



## Academic Failure in Medical School - Case Study at A Public University in Angola

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### Abstract

**Introduction:** School failure is quite common in medical education, with great impact on students and on medical schools. Understanding the factors that most influence the likelihood of failure is extremely relevant for schools, with that the schools can implement timely problem identification and support procedures to students with difficulties.

**Methods:** Was performed a descriptive and analytical study on the determining factors of academic failure at a public university, the PRPQI questionnaire was used to identify the reasons for academic failure in the student's own view.

**Results:** The three subjects with the highest failure rate were administration, genetics and microbiology 39%, 47% and 49% respectively the main reasons for failure identified in this study were pedagogical performance of the teachers and motivation.

**Conclusion:** Academic failure remains a current problem in medical school, greater peer support can be an alternative to explore in cases of high academic failure rates.

**Keywords:** Academic Failure; Medical Education; Teaching, Medical Students; Angola

### Abbreviations

PRPQI: Pró-Reitoria para a Política da Qualidade e Inovação; CEDUMED: Centro de Estudos Avançados em Educação e Formação Médica; SPSS: Statistical Package for Social Sciences

### Introduction

School failure is a multidimensional phenomenon and may involve variables of psychological, pedagogical / didactic, institutional or even external nature to the University environment, thus requiring different solutions [1].

School failure is quite common in medical education, with great impact on students and on medical schools. Understanding the factors that most influence the likelihood of failure is extremely important for schools can implement timely assistance and support procedures to students with difficulties [2].

Failure in medical school and profession is a problem that has been studied for a long time and some factors have been identified as workload, clarity of goals or even psychological and vocational characteristics of individuals [3,4].

Identification and correction of factors associated with academic failure in medical school improves outcomes by increasing the pace of medical education and decreasing psychological distress during medical education [5-8].

The purpose of this study is to contribute to the literature on factors that determine academic failure from the point of view of the student who failed and above all by bringing data from sub-Saharan Africa that we have not found previous work.

## Materials and Methods

### Study design

Descriptive and analytical study on the determining factors of academic failure at a public University in Angolan capital.

### Study universe

The first step was identification of disciplines with the highest failure rate by consulting the results of the evaluations of all students of each year of the graduation.

Second step was the response of the PRPQI questionnaire previously created and validated by the University of Evora in 2009 to identify the reasons for academic failure in the student's own view.

The questionnaire have aspects implicit to the student (such as vocation, motivation, participation in teaching activities), questions pedagogical / didactic (pedagogical performance of teachers, processes for acquisition knowledge) and organizational (scheduling of assessment tests, compatibility of school hours). Thus, the items addressed reflects the students' opinion about the reasons for non-approval, and their opinion on the best ways to enhance school success [1].

### Data collection and analysis

Data collection was manual in two phases, in the first phase, all the results of all subjects of medical school were consulted and the three with the highest failure rates were identified, In this university, the classification of all subjects is zero (0) to twenty (20), and all students with a final classification lower than 9.5 fail. In the second phase, the questionnaire PRPQI was answered by all students enrolled in these school subjects.

The data were entered into a database using SPSS version 20 and the variables were treated according to their characteristics. Results were presented using descriptive statistics (mean, standard deviation), the level of statistical significance was 0.05, the results were presented using tables, graphics and text.

## Results and Discussion

The three school subjects with the highest failure rate were administration, genetics and microbiology 39%, 47% and 49% respectively. The results for each subject are below:

### Administration

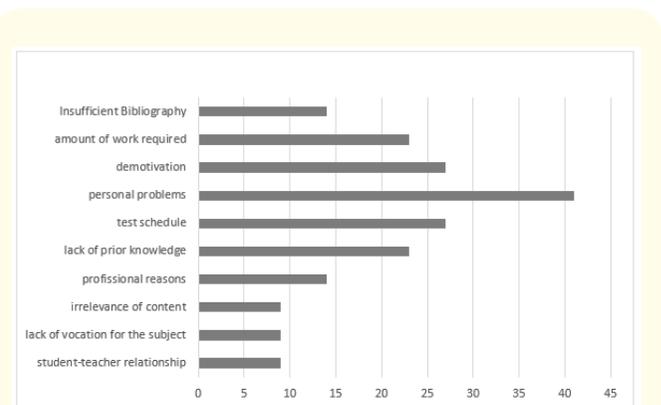
Business Administration is a 5th year course discipline, with 112 students enrolled, the enrollment rate was 64%, the failure

rate in this subject was 29%, of the failing 62% are female, the average age in the group of students with academic failure was 32 years old, while in the group of successful students was 30 years old (SD 4), the difference was statistically significant (Table 1).

Variables	Successn (%)	Failure n (%)	P	X <sup>2</sup>
<b>Gender</b>				
Male	14/22 (64)	33/54 (61)	0,83	0,042
Female	8/22 (36)	21/54 (39)		
<b>Student and worker</b>				
Yes	11/22 (50)	21/54 (39)	0,37	0,79
Not	11/22 (50)	33/54 (61)		
<b>Pedagogical support</b>				
Yes	0/22 (0)	4/54 (7)	0,19	1,72
Not	22/22 (100)	50/54 (93)		

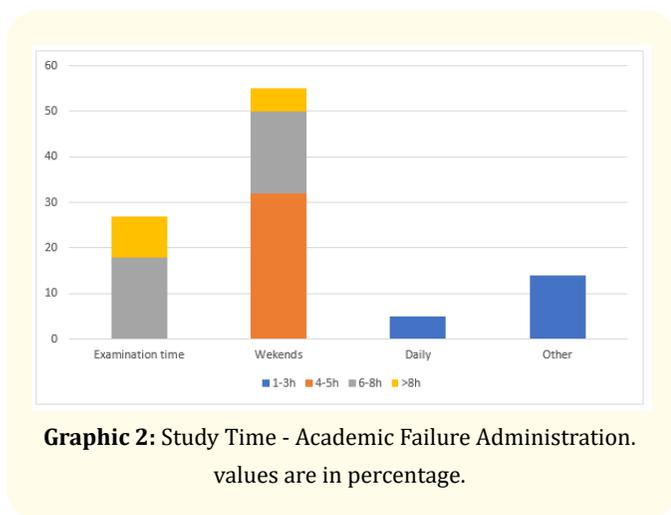
**Table 1:** Administration – Baseline characteristics P significance level  $\leq 0,05$  Mann-Whitney test.

Among the reasons given by the students that could justify the negative rating obtained, personal problems is the main reason (41%), the second reason is the lack of motivation (27%) and the third is timing of the tests evaluation (27%). On the other hand, the relationship between students and the relationship between teachers and students were not indicated by any of the students as a problem (Graphic 1).



**Graphic 1:** Reasons for Academic Failure – Administration. values are in percentage.

Regarding the study habits of the students with academic success and the failed students, the results shows that both study at weekends, between 1 to 8 hours or even more than 8 hours. In addition to the weekends, the study over five hours is also observed during examination (Graphic 2).



When asked which support programs they think is most helpful in improving their own learning processes, it was noted that the creation of short study method courses a process that have together the greatest number of responses in both groups (success: 67%; failure: 68%). On the other hand, while the students who failed, the mentored regime (student-student orientation / support) are equally important, with about 64% of the answers. For the students with academic success, this item is the third after the creation of short courses of knowledge gaps (56% and 61% respectively). A small percentage in the item that says you don't need any support programs, although it is higher among those approved (success: 9%; failure: 0%).

**Genetics**

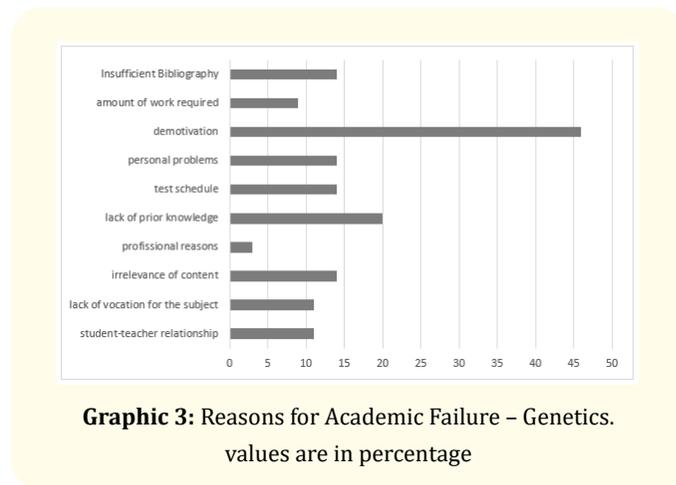
Genetics is a discipline of the first year of the course, with 144 students, of which responded 78 joined the study (54%) students, the academic failure rate was 45%, of which 49% were female (Table 2).

The age difference between the groups had no statistically significant difference groups 21 (success) versus 22 years old (failure) (standard deviation 3). Almost all respondents the survey 71 (91%) indicated that they did not use any kind of pedagogical sup-

port to assist the learning process in the Genetics discipline. The minimum 7 (9%) who answered yes to this question referred to peer support as well as to group study. Among the reasons given by the students in order to justify the negative classification obtained, the pedagogical performance of the teachers was the item that met 21 responses (60%), and the lack of motivation 16 (46%) and insufficient bibliography 10 (29%) as show in (Graphic 3).

Variables	Successn (%)	Failure n (%)	P	X <sup>2</sup>
<b>Gender</b>				
Male	17/35 (49)	28/43 (65)	0,14	2,16
Female	18/35 (51)	15/43 (35)		
<b>Student and worker</b>				
Yes	5/35 (14)	4/43 (9)	0,30	1,06
Not	30/35 (86)	39/43 (91)		
<b>Pedagogical support</b>				
Yes	3/35 (9)	4/43 (9)	0,91	0,013
Not	32/35 (91)	39/43 (91)		

**Table 2: Genetics – Baseline characteristics P significance level ≤ 0,05 Mann-Whitney test.**



Regarding the support programs that they considered most useful for improving their own learning processes, it was observed that the mentoring regime (student-by-student orientation / support) are the processes with the most answers 60% of students with academic failure.

**Microbiology**

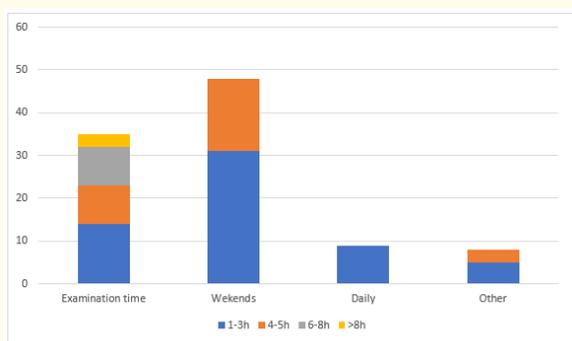
Microbiology is a second year course discipline with 92 students, the academic failure rate was 33%, of which 56% were female Age had no statistically significant difference between groups 22 versus 24 years (standard deviation 4).

Almost all respondents (97%) to the survey indicated that they did not use any type of external pedagogical support to assist the learning process. The minimum percentage (3%) that answered this question in the affirmative referred to the classmates support from as well the group study (Table 3).

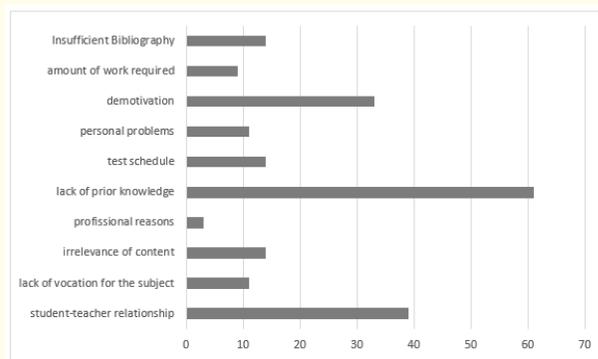
Variables	Successn (%)	Failure n (%)	P	X <sup>2</sup>
<b>Gender</b>				
Male	10/18 (56)	23/36 (64)	0,55	0,35
Female	8/18 (44)	13/36 (36)		
<b>Student and worker</b>				
Yes	2/18 (11)	5/36 (14)	0,77	0,08
Not	16/18 (89)	31/36 (86)		
<b>Pedagogical support</b>				
Yes	2/18 (11)	1/36 (3)	0,20	1,58
Not	16/18 (89)	35/36 (97)		

**Table 3:** Microbiology – Baseline characteristics P significance level ≤ 0,05 Mann-Whitney test.

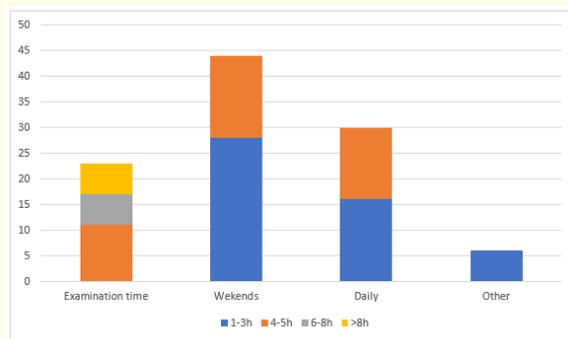
Among the aspects considered by the students capable of justifying the negative classification obtained, a discrepancy between the discipline taught in terms of quantity and comprehensiveness, and the knowledge evaluated are the item that gathered the largest number of answers 11 (61%), also highlighting the lack of motivation 6 (33%) and the relationship between teachers and students 6 (33%) as show in (Graphic 4-6).



**Graphic 4:** Study Time - Academic Failure Genetics. values are in percentage.



**Graphic 5:** Reasons for Academic Failure – Administration. values are in percentage.



**Graphic 6:** Study Time - Academic Failure Administration. values are in percentage.

In the present study the results identified a higher failure rate than described in the literature (10% in the literature compared with 38% or more in our study) [9-12] the authors think the reasons are several:

1. In an underdeveloped country the conditions of teaching and learning are worse, regarding the ratio of number of teachers to students, laboratories, etc.
2. Socioeconomic conditions clearly undermine students' academic performance (worse internet access, worse living conditions, transportation disorders, etc.)
3. the demographic profile of the students is different from the literature.

Our opinion is that the main contribution of this work to the current literature is to use a tool that allowed us to evaluate the causes of failure in the student's own opinion.

In general, the main causes of failure reported by students were personal problems, teachers' insufficiency, and the difference between stated objectives in class and evaluation, several of these reasons have been previously described in the literature [13-15], more important than identifying the reasons making clear the alternatives adds value to this work, mainly because these alternatives were proposed by those who have had academic failure, in the group that expected by what was previously described in previous works as psycho-pedagogical support, stated objects, recovery classes for students with greater difficulty [16]. We highlight support among students as a way to improve academic performance, this point is very interesting because the degree of perception and proximity in language and behavior can be a great learning facilitator for the student with difficulty, making in some cases learn better with a colleague than with the teacher.

### Conclusion

Academic failure remains a current problem in medical school, greater peer support may be an alternative to explore in cases of high academic failure rates.

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