in the Hospital Administration (MARS/MM) program at Pelita Harapan University revealed that 35.71% reported anxiety, ranging from mild (21.43%) to moderate and severe (each 7.14%). Major contributing factors include high academic workload, poor time management, and a lack of balance between work, study, and personal life. Working students, in particular, face scheduling conflicts involving work hours, research tasks, seminars, and thesis deadlines, often at the expense of rest and overall well-being. This study investigates the influence of academic workload, time management, and work-life-study balance (WLSB) on the anxiety levels of postgraduate students. The findings aim to support higher education institutions—especially

UPH—in designing more effective strategies and support systems to promote student mental health and academic success.

METHOD

In this research use an observational research such as cross sectional design. The data were collected through an online questionnaire distributed to postgraduate students enrolled in the Master of Management (MM) and/or Master of Hospital Administration (MARS) programs at Pelita Harapan University (UPH). A total of 30 respondents selected by random sampling technique. Academic workload was measured using the Higher Education Stress Inventory (HESI), time management was assessed with the Time Management Inventory (TMI), and Work-Study-Life Balance (WSLB) was evaluated using a modified version of the Work-Life Balance Scale (WLSBS).

RESULTS AND DISCUSSION

RESULTS

SEM-PLS Analysis

Outer Model

The outer model in SEM-PLS defines latent constructs that represent the relationship between indicators and their respective latent variables (Hair et al., 2019). This model explains how observed indicators relate to more abstract, unmeasurable constructs. To evaluate the outer model's validity, methods such as convergent validity, discriminant validity, and composite reliability (Cronbach's alpha) are used to test the validity and reliability of the research instruments, ensuring that selected indicators accurately and consistently measure the intended constructs.

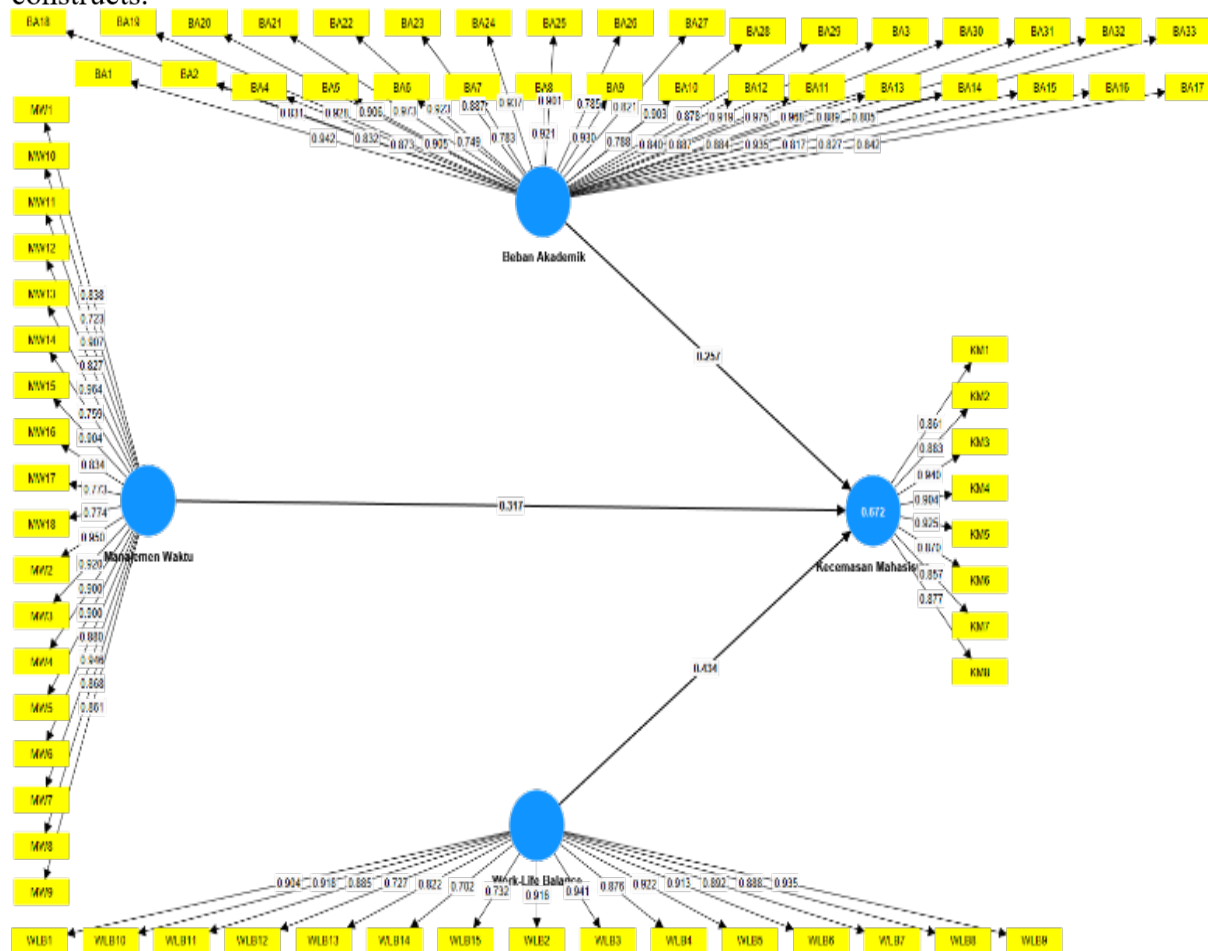


Figure 1. Outer Model

Convergent Validity Test

The first stage of testing aims to ensure that unobserved variables can be measured using observed variables through Confirmatory Factor Analysis (CFA). According to Hair, an indicator is considered highly valid if its factor loading is greater than 0.70. The results of this validity test will be presented in the following table.

Table 1. Validity Test

	Beban Akademik	Kecemasan Mahasiswa	Manajemen Waktu	Work-Life Balance
BA1	0.942			
BA10	0.788			
BA11	0.887			
BA12	0.84			
BA13	0.884			
BA14	0.935			
BA15	0.817			
BA16	0.827			
BA17	0.842			
BA18	0.831			
BA19	0.928			
BA2	0.832			
BA20	0.906			
BA21	0.973			
BA22	0.923			
BA23	0.887			
BA24	0.937			
BA25	0.901			
BA26	0.785			
BA27	0.821			
BA28	0.903			
BA29	0.878			
BA3	0.919			
BA30	0.975			
BA31	0.968			
BA32	0.889			
BA33	0.805			
BA4	0.873			
BA5	0.905			
BA6	0.749			
BA7	0.783			
BA8	0.921			
BA9	0.93			
KM1		0.861		
KM2		0.883		
KM3		0.94		
KM4		0.904		
KM5		0.925		
KM6		0.87		
KM7		0.857		
KM8		0.877		
MW1			0.838	
MW10			0.723	
MW11			0.907	
MW12			0.827	

MW13	0.964
MW14	0.759
MW15	0.904
MW16	0.834
MW17	0.773
MW18	0.774
MW2	0.95
MW3	0.92
MW4	0.9
MW5	0.9
MW6	0.88
MW7	0.946
MW8	0.868
MW9	0.861
WLSB1	0.904
WLSB10	0.918
WLSB11	0.885
WLSB12	0.727
WLSB13	0.822
WLSB14	0.702
WLSB15	0.732
WLSB2	0.916
WLSB3	0.941
WLSB4	0.876
WLSB5	0.922
WLSB6	0.913
WLSB7	0.892
WLSB8	0.888
WLSB9	0.935

The table above shows that the outer loading values for the indicators of academic workload, time management, work-study-life balance, and student anxiety exceed the 0.70 threshold, indicating that all indicators are valid.

Cross Loadings

Table 2. Cross Loadings

	Beban Akademik	Kecemasan Mahasiswa	Manajemen Waktu	Work-Life Balance
BA1	0.942	0.698	0.484	0.531
BA10	0.788	0.535	0.462	0.499
BA11	0.887	0.603	0.316	0.537
BA12	0.84	0.582	0.339	0.539
BA13	0.884	0.514	0.497	0.56
BA14	0.935	0.654	0.458	0.525
BA15	0.817	0.351	0.36	0.511
BA16	0.827	0.351	0.417	0.515
BA17	0.842	0.579	0.397	0.59
BA18	0.831	0.603	0.493	0.5
BA19	0.928	0.625	0.479	0.636
BA2	0.832	0.511	0.39	0.533
BA20	0.906	0.676	0.411	0.594
BA21	0.973	0.615	0.487	0.571
BA22	0.923	0.749	0.451	0.572
BA23	0.887	0.658	0.52	0.552

BA24	0.937	0.725	0.544	0.486
BA25	0.901	0.454	0.525	0.5
BA26	0.785	0.521	0.456	0.455
BA27	0.821	0.482	0.443	0.524
BA28	0.903	0.724	0.403	0.652
BA29	0.878	0.468	0.444	0.481
BA3	0.919	0.695	0.403	0.537
BA30	0.975	0.601	0.481	0.546
BA31	0.968	0.665	0.513	0.619
BA32	0.889	0.547	0.474	0.492
BA33	0.805	0.43	0.301	0.343
BA4	0.873	0.655	0.375	0.46
BA5	0.905	0.704	0.549	0.509
BA6	0.749	0.437	0.329	0.438
BA7	0.783	0.395	0.321	0.42
BA8	0.921	0.538	0.498	0.479
BA9	0.93	0.705	0.51	0.565
KM1	0.684	0.861	0.566	0.545
KM2	0.506	0.883	0.49	0.673
KM3	0.705	0.94	0.6	0.612
KM4	0.499	0.904	0.599	0.552
KM5	0.561	0.925	0.592	0.677
KM6	0.677	0.87	0.548	0.637
KM7	0.644	0.857	0.519	0.692
KM8	0.499	0.877	0.397	0.626
MW1	0.316	0.446	0.838	0.237
MW10	0.476	0.514	0.723	0.156
MW11	0.237	0.421	0.907	0.239
MW12	0.607	0.629	0.827	0.459
MW13	0.468	0.575	0.964	0.395
MW14	0.488	0.383	0.759	0.336
MW15	0.402	0.505	0.904	0.342
MW16	0.178	0.353	0.834	0.276
MW17	0.533	0.547	0.773	0.313
MW18	0.365	0.231	0.774	0.162
MW2	0.341	0.52	0.95	0.307
MW3	0.436	0.502	0.92	0.23
MW4	0.541	0.597	0.9	0.408
MW5	0.503	0.665	0.9	0.478
MW6	0.484	0.633	0.88	0.388
MW7	0.334	0.501	0.946	0.273
MW8	0.582	0.592	0.868	0.413
MW9	0.286	0.487	0.861	0.174
WLSB1	0.461	0.55	0.333	0.904
WLSB10	0.534	0.729	0.326	0.918
WLSB11	0.51	0.62	0.237	0.885
WLSB12	0.431	0.446	0.355	0.727
WLSB13	0.468	0.529	0.341	0.822
WLSB14	0.686	0.56	0.324	0.702
WLSB15	0.686	0.643	0.442	0.732
WLSB2	0.437	0.538	0.39	0.916
WLSB3	0.491	0.604	0.411	0.941
WLSB4	0.512	0.595	0.279	0.876
WLSB5	0.533	0.653	0.258	0.922
WLSB6	0.432	0.601	0.363	0.913

WLSB7	0.526	0.627	0.191	0.892
WLSB8	0.486	0.65	0.333	0.888
WLSB9	0.551	0.729	0.322	0.935

Based on the cross-loading test results in the table above, since the loading values for each indicator with its respective latent variable are higher than those with other latent variables, the instrument or questionnaire demonstrates good discriminant validity based on the cross-loading approach.

Fornel Lacker

Fornell-Larcker criterion is tested by comparing the square roots of the Average Variance Extracted (AVE) values, observed diagonally. Ideally, these square roots should be the largest compared to the correlations with other variables, indicating that the indicators are only correlated with the measured latent variable (Kock & Lynn, 2012).

Table 3. Fornell-Larcker

	Beban Akademik	Kecemasan Mahasiswa	Manajemen Waktu	Work-Life Balance
Beban Akademik	0.88			
Kecemasan Mahasiswa	0.675	0.89		
Manajemen Waktu	0.503	0.608	0.865	
Work-Life Balance	0.598	0.706	0.374	0.868

Based on the Fornell-Larcker test results in Table 4.8, since the square roots of the AVE for each latent variable are greater than the correlations with other latent variables, the instrument or questionnaire demonstrates good discriminant validity according to the Fornell-Larcker approach.

HTMT

Table 4. HTMT

	Beban Akademik	Kecemasan Mahasiswa	Manajemen Waktu	Work-Life Balance
Beban Akademik				
Kecemasan Mahasiswa	0.668			
Manajemen Waktu	0.493	0.6		
Work-Life Balance	0.605	0.72	0.372	

Based on Table, it shows that all HTMT values between the analyzed variables are below the threshold of 0.90, indicating that the constructs meet discriminant validity.

Construct Validity and Reliability

Based on the validity and reliability tests, the analysis shows that Cronbach's alpha and composite reliability (rho_a and rho_c) values for all variables are above 0.7, indicating excellent internal consistency. Additionally, the Average Variance Extracted (AVE) values for all variables are above 0.5, demonstrating good convergent validity. Therefore, it can be concluded that all variables meet the criteria for good construct validity and reliability.

Multikolinieritis

The multicollinearity test using the Variance Inflation Factor (VIF) aims to detect correlations between independent variables in a regression model. VIF measures the extent to which an independent variable is influenced by other independent variables. A VIF value greater than 10 indicates significant multicollinearity, which can lead to unstable or biased regression results. Conversely, a VIF value below 10 suggests that the regression model is free from multicollinearity and can be used more reliably. Based on the test results, the VIF values for outer collinearity are below 5.00, indicating no signs of multicollinearity between the variables of academic workload, time management, and work-life balance.

Inner Model

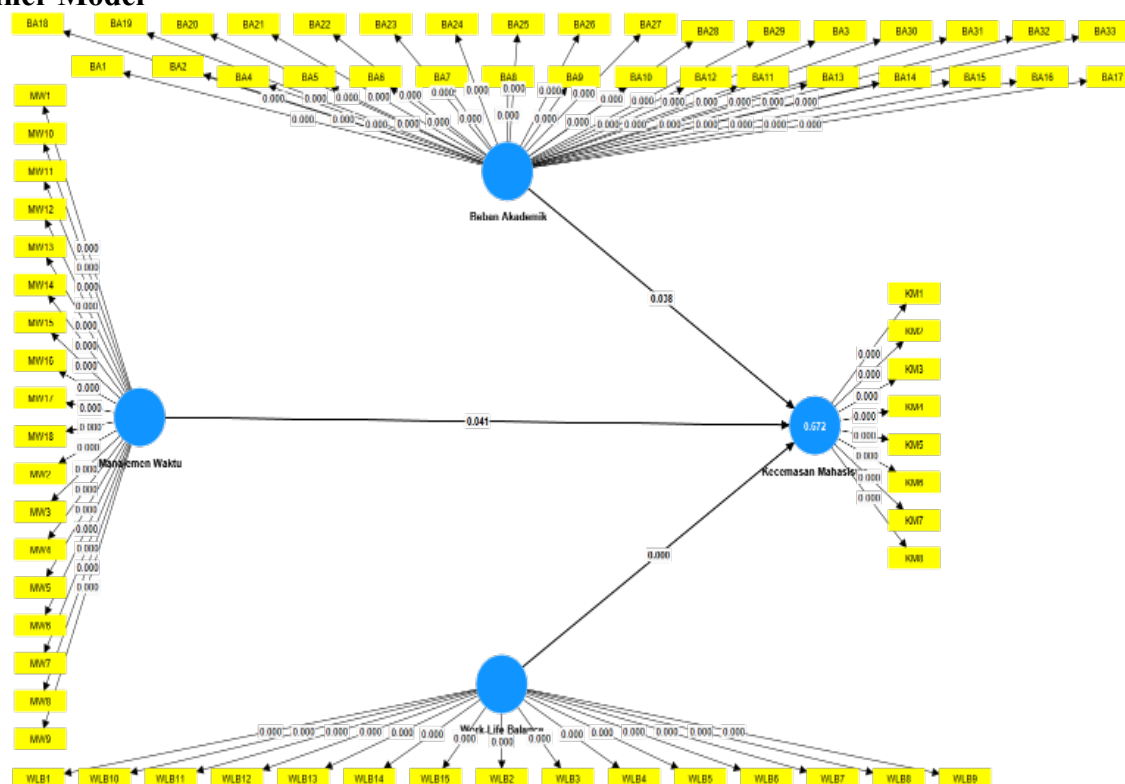


Figure 2. Inner Model

This model specifies the relationships between latent variables, known as the inner relation. The test evaluates the type and magnitude of the influence of independent latent variables on the dependent latent variable.

R-Square

The evaluation of the inner model is conducted by examining the Coefficient of Determination. The Coefficient of Determination measures the extent to which the model explains the variance of the dependent variable. The R² value ranges between 0 and 1, with a value closer to 1 indicating a stronger ability of the independent variables to explain the dependent variable. Based on the test results, the R-square value indicates that student anxiety is explained by 67.2% through academic workload, time management, and work-life balance, with the remaining variance influenced by other variables not studied.

F-Square

Effect size values indicate the contribution of each latent variable to the observed variable. As the results, the F Square effect size is 4.15. An F Square value of 0.02 is considered small, 0.15 medium, and 0.35 large. Values below 0.02 are considered negligible or no effect (Hair et al., 2018).

Q-Square

The Q^2 predict value measures the model's ability to predict variance in data not used in the estimation process. A Q^2 predict value greater than 0 indicates that the model has good predictive ability. In this study, the Q^2 predict value for student anxiety was calculated at 0.513. Since this value is greater than 0, it indicates that the model has good predictive ability. Generally, the higher the Q^2 predict value, the better the model is at predicting unseen data. Therefore, it can be concluded that the model demonstrates good predictive ability regarding student anxiety.

Hypothesis Testing

The next step is to measure the structural model using PLS-Bootstrapping analysis. The purpose of PLS-Bootstrapping in this study is to test the significance level of the relationships between constructs by performing 5,000 resampling. This process creates sub-samples randomly drawn from the original data, usually around 500 times, to estimate the standard error of the PLS-SEM results. Based on these estimates, t-values, p-values, and confidence intervals are calculated to assess the significance of the relationships between constructs. In a one-tailed test approach, the direction of the expected relationship between constructs is tested, specifically whether the t-value is greater than the critical value, indicating a significant positive or negative relationship.

The test results show:

1. Academic Workload → Student Anxiety has a t-statistics value of 2.072 with a p-value of 0.038, indicating that the effect of academic workload on student anxiety is significant ($p < 0.05$).
2. Time Management → Student Anxiety has a t-statistics value of 2.042 with a p-value of 0.041, also showing a significant effect of time management on student anxiety ($p < 0.05$).
3. Work-Life Balance → Student Anxiety has a t-statistics value of 3.54 with a p-value of 0.000, indicating a highly significant effect of work-life balance on student anxiety ($p < 0.05$).

Thus, all three hypotheses tested in this model are significant, demonstrating that academic workload, time management, and work-life balance affect student anxiety.

Importance-Performance Mapping Analysis (IPMA)

The IPMA statistical method combines two aspects in a single map to identify the relative position of variables and indicators in the research model. The first aspect, importance, is represented on the X-axis and is derived from inferential analysis (total effect), with values ranging from 0 to 1. The second aspect, performance, is shown on the Y-axis, representing respondent answers from a Likert scale (1-5), then rescaled to a 0-100 range.

Based on the IPMA results, Work-Life Balance has the highest importance score (0.434), indicating it has the greatest impact on student anxiety. However, Time Management shows the best performance, with a performance score of 62.18, higher than Work-Life Balance (50.765) and Academic Workload (45.101). This suggests that time management is currently well implemented in supporting student anxiety management.

The results also show excellent performance, with the highest scores recorded for MW9 (Time Management) and WLSB12 (Work-Life Balance), both with a performance value of 75. These indicators reflect effective management and should be maintained and improved. Overall, the analysis emphasizes the importance of better work-life balance and improved time management to reduce anxiety among students.

This study utilizes the IPMA (Importance-Performance Map Analysis) feature in SmartPLS 3 to generate a map visualizing the position of variables and indicators. The

interpretation of the IPMA results involves examining the placement of predictor variables and indicators across four quadrants, defined by the average total effect and average performance values. This mapping provides insights into the relative importance and performance of the variables in the proposed research model. The quadrants are as follows: 1) high importance-high performance, 2) high importance-low performance, 3) low importance-high performance, 4) low importance-low performance.

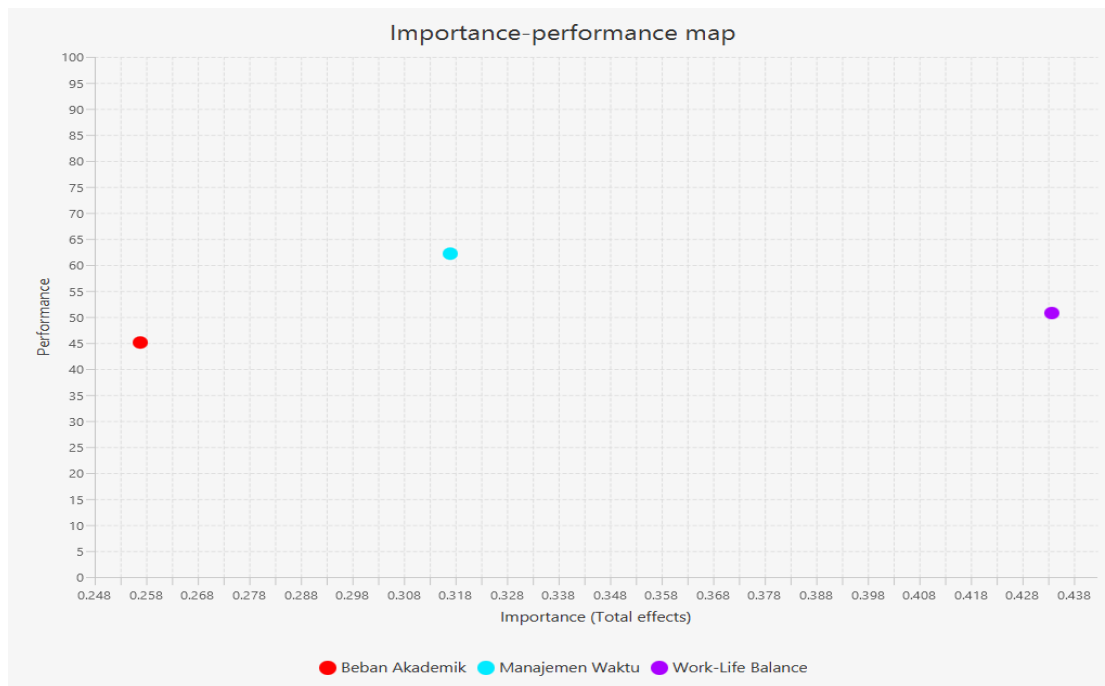


Figure 3. IPMA Construct

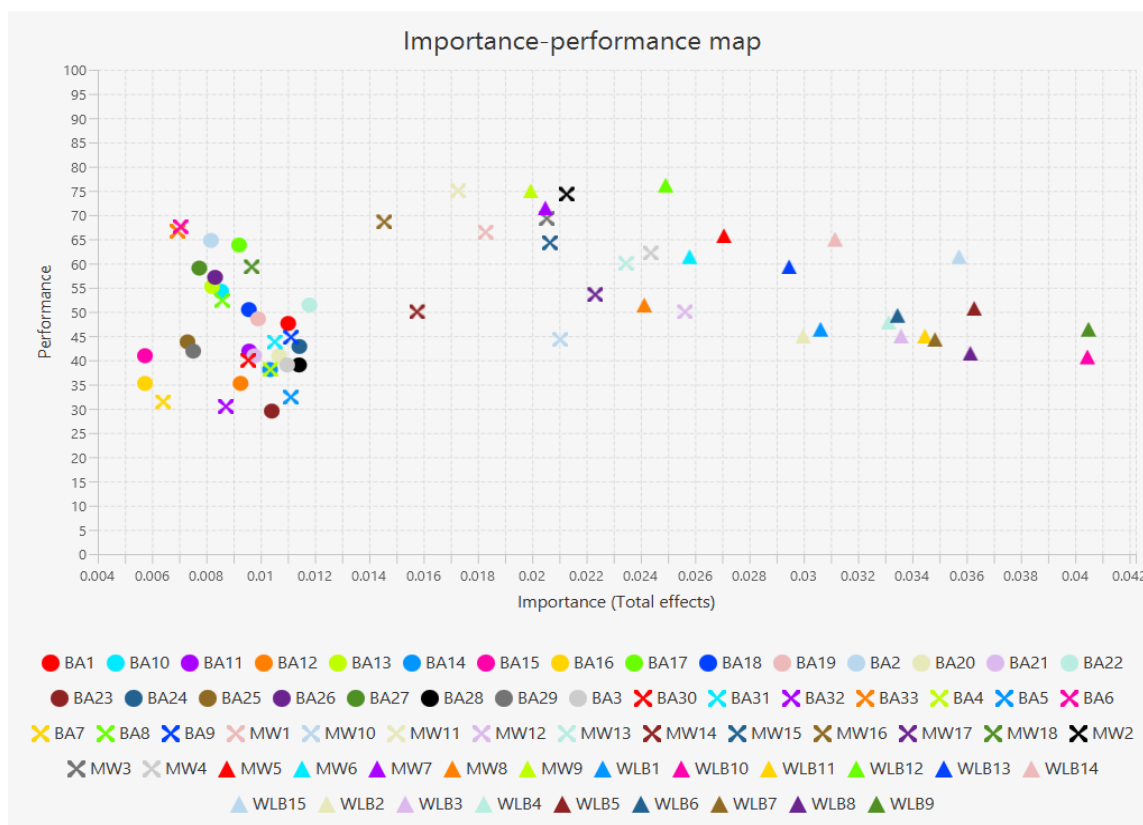


Figure 4. Indicator of IPMA

DISCUSSION

The Relationship Between Academic Workload and Anxiety

PLS-SEM analysis revealed that academic workload has a positive and significant effect on postgraduate student anxiety at UPH, with a path coefficient (β) of 0.257, t-statistic of 2.072, and p-value of 0.038, supporting Hypothesis 1. Although the effect size ($f^2 = 0.111$) is considered small by Cohen's criteria, it still indicates a meaningful contribution. The IPMA placed academic workload at an importance level of 0.257, with a performance score of only 45.10, suggesting room for improvement to help reduce anxiety. These findings align with recent international studies reporting academic workload as a key factor in student anxiety. Variations in effect size may stem from differences in sample characteristics—most respondents in this study are full-time healthcare professionals—and cultural or methodological factors.

The Relationship Between Time Management and Anxiety

Time management is significantly associated with student anxiety (p-value = 0.041), with students who manage their time effectively reporting lower anxiety levels. This supports the Processing Efficiency Theory (Eysenck et al., 2007), which suggests that poor task structuring under anxiety reduces cognitive efficiency. Effective time management offers a sense of control, helping to ease academic pressure. Despite generally positive time management practices among respondents, challenges like difficulty saying no to others remain. These findings align with Ghiasvand et al. (2017), highlighting the importance of planning and prioritization. IPMA results show that while time management outperforms work-life balance, further improvement is needed to better manage academic and personal demands, ultimately reducing anxiety.

The Relationship Between Work-Study-Life Balance (WSLB) and Anxiety

Hypothesis testing shows that poor Work-Life-Study Balance (WSLB) significantly influences student anxiety, with a positive relationship ($\beta = 0.434$, p-value = 0.000, t-statistic = 3.54), confirming that poorer WSLB is associated with higher anxiety levels. This aligns with theoretical mechanisms suggesting that role imbalance (work-study-life) causes stress. The findings are consistent with Sprung and Rogers (2021), who found WSLB to impact emotional states like happiness and relaxation, with poor WSLB linked to negative emotions and anxiety. However, this study highlights poor WSLB as a direct predictor of anxiety, while Sprung and Rogers viewed good WSLB as a protective factor. Importance-Performance Mapping Analysis (IPMA) reveals that WSLB has high importance but low performance, indicating that improving WSLB should be a priority in academic and workplace interventions for students with jobs.

CONCLUSION

Academic workload has a positive and significant effect on student anxiety, although the effect size is relatively small. This indicates that higher academic demands are associated with increased levels of anxiety. Good time management plays a significant role in reducing anxiety; students who manage their time effectively tend to experience lower anxiety levels, as they feel more in control of their schedules and responsibilities. Poor Work-Study-Life Balance (WSLB) shows the strongest influence on anxiety among all variables. An imbalance between academic, professional, and personal roles is identified as the primary trigger for heightened anxiety in postgraduate students.

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