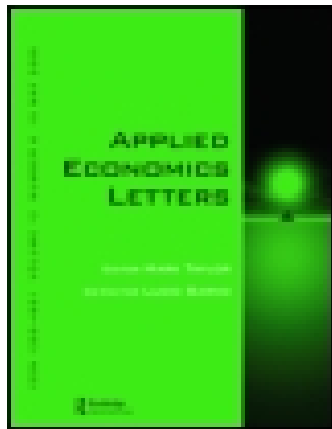


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Applied Economics Letters

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/rael20>

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Published online: 07 Sep 2015.



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To cite this article: Juan Carlos Campaña, J. Ignacio Gimenez-Nadal & Jose Alberto Molina (2015): The satisfaction of university students in Spain: differences by field of study, Applied Economics Letters, DOI: [10.1080/13504851.2015.1083079](https://doi.org/10.1080/13504851.2015.1083079)

To link to this article: <http://dx.doi.org/10.1080/13504851.2015.1083079>

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The satisfaction of university students in Spain: differences by field of study

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ABSTRACT

This article analyses the factors associated with student satisfaction in a sample of undergraduate students from the University of Zaragoza (Spain). In addition to considering socio-demographic characteristics, we also examine factors related to expectations and motivations. Using data from a survey carried out during the academic year 2011/12, we show that the level of satisfaction of the students varies according to their field of study, finding that students in Engineering and Science are comparatively less satisfied than those in other disciplines. Also, expectations about whether having a university degree will be enough to obtain a job are associated with their level of satisfaction. Moreover, alcohol consumption is positively associated with their level of satisfaction. Analysing the correlates of student satisfaction is important to understand student retention and persistence.

KEYWORDS

Undergraduate students; satisfaction; field of study; expectations

JEL CLASSIFICATION

A22; D60; I20; I31; Z1

I. Introduction

This article examines the factors that may influence the level of satisfaction of students at the University of Zaragoza (Spain). The analysis of the satisfaction of university students can provide information to identify inequalities, trends and public needs within and across college populations (Campbell 1976). Prior research has found that observed heterogeneity of students can explain part of the variation in satisfaction at school or university (Zullig, Huebner, and Pun 2009; Huebner, Drane, and Valois 2000). Hence, the analysis of what factors are related to the level of satisfaction of university students proves important for teachers, students and policy-makers.

We use data from the survey 'Los universitarios aragoneses y su altruismo' for the academic year 2011/12, conducted at the University of Zaragoza (Spain). The survey gathers information on how students assess their level of satisfaction at the University, which is analysed in relation to the socio-demographic characteristics and expectations of students. Four faculties are analysed: Economics and Business, Health Sciences, Arts and Philosophy, and Engineering Sciences. Our

main results show that students of *Engineering Sciences* are less satisfied with their university life, relative to students in other fields.

We also find that alcohol and tobacco consumption is positively related to student satisfaction. Spain has the recent phenomenon of 'botellon', where young people meet in public open places to consume alcohol and tobacco, and this practice is commonly seen as a way to socialize with peers. Thus, alcohol consumption in young people is associated with greater socialization with their peers (Duarte, Escario, and Molina 2011); then, we hypothesize that higher satisfaction of students and alcohol consumption may reflect the effect of greater socialization among students (Murphy, McDevitt-Murphy, and Barnett 2005).¹

II. Data and empirical strategy

The data used in the analysis is obtained from the survey 'Los universitarios aragoneses y su altruismo' corresponding to the academic year 2011/12, conducted by the research group 'Industrial and Family Economics' of the University of Zaragoza (Spain). The sample of students comprises the following

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¹Gil and Molina (2007) argue the detrimental effect of alcohol consumption on health and human development that can lead to lower academic efficiency. We leave this question open to future research.

faculties: *Economics and Business*, *Health Sciences*, *Arts*, and *Engineering Sciences*.²

For the dependent variable, we focus on the answer to the following question: What is the current level of your satisfaction with university life? Possible responses are on a scale from 1 to 5, with the value '1' referring to 'very dissatisfied', and the value 5 referring to 'very satisfied'. Students from *Health Sciences* show the largest value in response to the question (3.688), while students in *Engineering Sciences* report the lowest level of satisfaction (3.564).

Table 1 shows summary statistics of the socio-demographic variables and expectations for undergraduates in our sample. Column 1 shows summary statistics for all surveyed students and Columns 2–5 show summary statistics for students in each field of

study. The average age of our sample is 20.45 years. The largest proportion of students are in the first year of their degree course (31%), more females than males were surveyed (53.5% of the total). Slightly more than half of the students (58%) live at home, with 9.2% of the students having divorced parents. The principal level of education of the breadwinner in the household is secondary education for 43.9% of students. There are dependent adults at home in 12.6% of cases, while 80.7% of the students have siblings. The proportion of students who had any type of surgery in the previous year is 5.9% of the sample, while a high proportion of students report having a very good (47.6%) health status. Regarding risky behaviours, 45.9% of the students indicated they are not involved in any risky behaviour, while 43.6% and 9.8% reported drinking alcohol and

Table 1. Sum stats of variables.

Variables	(1) Total		(2) Economics and business		(3) Health sciences		(4) Arts and philosophy		(5) Engineering sciences	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Satisfaction	3.620	(0.917)	3.606	(0.862)	3.688	(0.965)	3.659	(0.913)	3.564	(0.906)
Age	20.477	(3.307)	19.811	(2.493)	21.283	(4.199)	20.693	(4.016)	20.122	(2.339)
First course	0.310	(0.462)	0.508	(0.500)	0.297	(0.457)	0.314	(0.465)	0.237	(0.426)
Second course	0.255	(0.436)	0.224	(0.417)	0.000	(0.000)	0.218	(0.414)	0.449	(0.498)
Third course	0.294	(0.455)	0.268	(0.443)	0.165	(0.372)	0.464	(0.500)	0.312	(0.464)
Fourth course	0.142	(0.349)	0.000	(0.000)	0.538	(0.499)	0.004	(0.062)	0.003	(0.056)
Gender	0.535	(0.499)	0.494	(0.500)	0.775	(0.418)	0.716	(0.452)	0.315	(0.465)
Living at home	0.580	(0.494)	0.651	(0.477)	0.600	(0.490)	0.513	(0.501)	0.567	(0.496)
Divorced Parents	0.092	(0.290)	0.116	(0.321)	0.067	(0.250)	0.126	(0.333)	0.084	(0.278)
Primary education/parents	0.127	(0.333)	0.125	(0.331)	0.118	(0.323)	0.172	(0.378)	0.112	(0.316)
Secondary education/parents	0.439	(0.496)	0.477	(0.500)	0.355	(0.479)	0.452	(0.499)	0.474	(0.500)
University education/parents	0.434	(0.496)	0.398	(0.490)	0.527	(0.500)	0.375	(0.485)	0.414	(0.493)
Dependents	0.126	(0.332)	0.161	(0.367)	0.071	(0.258)	0.142	(0.349)	0.140	(0.348)
Siblings	0.807	(0.395)	0.810	(0.392)	0.813	(0.391)	0.759	(0.429)	0.822	(0.383)
Surgery last year	0.059	(0.236)	0.070	(0.255)	0.047	(0.212)	0.046	(0.210)	0.069	(0.253)
Health (very poor)	0.003	(0.053)	0.006	(0.076)	0.000	(0.000)	0.004	(0.062)	0.003	(0.056)
Health (poor)	0.019	(0.136)	0.016	(0.127)	0.011	(0.105)	0.019	(0.137)	0.025	(0.156)
Health (fair)	0.071	(0.258)	0.076	(0.264)	0.058	(0.234)	0.115	(0.320)	0.059	(0.236)
Health (good)	0.431	(0.495)	0.446	(0.497)	0.371	(0.483)	0.479	(0.501)	0.442	(0.497)
Health (very good)	0.476	(0.500)	0.456	(0.498)	0.560	(0.497)	0.383	(0.487)	0.470	(0.500)
Activity no risk	0.459	(0.498)	0.366	(0.482)	0.489	(0.500)	0.506	(0.501)	0.455	(0.499)
Alcohol	0.435	(0.496)	0.516	(0.500)	0.444	(0.497)	0.341	(0.475)	0.439	(0.497)
Smoke	0.098	(0.297)	0.130	(0.336)	0.049	(0.216)	0.115	(0.320)	0.109	(0.312)
Substances	0.039	(0.193)	0.047	(0.213)	0.011	(0.105)	0.054	(0.226)	0.047	(0.211)
Extreme sports	0.057	(0.231)	0.054	(0.227)	0.038	(0.191)	0.038	(0.192)	0.078	(0.268)
Other risk activity	0.034	(0.182)	0.043	(0.202)	0.018	(0.133)	0.050	(0.218)	0.034	(0.182)
Degree sufficient to get a job	0.657	(0.475)	0.583	(0.493)	0.752	(0.432)	0.375	(0.485)	0.751	(0.433)
Wage	0.629	(0.483)	0.766	(0.424)	0.525	(0.500)	0.621	(0.486)	0.645	(0.479)
Autonomy	0.189	(0.391)	0.155	(0.362)	0.179	(0.383)	0.169	(0.375)	0.218	(0.414)
Social recognition	0.205	(0.404)	0.190	(0.392)	0.281	(0.450)	0.199	(0.400)	0.165	(0.372)
Flexibility	0.211	(0.408)	0.239	(0.427)	0.112	(0.315)	0.222	(0.417)	0.259	(0.439)
Safety	0.169	(0.375)	0.176	(0.381)	0.192	(0.394)	0.207	(0.406)	0.134	(0.341)
Work environment	0.328	(0.470)	0.273	(0.446)	0.417	(0.494)	0.307	(0.462)	0.302	(0.460)
Other motives	0.096	(0.295)	0.047	(0.213)	0.116	(0.321)	0.123	(0.329)	0.090	(0.287)

Notes: SD in parentheses. The sample consists of students from the University of Zaragoza from the Faculty of Economics and Business, Faculty of Medicine, Faculty of Philosophy, School of Engineering, Faculty of Science and Faculty of Health Sciences. Sample weights are computed considering the percentage of students corresponding to each academic field, both for the population (students enrolled) and for the surveyed students.

²See Giménez-Nadal and Ortega (2015) for a description of the degrees that correspond to each faculty.

smoking on a regular (weekly) basis, respectively. Furthermore, 3.9% of students admitted to consuming some type of illegal substance, 5.7% reported practising extreme sports and 3.4% reported taking other risks (students were able to choose more than one risky behaviour, as appropriate).

We also use the information obtained from two additional questions included in the survey. The first question is: 'Do you think your degree will be enough to obtain a job?'. The second question is: 'What two characteristics of your future work will you value the most', selecting from the following options: salary, autonomy, social recognition, flexibility, safety, work environment and others. The 65.7% of the students report believing that their degree will be enough to obtain a job in the future. Among the options available, 'salary' is chosen as an important characteristic in 62.9% of the cases. The second most valued characteristic of the future job is 'work environment', with students choosing this option in 32.8% of the cases.

For the econometric analysis, we estimate OLS regressions on the level of satisfaction of undergraduate students. We estimate the following equation:

$$S_i = \alpha + \beta X_i + \varepsilon_i \quad (1)$$

where S_i represents the satisfaction level of undergraduate student ' i ', and vector X_i includes individual and household characteristics as field of study, age and its square, academic course, gender (ref.: male) and the other characteristics described earlier. We correct our estimates with the use of robust SEs.

III. Results

Table 2 shows the results of estimating OLS models on our dependent variable. Column (1) shows the results of including the field of study only (ref.: *Engineering Sciences*), column (2) shows the results of including the field of study and socio-demographic variables and column (3) shows the results of including the previous factors and the characteristics that the students value most for their future work, and whether the students consider that the degree will be sufficient to obtain a job. Column (1) shows that, with respect to students in the field of *Engineering Sciences*, students in the fields of

Table 2. OLS regressions for the level of satisfaction.

Satisfaction	(1)	(2)	(3)
Health sciences	0.124** (0.046)	0.220** (0.071)	0.213** (0.078)
Art and philosophy	0.095* (0.046)	0.151** (0.044)	0.233*** (0.051)
Economics and business	0.042 (0.046)	0.004 (0.024)	0.061* (0.024)
Age		-0.118*** (0.025)	-0.120** (0.030)
Age squared		0.151*** (0.025)	0.153*** (0.033)
Academic year		-0.104 (0.059)	-0.101 (0.052)
Female (Ref.: male)		-0.001 (0.065)	0.007 (0.066)
Living at home		-0.178** (0.059)	-0.170** (0.057)
Divorced parents		0.079 (0.073)	0.087 (0.069)
Secondary education (Ref.: primary)		0.017 (0.067)	0.017 (0.067)
University education (Ref.: primary)		0.081 (0.076)	0.070 (0.073)
Dependents		-0.113 (0.064)	-0.087 (0.051)
Siblings		-0.019 (0.047)	-0.028 (0.045)
Surgery last year		0.125 (0.115)	0.132 (0.107)
Poor health (ref.: very poor health)		0.178 (0.293)	0.154 (0.359)
Fair health (ref.: very poor health)		0.463*** (0.103)	0.425* (0.180)
Good health (ref.: very poor health)		0.649*** (0.107)	0.590** (0.156)
Very good health (ref.: very poor health)		0.979*** (0.079)	0.924*** (0.151)
No risky behaviour		0.157 (0.125)	0.129 (0.105)
Alcohol		0.180* (0.078)	0.153* (0.070)
Smoke		0.170** (0.064)	0.161** (0.052)
Substances		0.129 (0.117)	0.155 (0.113)
Extreme sports		-0.147* (0.063)	-0.160* (0.065)
Other risky activity		-0.007 (0.077)	0.004 (0.084)
Degree sufficient to get a job			0.230*** (0.048)
Wage			-0.144 (0.075)
Autonomy			0.047 (0.168)
Social recognition			0.056 (0.107)
Flexibility			0.110 (0.088)
Safety			-0.015 (0.106)
Work environment			-0.003 (0.075)
Constant	3.564*** (0.046)	4.678*** (0.389)	4.642*** (0.446)
N observations	2063	2063	2063
R ²	0.003	0.105	0.126

Notes: Robust SEs in parentheses. The sample consists of students from the University of Zaragoza from the Faculty of Economics and Business, Faculty of Medicine, Faculty of Philosophy, School of Engineering, Faculty of Science and Faculty of Health Sciences *Significant at the 90% level. **Significant at the 95% level. ***Significant at the 99% level.

Health Sciences ($p < 0.05$) and *Art and Philosophy* ($p < 0.10$) report a higher level of satisfaction with university life, as the indicators of being in those disciplines are positive and highly significant. Furthermore, those who are the most satisfied are students of *Health Sciences*. These results are maintained when we include the socio-demographic characteristics of the students (Column (2)). Considering the remaining variables, we observe that academic year ($p < 0.1$), living in the family home ($p < 0.05$) and doing extreme sports ($p < 0.10$) all have negative relationships to the level of

satisfaction, while having fair ($p < 0.01$), good ($p < 0.01$) and very good ($p < 0.01$) health, drinking alcohol ($p < 0.10$) and smoking ($p < 0.05$) are all positively related to student satisfaction. Regarding the positive significance of alcohol consumption by students, studies such as Murphy, McDevitt-Murphy, and Barnett (2005) indicate that alcohol use by male students shows a positive relationship to social satisfaction.

Column (3) in Table 2 shows the results of adding the variables related to the characteristics that the students value most for their future work, and the variable indicating whether students feel that their degree will be sufficient to obtain a job (1) or not (0). We find that students of *Health Sciences* ($p < 0.05$), *Art and Philosophy* ($p < 0.01$) and *Economics and Business* ($p < 0.10$) are more satisfied than students of *Engineering Sciences*. Finally, we find that the feeling about their future success (expectation) in getting a job is correlated with their level of satisfaction, with the feeling that the degree will be enough to obtain a job in the future being positively related ($p < 0.01$) with their level of satisfaction.

IV. Conclusions

In this article, we analyse the satisfaction level of students, using data from a survey carried out at the University of Zaragoza (Spain). In our analysis, we consider how satisfaction levels vary by field of study, controlling for socio-demographic characteristics, motivations and expectations. Our findings indicate that students of *Engineering Sciences* are less satisfied with their university life, relative to students in other fields of study. Among the socio-demographic factors, we find a positive relationship between satisfaction, on the one hand, and health status, alcohol and tobacco consumption on the other. We additionally find a negative association between living at home and doing extreme sports, and the level of satisfaction.

Our results allow us to make certain recommendations, for the university and for future employers. One significant correlate of student satisfaction is the fact that students consider that pursuing a university

degree will be enough to obtain a job in the future. Thus, increasing the expectations of students regarding the usefulness of their degree may serve to increase the satisfaction of students, leading to better academic outcomes. One way that universities and firms can help to make this happen is to generate more agreements with potential employers, allowing students to participate in professional internships, which would be a more practical step towards meeting the demands of the labour market.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This work was funded by the Spanish Ministry of Economics [Project ECO2012-34828].

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