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Motivations and concerns of outgoing Erasmus students

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Abstract

Internationalization of higher education is a priority in the European education policy. Since it began in 1987/1988, the world's most successful student mobility programme, the Erasmus programme, has provided over three million European students with the opportunity to go abroad and study at a higher education institution. Aiming to speed up this trend, for the next long-term EU budget 2021-2027, the European Commission has proposed to double funding for Erasmus to EUR 30 billion. In this way, it will make it possible to support up to 12 million people between 2021-2027. However, learning mobility barriers still exist and the shares of study abroad participants vary widely across Member States.

Within this context, the aim of this contribution is to investigate the motivations and concerns about the experience abroad of 1272 students of a medium size Italian university – the University of Bergamo – that apply for an Erasmus+ or Extra-EU Program. To analyse the data collected by an on-line survey we used the Principal Component Technique.

Keywords: *International study mobility; higher education; motivations and concerns; principal component analysis.*

1. Introduction

Internationalization of higher education is a priority in the European education policy. According to the strategic objectives of Europe 2020, "*an EU average of at least 20% of higher education graduates should have had a period of higher education-related study or training abroad, representing a minimum of 15 ECTS credits or lasting a minimum of three months*" (EU Council of Ministers of Education, November 29, 2011)[1].

Since it began in 1987/1988, the world's most successful student mobility programme, the Erasmus programme, has provided over three million European students with the opportunity to go abroad and study at a higher education institution or train in a company. Aiming to speed up this trend, for the next long-term EU budget 2021-2027, the European Commission has proposed to double funding for Erasmus to EUR 30 billion. With doubled funding, this programme will be even more effective in supporting key objectives. It will make it possible to support up to 12 million people to have a learning experience abroad.

However, learning mobility barriers still exist and the shares of study abroad participants vary widely across Member States.

Research in this area is expanding with the aim of understanding motivations and potential benefits of international students' mobility. The studies have mainly focused on the factors influencing the choice to spend a period of study abroad and on the effects that the international mobility can produce on the skills and on the employability (see, among others, Di Pietro & Page, 2008; Di Pietro, 2015, 2020 a,b; Lörz *et al*., 2015; Luo & Jamieson-Drake, 2015; Netz, 2015; Parey & Waldinger, 2010; Rodrigues, 2013; Schnepf & D'Hombres, 2018).

In the last decade, the intent to study abroad has been analyzed in some studies carried out on samples of European students. The approach has been two-fold. On the one hand, some studies have investigated ex ante the propensity of students towards an international mobility experience. Among them, the Eurostudent survey (2016-2018) showed how the international mobility involves still a relatively small number of students, characterized by a good socio-economic and cultural background (DZHW, 2018). On the other hand, other studies have focused on detecting ex post the impact of the experience of international mobility. Among them, the reports funded by the European Commission *The Erasmus Impact Study* (CHE Consult, *et al*., 2014, 2016 and 2019).

Within this context, the aim of this paper is to investigate mobility students' motivations and concerns about the experience abroad. We use a rich dataset based on students enrolled in a

[1] http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/educ/126380.pdf

medium size university of the North of Italy (the University of Bergamo). We have conducted an on-line survey addressed to all the outgoing students in the a.y. from 2015/2016 to 2019/20 before the mobility experience. To assess the results of the survey, we apply a principal component analysis.

2. The questionnaire and the respondents

To asses motivations and concerns of the outgoing students of the University of Bergamo we prepared a questionnaire consisting of two sections: "Decision to study abroad" (section B) and "Concerns before the departure" (section C). In addition, we ask a few questions (section A) regarding the student's personal details: parents' level of education, parents' employment status, own or family's previous experience abroad, number of semesters abroad and type of internationalization program (Erasmus+, Extra EU Program).

In the first section "Decision to study abroad", we ask students to motivate their decision to apply to study abroad, i.e. to enhance future employability, to enrich their CV, to live a new experience, to improve foreign language skills, to get in touch with the culture of the host country. Furthermore, we analyse the factors that address the choice towards a given host country and university: i.e. alignment of study programs and availability of scholarships, prestige of host city and reputation of the university, knowledge of the language and culture of the host country, living costs.

In the second section "Concerns before the departure", we ask students to express their concerns about different teaching methodologies, attending courses and taking exams in a foreign language; but also in aligning their progresses and the average marks in the home university. Finally, we ask about the cost of living in the host country and living away from home.

Our survey involves 1272 students (66% females and 34% males) who applied to spend one/two semesters abroad for an Erasmus, Erasmus+ or Extra EU Program during the academic years from 2015/2016 to 2019/20. Students belong to all five fields of study offered by the University of Bergamo: Foreign Languages (41.9%), Economics (27.5%), Engineering (15.9%), Social Sciences (12.4%), Law (2.3%). They are mainly Italian (more than 90%) and apply to study abroad during the bachelor (57.1%).

Data after mobility shows that in the University of Bergamo the Erasmus+ students spend their credit mobility mainly in Spain (27%), Germany (17%), France (14%), United Kingdom (13%) and in the other EU countries (20%). Within the Extra EU Program, small groups of students leave to China, USA, Australia, Brazil, Mexico, Japan and Turkey.

3. The principal component analysis and the variables

The basic idea of principal component analysis (PCA) (Batholomew *et al*., 2008) is to replace q correlated variables by a smaller number of uncorrelated variables which contain most of the information in the original set. This simplifies the task of understanding the structure of the data since it is much easier to interpret a few number (two/three/four) of uncorrelated variables than a more complicated pattern of the original variables.

The central idea is based on the concept of the proportion of the total variance – the sum of the variance of the q original variables – that is accounted for by each of the new variables. PCA transforms a set of correlated variables or items $x_1, x_2, \ldots, x_q$, into a new set of incorrelated variables, $y_1, y_2, \ldots, y_q$, each of which is a linear combination of the $\boldsymbol{x}$ variables. The new variables are derived in decreasing order of importance in the sense that y_1 accounts for as much of the variation in the original data amongst all linear combinations of $x_1, x_2, \ldots, x_q$. Then y_2 is chosen to account for as much as possible of the remaining variation, subject to being uncorrelated with y_1, and so on. The new variables defined by this process, $y_1, y_2, \ldots, y_q$, are called principal components. In this way, the first few components will account for a substantial proportion of the variation in the original variables and can be used to provide a convenient lower-dimensional summary of these variables. The full set of q principal components fully explains the total variance: $\sum_{j=1}^{q} var(y_j) = \sum_{i=1}^{q} var(x_i)$.

However, if it turns out that the first few principal components account for a large enough part of the total variance, most of the variation in the $\boldsymbol{x}$s being explained by the first few $\boldsymbol{y}$s, and then the remaining principal components can be discarded without too great loss of information.

In our data analysis, we consider 1272 students and 26 items concerning:

- category of student: bachelor or master,
- gender of student: female or male,
- mother's and father's level of education (4 increasing levels),
- mother's employment: if the mother works or not,
- own or family's previous experience abroad,
- 7 items proxing the importance in motivating the decision to study abroad: to improve the CV, to improve foreign language skills, to learn about the culture of the country, curiosity towards a new experience, external influence (family or friends), to increase employability, economic condition of the family (with 4 increasing levels for each item),
- 5 items proxing the importance in motivating the choice of the host university: knowledge of the language and culture of the host country, economic importance of the host country, reputation of the host university, appeal of the host city, external influence (family or friends) (with 4 increasing levels for each item),

- 8 items proxing the concerns before the departure: different teaching methodologies, attending courses and taking exams in a foreign language, having relationships with students of other nationalities, worsening mark average, difficulties in aligning the progresses in the home university, to live away from home, living cost of the host country (with 4 increasing levels for each item).

To analyse the data, we used the open-source R language (Everitt, 2007).

4. The results

In the preliminary analysis presented in this paper, we consider the first four principal components (PC), together explaining 37% of the total variance:

First PC: concerns before the departure (PC1)

All items (except the living cost in the host country) expressing worries belong to this first PC: different teaching methodologies, attending courses and taking exams in a foreign language, having relationships with students of other nationalities, worsening mark average, difficulties in aligning the progresses in the home university, to live away from home. The degree of concern decreases if we consider a student of master level or male.

Second PC – specific interest in the host university and country (PC2)

In this second PC we see that the economic condition of the country, the reputation of the university and the appeal of the city are important factors in motivating the choice of the host university, but we also find future employability and the possibility of improving foreign language skills. These aspects become more important for male students.

Third PC – non-academic interests (PC3)

The non-academic items that motivate the choice to study abroad are the desire to know the culture of the host country and the curiosity about a new experience.

Four PC – social and family background (PC4)

This PC is characterized by the mother's and father's level of education, the mother's employment and own or family's previous experience abroad.

By a plot it is possible to better understand the relationships between the PCs and the field of study of the student.

In Figure 1, the *x*-axis (PC3) and the *y*-axis (PC1) divide the students (dots) in the Cartesian plane into four quadrants, numbered counterclockwise: in the first quadrant (top right) there are the students showing high concern and curiousity for a new experience; in the second

quadrant those who show high non-academic interests, but are not very worried. Below the PC3-axis in the third quadrant, we find students neither particularly concerned nor curious; finally in the lower right quadrant, we find subjects with worries, but few non-academic interests.

The scatter plot of PC1 versus PC3 in Figure 1 shows that the concerns component takes high values for Foreign Languages' students. Moreover, these students emerge as more motivated by non-academic interests~~,~~ than Engineering students for which both PC1 and PC3 seem to have a low impact on the decision to go abroad. Looking at this plot, it is also possible to analyse the position of the Human and Social Sciences students that are allocated in the first and second quadrants, showing that, as Foreign Languages students, they are concerned, but they are also more curious and very interested in the culture of the host country, in line with their educational background. Most Economics students are located at the bottom of the plot, so they show little curiosity about the new experience and the culture of the host country.

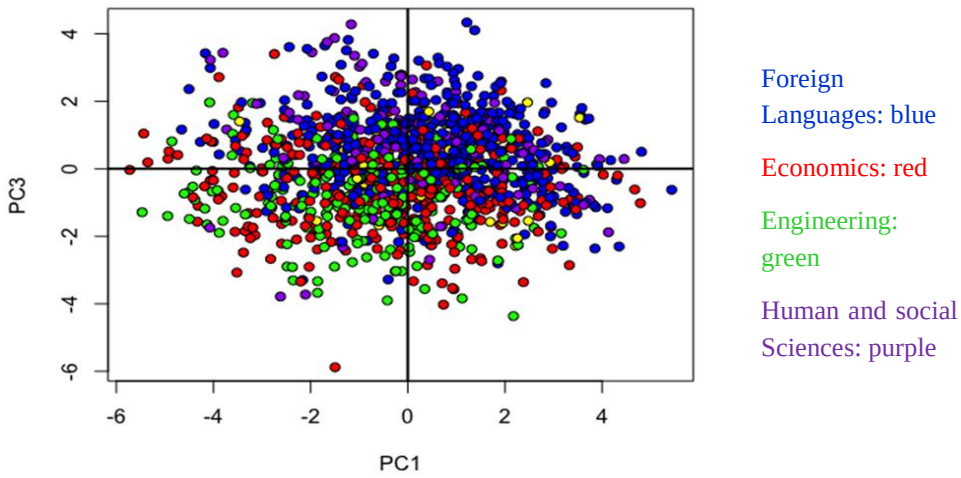
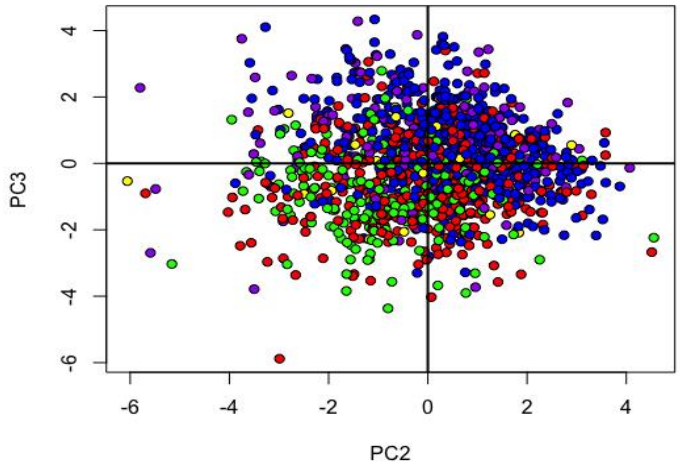


Figure 1. The relationship between PC1 and PC2.

The scatter plot of PC2 versus PC3 (Figure 2) – specific interest in the host university and country versus non-academic interests – shows that there is a clear distinction between Engineering and Foreign Languages and Human Sciences students. Foreign Languages and Human Sciences students (mostly allocated in the first quadrant) emerge as very motivated by the reputation of the host university and charm and culture of the host country. In contrast Engineering students are mostly in the third quadrant, characterized by a lower interest in a specific university and country and by less curiosity.



Foreign Languages: blue

Economics: red

Engineering: green

Human and social Sciences: purple

Figure 2. The relationship between PC2 and PC3.

5. Conclusions

There is a widely shared perception among politicians and higher education institutions that studying abroad is beneficial to university students' personal development, foreign languages skills and employability. However, data indicate that international mobility varies widely across students by field of study, by gender, by socio-economic and educational background. Evidence of this heterogeneity emerges also in our analysis, where motivations and concerns towards a study experience abroad characterize in different measure students belonging to different groups (by gender, degree, ..). A better understanding of these factors could help higher education institutions to design policies suitable for facilitating greater student access to study abroad opportunities.

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