

# The Relationship between AAS (Addiction Admission Scale) and APS (Addiction Potential Scale) with Timely Graduation of UPH Medical Faculty Students

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## Abstract

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**Background:** Addiction influential to neurotransmitter damage in the brain, resulting in physical fatigue and behavioral changes that will affect the length of studies of students. The MMPI-2 questionnaire is an instrument used to assess the Addiction Admission Scale / AAS and Addiction Potential Scale / APS.

**Objective:** This study looks at the relationship between AAS and APS with the timely graduation of students.

**Methods:** The study design of this research was cross-sectional for students of the Faculty of Medicine who were running a co-ass program at the Dharmawangsa Mental Hospital and had carried out the MMPI-2 test. Data analysis was done using Stata IC version 16 using t-test, spearman correlation test, and logistic regression.

**Results:** Of the 81 respondents, 67% of women and 33% of men and students who graduated on time amounted to 79%. T-test results obtained an AAS score in the group that was not on time (mean  $2.53 \pm 1.37$ ) significantly higher than the group that was on time / study period of 5.5 years (mean  $1.27 \pm 1.56$ ) with a p value of 0.0035. APS has a significant correlation to AAS with a coefficient value of r of 0.2595 and p value of 0.0201. AAS logistic regression test for the accuracy of graduation has a p value of 0.0067 with an OR value of 1.559 (95% CI 1.09-2.21).

**Conclusion:** There is a significant relationship between AAS on time graduation and there is no significant relationship between APS with on timely graduation.

## Introduction

Addiction is a condition of psychological addiction that is quite often experienced in human life, especially when experiencing a feeling of tension and pressure. The result of this addiction is very dangerous, because it can damage neurotransmitters in the brain that cause physical fatigue and changes in a person's behavior<sup>1,2,3</sup>. When this happens to students, it will greatly disrupt the timeliness of each student's study period. The results of a research conducted at the University of Bangladesh with 160 samples of students aged between 15-25 years found that 38.75% of addiction was due to the influence of friends and 31.88% of addiction because they wanted to try something new.<sup>4</sup>

On this basis, a study was conducted on UPH medical faculty students. The questionnaire used was MMPI-2 by assessing AAS (Addiction Admission Scale) and APS (Addiction Potential Scale)<sup>5,6</sup>.

## Materials and Methods

This study uses a cross-sectional design by analyzing MMPI-2 test results with timely graduation. The respondents of this study were co-ass students who were undergoing Psychiatric Medicine at the Dharmawangsa Mental Hospital who had carried out the MMPI-2 test. The inclusion criteria were students of the Faculty of Medicine who ran co-ass program at the Dharmawangsa Mental Hospital and took the MMPI-2 test.

The invalid MMPI-2 test results are the test results which are stated to be inaccurate and inconsistent so they cannot be interpreted and must be excluded from this study. Graduation is on time, if the duration of medical study is ≤ 5.5 years and it is said that graduation is not on time, if the length of study is > 5.5 years.

**Statistical Analysis**

Data analysis was performed using Stata IC version 16 using a t-test to see the difference in the mean APS and AAS scale for timely graduation. Spearman correlation analysis is used to see the correlation between APS and AAS. To see the relationship of APS, AAS to timely graduation uses a logistic regression test with statistical significance indicators of p values below 0.05 and Odd ratio values and 95% confidence intervals.

**Results and Discussions**

From this descriptive survey, there were 81 respondents of the study consisted of Pelita Harapan University Faculty of Medicine students. This can be seen in Table 1.

The respondents of this study consisted of 67 percent women and 33 percent men. As many as 5 percent of respondents were married, and most of them, when they took the MMPI test, the status of respondents was still a student (72 percent). The consistency of this test is quite high at 99 percent, and the results of the test accuracy of 76 percent are considered quite accurate, and 76 percent are quite reliable.

Table 1. Respondent Characteristics

Variable	n	Percent
Gender		
Male	27	33.33
Female	54	66.67
Status		
Not Married	77	95.06
Married	4	4.94
Students Status		
Students	58	71.6
Co-Ass	23	28.4

Consistency Test

Yes	80	98.77
No	1	1.23

Accuracy Result Test

Deficient	2	2.47
Adequate	62	76.54
Moderate	16	19.75
Cannot be interpreted	1	1.23

Test can be trusted

Deficient	2	2.47
Adequate	62	76.54
Moderate	16	19.72
Cannot be interpreted	1	1.23

Table 2. Timely Graduation Distribution

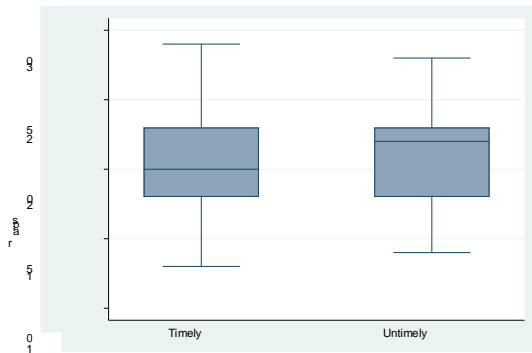
Graduation time	n	Percent
Timely Graduated	64	79.01
Untimely Graduation	17	20.99

From a number of research respondents, it appears that most 79 percent of students graduate on time, and as many as 21 percent does not graduate on time.

Table 3. Test Mean Difference between APS and AAS in Timely Graduated Groups

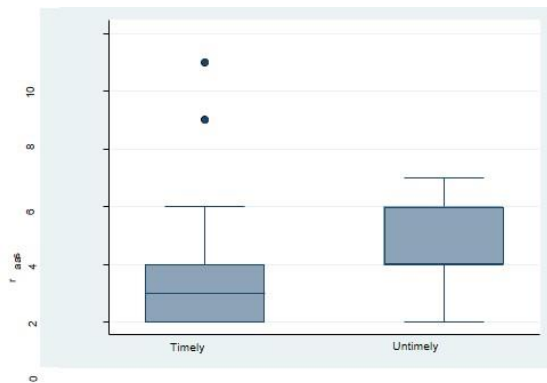
Group	Timely Graduated n=64	Untimely Graduation n=17	P value
	Mean±SD	Mean±SD	
APS	20.22±3.46	20.88±3.81	0.5353
AAS	1.27±1.56	2.53±1.37	0.0035

The results of the analysis of the Independent T-test on the APS in the group that graduated on time and not on time have not shown any significant difference with a p value of 0.5353. However, the mean difference of AAS (Addiction Admission Scale) in the timely graduated group showed a mean value of 1.27 ± 1.56, significantly lower than the untimely group of 2.53 ± 1.37 with a p value of 0.0035. This result is quite similar like the previous study that show students who has graduate on time has higher Ego Strength and dominance characteristic than student graduate not on time<sup>7</sup>.



Graph 1. Box Plot between APS (Addiction Potential Scale) against the timeliness of graduation

The box plot graph above does not show a significant difference in mean APS (addiction potential scale) in the group that passed on time and the group that was not on time.



Graph 2. Box Plot between AAS (Addiction Admission Scale) against the timeliness of graduation

From the box plot graph above, the mean difference that is significantly different in the AAS (Addiction admission scale) in the group that passes on time has a lower score compared to the group that is not on time.

Table 4. Correlation test of APS and AAS

No	Variable1	Variable2	r	p
1	APS	AAS	0.2595	0.0201

Spearman Correlation Test get a significant positive correlation between APS (addiction potential scale) to AAS (addiction admission scale) with a p value of 0.02 and r coefficient of 0.2595.

Table 5. Logistic Regression Test between APS, AAS, MT for timely graduation.

No	Variable	p value	OR	95% CI
1	APS	0.5299	1.05	0.90; 1.22
2	AAS	0.0067	1.56	1.09; 2.21

Logistic regression test results between AAS on timely graduation found a significant relationship with p value of 0.0067 with Odd ratio of 1.559 with 95% confidence interval 1.09 to 2.21. However, the APS variable has not been found to have a significant relationship to the timeliness of graduating students.

In this study there are weaknesses, namely the MMPI-2 questionnaire, especially in the measurement of AAS and APS that cannot specifically measure the type of addiction that is dependent on each student, examples such as dependence on caffeine, nicotine and other substances are not measured specifically.

### Conclusion

There is a significant relationship between addiction admission scale (AAS) to timely graduation. It means that the addicted student will finish their medical study longer than they are supposed to.

There is no relationship between addiction potential scale (APS) to timely graduation.

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