Statistical Analysis of Study Abroad Experiences of International Students in Five Major Host Countries of Europe

Josek Mikuláš\textsuperscript{a} and Svobodová Jitka\textsuperscript{b}

Abstract: This paper examines a large dataset of questionnaire responses (n = 5,321) of international students who have studied abroad (mainly via the Erasmus+ programme). Their acculturation experiences with campus discrimination (an acculturative stressor), academic support (a mediator of acculturation) and academic satisfaction (an outcome of acculturation) are analyzed and compared among five European countries (France, Germany, Italy, Spain, and Portugal). The measures of acculturation experiences are verified by principal component analysis, which yields three components: campus discrimination, academic support, and academic satisfaction. The components are used as aggregate indexes for ranking the five major destination countries in Europe based on students' experiences. A country-by-country comparison suggests that experiences from study abroad are most positive in Germany.

Keywords: acculturation, academic support, campus discrimination, Erasmus+ programme, international students, satisfaction, study abroad

Introduction

General globalization of labor markets and internationalization of higher education have pushed students to study abroad (Altbach & Knight, 2007; Brooks & Waters, 2011; Gürüz, 2011; King, Findlay, & Ahrens, 2010). In 2012 the number of international students worldwide exceeded 4.5 million, which was a 100% increase since the year 2005 (Organisation for Economic Cooperation and Development [OECD], 2016). International students have become an inseparable part of the student cohort at universities. In 2014 already 6% of all students in tertiary education were international students (OECD, 2016).

In Europe, compared with other parts of the world, students study abroad for a shorter period and mostly with support of the Erasmus+ mobility programme. Despite failing to attract the number of students that the Erasmus programme initially hoped

\textsuperscript{a} Josek Mikuláš. Czech University of Life Sciences, Email: mikulas.josek@gmail.com

\textsuperscript{b} Svobodová Jitka. Czech University of Life Sciences, Email: svobodovaj@pef.czu.cz
for, the European Union (EU) has set the goal of having 20% of university graduates experience studying or working abroad by the year 2020 (Council of the European Union, 2011). According to the European Commission (2014), 212,208 students studied abroad through the Erasmus+ programme in the academic year 2013–2014, a 2% increase from the previous year. Mainly short-term exchanges are supported, where university students go abroad for a 3- to 12-month study or work placement and receive a scholarship during that time (European Commission, 2017). The proportion of short-term study abroad students within Europe has increased markedly over the last 20 years (Brooks & Waters, 2011). The European Commission (2018) suggested a 2 times larger budget (€30 billion) of the Erasmus+ programme for the upcoming period of 2021–2027. Such an increase should contribute to fulfilling the EU’s ambitious goal of having the desired 20% of university graduates with an experience of studying or working abroad by the year 2020. However, finances in general and notably living expenses have been found to be the most problematic areas from the point of view of international students in Europe (Perez-Encinas, Rodriguez-Pomeda, & Josek, 2017).

National and supranational objectives of the Erasmus+ programme may not correspond to the individual experiences of mobile students. European policies promoting student mobilities have a clear economic aim to develop a flexible labor market with individuals capable to work and communicate across borders. Besides this economic objective, there is also a clear political one that tries to create a European identity, stimulating young people to share European values. International students also enrich countries and local communities with their different perspectives and diverse heritage. However, Tsoukalas (2008) drew attention to the limited amount and low quality of intercultural learning of the Erasmus students.

Despite the aim to limit the barriers and support the triggers of international student mobility, Europe as a study abroad destination is still a place of diverse cultures and different education systems. As a European initiative, the Erasmus+ programme should nurture intercultural skills, linguistic abilities, autonomy, resilience, independence, and a range of other competencies. In this paper, we look into individual perceptions and experiences of a large sample of homecoming short-term international students who filled in an online questionnaire called the ESNsurvey 2016 (Josek, Fernandez, Perez-Encinas, Zimonjic, de Vocht, & Falisse, 2016). We focus on acculturation experiences with campus discrimination, academic support, and academic satisfaction. After verifying the measures of these experiences, we explore how they differ among five countries in Europe (France, Germany, Italy, Spain, and Portugal). Examining student experiences should bring more insight into the cultural impact of mobility in a programme that aims to intensify European integration.

**Research Hypotheses**

Based on the literature review, the following two research hypotheses were set:

1. The concepts of campus discrimination, academic support and academic satisfaction can be measured by the chosen variables.
2. Research Question 1: Are the chosen variables statistically appropriate for measuring campus discrimination of international students?
3. Research Question 2: Are the chosen variables statistically appropriate for measuring academic support of international students?
4. Research Question 3: Are the chosen variables statistically appropriate for measuring academic satisfaction of international students?
5. International students’ acculturation experiences differ among the five European countries:
6. Research Question 4: Do international students’ experiences with campus discrimination differ among countries?
7. Research Question 5: Do international students’ experiences with academic support differ among countries?
8. Research Question 6: Do international students’ experiences with academic satisfaction differ among countries?”

**Literature Review**

Berry, Poortinga, Breugelmans, Chasiotis, and Sam (2011) identified international students as part of the acculturation group of “sojourners,” who “stay in their new society only temporarily and for a set purpose” (p. 311). In our paper we are limiting this even further by focusing on short-term international students who go abroad under a “credit mobility” scheme. This is opposed to students pursuing a full degree abroad under a “program/diploma mobility” scheme. Since this paper analyzes the study abroad experiences of international students in Europe, where the most common student mobility programme is the Erasmus+ programme, in some parts of the paper, we refer to these students as Erasmus students. “Erasmus students” is a common term used in literature focused on this subset of international students. Specifics of the Erasmus+ programme as well as its participants are further described below.

Overall, 4.4 million students used the Erasmus programme and the Erasmus+ programme (renamed in 2014) over the 30 years of its existence to study or work abroad, and it was estimated that another 500,000 young people from Europe would have used it by 2016. The most popular destinations are Spain, France, Germany, Great Britain, and Italy. The highest number of outbound students comes from Spain, Germany, France, and Italy (European Commission, 2017). The OECD (2016) study on global education outlined the main factors influencing the choice of a study abroad destination: the language of instruction, the quality of the study program, tuition fees, and immigration policy. King (2003) highlighted the power that more widely spoken European languages have in attracting international students, which helps to explain some of the imbalances in the mobility flows and why countries with a less widely spoken language offer more and more programs taught in English to attract international students.

The reasons for and against studying abroad have remained relatively unchanged for a long time, but they differ between short-term credit mobility students and long-term programme mobility students (King et al., 2010). Students who wish to obtain a full degree must relocate for a longer period. The destination is, therefore, a more strategic choice and shaped by the academic and work possibilities. Short-term credit mobility
students may have different personal reasons for choosing a study abroad. They appear to be more motivated to gain personal experiences while studying or working abroad than obtaining academic knowledge or gaining future benefits in seeking employment (King et al., 2010). King et al. mentioned that the topics of “growth and personal development” or “understanding other cultures, countries, languages” often appear in studies on international students. A survey of the Erasmus Student Network has shown that the greatest motivations for the Erasmus students are: “the opportunity to meet new people,” “the opportunity to learn about other cultures,” or “the possibility of personal development” (Alfranseder, Fellinger, & Taivere, 2011).

Erasmus students may also differ from student migrants in other parts of the world due to the specific conditions of the program. They do not pay tuition fees at foreign universities, and the scholarship should also cover travel and accommodation costs. According to King et al. (2010), Erasmus students are specific in terms of socioeconomic and demographic characteristics. King et al. pointed out that mobile students in tertiary education represent, to a certain extent, a privileged group in terms of wealth, the cultural capital of parents, and the ability to communicate in foreign languages. When comparing the sample of Erasmus students and non-Erasmus students, 83% of Erasmus students, as opposed to 76% of local degree students, came from the three highest professional-paying classes (King, Findlay, & Ahrens, 2004). Possibly in an attempt to get rid of an image of a privileged programme for elite students, the Erasmus+ programme introduced the so-called top-up grants, where students from disadvantaged backgrounds or students with disabilities can apply for an additional scholarship.

Murphy-Lejeune (2002), in her ethnographic study, compared Erasmus students with other migrant groups. Erasmus students are younger, which is associated with a higher level of motivation and greater adaptability. Murphy-Lejeune claimed that Erasmus students are, out of the other migrant groups, the most prepared to take advantage of the opportunities that they have. A shorter length of stay allows them to preserve their culture but partly prevents them from integrating fully into the culture of the country they are visiting. However, she described the integration of Erasmus students into local societies as more difficult in large cities, which facilitates mutual avoidance due to the generally increased anonymity of big cities. In contrast, in smaller towns, Erasmus students achieved higher levels of integration into local society.

Acculturation models (Berry, 1997; Ward, Bochner, & Furnham, 2001) account for the adjustment process of international students similarly as for other acculturating groups such as immigrants or refugee seekers (Smith & Khawaja, 2011). Despite residing in the host country usually for a shorter and more defined time period, international students experience acculturative stress and difficulties with adjusting to the host environment. Regarding the role that length of stay plays in the adjustment, Zhang and Goodson (2011) reported it as one of the most frequently reported predictors of international students’ psychosocial adjustment to life in the United States, where generally, the longer the international students stayed in the host country, the fewer psychological symptoms they experienced. However, there are many other variables that influence this complex process. Berry (1997) and Ward et al. (2001) in their acculturation models stressed that the outcome of acculturation depends on many factors. It may vary depending on coping strategies.
or the way individuals appraise life changes. Short-term international students certainly undergo some degree of culture shock and adaptation in their effort to adapt to a different educational and social environment, but they often describe it as a lifetime experience filled with traveling and new adventures (Murphy-Lejeune, 2002). Therefore, it isn't clear whether a relatively shorter stay could position them as a more vulnerable acculturation group or not.

Smith and Khawaja (2011) also emphasized the role of the host society in the acculturation of international students. This is in line with Berry’s definition of acculturation, which he described as a two-way process where both cultures undergo change as a result of being in continuous contact (Berry et al., 2011). The attitudes of local students, professors, and university staff thus play a significant role in the adjustment process of international students in a different country. Teaching and learning in a classroom with international students can be challenging for the international and local students, as well as the professors. Safipour, Wenneberg, and Hadziabdic (2017) reviewed experiences of all these stakeholders involved. Not surprisingly, language barrier was found to be the biggest issue that led to experiences such as “feelings of inequality.” The issue of cultural differences most resonated in “stereotypes and negative experiences.” Smith and Khawaja (2011) listed discrimination as one of the potential acculturative stressors that international students encounter. Discrimination—referring to certain negative behaviors that prevent one group from accessing the privileges that another group has (Hanassab, 2006)—from the faculty, staff, and students is a topic that has already been studied in the context of international students’ adjustment (Wei, Wang, Heppner, & Du, 2012).

Experiences of discrimination can have a negative impact on international students’ adaptation and have been linked with poor psychological well-being and depression (Atri, Sharma, & Cottrell, 2007). Moreover, discrimination is said to be a factor that is significantly and negatively related to students’ perceptions and experiences of a campus climate (Vaccaro, 2010). Eight items measuring perceived discrimination are a part of the Acculturative Stress Scale for International Students developed by Sandhu and Asrabadi (1998), which was used to reveal a negative relationship between acculturative stress and sociocultural adaptation of international students (Mahmood & Beach, 2018). A more recent scale, the International Friendly Campus Scale (IFCS) developed by Wang et al. (2014) assesses discrimination of international students at university campuses. It has four items on campus discrimination and its association with a number of scales; notably, “life satisfaction” supported its construct validity. Although many other studies confirm that students from different countries report different levels of perceived discrimination, none of these studies have made a comparison of the level of perceived discrimination in countries that host mainly short-term international students.

On the contrary, the subject of social support is a factor that has a buffering effect on acculturative stress and helps adaptation (Ward et al., 2001). Social support of international students can be drawn from different social and friendship networks (e.g., with co-nationals, other foreigners, or host nationals). Smith and Khawaja (2011) summarized that support from host nationals tends to have the most positive effects on international students’ adaptation. For example, Atri et al. (2007) found a
positive association between social support and psychological well-being of international students. Sullivan and Kashubeck-West (2015) discovered that low level of support by host nationals is related to a higher level of acculturative stress in international students. Support by host professors could be a form of direct intervention that is able to mitigate acculturative stress and enhance the adaptation of international students. The host environment, which includes the approach and support by local students, professors, and university staff, might play an equal role in the adjustment of international students as the international students’ own ability to adapt. In the educational environment, where genuine interaction between exchange students and members of the host society is not something that happens automatically (Groeppel-Klein, Germelmann, & Glaum, 2010), the host professors might be the key local contact persons for international students. In this sense, support by host professors is a mediator that should improve the acculturative outcomes. Smith and Khawaja (2011) suggested that the supportive role of the host society, be it students, professors, or institutions, should be subject to more research with potential applications.

In Berry’s (1997) acculturative stress and adaptation framework, the ultimate goal is to achieve adaptation. Ward et al. (2001) distinguished between two types of acculturation outcomes: psychological and sociocultural adaptation. Psychological adaptation refers to emotional responses such as feelings of well-being and satisfaction, and sociocultural adaptation is based on behavioral responses that relate to how an individual can fit into a new society or effectively manage tasks in a culturally different environment (Ward et al., 2001). Satisfaction of life abroad, one of the outcomes of acculturation of international students, is a frequent point of interest in the literature on international students (Sam, 2001). Satisfaction as an outcome might also lead to revisiting a particular country or recommending it to other students. Jamaludin, Sam, and Sandal (2018) investigated the issue of destination loyalty, and their results indicated that psychological adaptation of short-term international students was significant in predicting the intention to revisit and recommend the destination to people in their home country. The International Student Barometer, StudyPortals, QS Student Satisfaction, and a number of other assessments measure the level of student satisfaction. In this paper, the focus is on the educational environment and the broad subject of satisfaction is limited to factors related to studies.

Wang et al. (2014) developed a scale to measure the campus climate for international students at universities in the United States. The variables for measuring academic support and campus discrimination, which are part of their IFCS, were adapted to the European context and used in the ESNsurvey 2016 (Josek et al., 2016) together with variables developed to measure academic satisfaction. In the overall results of the Research Report of the ESNsurvey 2016, 12,365 homecoming international students reported a low level of perceived discrimination, a high level of support from host professors, and a high level of academic satisfaction. However, this study did not compare the results on a country-by-country basis. The aim of this paper is to verify the application of the measures used in the ESNsurvey 2016 (Josek et al., 2016) and to further explore the study abroad experiences of short-term international students in different European countries. By developing three aggregate indexes based on international students’ experiences with campus discrimination (an acculturative stressor), academic support (a
mediator of acculturation), and academic satisfaction (an outcome of acculturation), we aim to create a ranking of five host destination countries in Europe (France, Germany, Italy, Spain, and Portugal).

**Methods**

The data were collected through a European-wide research project called the ESNsurvey 2016, which gathered responses from 12,365 homecoming international students through an online questionnaire. This online questionnaire was disseminated over a wide network of student organizations, the Erasmus Student Network, and results have been published as the Research Report of the ESNsurvey 2016 (Josek et al., 2016).

Our paper analyzes a subset of the ESNsurvey 2016 data set. This subset contains 5,321 cases of respondents from five European countries. It includes 34.5% (n = 1,836 respondents) of mainly Erasmus students, who studied in Spain, 20.3% (n = 1,081 students) in Germany, 16.4% (n = 870 students) in France, 16.3% (n = 866 students) in Italy, and 12.6% (n = 668 students) in Portugal. They were 16–32 years old with the average age of 23 years. The participants were students from all over Europe. Out of 5,321 participants, 64.7% were studying abroad for one semester (3–6 months) and the rest (35.3%) for two semesters (6–12 months). There were 74.4% studying at a bachelor or equivalent level, and 25.6% at a master’s or equivalent level. Respondents mostly came from Italy (24.6%), Spain (15%), Germany (8.5%), Hungary (5.4%), and Lithuania (4.9%), and studied mostly economy and business, humanities, and social sciences.

The data collected through the ESNsurvey 2016 project and used in this paper contain information about the receiving country of short-term international students and variables on the issues of campus discrimination, academic support, and academic satisfaction. The variables for measuring campus discrimination and academic support were adapted from the IFCS. The IFCS was tested on U.S. campuses to assess the international friendliness of a campus climate. Wang et al. (2014) indicated that this assessment has solid psychometric properties as an instrument to measure how environmental factors are associated with the adjustment of international students. They recommended applying the scale at various academic institutions to obtain a comprehensive understanding of the overall international friendliness. Two areas of the full IFCS (international center services and social engagement) were not included in the ESNsurvey 2016 questionnaire due to the differences in the context between U.S. and European universities. Some of the differences regarding student services and other aspects of international student mobilities between U.S. and Spanish higher education institutions are reviewed by Perez-Encinas and Ammigan (2016). The wording of the measures used to assess campus discrimination and academic support was partly changed or generalized to better target the desired respondents. Respondents indicated their agreement with the statements on a 5-point Likert-scale.

The variables selected for measuring the scope of campus discrimination are:

1. I was treated differently or unfairly at my host university because of being an international student.
2. I feel as though I was treated as less intelligent at my host university because of being an international student.
3. I heard people at my host university make insensitive or degrading or insulting remarks about international students.
4. Compared to local students, I didn’t

The variables selected for measuring the scope of academic support are:

1. Professors were willing to give helpful academic advice to international students.
2. I felt comfortable discussing academic issues with professors there when needed.
3. Professors made a real effort to understand difficulties international students could have had with their academic work.

The variables selected for measuring the scope of academic satisfaction were developed for the purpose of the ESNsurvey 2016 project. These variables are:

1. How satisfied were you with the approach and teaching methods (Professors, Lecturers, etc.) at your host university?
2. What is your overall level of satisfaction with your studies as an exchange student?

First of all, frequencies in the responses for the individual categories were calculated. Thereafter, a correlation analysis was done. All the variables have to be in a relationship and have inner consistency to be eligible for creating an aggregate index. Therefore, Cronbach’s alpha should be higher than .7 (Mareš, Rabušic, & Soukup, 2015), and the correlations between the index and the related variables should be higher than .3 (De Vaus, 2002). The next step was to analyze the dataset by a principal component analysis (PCA), an analytical tool used in exploratory analysis before the creation of an aggregate index. The PCA is a tool that controls whether the variables considered for creation of the aggregate index are extracted into one component (Mareš et al., 2015).

Based on the Kaiser rule, only the variables whose eigenvalues were higher than 1 and the variables above the curvature of the line on the Scree plot were chosen (Mareš et al., 2015).

The five studied countries are ranked based on indices in the three selected scopes (components). An index ranking of 1 indicates the best results and an index ranking of 5 indicates the worst results in a given category. Two methods have been chosen for calculation of the indexes—point method and standard variable method—in order to take into account both the possible directions of each variable. In the first method (point method), the optimum of the index is 1,000, so the closer the calculated index value is to 1,000, the better is the ranking. In the second method (standard variable method) the optimum of the index is zero, so the closer the calculated value of the index is to zero, the better is the ranking. Both methods count with the relative frequencies of particular respondents (e.g., number of satisfied students). All calculations have been done using the IBM SPSS Statistics 24 software.
Reliability Analysis

For the variables related to the topic of campus discrimination, $a = .806$; for the variables related to academic support, $a = .815$, and for the variables related to academic satisfaction, $a = .821$. In addition, all the paired correlation coefficients in the inter-item correlation matrices have been found to be higher than 0.3. These results confirm suitability of the variables to calculate the PCA, since we met the assumptions of this method.

Principal Component Analysis

The results of the PCA suggested two to four new components. Based on the Scree plot, eigenvalue (Figure 1), and the potential interpretations, the decision was to create three new components. The value .793 of the Kaiser-Meyer-Olkin (KMO) measure is considered to be suitable and therefore, the KMO test proved that the set of variables is applicable for the PCA. In addition, the Bartlett test shows a statistically significant result ($c^2 = 16,816.133; df = 36; p = 0.000$). The three new variables (components) are able to explain 71.34% of the variance of the original variables.

Figure 1. Scree plot of principal component analysis.
The component matrix below depicts the correlation coefficients between the newly created components and their variables. The component called campus discrimination has:

1. a strong positive relationship with the variable, “I feel as though I was treated as less intelligent one at my host university because of being an international student.” \( (r = .815**) \);
2. a strong positive relationship with the variable, “I was treated differently or unfairly at my host university because of being an international student.” \( (r = .812**) \);
3. a medium-strong positive relationship with the variable “I heard people at my host university to make insensitive or degrading or insulting remarks about international students.” \( (r = .793**) \);
4. a medium-strong positive relationship with the variable “

This new component explains 28.17% of the variability of the original variables. The two asterisks next to the correlation (***) coefficient indicate that the correlation is significant at the 0.01 level (two-tailed).

Similarly, the component called academic support has:

1. a strong positive relationship with the variable, “Professors made a real effort to understand difficulties international students could have had with their academic work.” \( (r = .834**) \);
2. a strong positive relationship with the variable, “Professors were willing to give helpful academic advice to international students.” \( (r = .832**) \);
3. a strong positive relationship with the variable, “I felt comfortable discussing academic issues with professors there when needed.” \( (r = .814**) \).

This new component explains 24.47% of the variability of the original variables.

Even stronger positive relationships have been found between the component named academic satisfaction and its two variables:

1. What is your overall level of satisfaction with your studies as an exchange student? \( (r = .902**) \);
2. How satisfied were you with the approach and teaching methods (professors, lecturers, etc.) at your host university? \( (r = .895**) \).

This third component explains 18.70% of the variability of the original variables.

The results of PCA suggest that each of these three newly created components form a separate dimension in the context of student acculturation experiences. Therefore, the variables used in the questionnaire are relevant for measuring the acculturation experiences of international students in all the three categories (answer to Research Question 2). Based on this finding, in the following calculations we will use the three components of campus discrimination, academic support and academic satisfaction in creation of the aggregate indexes.
<table>
<thead>
<tr>
<th>Component</th>
<th>Academic support</th>
<th>Academic satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel as though I was treated as less intelligent one at my host university because of being an international student.</td>
<td>.815</td>
<td></td>
</tr>
<tr>
<td>I was treated differently or unfairly at my host university because of being an international student.</td>
<td>.812</td>
<td></td>
</tr>
<tr>
<td>I heard people at my host university to make insensitive or degrading or insulting remarks about international students.</td>
<td>.793</td>
<td></td>
</tr>
<tr>
<td>Compared to local students, I didn't have equal access to resources and opportunities at my host university.</td>
<td>.685</td>
<td></td>
</tr>
<tr>
<td>Professors made a real effort to understand difficulties international students could have had with their academic work.</td>
<td></td>
<td>.834</td>
</tr>
<tr>
<td>Professors were willing to give helpful academic advice to international students.</td>
<td></td>
<td>.832</td>
</tr>
<tr>
<td>I felt comfortable discussing academic issues with professors there when needed.</td>
<td></td>
<td>.814</td>
</tr>
<tr>
<td>What is your overall level of satisfaction with your studies as an exchange student?</td>
<td></td>
<td>.902</td>
</tr>
<tr>
<td>How satisfied were you with the approach and teaching methods (professors, lecturers, etc.) at your host university?</td>
<td></td>
<td>.895</td>
</tr>
</tbody>
</table>
Campus Discrimination

In terms of campus discrimination, an overwhelming majority of respondents, on average around 80%, disagreed that they felt discriminated at their host institution, 11% neither agreed nor disagreed, and around 9% agreed they felt discriminated against. We will now look into the 9% of students who agreed that they felt discriminated against and we will describe the results on the individual variables with respect to the studied countries.

Of the Erasmus students, 11.6% agreed that compared with local students, they didn’t have equal access to resources and opportunities. The results differ across countries—14.2% of students studying in Portugal reported unequal access, whereas only 7.6% of students in Germany agreed to have felt discriminated in such a way. An average of 9.6% of Erasmus students felt they had been treated differently or unfairly because of being an international student. Again, the lowest percentage of students agreeing with this feeling was in Germany (5.7%), the highest was in Italy (12%). An average of 9.7% of Erasmus students felt they were treated as less intelligent because of being an international student. This feeling was the strongest in France (12.4%) and weakest in Portugal (7.7%). Finally, 6.3% of Erasmus students heard people at host university make insensitive, degrading, or insulting remarks about international students. This variable had the lowest percentage of students agreeing with it, with 5.3% in Germany, but 7.5% in France.

Table 2 below ranks the studied countries on the aggregate index of campus discrimination. The index is based on the minimal number of discriminated students (the frequency of those who agreed that they felt discriminated). Ranking 1 indicates countries with the lowest amount of perceived campus discrimination. In this sense, Germany (1) had the lowest representation of those students who agreed to feel discriminated, followed by Spain (2), Portugal (3), and Italy (4), with France (5) having the relatively highest number of discriminated students.

Table 2. Campus discrimination index for five major ISM destination countries for Research Question 4.

<table>
<thead>
<tr>
<th></th>
<th>Index of regional disparity</th>
<th>Rank (point method)</th>
<th>Index of regional disparity</th>
<th>Rank (standard variable method)</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>596.2222</td>
<td>5</td>
<td>1.8350</td>
<td>5</td>
</tr>
<tr>
<td>Germany</td>
<td>965.5449</td>
<td>1</td>
<td>0.1211</td>
<td>1</td>
</tr>
<tr>
<td>Italy</td>
<td>659.0249</td>
<td>4</td>
<td>1.4515</td>
<td>4</td>
</tr>
<tr>
<td>Portugal</td>
<td>739.1603</td>
<td>3</td>
<td>1.1957</td>
<td>3</td>
</tr>
<tr>
<td>Spain</td>
<td>741.9215</td>
<td>2</td>
<td>1.0155</td>
<td>2</td>
</tr>
</tbody>
</table>

Academic Support

Regarding academic support, again a clear majority—on average almost 70%—of respondents agreed that professors supported them; around 14% of respondents neither agreed nor disagreed; and the remaining 16% disagreed. We will now explore the 16%
of students who disagreed with the statements related to professors’ support and we will describe the results on the individual variables with respect to the studied countries.

An average of 19.2% of Erasmus students disagreed that professors made a real effort to understand difficulties international students could have had with their academic work. The percentages differ among the countries; for example, in Italy, 21.9% of Erasmus students disagreed with this statement and in Germany, only 14.1%.

Regarding the next variables, 15.3% of Erasmus students disagreed that professors were willing to give helpful academic advice to international students. Again, students in Germany indicated the lowest percentage (10.7%), but students studying in Italy the highest (18.7%). An average of 13.6% of students disagreed that they felt comfortable discussing academic issues with professors there when needed. This time, the lowest percentage of students disagreeing with this statement was found to be in Portugal (11.2%), closely followed by Germany, and the highest again in Italy (17%).

Table 3 ranks the studied countries on the aggregate index of disagreement with academic support. The index is based on the minimal number of unsupported students (the frequency of those who disagreed that professors supported them). Therefore, we call it the aggregate index of disagreement with academic support. Ranking 1 indicates countries with the lowest reported amount of unsupported students. In this sense, Germany (1) had the lowest representation of those students who disagreed that professors supported them, followed by Portugal (2), Spain (3), and France (4), with Italy (5) having the relatively highest number of unsupported students.

Table 3. Disagreement with academic support index for five major ISM destination countries for Research Question 5.

<table>
<thead>
<tr>
<th>Country</th>
<th>Index of regional disparity</th>
<th>Rank (point method)</th>
<th>Index of regional disparity</th>
<th>Rank (standard variable method)</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>667.4499</td>
<td>4</td>
<td>1.7795</td>
<td>4</td>
</tr>
<tr>
<td>Germany</td>
<td>990.1827</td>
<td>1</td>
<td>0.0467</td>
<td>1</td>
</tr>
<tr>
<td>Italy</td>
<td>624.1161</td>
<td>5</td>
<td>2.1726</td>
<td>5</td>
</tr>
<tr>
<td>Portugal</td>
<td>964.6733</td>
<td>2</td>
<td>0.1181</td>
<td>2</td>
</tr>
<tr>
<td>Spain</td>
<td>705.8850</td>
<td>3</td>
<td>1.4892</td>
<td>3</td>
</tr>
</tbody>
</table>

Academic Satisfaction

Once again, a clear majority of students, on average almost 62%, were overall academically satisfied; around 16% were neither dissatisfied nor satisfied; and the remaining 22% of respondents were academically dissatisfied.

We will now explore the 62% of students who were on average satisfied with their studies abroad and with the approach and teaching methods. We will describe the results on the individual variables with respect to the studied countries.

An average of 65.4% of Erasmus students indicated being satisfied with their studies as an exchange student. The most satisfied students were in Germany (73.2%) and the
least amount of satisfied students was in Spain (62.7%). Regarding the next variable, 58.2% of Erasmus students were satisfied with the approach and teaching methods (professors, lecturers, etc.) at their host university. Again, the highest number of satisfied students was in Germany (68.4%) and the lowest in Italy (54.3%).

Table 4 below ranks the studied countries on the aggregate index of academic satisfaction. The index is based on the maximal number of satisfied students (the frequency of those who indicated being satisfied). Ranking 1 indicates countries with the highest reported amount of satisfied students. Germany (1) had the highest representation of satisfied students, followed by Portugal (2), France (3), and Spain (4), with Italy (5) having the relatively lowest number of satisfied students.

<table>
<thead>
<tr>
<th>Country</th>
<th>Index of regional disparity</th>
<th>Rank (point method)</th>
<th>Index of regional disparity</th>
<th>Rank (standard variable method)</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>843.3165</td>
<td>3</td>
<td>1.8991</td>
<td>3</td>
</tr>
<tr>
<td>Germany</td>
<td>1,000.000</td>
<td>1</td>
<td>0.0000</td>
<td>1</td>
</tr>
<tr>
<td>Italy</td>
<td>826.4656</td>
<td>5</td>
<td>2.1067</td>
<td>5</td>
</tr>
<tr>
<td>Portugal</td>
<td>859.2759</td>
<td>2</td>
<td>1.7079</td>
<td>2</td>
</tr>
<tr>
<td>Spain</td>
<td>837.1215</td>
<td>4</td>
<td>1.9816</td>
<td>4</td>
</tr>
</tbody>
</table>

**Correlation Coefficients Between Aggregated Indexes**

According to Spearman's correlation coefficient, a negative relationship has been found between the aggregate index of campus discrimination and the aggregate index of academic satisfaction. The correlation coefficient $r = -0.230^{**}$. According to Spearman's correlation coefficient, no relationship has been found between the disagreement with academic support index and the academic satisfaction index.

**Discussion and Conclusions**

Stress and social support were identified by Zhang and Goodson (2011) as the top two most frequently reported predictors of psychological symptoms related to the adjustment of international students in the United States. Although this paper looks into the experiences of international students in Europe, Zhang and Goodson's review can at least help to position the components of this study in context. The component campus discrimination, which accumulates four variables describing the various feelings of discrimination international students can have at their host institution, is a form of stress operationalized in the reviewed studies as perceived discrimination. Similarly, academic support, combining the three variables describing the ways in which students can feel supported by host professors, is closely related to social support operationalized as social support from an interpersonal network, graduate program, or the campus international student office.
Three aggregate indexes were developed from the three newly created components in order to rank the five major host countries on the basis of international students’ experiences. Since both methods of calculating the indexes came to similar rankings, these can be placed next to each other (see Table 5). Regarding the measured variables in this paper, it is quite clear that the study abroad experiences of international students resulted most favorable for Germany and least favorable for Italy.

Table 5. Ranking comparison of five host countries on acculturation experiences.

<table>
<thead>
<tr>
<th>Campus discrimination</th>
<th>Academic support</th>
<th>Academic satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Germany</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Italy</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Portugal</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Spain</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

According to the correlation analyses, the expected negative relationship between campus discrimination and academic satisfaction was confirmed. Although this finding is not a genuine surprise as it is in line with a general theory of human interaction, we can state that, when a greater number of international students feel discriminated in the educational environment of a particular country, a smaller number of international students are academically satisfied in that particular country.

Overall, the results of the survey on international students’ experiences are positive. Students on average don’t feel discriminated against, do feel the support from host professors, and are satisfied with their studies. Fostering such a tolerant educational environment should lead to higher levels of satisfaction of these international students and generally to more favorable study abroad experiences.

This paper proposed a way to compare five major host countries of the Erasmus programme based on the areas related to acculturation experiences of international students. The proposed aggregate indexes of campus discrimination, disagreement with academic support and academic satisfaction allow to state a basic benchmark of these five countries.

The results of this paper should be viewed as a first exploration of the data from the ESNsurvey project that are related to the field of student acculturation experiences. The findings will be used for a deeper analysis, such as the creation of clusters of international students. Conducting a cluster analysis of a wider dataset of homecoming Erasmus students from a larger number of host countries would allow finding homogeneous groups of international students who could be described in more detail (e.g., specified by age, the country of sending institution, socioeconomic background etc.). Additionally, more components, such as the length of study abroad, language of instruction, and social contact with locals, can be added to describe the context in which international students adjust. Increasing the knowledge and understanding of the students’ characteristics and the context in which acculturation takes place would allow for wider benchmarking, more
tailored recommendations, and opportunities for sharing best practices. These could be proposed to policy makers in the field of education and student mobility, as well as to specific countries and higher education institutions.

References


**Author biography**

**Josek Mikuláš** is a PhD candidate of the Department of Psychology, Faculty of Economics and Management at the Czech University of Life Sciences, Prague (Czech Republic). He was a volunteer of the Erasmus Student Network AISBL as a Research Coordinator of the ESNsurvey 2016 project. His major research interests lie in the area of internationalization of higher education.

**Svobodová Jitka** is a PhD candidate of the Department of Statistics, Faculty of Economics and Management at the Czech University of Life Sciences, Prague (Czech Republic). Her major research interests lie in the area of statistics in medicine, biochemistry, genetics and molecular biology, endocrinology, regional disparities and agricultural economics.