Predictive factors associated with academic performance in college students

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Abstract

Studies on institutional, psychological, pedagogical, social, and demographic factors associated with academic performance, in particular those that emphasize factors that may be subject to interventions for institutional improvement, have become increasingly more important for universities (Tournon, 1984; Davis & Thomas, 1999, cited in Hernandez Marquez & Palomar, 2006). The purpose of this study is to identify and compare variables that might explain the academic performance of two generational cohort groups of freshmen students, enrolled in a business and social science department of a Mexican public university. The sample was composed of 364 students, representing 90% of the combined generational cohort groups, who presented the same standardized math and accounting tests. Descriptive and multiple linear regression analysis were performed. Based on the statistically significant results of the math test, the study found that the semester of entry (fall or winter) and class schedule (day or evening classes) (F = 46.3, p = .000), explain 23.4% of the variance in academic achievement. In regards to the accounting test, the semester of entry and class schedule (F = 31.4, p = .000) explain 26% of the variance. The study presents empirical evidence that can be useful for decision-making to improve educational processes in university settings.

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Peer-review under responsibility of the organizing committee of EDUHEM 2016.
Keywords: Academic achievement, educational improvement, standardized tests

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1. Introduction

The interest of researchers, academics, and administrators in empirical studies on academic performance was developed in the late sixties of the last century, beginning with the development of different models related to variables which to a greater or lesser extent explain academic performance. Such a construct is also studied using equivalent terms such as academic achievement, school achievement, or school performance, when it comes to large-scale assessments it is called educational, academic or scholar achievement (Edel, 2003). Studies on academic performance have allowed defining both conceptually and operationally, as well as identifying the personal, scholar, and family factors that explain and condition it. Construct academic performance is complex since there are many factors that affect the learning process; it is the main learning indicator which students reinforce in their journey through formal education. It is also a result of student learning, fostered by the professor’s pedagogical intervention. It is not an analytical product of a single aptitude, but the result of a sum of interwoven elements acting in and within the learner; such as institutional, pedagogical, psychosocial, and sociodemographic factors (Tourón, 2009). The most commonly used indicators to measure academic performance have been grades and objective tests or “tailor-made” performance tests.

According to Latiesa(1992), institutional factors are related to the structural and functional characteristics which vary in each institution, and their degree of influence depends on each university’s own peculiarities: the institutional environment, group size, class schedules, among others. In the educational factor, the teacher’s role greatly influences the students’ performance: communication; relationships and attitudes toward students; the ability to implement course plans and programs, as well as motivational aspects (Page, 1990). Psychosocial aspects are personality traits which could be associated with performance, such as: motivation; anxiety; self-esteem, self-concept; and above all intelligence and intellectual aptitudes (Pizarro & Crespo 2000). Finally, the Sociodemographic factor incorporates variables, such as: gender; the financial status of the household; the type of school of origin; the educational level of parents; and the student’s cultural resources.

Particularly relevant is the influence of socioeconomic status and family factors on academic performance. Multiple investigations carried out in a national and international field confirm this. The level of commitment to school work, types of parent’s jobs and level of education, as well as climate, structure, cultural environment, family income, and parenting styles are variables that explain, to a great extent, a student’s scholar success or failure (Casanova, Cruz, de la Torre y de la Villa, 2005; Jones & White, 2000; Ruiz, 2001). When income is low, it is more likely for family dynamics to be unstable and for parents not to show interest in their children’s school activities; causing lack of encouragement and motivation in a student which could decrease his academic performance.

However, not all variables related to academic performance can be subject to intervention to support decision-making for improving educational institutions, such as decreasing failure rates or dropouts. The importance of identifying and studying variables that can be manipulated or modified by educational institutions is deduced; schools can hardly affect their students’ socioeconomic and psychosocial factors, but there is an area of opportunity for the study of variables in the pedagogical and institutional areas that could contribute to educational improvement. (Montero Rojas, E., Villalobos Palma, J. & Valverde Bermúdez, A., 2007)

For this work, variables were studied in college students who could be related to such performance, such as college admission periods; class shifts; hours devoted to study; employment status, reading preferences, and marital status.

1.1. Objectives

To identify the variables that explain to a great extent the academic achievement of students who took standardized Math and Accounting tests in a Mexican public university.

To compare college admission periods, class shifts, employment status, reading preference and students’ marital status to their academic performance (test results).
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