



Vocation as a Predictor of Academic Success: A Prospective Study

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ABSTRACT

Purpose: in literature the expression 'professional vocation' is used to describe a specific area of science (craft, occupation, profession) that the person is easier to perform and can be identified by psychological tests, the authors evaluated the correlation between having or not vocation for medical school and academic success.

Methods: We conducted a prospective cohort study on the vocational profile of candidates admitted to the Agostinho Neto University Medical school in 2013, with six years of follow-up (2013-2019). A total of 63 participants were included in the analysis.

Results: At the final evaluation, there were 63 participants (35% lost to follow-up) comprising 30 males (47.6%) and 33 females (52.4%). A total of 15 participants (23.8%) had a vocation for medicine at the beginning of the course and only 4 participants (6.3%) had a vocation for medicine at graduation. At graduation, most of the participants presented realistic vocational profiles. The academic success criterion was obtained by 37 participants (58.7%). There was a weak negative correlation between vocation and academic success.

Conclusion: Few students had vocation for medicine at the beginning and even less by the time they graduate. In this sample the vocation was shown to have a slight negative correlation with academic unsuccess.

ARTICLE HISTORY

Received: March 31, 2021

Accepted: April 14, 2021

Published: April 21, 2021

KEYWORDS

Medicine; Academic success; Vocational Education; Medical education; Angola

Introduction

Vocation is a word derived from Latin and means 'to call'. Therefore, vocation is a calling. The term 'professional' is used to describe a specific area of science (craft, occupation, profession) that the person is easier to perform [1].

In order to choose the right profession, the individual must make a self-analysis and projection of the future. The use of vocational tests is a well-known and practical tool to help the individual, especially the adolescent, in choosing the profession that is most compatible with their personality. The humanitarian side of the medical profession and the presence of a close relative or other close person whom we admire are frequent reasons for choosing a medical career [2].

Vocation as a predictor of success in admission to

the medical course has been studied previously and no correlation was shown between vocation and the score in the admission test [3].

Previous studies have shown that vocational orientation is dynamic throughout the training of a doctor, both in undergraduate and postgraduate studies, without any of the two cases showing a positive evolution [4,5].

The present study evaluates whether the vocational orientation of medical students changes during the medical course and whether vocation and academic success are correlated.

Material and Methods

We conducted a prospective cohort study on the vocational profile of students admitted to the Agostinho Neto University Medical School, from 2013 to 2019.

Participants

The study population comprised all the students admitted through the admission examination in 2013. A total of 98 candidates (78.4%) participated in the study. A total of 63 participants were evaluated at the end of the follow-up, a loss of follow-up of 35 participants (35%).

Instruments

The admission examination results and failure lists during the six years of follow-up (provided by the vice-director for academic matters) and the vocational orientation test results based on the self-directed search (SDS), the Brazilian version of the short form, were collected at admission and during six years follow-up. Correlation was performed using the vocational test results at entry and six years later.

According to John Holland's RIASEC (Realistic-R; Investigative-I; Artistic-A; Social-S; Enterprising-E; Conventional-C) Methodology, each occupation is assigned a code; This code is found by the results obtained in each domain of the test, placing in descending order the three highest scores, in the case of 'physician', the code is ISA. We applied the SDS to the study population in 2013, and we identified those who presented a vocational profile for the Medicine (ISA).

The sample was divided into two groups: with and without vocation. We evaluated the academic success and failure of the two groups.

For this study, academic success was defined as completion of the medicine course in the predicted time (six years) without any reprovation and unsuccessful was defined as completion of the course in more than six years or failure to complete.

Procedure and analysis

The results of vocational profile and academic performance were entered into a database in the Microsoft Office Excel 2010 software, and were analyzed using descriptive statistics (absolute and relative frequencies, means, and standard deviations) in statistical package for social science software version 21.0. After we evaluated the vocational profiles, identified students with a vocation for the medicine (ISA code), and correlated the score they obtained in the vocational profile evaluation and in the faculty's admission examination were correlated using Spearman's correlation coefficient.

At the end of the follow-up, relative risk was used to assess the correlation between academic success and vocation at the beginning of the course, success in the course and vocation at the end of the course.

Ethical procedures

The deputy director for academic affairs of the Agostinho Neto University (UAN) medical school authorized the present research.

The Ethics Committee of the UAN Medical School approved the study (approval number FMUAN 0012/2019). Participants signed the consent form, after they were informed about the data collection procedures, and protection of their identities in this study and how the results will be used only for scientific discussion.

The identity of the participants remains confidential and the information collected has been used solely for this study.

Results

Evaluation at admission

The study population comprised all students enrolled in the first year of the medicine course admitted through the 2013 admission examination. A total of 98 candidates (78.4%) participated in the study. Of the 98 participants in the study, 54 (55%) were female and 44 (45%) were male. Only 19 participants (19.4%) after the vocational test had the ISA code (compatible with vocation for medicine).

Evaluation at six years follow-up

At the final evaluation, there were 63 participants (loss of 35% to follow-up): 30 males (47.6%) and 33 females (52.4%), aged 24 years old to 41 years old. The mean age was 28.54 (standard deviation of 3.3).

Vocation and academic success

Of the 63 final participants of the study, 15 participants (23.8%) had vocation at the beginning of the course, and only 4 participants (6.3%) had vocation by graduation time (Table 1). At this time, most of the participants presented realistic vocational profiles (Table 2). A total of 37 participants (58.7%) obtained the academic success criterion. (Tables 3 and 4) show the correlation between academic success and vocation in admission, and (Table 5) shows the correlation between vocation at graduation and academic success.

Table 1. Vocational profile.

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|---------------|-----------|---------|---------------|--------------------|
| Valid | Realistic | 48 | 76.2 | 76.2 | 76.2 |
| | Investigative | 5 | 7.9 | 7.9 | 84.1 |
| | Artistic | 10 | 15.9 | 15.9 | 100 |
| | Total | 63 | 100 | 100 | |

Table 2. Vocation at admission and Vocation at graduation Cross tabulation.

| | | | Vocation at graduation | | Total |
|-----------------------|------------------|--------------------------------|------------------------|------------------|---------|
| | | | with vocation | without vocation | |
| Vocation at admission | with vocation | Count | 1 | 14 | 15 |
| | | % within Vocation at admission | 6.70% | 93.30% | 100.00% |
| | without vocation | Count | 3 | 45 | 48 |
| | | % within Vocation at admission | 6.30% | 93.80% | 100.00% |
| Total | | Count | 4 | 59 | 63 |
| | | % within Vocation at admission | 6.30% | 93.70% | 100.00% |

Table 3. Vocation at admission and academic success Cross tabulation.

| | | | Academic success | | Total |
|-----------------------|------------------|--------------------------------|------------------|--------|---------|
| | | | yes | no | |
| Vocation at admission | with vocation | Count | 6 | 9 | 15 |
| | | % within Vocation at admission | 40.00% | 60.00% | 100.00% |
| | without vocation | Count | 31 | 17 | 48 |
| | | % within Vocation at admission | 64.60% | 35.40% | 100.00% |
| Total | | Count | 37 | 26 | 63 |
| | | % within Vocation at admission | 58.70% | 41.30% | 100.00% |

Table 4. Correlations vocation at admission and academic success.

| | | | Vocation at admission | Academic success |
|----------------|-----------------------|-------------------------|-----------------------|------------------|
| Spearman's rho | Vocation at admission | Correlation Coefficient | 1 | -.213* |
| | | Sig. (1-tailed) | . | 0.047 |
| | | N | 63 | 63 |
| | Academic success | Correlation Coefficient | -.213* | 1 |
| | | Sig. (1-tailed) | 0.047 | . |
| | | N | 63 | 63 |

*. Correlation is significant at the 0.05 level.

Table 5. Correlations vocation at graduation and academic success.

| | | | Vocation at graduation | Academic success |
|----------------|------------------------|-------------------------|------------------------|------------------|
| Spearman's rho | Vocation at graduation | Correlation Coefficient | 1.000 | -.178 |
| | | Sig. (1-tailed) | . | .081 |
| | | N | 63 | 63 |
| | Academic success | Correlation Coefficient | -.178 | 1.000 |
| | | Sig. (1-tailed) | .081 | . |
| | | N | 63 | 63 |

Discussion

The socio-demographic characteristics were as expected, and they overlapped with previous studies in the same population [6]. However, the fact that the vocational profile changed greatly, and at the end of the course only one participant had a vocation throughout the six years of follow-up was astonishing. We expected a change as described in the literature previously [5-8] but the proportion of change was unexpected and we think that this change and the predominance of realistic profiles are because the socio-economic context of a low-income country tends to make the future doctor consider their profession as a means to material accomplishment, with this ambition often surpassing altruism.

Regarding the correlation between vocation and academic success, the only result with statistical significance showed a weak negative correlation between vocation at admission and academic success in the

sample, i.e. there is a low tendency for students with a vocation for the course to get poor results. This result is similar to the results of previous work [3] in the same population in which there was already dissociation between vocation and grade in the entrance examination.

We thought the dissociation between vocation and success is due to the fact that in low-income countries as our assistance and medical teaching conditions are very unsatisfactory what we think discourage those who really have a vocation and give the academic unsuccessful.

Academic success is a multifactorial variable, and several external factors have been demonstrated already as influencers of academic success in medical students [9-18].

Limitations

The loss of one-third of the sample is an important limitation of this study. We think that this loss of fol-

low-up occurred because most students were already on vacation or graduated at the time of data collection. However, we believe that by the statistical treatment that we applied with non-parametric tests to the data limited the impact of the loss on the result. Therefore, we do not think the loss of one-third of the sample has affected the conclusions.

Conclusion

Vocation is a dynamic variable and should be evaluated and guided throughout the training of a doctor. In this sample, vocation was shown to have a slight correlation with academic unsuccessful. Surprisingly, few students had vocation for medicine at the beginning and even less by the time they graduate.

Disclosure

The author reports no conflicts of interest in this work.

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