Empirical approach to the analysis of university student absenteeism. Proposal of a questionnaire for students to evaluate the possible causes.

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Abstract:

Works on student absenteeism in the universities have not been preferential for the authors in the field of educational research. Usually, what has been made is an approach to the available absenteeism data as an intervening variable or as a variable characteristic of the educational process, but not as a dependent variable in the strict sense of the term. In this work, we intend to make an empirical approach to the possible reasons of student absenteeism. There is a double point of view: the students' and the professors'; the reasons that justify it according to its protagonists are studied.

This paper focuses on the six university degrees taught at the School of Economy and Business of the University of Barcelona (Facultat d'Economia i Empresa de la Universitat de Barcelona). An "ad-hoc" questionnaire has been prepared and the opinions of 1,162 undergraduates have been analyzed. The reasons given by each population differ in hierarchy and motivations.

Keywords: Higher Education Management, Absenteeism, Undergraduate behaviour, Attendance, Business and economy studies.

Introduction

It is not common to pay attention and carry out controlled studies on the reasons and possible causes of university student absenteeism. In fact, few are the contrasted data available about this phenomenon and, despite the fact that everybody knows it is a very common and usual circumstance, it is still peculiar that no attention has been paid to this subject in order to analyze it in detail and try to correct it or minimize it.

We consider an "absent student" as the one who, once he/she has registered for a course, does not attend classes regularly. This *non-attendance* may be due to, more or less voluntary, diverse reasons. If he/she does not attend because he/she prefers to stay at home studying or going to a school outside the university (private support lessons), or finding a tutor, or else dedicating time to leasure instead of going to class, for example, we understand this is voluntary absenteeism. On the contrary, if he/she does not attend classes because he/she is working at the same time or because two of his/her courses overlap, for instance, we consider it involuntary absenteeism.

Both voluntary and involuntary absenteeism are an inefficiency of higher education, since it means a waste of resources that are scarce and that can be very useful for the proper education of undergraduates. Therefore, it is possible to ask certain non-irrelevant questions like, for example, among many others: is there no teaching in class?, do students not find education useful or valuable?, are we academic managers and professors unable to make them see?, etc. Be that as it may, it makes sense to consider actions that may improve this situation and reduce the absenteeism rate, since the worst choice is probably to maintain the present situation without educational intervention.

Absenteeism is a current feature of all university classrooms. Up to now it was a phenomenon which had been rarely or not at all studied as an objective variable. The proposals that have been made have included it as a complement and always from the perspective of an indicator of academic performance.

The mechanism to find learning resources outside the university is varied (external academies, other students' class notes, preparing the course on one's own, etc.). Fernández (2006) and McCarey (2007) correlate, in their works, the estimated percentage of absenteeism to the students' grades. They generate one academic performance construct, where a percentage of attendance estimate is included. This conception of absenteeism as a performance indicator is clearly realistic and very usual, even though it does not consider those cases in which absenteeism does not necessarily imply discarding courses or evaluation. Some students do not attend, but do want to be evaluated.

Another stream of works refers to student absenteeism as a consequence of other factors exogenous to the university itself. Bovet, Viswanathan & Warren (2006) establish that the first dependent variable to evaluate the "state of undergraduates' health" is the absenteeism rate. Obviously, it seems too simple to attribute most of absenteeism only to sanitary reasons, at least, in the environment of our university system. In line with this work, those papers which analyze university student absenteeism in minority populations can be included, which are obviously not the generators of the large number of absentees, but which need to be considered. Tatum (1992) talked about the effect of absenteeism due to social reasons. In fact, the author deals with the issue of racism in the classroom, which does not seem to be our case. Although it may somewhat affect our university absenteeism, it will not be significant in our university reality. Instead, it may be significant as regards challenged students and students with specific educational needs (Castellana, 2005).

The current paper aims to present an empirical approach to the analysis of student university absenteeism, more specifically, the study carried out in the School of Economy and Business, where seven social science degrees are taught, during the 2007-08 academic year by means of an "ad-hoc" questionnaire generated to evaluate two complementary aspects (Triadó et al., 2008). Firstly, in the latter work, the reasons students give as to why their classmates are absent and, secondly, the arguments put forward by professors as to what they think the matter is with absent students. In this work, we present the aforementioned questionnaire in its version for students, its factorial structure and its metric characteristics so that it may adapt to different university circumstances and the comparison of crossed data between diverse academic realities may be feasible.

Method

Clearly, asking about absenteeism in groups where there is absenteeism may be contradictory. For this reason, and and under the premise that information flows among students even though they make different choices as regards their behavior, we decided to ask them "*why they thought their classmates did not attend classes*". This way, the aim was to collect truthful information on each course, as well as to suppress the fear to answer in the first person.

Subsequently, a questionnaire was generated with two versions, one for students and another one for professors, following the usual stages of Classic Test Theory. Therefore, the first items were generated in

agreement with a group of experts in university management, thus creating an initial list of over 80 items with scale 1 (totally disagree) to 4 (totally agree), which were submitted to a 43-subject sample which yielded the first results. More specifically, the items that did not have a discrimination index over .60 and those that did not yield a general Cronbach's alpha value that was not over .75 according to the usual criteria were eliminated. With this approach, the final questionnaire was made up by 12 items which appear below (Table 1):

INSERT TABLE 1

Participants

The questionnaire described in table 1 was administered to undergraduates from the School of Economy and Business of the University of Barcelona, thus obtaining a sample size of 1,162, being confidentiality and anonymity guaranteed. On the other hand, aiming to learn what the professors' perception of the problem is, the same questionnaire was administered and on the same conditions to a sample size of 185 (55.1% teaches in the Business Administration and Management degree, 43.8% teaches in Economy, 4.4% in Marketing Techniques and Research, 18.9% in Sociology, 4.6% in Actuarial Science, and finally, 3.8% in Statistics). In both cases, the sampling was accidental. Given that the professor sample was not large enough to generate an accurate assessment, we considered only the student sample in this article. We will approach exclusively one of the two fronts to be considered in the matter of university student absenteeism. For a presentation of the data pertaining to the professors, see Triadó et al. (2008).

The student sample was distributed as follows: 47.8% pertaining to Business Administration and Management (BAM); 40.1% Economy (ECO); 2.8% Sociology (SOC); 2.3% Marketing Techniques and Research; 5.8% Statistics; and finally, 1.3 was studying Actuarial and Financial Science. Analogously, 73.47% pertained to the morning shift and 26.53% to the evening shift. Lastly, 36% were registered for the first year, 36% for the second; 24.2% for the third, and finally, 3.9 for the fourth year (not all the degrees studied comprise four academic years).

Procedure

In the period from May and July 2008, the data were collected through an application for the collaboration among the students of the different degrees offered at the School of Economy and Business of the University of Barcelona within the general plan for the study of student absenteeism in the aforementioned school.

Each participant received all the necessary information for his/her consent, which was by all means voluntary and, as has been pointed out, confidential and anonymous. Despite the fact that, at times, we may offer global data as it were a global measure scale, this inventory does not support the determination of one sole global measure, since the aim is to evaluate the different possible causes. Therefore, its administration always implies the use of a student sample and never one sole subject, as happens in psychological clinical questionnaires. The desired central tendency statisticals for each item must be obtained from this sample and one should subsequently proceed as suggested in the conclusions of this paper. To conclude this section, we would like to point out that the subsequent statistical analyses were carried out by means of the SPSS software, version 15.0 and EQS software, version 6.1.

Results

Firstly, the possible effects that the diverse sample description variables might have among each questionnaire's item's score were evaluated. By means of Student-Fisher's t test for the shift variable, and simple ANOVAs for the rest (degree and year), we obtained statistical evidence of no significant effect, so that neither the shift, nor the degree, nor the year of registration bore any relation whatsoever to the answers to the twelve items. This result guaranteed the statistical analysis with the whole sample. Therefore, the following table shows the basic descriptives of each of the twelve items (Table 2).

INSERT TABLE 2

Afterwards, the strategy of the two halves was used to evaluate and establish the statistical analyses. To that end, the initial sample was distributed into two random halves (of 580 subjects each) in which to simultaneously reproduce the statistical analyses and obtain crossed information by comparing the results obtained in both samples. Therefore, we first obtained the internal validity values of the questionnaire and in each half, thus obtaining Cronbach's alpha values of .89 in subsample 1 and .91 in subsample 2 (.921 for the whole sample). It guaranteed an extraordinarily high internal validity in terms of consistency.

Likewise, we obtained the exploratory factor analysis results in both subsamples. The following table (table 3) points out the results of both subsamples in the factor analyses studied (Maximum Likeliness and Varimax rotation estimations):

INSERT TABLE 3

In the light of these results, we chose to use the exploratory factor strategy of the first subsample, which is displayed in table 4, as a factorial structure to be confirmed in the second subsample. From the structure in table 4, a latent variable structure can be deduced that could be summarized as follows. The first factor is connected to the more practical aspects of the course in which attendance is not mandatory in order to pass it. Attendance is not an indispensable event. The second factor is directly connected to the characteristics of the teacher and of the subject being taught. That is to say, how attractive the teacher and the course are perceived to be, regardless of attendance being crucial or not to pass the specific course. The third factor is related to structural elements such as class schedules, overlappings, etc. Therefore, neither the perception of the teacher or the couse nor the elements that make attendance a specific key to pass the course intervene in this third factor, but organizational external factors do. The fourth and last factor is defined from the material that can be obtained and which makes it possible to acquire the contents by oneself, disregarding attendance. These four factors define the questionnaire's latent structure.

INSERT TABLE 4

Therefore, we tried to confirm this structure by studying it through a Measurement Model ($x_{ij} = \lambda_{ij}\xi_j + \varepsilon_i$ Exploratory Factor Analysis) with free parameter estimation according to the Maximum Likeliness technique corrected for categorical variables (by means of EQS). The results obtained showed that the factor saturation values (λ_{ij}) were statistically different from 0 and with measurement errors close to 0. Likewise, the standardized residuals obtained were distributed normally with mean equal to 0 and variance equal to 1. Additionally, the global adjustment values indicated a measurement model adjusted to the data observed ($\chi^2 = 12.42$; $p = .18$) and free distribution adjustment indices close enough to the unit in order to confirm the aforementioned adjustment goodness test (GFI = .994; AGFI = .995; BBNNFI = .975; BBNFI = .969; RMSR = 0.0021). From all of it, it could be concluded that the exploratory structure of the first subsample was confirmed in the second one.

Conclusions

Given that in scientific literature, there exists no interesting production on empirical studies about university student absenteeism, this paper has tried to propose an instrument of evaluation of the possible causes to this absenteeism from the students' point of view. Indeed, the internal validity data and the construct data are high enough as to consider it a good instrument according to the usual social metrics criteria. Moreover, the factorial structure found is coherent with the theoretical proposals and makes it possible to analyze the students' answers by latent variables or factors, which makes it possible to obtain one profile for each sample evaluated. Such profile has one sole applied sense when trying to compare independent groups of undergraduates. Our results suggest that within one University School, there are no special differences in shifts, degrees or gender. Therefore, the questionnaire here presented would reach its maximum usefulness when trying to compare between schools, universities, segments of the university structure, or comparisons outside the very university.

Evidently, the questionnaire here presented must be administered to a student sample and analyzed according to arithmetic measures or, if the distributions observed are very asymmetrical, according to each item's median. With those results, a profile of collective answers must be constructed according to the item order in the factor analysis so that each factor's internal approach is obtained, as well as the global conception of the questionnaire, by analyzing the twelve items.

This paper has not approached the situation pertaining to the professors, which would make it possible, item by item, to compare between the students' and the professors' perceptions. That, obviously, must be a non-relevant aspect in explaining the possible causes of student absenteeism in the universities. This limitation will have to be corrected by working with a significant sample size. Another of the limitations of this study is the availability of a large student sample according to statistical criteria but pertaining to one sole university school which will have to inevitably be complemented with students from other schools.

Acknowledgments

We would like to thank Dr. Amèlia Díaz Álvarez, Prof. Glòria Rubert Adelantado, Dr. Joaquim Soler Vilanova, Dr. Ernest Pons Fanals, and School Administrator Ms. Núria Font for their contribution to this work in the data collection and analysis, as members of the Commission of Absenteeism of the School of Economy and Business.

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Tabla 1: Final inventory to evaluate absenteeism in the university (students version).

Item	Disagree (1)	Partially disagree (2)	Partially agree (3)	Agree (4)
1. Due to the way the professor teaches, they think the classes are tedious and/or boring.				
2. Due to the contents, they think the classes are tedious and/or boring.				
3. They are repeating the course and think it is not necessary to come to class.				
4. They work and cannot come to class.				
5. They think it is better to attend an academy in order to pass.				
6. The professor does not demand attendance (calling the roll…).				
7. The professor merely dictates notes.				
8. They think it is more efficient to study at the library or at home than coming to class.				
9. They think coming to class does not help pass the course.				
10. Some of their courses overlap.				
11. The professor provides us with enough materials and it is not necessary to come to class (textbook, dossiers, virtual campus, photocopies…).				
12. They have registered for too many courses.				

Table 2: Descriptive statistics for each item of the scale (range 1 to 4).

Items	Mean	Standard Deviation
Item1	2.17	.914
Item2	2.17	.968
Item3	2.62	.910
Item4	3.06	.785
Item5	3.22	.737
Item6	2.30	.922
Item7	2.12	.789
Item8	2.48	.885
Item9	2.62	.975
Item10	2.11	.782
Item11	2.36	1.026
Item12	2.86	.858

Table 3: Statistics of the two subsamples referred to the Exploratory Factor Analysis

Indicator	Subsample 1	Subsample 2
Factors	4	4
Kaiser-Meyer-Olkin Adequacy	.664	.672
Bartlett's Sphericity Test	$\chi^2 = 756.56$ $p < .001$	$\chi^2 = 769.91$ $p < .001$
Total Variance Explained	51.89%	52.44%
Variance explained by the 1st factor	20.12%	20.84%

Table 4: Factorial Structure of Students Inventory for absenteeism in Higher Education

Items	Factor 1	Factor 2	Factor 3	Factor 4
Item3	.706			
Item5	.703			
Item6	.421			
Item8	.641			
Item9	.454			
Item1		.856		
Item2		.826		
Item4			.688	
Item10			.645	
Item12			.624	
Item7				.855
Item11				.497