

Original

## The role of personality and destination in the optimal adaptation of international students to host universities

Anna Muro<sup>a</sup>, Ramon Cladellas<sup>a</sup>, Iolao Mir<sup>b</sup> & Montserrat Gomà-i-Freixanet<sup>b</sup>

<sup>a</sup>Department of Basic and Educational Psychology, Universitat Autònoma de Barcelona.

<sup>b</sup>Department of Clinical and Health Psychology, Universitat Autònoma de Barcelona.

### ARTICLE INFO

#### Article history:

Received 9 December de 2021

Accepted 7 March de 2022

Available online 20 April 2022

#### Keywords:

Study abroad  
Exchange student  
International students  
Erasmus  
Personality  
Stress

### A B S T R A C T

Recent studies suggest that the optimal adaptation of exchange students to the host-university is associated to students' personality, and suggest that lowering anxiety, higher sociability and higher sensation seeking is observed in students with successful adaptations. However, this pattern has only been studied in American or German universities. Accordingly, this study aimed to replicate previous results using a sample of European-international undergraduates of the Erasmus Exchange Programme studying in Barcelona. Analyses of variance showed that exchange-students scored higher than locals in Sociability, Activity and in Boredom Susceptibility, but no differences were seen in Anxiety levels. Regression analyses reported that the personality variable that best predicted studying abroad in Barcelona was, on a broad level, Sociability; on a narrower level, Parties and Friends and Boredom Susceptibility accounted for 38% of the study abroad variance. Results confirm that exchange students show a differential personality profile, but it differs in some traits when compared to American samples. It is discussed how the destination or university allocation and cultural characteristics might mediate the observed differences among samples. It is also discussed the relevance of including both student's personality and destination characteristics in the study-abroad assessment programmes to facilitate students' adaptation and avoid stress-related or adaptation problems.

## El papel de la personalidad y el destino en la óptima adaptación de estudiantes internacionales a las universidades de intercambio

### R E S U M E N

Estudios recientes en universidades estadounidenses sugieren que la adaptación óptima de los estudiantes de intercambio a la universidad de destino está asociada, en parte, a su personalidad, sugiriendo que los estudiantes internacionales más aventureros, sociables y emocionalmente estables se adaptan mejor a su destino. El presente estudio pretende contrastar los resultados anteriores en una muestra de universitarios del Programa Europeo de Movilidad Erasmus, estudiando en una universidad de Barcelona. Los análisis de varianza mostraron que los estudiantes de intercambio obtuvieron puntuaciones más altas que los locales en sociabilidad, actividad y susceptibilidad al aburrimiento, pero no se observaron diferencias en los niveles de ansiedad. Los análisis de regresión informaron que la dimensión de personalidad que mejor diferenciaba a los estudiantes Erasmus de los locales fue la Sociabilidad; en un nivel más específico, el rasgo Fiestas y Amigos y la Susceptibilidad al Aburrimiento explicaron el 38% de la varianza de la personalidad característica de los alumnos internacionales. Los resultados confirman que los estudiantes de intercambio muestran un perfil de personalidad diferente respecto a los locales, pero difiere en algunos rasgos en comparación con las muestras estadounidenses. Se discute cómo el destino o la asignación de la universidad y las características culturales pueden mediar las diferencias observadas respecto estudios anteriores. También se destaca la relevancia de incluir tanto la personalidad del estudiante como las características del destino en los programas de evaluación de estudios en el extranjero para facilitar la adaptación de los estudiantes y evitar problemas de adaptación relacionados con el estrés.

#### Palabras clave:

Estudiar en el extranjero  
Estudiantes de intercambio  
Estudiantes internacionales  
Erasmus  
Personalidad  
Estrés

\* Corresponding author.

E-mail address: [fjmrmon.cladellas@uab.cat](mailto:fjmrmon.cladellas@uab.cat) (R. Cladellas).

## Introduction

During the last decade, educational and psychosocial research analysing the motivation and decision-making process to study abroad has been a focus of main attention (Anderson et al., 2015; Brown et al., 2016; Hendrickson et al., 2011; Jiani, 2017; Williams, 2005; Zhang & Goodson, 2011). This focus is due to the transformative change in the internationalization processes of higher education institutions (Altbach & Knight, 2007; McNamara, 2010) and due to the significant increase of international students worldwide (Anderson et al., 2015; Jiani, 2017). Internationalization processes aim not only to enhance traditional study-abroad programs, but also to increase international perspectives of institutions and to potentiate students' skills and employability. These skills include learning foreign languages and providing a real experience of intercultural development into the students' curriculum and learning processes (Altbach & Knight, 2007; Anderson et al., 2015; European Parliament, 2015). The transformative experiences gained from studying abroad can be linked to the development of transferable and employability skills, known as "soft skills". These skills include knowledge of other countries, the ability to interact and work with individuals from different cultures, mobility, maturity, teamwork skills, sociability, adaptability, resilience or self-confidence. It is worth noting that, the unemployment rate of mobile students is 23% lower than of non-mobile students, and graduates with an international background are given greater professional responsibility more frequently (Brandenburg et al., 2014; European Parliament, 2015; Giacalone, 2007; Gorenak, 2013). According to the 2018 *Open Doors Report on International Educational Exchange* released by the Institute of International Education (IIE), Europe hosts over half of U.S. study abroad students, and Spain represents the third most chosen host country as destination for U.S. students studying abroad. In Europe, the study-abroad Erasmus Programme has also involved more than three million students to date (European Union, 2014; European Parliament, 2015) showing the magnitude of the internationalization processes in the European Union. Nevertheless, and considering the many benefits in terms of employability and mobility, why do not all students engage in mobility programs? Why some of them fail in adapting to the host-university and report stress-related problems? And why international students choose Europe instead of other regions to study abroad? By definition, study abroad students are faced with acculturative stress (Berry, 2005) by virtue of encountering differences in values, behaviours and expectations of daily living in their host culture. Several factors such as students' personality (Schroth & McCormack, 2000), culture shock (Ward et al., 2001), anxiety/uncertainty (Gudykunst, 1995), or inter-group contact anxiety (Frey & Tropp, 2006) test students' coping abilities, especially when they are removed from their habitual sources of emotional support and problem resolution.

A two-level model has been suggested regarding factors affecting international students' study abroad motivations (Daly, 2011; Doyle et al., 2010; Goldstein & Kim, 2006; Jiani, 2017; Li et al., 2013; Salisbury et al., 2009). One the one hand, the first level includes international, national and contextual factors that might determinate students' motivation to study abroad. On the other hand, the second level includes individual factors, such as students' gender, origin or personality (IIE, 2018; Li et al., 2013; Schroth & McCormack, 2000). Regarding this second level, it is suggested that studying abroad is an academic and social opportunity for intercultural and career development (Anderson et al., 2015; Deakin, 2014) but psychological adjustment to new environments is a significant challenge that all international students must face (Jackson et al., 2013; Savicki, 2013). It is well known that personality

is a key factor to explain and predict students' performance or their psychological adjustment to jobs or environments (Chamarro-Premuzic et al., 2003; Cladellas et al., 2017; Wismeijer & Gomà-i-Freixanet, 2012). Much research exists on the match between personality and environmental demands, that shows how psychological adjustment can be explained by the so-called person-environment fit, suggesting, for instance, that more anxious individuals or individuals with negative-affect tendencies avoid or show worse adaptation to new situations and a higher disposition to develop anxiety disorders (Eysenck, 1990; Kristof-Brown et al., 2005; Larsen et al., 2017; Rodríguez-Mora & López-Díaz, 2020; Savicki, 2013). Personality traits are important to consider in cross-cultural adjustment because they influence how people interact with a particular environment and may predict adjustment problems (Zhang et al., 2010). Differential theories of personality show how behavioural inhibition is related to anxiety, while behavioural activation is related to impulsivity-related behaviours (Gray, 1983; Gray and McNaughton, 2000). These theoretical and empirical approach posits that novel stimuli, unexpected events, or uncertainty can all activate inhibitory responses that make more anxious individuals avoid risks or novel situations, while they make more impulsive and extraverted individuals activate approach behaviours towards uncertainty. Sociocultural adjustment could be facilitated by Openness to Experience and Sensation Seeking, which is related to actively seeking new social experiences and intellectual curiosity, and low Neuroticism, which is related to more adaptive coping responses (John, et al., 2008; Schroth & McCormack, 2000). It has been also shown that stable, as opposed to more neurotic-anxious students, tend to be less affected by anxiety and show more adaptative behaviours to new and uncertain situations (Chamorro-Premuzic & Furnham, 2003; Chust-Hernández et al., 2019; Poropat, 2009), while more anxious students show a higher vulnerability to stress, and maladaptive coping responses (John, et al., 2008; Zhang et al., 2010), as well as greater psychological problems, particularly depression (Giannoni-Pastor et al., 2015; Zuckerman, 2005). A international experience would make this link more salient because it is considered a new and stressful experience. Another way to facilitate social adjustment is through establishing social networks, thus Extraversion-related traits would also be significant in this process. Evidence has shown that people higher in Agreeableness and Extraversion are more likely to build relationships with host country nationals which can enhance general sociocultural adjustment (Zhang et al., 2010). Together with Extraversion, Openness and Sensation Seeking traits (Tomich et al., 2003; Schroth & McCormack, 2000; Zuckerman et al., 1993) that activate behaviours towards new social or uncertain situations, low anxiety has been also found to be a predictor of a better international students' psychological adjustment (Zhang et al., 2010). Accordingly, previous research suggests that students that have succeed and enjoyed mobility-programs show higher levels than locals in extraversion, sociability, sensation seeking, mobility, or openness to new experiences, while more anxious individuals have shown a worse psychological and sociocultural adjustment and have more problems to overcome novel and challenging situations such as studying abroad (Hendrickson et al., 2011; Li et al., 2013; Savicki, 2013; Yushan et al., 2020; Zhang et al., 2010).

Nevertheless, research focusing on international students' personality profiles is still scarce. Some of them have used non-validated personality assessments or have only used measures of state-affect (Li et al., 2013; Hendrickson et al., 2011). Two studies in the U.S.A. and Germany have previously explored whether international students show a differential profile using valid and reliable models of personality assessment (Schroth & McCormack, 2000; Zhang et al., 2010). The authors of the first study assessed

the Sensation Seeking trait (Zuckerman et al., 1978) in a sample of nearly 400 international students studying in the U.S.A. and found that they scored higher than local students on experience seeking (seeking new sensations through the mind and senses as well as through an unconventional lifestyle with unconventional friends). These findings reinforce the hypothesis that sensation seeking, a trait with a strong psychobiological basis, has an important role in academic performance and motivations to study (Cladellas et al., 2017). Schroth and McCormack (2000) also reported that international students show a higher need for achievement (Helmreich & Spence, 1978), which is positively associated to Work Effort, a trait included in Activity factor of the Alternative Five model of personality assessment (Zuckerman et al., 1993; Zuckerman, 2005). It is also worth noting a second study conducted with 431 U.S. college students (Li et al., 2013), that reported positive correlations between the desire to study abroad, neophilia levels (Walker & Gibbins, 1989) and the mobile or "migrant" personality, referring to people who are highly mobile and predisposed to travel (Boneva & Frieze, 2001; Frieze & Li, 2010). Both neophilia and mobile behaviours are highly associated to sensation seeking correlates, and follow the same direction than results obtained in Schroth and McCormack (2000) previous results. On the other hand, Zhang et al., (2010) assessed the personality profile of international Chinese alumni studying in Germany using another valid model of personality assessment, the Big Five questionnaire, framed in the lexical approach to personality, and found that low Neuroticism and high Openness were two shared predictors of international Chinese students' sociocultural adjustment, a result that has been recently confirmed in international students in Saudi Arabia (Rings & Allehyani, 2020). Finally, Li and colleagues (2013) also found a higher desire to help associated to the motivation to study abroad, a result which is consistent with the gregarious nature and social correlates of international students (Hendrickson et al., 2011; Salisbury et al., 2009).

It is worth noting that there is a significant gap in the study of international students' personality, since previous findings were only observed in international students studying in the U.S.A., Saudi Arabia, China or Germany, and some authors suggest that the contextual factors such as culture of international students' destination might mediate their personality profiles (Hua et al., 2019; Tomich et al., 2003). Therefore, cross-cultural replications are needed to ascertain whether personality differences and destination matter in explaining international students' adaptation and motivations to study abroad (Hua et al., 2019; Jiani, 2017; Li et al., 2013; Schroth & McCormack, 2000). Accordingly, the aim of the present study was to contrast the personality profile of international students studying in a Spanish-mediterranean university such as Autonomous University of Barcelona (Spain) and to compare it with a control sample of local students using a valid and reliable personality questionnaire, the Zuckerman-Kuhlman Personality Questionnaire (ZKPQ; Zuckerman et al., 1993; Zuckerman et al., 1978; Zuckerman, 2005). This is a valid and reliable questionnaire, embedded in accumulated psychobiological data on personality. The ZKPQ has undergone extensive psychometric testing, demonstrating good internal reliability, temporal stability, discriminant validity and cross-cultural replication (Muro et al., 2011; Stelmack, 2004; Zuckerman, 2005).

Therefore, and according to previous research using samples of other cultural backgrounds, we expect to find a common personality profile in international students, characterized by lower anxiety, higher sensation seeking, activity and sociability levels when compared to non-international local students.

## Methods

### Participants and procedure

The researchers contacted the Erasmus students through the Autonomous University of Barcelona (UAB) International Welcome Point and asked for their participation in the study during the second semester of academic year 2015-16 through an e.mail advertisement. The UAB is the Spanish university with the highest level of internationalisation in terms of countries of origin and of enrolment with up to 41% at official master's degrees (UAB, 2016). Inclusion criteria were 1) studying in UAB under an Erasmus programme and 2) studying a degree in social or health sciences. The exclusion criterion was a current diagnosis of any psychopathological disorder. A total number of 75 Erasmus students were asked to participate in the study. Those volunteering were given the instructions to answer the self-reported questionnaires. Questionnaires were administered in English or Spanish languages, according to their level of Spanish understanding. The 93% of the initial volunteers returned the questionnaires to the researchers in a closed envelope to ensure their anonymous participation, but only those who completed all questionnaires were included in the analyses. The final sample consisted in 67 Erasmus students ( $M$  age = 22.10;  $SD$  = 1.77).

Local students were recruited through a collective call to participation by an internet advertisement at the Faculty of Psychology of the UAB. Inclusion criterion consisted in not having any intention of being part of an international exchange or a study abroad program. The exclusion criterion was the same as for the Erasmus group: no current diagnosis of psychopathological disorder. Volunteers answered the self-reported questionnaires collectively in classroom settings. The initial sample consisted of 119 local students but only those who completed both questionnaires and did not show inattention or social desirability were included in the data analyses. Accordingly, only the 93% ( $n$  = 111) of the initial volunteers met criteria and were selected to participate in the study ( $M$  age = 21.78;  $SD$  = 4.00).

### Instruments

We administered the Zuckerman-Kuhlman Personality Questionnaire (ZKPQ; Zuckerman et al. 1993; Gomà-i-Freixanet et al., 2004) and the Sensation Seeking Scale (SSS; Zuckerman et al., 1978).

The ZKPQ consists of 99 dichotomous items covering five scales and an additional *Infrequency* (10 items) scale that allows eliminating subjects with careless or social desirability responding. This scale ensures that none of the basic traits are affected by this response-set bias. The five personality dimensions are: *Neuroticism-Anxiety* (19 items) describes frequent emotional upset, tension, worry, fearfulness, indecision, lack of self-confidence, and sensitivity to criticism. Internal reliability for the present study was Cronbach's  $\alpha$  = .827. *Activity* (17 items) has two subscales. The first one, *General Activity*, describes the need for general activity and impatience or restlessness when there is nothing to do. The second, *Work Activity*, measures preference for challenging and hard work, active busy life, and high energy level. Internal reliability for this scale was Cronbach's  $\alpha$  = .735. *Sociability* (17 items) also involves two subscales: *Parties and Friends* describes the number of friends and amount of time spent with them, outgoingness at parties, and preference for being with others, whereas *Isolation Intolerance* indicates intolerance for social isolation and for engaging in solitary activities. Internal reliability for Sy scale was Cronbach's  $\alpha$  = .831.

**Table 1**  
Analyses of variance with type of students as independent factor and personality scales as dependent variables.

	Erasmus Students (n = 67)		Local Students (n = 111)		F	p	$\eta^2$	Observed Power
	Mean	SD	Mean	SD				
ZKPQ								
Neuroticism-Anxiety	9.12	.53	9.57	.43	0.05	.826	.000	0.056
Activity	8.76	.42	7.66	.33	4.24	.041	.024	0.535
General Activity	4.49	.29	3.70	.20	5.35	.022	.030	0.633
Work Activity	4.27	.18	3.96	.15	1.59	.209	.009	0.240
Sociability	10.78	.50	7.54	.37	27.86	.000	.137	0.999
Parties and Friends	5.91	.28	3.22	.22	56.78	.000	.245	1.000
Isolation Intolerance	4.87	.28	4.32	.21	2.51	.115	.014	0.351
Impulsive Sensation Seeking	11.88	.43	10.82	.43	2.66	.105	.015	0.368
Impulsivity	3.78	.26	3.50	.23	0.59	.444	.003	0.119
Sensation Seeking	8.10	.26	7.32	.27	3.81	.053	.021	0.493
Aggression-Hostility	7.55	.37	7.65	.29	0.04	.844	.000	0.054
SSS	23.19	.61	23.14	.58	0.00	.995	.000	0.050
Thrill and Adventure Seeking	6.28	.29	6.54	.26	0.37	.546	.002	0.092
Experience Seeking	6.96	.19	7.39	.15	3.00	.085	.017	0.406
Disinhibition	5.13	.26	5.51	.22	1.36	.244	.008	0.213
Boredom Susceptibility	4.99	.23	3.71	.19	17.51	.000	.091	0.988

Notes. ZKPQ = Zuckerman-Kuhlman Personality Questionnaire; SSS = Sensation Seeking Scale.

*Impulsive Sensation-Seeking* (19 items) is a factor that describes *Impulsivity* as a lack of planning, tendency to act impulsively without thinking, and *Sensation Seeking* as seeking of excitement, novel experiences, and willingness to take risks for these types of experiences. Internal reliability for ImpSS was Cronbach's  $\alpha = .812$ . Finally, *Aggression-Hostility* (17 items) reflects a readiness to express verbal aggression; rude, thoughtless, or antisocial behavior; vengefulness and spitefulness; having a quick temper; and impatience with others. Internal reliability of this scale was Cronbach's  $\alpha = .637$ .

The SSS (Zuckerman et al., 1978) includes a total score and four subscales assessing: Thrill and Adventure Seeking (TAS), Experience Seeking (ES), Disinhibition (Dis), and Boredom Susceptibility (BS). The TAS subscale contains items expressing a desire to engage in sports or other physically risky activities that provide unusual sensations of speed or defiance of gravity, such as parachuting, scuba diving, or skiing. Because most of the activities are not common, the majority of the items are expressed as intentions ("I would like...") rather than reports of experience. An attitude item that summarizes the factor is "I like risky sports very much". The ES subscale encompasses items measuring the seeking of novel sensations and experiences through the mind and senses, traveling, or being unconventional. The Dis subscale contains items describing seeking sensations through social activities such as parties, social drinking, and sex. Finally, the BS subscale measures intolerance for repetitive experiences of any kind, including routine work and boring people. The final total score of the SSS is obtained by summing up the four subscales. The scale contains 40 dichotomous items, with scores ranging from 0 to 40 (highest sensation seeking score).

### Statistical Analysis

We did descriptive statistics, *t*-test and  $\chi^2$  test to contrast sex and age by groups (Erasmus vs. local). We performed an Analysis of Variance (ANOVA) with type of student (Erasmus vs. local) as the independent variable, and personality scales and subscales as the dependent variables. Furthermore, we performed two Binary Logistic Regressions to explore which were the best predictors of

studying abroad. The first one included only the broad scales and the second one only the subscales. We used the SPSS statistical package (version 22.0) and statistical tests were bilateral with Type I error set at 5%.

### Results

Groups did not differ either on age ( $t = 0.623$ ;  $p = .534$ ) nor on sex ( $\chi^2 = 2.47$ ;  $p = .116$ ). ANOVA showed significant differences according to the type of students (see Table 1). Erasmus students showed significantly higher scores in Act ( $F = 4.243$ ;  $p = .041$ ) and in its General Activity subscale ( $F = 5.348$ ;  $p = .022$ ); and in Sy ( $F = 27.862$ ;  $p < .0001$ ) and its Parties and Friends subscale ( $F = 56.778$ ;  $p < .0001$ ). Higher scores were also found in the Sensation Seeking subscale of the ZKPQ, although they did not reach significance ( $F = 3.81$ ;  $p = .053$ ). Regarding the SSS, international students only differed significantly in the BS subscale, showing also higher scores ( $F = 17.507$ ;  $p < .0001$ ) than local students.

The first binary logistic regression analysis, including Act and Sy scales in the equation showed a statistically significant final model ( $\chi^2 = 25.72$ ;  $p < .0001$ ) with Sy explaining the 18.4% of the total variance (see Table 2). The second regression analysis, which included General Activity, Parties and Friends, and Boredom Susceptibility subscales, showed a resulting final model ( $\chi^2 = 57.68$ ;  $p < .0001$ ) that explained up to the 38% of the variance.

**Table 2**  
Binary Logistic Regression analyses with personality scales and subscales as predictors of studying abroad

	Predictors	Beta	Wald	Sig.	Exp(B)	R <sup>2</sup>
Model 1	Sociability	.202	21.62	.000	.817	.184
Model 2	Parties and Friends	.451	31.33	.000	.637	
	Boredom susceptibility	.292	9.22	.002	.747	.379

Notes. Erasmus students = 1; local students = 0.

### Discussion

The goal of the present study was to contrast the hypothesis that international students show a personality profile characterized

by high scores in Sociability, Activity, and Sensation Seeking and lower on Anxiety. Hypotheses have partially been confirmed since international-Erasmus students in Barcelona have scored significantly higher than local students on 1) Sociability, and its Parties and Friends subscale, 2) Activity and its General Activity subscale, and 3) Sensation Seeking's subscale Boredom Susceptibility. However, no differences have been observed in Anxiety levels.

First, Sociability results support the hypothesis that international students enjoy being socially connected, interacting with others and spending time with them, showing a differential personality profile that focuses on the social aspects of the exchange. These results support previous studies reporting the relevance of the social components of studying abroad (Li et al., 2013; Zhang et al., 2010), the importance of friendship networks or the social connectedness that promote the optimal integration of international students to their host countries (Hendrickson et al., 2011; Li et al., 2013). Furthermore, Sociability and its associated preference for social exchanges motivates a cultural interest that might explain the "Europeanising" impact on international-Erasmus students' identity (Feyen & Krzaklewski, 2013; Jacobone & Moro, 2015; Kröger, 2017; Williams, 2005).

Second, Erasmus students also scored significantly higher than their local counterparts on Activity, and on their General Activity subscale; they also scored higher on Work Activity subscale, but in this study, differences did not reach significance. Following previous studies (Li et al., 2013; Schroth & McCormack 2000), our results confirm that international students studying in Barcelona also show higher levels of activity, a scale that correlates with the need for achievement. However, the lack of Work Activity differences among samples and compared with international exchange students in the USA, suggests that Erasmus program might have a different selective nature than USA international programs: American exchange programs entail a higher financial investment and academic efforts, thus exchange students and their families must do a higher work and financial effort to study in American universities. However, and according to previous reports, the Erasmus programme is more affordable to middle-classed students, and appears to be more a social experience rather than an academic-competitive one: while this may attract some particular groups of sociable students willing to interact and integrate with local students, it may be less attractive to students interested in a more intense, ambitious and academically challenging experience (Corbett, 2005; Vossenteyn et al., 2010). Accordingly, no differences have been observed in lowering anxiety, suggesting that this personality trait is not involved or it is not relevant in explaining personality differences of international students visiting Barcelona. These results regarding anxiety are different than the ones found with other samples and models of personality assessment such as the Big Five (Rings & Allehyani, 2020; Zhang et al., 2010) thus they might suggest personality differences that might rely on the assessment used or in the sample profile of international students of the host destination. Therefore, it might be concluded that Barcelona as destination may attract more socially oriented students', independent of their baseline negative affect or anxiety levels that might be more relevant to explain daily coping styles or culture-shock management (Savicki, 2013) that have not been measured in the present study.

Lastly, we would like to highlight the results regarding Sensation Seeking, which also follow a different direction than those expected and reported in North-American Samples (Schroth & McCormack, 2000). It is worth noting that higher scores in the sensation seeking global subscale of the ZKPQ were observed in international students, but no significant differences were obtained using the SSS, which assesses sensation seeking under a narrower

and more specific approach. In particular, no significantly higher scores on the Experience Seeking subscale have been observed as it was expected (Schroth & McCormack, 2000); however, our sample of Erasmus students scored significantly higher in Boredom Susceptibility scale. These personality differences among samples might suggest that international European students travelling inside European destinations, rather than seeking novel sensations and experiences, show an intolerance for repetitive experiences of any kind, including routine or boring situations. Thus, Barcelona might be considered as an appealing and entertaining social area to study abroad that motivates international students who seek escaping from academic routines in their own countries. And although different components of the Sensation Seeking trait have reached significance when compared to other international students' destination choices (Li et al., 2013; Schroth & McCormack, 2000), Sensation Seeking could be regarded as a common personality trait of international students worldwide. It also strengthens the hypothesis that Sensation Seeking is a personality trait highly involved in academic motivations and performance (Cladellas et al., 2017).

## Limitations

However, results of the present study should be interpreted with caution since several limitations might reduce the generalization of the results. The present sample size is relatively small, and only one university of Barcelona area has been included. In order to generalize results and disentangle which are the best predictors of international students' personality and destination choice, future studies should analyse a larger and more representative sample, control for students' socioeconomic status, origins and cultural backgrounds, as well as considering different host universities with different cultural and academic backgrounds (Anderson et al., 2015; Hua et al., 2019; Jiani, 2017; Tomich et al., 2003). Furthermore, no measures of daily habits or adaptation challenges have been either measures. Future analyses should control for destination choices and type of studies to test whether this factor might also covariate the observed results in the personality profile of international students. Assessment of personality should also be performed with valid and reliable questionnaires and psychobiological models of personality assessment would be more recommended in order to contrast international students' personality traits, independent of culture or lexical influences, such as the ZKPQ (Muro et al., 2011; Zuckerman, 2005; Zuckerman et al., 1993).

## Conclusions

It is concluded that international students' motivation to study in Barcelona might rely on several personality traits such as sensation seeking, activity and sociability, but they are slightly different in achievement, when compared to exchange students visiting the U.S.A. and other countries (Schroth & McCormack, 2000; Zhang et al., 2010). Thus, it is suggested that these personality differences between international students might have to deal with contextual factors, such as characteristics of the university and the destination choice (Hua et al., 2019; Tomich et al., 2003). Accordingly, and in line with theories of person-environment interaction (Kristof-Brown et al., 2005; Zuckerman, 2005), as well as with the two-level model of study abroad motivations, the final decision to study abroad is partially mediated, in a first level, by the specific destination choices (Lesjak et al., 2015) and, in a second level, by students' personality profile. Therefore, studying abroad in European, specifically

Mediterranean universities such as Universitat Autònoma de Barcelona, might be more regarded as a socio-cultural experience that motivate those more sociable and active exchange students. The numerous socio-cultural activities offered in the Erasmus Barcelona program (Erasmus Barcelona, 2014) might be an appealing motive to choose Barcelona for highly sociable and active students who get easily bored with traditional academic routines in their own origin countries, and for those students who are willing to learn from other cultures and integrate new experiences in their identities.

Under the psychobiological theories of personality, it is worth noting that all the observed traits in different studies analysing international students are associated to extraversion, a broad personality dimension that correlates with a higher need of general stimulation to reach the optimal level of individuals' arousal (Eysenck 1990; Zuckerman 1994, 2005). Therefore, it is concluded that extraversion related traits should be necessarily included in the second level (individual differences) of the two-level model of factors affecting the motivation to study abroad (Daly, 2011; Doyle et al., 2010; Goldstein & Kim 2006; Li et al., 2013; Salisbury et al., 2009).

The inclusion of this study to previous ones performed independently in other countries (Jiani, 2017; Hua et al., 2019; Li et al., 2013; Rings et al., 2020; Schroth & McCormack, 2000; Yushan et al., 2020; Zhang et al., 2010), adds cross-cultural evidences to the hypothesis that personality is a relevant factor to understand and predict students' motivation to engage in mobility programs or to choose one destination or another. Nevertheless, the present results also suggest that it is relevant to consider contextual factors such as culture and host universities of destination choices, to control for cultural differences in personality variations found in international students (Hua et al., 2019; Tomich et al., 2003). Accordingly, these results might facilitate academic institutions (IIE, 2018; European Parliament, 2015), as well as educators, advisors and policy makers of study-abroad programs, the analysis and design of more motivating and individualized exchange programs that include the assessment of students' personality, an inclusion that might guide future international students more properly in their decision-making process, in their and in having a more successful and stress-free adaptation to the host university.

### Declaration of Conflicting Interests

No potential conflict of interest is reported by the authors

### Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

### ORCID iD

Anna Muro Rodríguez: <https://orcid.org/0000-0002-1331-9921>  
 Ramon Cladellas: <https://orcid.org/0000-0002-0801-8462>  
 Montserrat Gomà-i-Freixanet: <https://orcid.org/0000-0003-3146-1750>

### References

- Altbach, P. G., & Knight, J. (2007). The Internationalization of Higher Education: Motivations and Realities. *Journal of Studies in International Education*, 11(3-4), 290-305. <http://doi.org/10.1177/1028315307303542>
- Anderson, P. H., Hubbard, A., & Lawton, L. (2015). Student Motivation to Study Abroad and Their Intercultural Development. *Frontiers: The Interdisciplinary Journal of Study Abroad*, 26, 39-52.
- Boneva, B. S., & Frieze, I. H. (2001). Toward a concept of a migrant personality. *Journal of Social Issues*, 57(3): 477-491. <http://doi.org/10.1111/0022-4537.00224>
- Brandenburg, U., Berghoff, S., Taboada, O., Bischof, L., Gajowniczek, J., Gehlke, A., ... & Vancea, M. L. (2014). *The Erasmus Impact Study. Effects of mobility on the skills and employability of students and the internationalisation of higher education institutions*. Luxembourg: Publications Office of the European Union. Retrieved from [http://ec.europa.eu/dgs/education\\_culture/repository/education/library/study/2014/erasmus-impact\\_en.pdf](http://ec.europa.eu/dgs/education_culture/repository/education/library/study/2014/erasmus-impact_en.pdf)
- Brown, M., Boateng, E. A., & Evans, C. (2016). Should I stay or should I go? A systematic review of factors that influence healthcare students' decisions around study abroad programs. *Nurse Education Today*, 39, 63-71. <http://doi.org/10.1016/j.nedt.2015.12.024>
- Chamorro-Premuzic, T., & Furnham, A. (2003). Personality predicts academic performance: Evidence from two longitudinal university samples. *Journal of Research in Personality*, 37(4), 319-338.
- Chust-Hernández, P., Castellano-Rioja, E., Fernández-García, D., & Chust-Torrent, J. I. (2019). Ansiedad ante los exámenes en estudiantes de Enfermería: factores de riesgo emocionales y de sueño. *Ansiedad y Estrés*, 25(2), 125-131.
- Cladellas, R., Muro, A., Vargas-Guzmán, E. A., Bastardas, A., & Gomà-i-Freixanet, M. (2017). Sensation seeking and high school performance. *Personality and Individual Differences*, 117, 117-121. <http://doi.org/10.1016/j.paid.2017.05.049>
- Corbett, A. (2005). *Universities and the Europe of knowledge: ideas, institutions and policy entrepreneurship in European Community higher education policy, 1955-2005*. Palgrave: Macmillan.
- Daly, A. 2011. Determinants of participating in Australian university Student Exchange programs. *Journal of Research in International Education*, 10(1), 58-70. <http://doi.org/10.1177/1475240910394979>
- Deakin, H. (2014). The drivers to Erasmus work placement mobility for UK students. *Children's Geographies*, 12(1), 25-39. <http://doi.org/10.1080/14733285.2013.851063>
- Doyle, S., Gendall, P., Meyer, L. H., Hoek, J., Tait, C., McKenzie, L., & Looipang, A. (2010). An investigation of factors associated with Student participation in study abroad. *Journal of Studies in International Education*, 14(5): 471-490. <http://doi.org/10.1177/1028315309336032>
- Erasmus Barcelona. (2014). *Barcelona Guide for Erasmus and International Students*. Retrieved from <http://erasmusbarcelona.com/erasmus-barcelona-guide/>
- European Parliament. (2015). Internationalisation of Higher Education. Retrieved from [http://www.europarl.europa.eu/RegData/etudes/STUD/2015/540370/IPOL\\_STU\(2015\)540370\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2015/540370/IPOL_STU(2015)540370_EN.pdf)
- European Union. (2014). *Erasmus fact, figures and trends*. Retrieved from [http://ec.europa.eu/education/library/statistics/ay-12-13/facts-figures\\_en.pdf](http://ec.europa.eu/education/library/statistics/ay-12-13/facts-figures_en.pdf)
- Eysenck, H. J. (1990). Biological dimensions of personality. In *Handbook of personality: Theory and research*, edited by L. A. Pervin, 244-276. New York: Guilford.
- Feyen, B., & Krzaklewska, E. (2013). *The ERASMUS Phenomenon-Symbol of a New European Generation?* Frankfurt: Peter Lang Edition.
- Frieze, I. H., & Li, M. (2010). "Mobility and personality." In *The psychology of mobility in a global era*, edited by S. Carr, 87-104. New York: Springer
- Giacalone, R. A. (2007). Taking a red pill to disempower unethical students: Creating ethical sentinels in business schools. *Academy of Management Learning & Education*, 6(4), 534-542. <http://doi.org/10.5465/AMLE.2007.27694953>
- Giannoni-Pastor, A., Gomà-i-Freixanet, M., Valero, S., Kinori, S. F., Tasqué-Cebrián, R., Arguello, J. M., & Casas, M. (2015). Personality as a predictor of depression symptoms in burn patients: A follow-up study. *Burns*, 41(1), 25-32.
- Goldstein, S. B., & Kim, R. I. (2006). Predictors of US college students' participation in study abroad programs: a longitudinal study. *International Journal of Intercultural Relations*, 30(4): 507-521. <http://doi.org/10.1016/j.ijintrel.2005.10.001>
- Gomà-i-Freixanet, M., Valero, S., Puntí, J., & Zuckerman, M. (2004). Psychometric Properties of the Zuckerman-Kuhlman Personality Questionnaire in a Spanish Sample. *European Journal of Psychological Assessment* 20(2), 134-146. <http://doi.org/10.1027/1015-5759.20.2.134>
- Gorenak, S. (2013). Internationalisation and mobility in higher education. *Economic and Social Development*, Book of Proceedings 241.
- Gray, J. A. (1983). Anxiety, personality and the brain. In *Individual Differences and Psychopathology* (pp. 31-43). Academic Press.
- Gray, J. A., & McNaughton, N. (2003). *The Neuropsychology of Anxiety: An Enquiry Into the Function of the Septo-hippocampal System*. Oxford University Press.
- Helmreich, R. L., & Spence, J. T. (1978). *The Work and Family Orientation Questionnaire: An objective instrument to assess components of achievement motivation and attitudes toward family and career*. American Psychol. Ass., Journal Suppl. Abstract Service.

- Hendrickson, B., Rosen, D., & Aune, R. K. (2011). An analysis of friendship networks, social connectedness, homesickness, and satisfaction levels of international students. *International Journal of Intercultural Relations* 35(3), 281–295. <http://doi.org/10.1016/j.ijintrel.2010.08.001>
- Hua, J., Zheng, L., Zhang, G., & Fan, J. (2019). Proactive personality and cross-cultural adjustment: A moderated mediation model. *International Journal of Intercultural Relations*, 72, 36–44.
- Institute of International Education. (2018). *Open Doors Report 2018*. Retrieved from <http://www.iie.org/Research-and-Publications/Open-Doors>
- Jacobone, V., & Moro, G. (2015). Evaluating the impact of the Erasmus programme: skills and European identity. *Assessment & Evaluation in Higher Education* 40(2), 309–328. <http://doi.org/10.1080/02602938.2014.909005>
- Jackson, M., Ray, S., & Bybell, D. (2019). International students in the US: Social and psychological adjustment. *Journal of International Students*, 3(1), 17–28.
- Jiani, M. A. (2017). Why and how international students choose Mainland China as a higher education study abroad destination. *Higher Education*, 74(4), 563–579.
- John, O. P., Naumann, L. P., & Soto, C. J. (2008). Paradigm Shift to the Integrative Big Five Trait Taxonomy. *Handbook of Personality: Theory and Research*, 114.
- Kristof-Brown, A. L., Zimmerman, R. D., & Johnson, E. C. (2005). Consequences of individuals' fit at work: a meta-analysis of person-job, person-organization, person-group, and person-supervisor fit. *Personnel Psychology* 58(2), 281–342. <http://doi.org/10.1111/j.1744-6570.2005.00672.x>
- Kröger, S. (2017). The Europeanisation of interest groups: beyond access, fit and resources. *Journal of European Integration*, 40(1), 17–31. <http://doi.org/10.1080/07036337.2017.1345899>
- Larsen, R. J., Buss, D. M., Wismeijer, A., Song, J., & van den Berg, S. M. (2017). *Personality psychology: Domains of knowledge about human nature*. London: McGraw-Hill.
- Lesjak, M., Juvan, E., Ineson, E. M., Yap, M. H. & Axelsson, E. P. (2015). Erasmus student motivation: Why and where to go? *Higher Education*, 70 (5), 845–865. <http://doi.org/10.1007/s10734-015-9871-0>
- Li, M., Olson, J. E., & Frieze, I. H. (2013). Students' Study Abroad Plans: the Influence of Motivational and Personality Factors. *Frontiers The Interdisciplinary Journal of Study Abroad* 23, 74–89. Retrieved from <http://www.frontiersjournal.com/documents/FrontiersXXIIIIFall2013LIIOLSENFRIEZE.pdf>
- McNamara, K. H. (2010). Fostering sustainability in higher education: a mixed-methods study of transformative leadership and change strategies. *Environmental Practice*, 12 (1), 48–58. <http://doi.org/10.1017/S1466046609990445>
- Muro, A., Gomà-i-Freixanet, M., Adan, A., & Cladellas, R. (2011). Circadian typology, age, and the alternative five-factor personality model in an adult women sample. *Chronobiology international*, 28(8), 690–696.
- Poropat, A. E. (2009). A meta-analysis of the five-factor model of personality and academic performance. *Psychological bulletin*, 135(2), 322.
- Rings, G., & Allehyani, F. (2020). Personality Traits as Indicators of the Development of Intercultural Communication Competence. *International Journal of Curriculum and Instruction*, 12(1), 17–32.
- Rodríguez-Mora, Á., & Díaz, R. L. (2020). Rasgos de personalidad y variables asociadas a la ansiedad escénica musical. *Ansiedad y Estrés*, 26(1), 33–38.
- Salisbury, M. H., Umbach, P. D., Paulsen, M. B., & Pascarella, E. T. (2009). Going global: Understanding the choice process of the intent to study abroad. *Research in Higher Education* 50(2), 119–143. <http://doi.org/10.1007/s11162-008-9111-x>
- Sam, D. L. (2001). Satisfaction with life among international students: An exploratory study. *Social Indicators Research*, 53(3), 315–337. <http://doi.org/10.1023/A:1007108614571>
- Savicki, V. (2013). The effects of affect on study abroad students. *Frontiers: The Interdisciplinary Journal of Study Abroad*, 22, 131–147.
- Schroth, M. L., & McCormack, W. A. (2000). Sensation seeking and need for achievement among study-abroad students. *The Journal of Social Psychology*, 140(4), 533–535. <http://doi.org/10.1080/00224540009600492>
- Stelmack, R. M. (Ed.). (2004). *On the psychobiology of personality: Essays in honor of Marvin Zuckerman*. Oxford: Elsevier.
- Tomich, P. C., McWhirter, J. J., & Darcy, M. U. (2003). Personality and international students' adaptation experience. *International education*, 33(1), 22.
- Vossenteyn, H., Beerkens, M., Cremonini, L., Besançon, B., Foken, N., Leurs, B., & de Wit, H. (2010). *Improving the participation in the ERASMUS programme Study requested by the European Parliament's Committee on Culture and Education*. Brussels: European Parliament.
- Ward, C., Bochner, S., & Furnham, A. (2001). *The psychology of culture shock*. *International Journal of Intercultural Relations*. New York: Routledge.
- Williams, T. R. (2005). Exploring the impact of study abroad on students' intercultural communication skills: Adaptability and sensitivity. *Journal of Studies in International Education*, 9(4), 356–371. <http://doi.org/10.1177/1028315305277681>
- Wismeijer, A., & Gomà-i-Freixanet, M. (2012). Lifeguards and physically risky prosocial groups: A comparison based on personality theory. *International Journal of Selection and Assessment*, 20(2), 251–256.
- Yushan, Z., Cheng, L., & Weihua, T. (2020). The Influence of Personality Tendency of African Students in China on Their Cross-cultural Adaptation—Empirical Analysis of 7 Universities in Changsha City. *The Frontiers of Society, Science and Technology* 2(18) 165–171. <http://doi.org/10.25236/FSST.2020.021825>
- Zhang, J., & Goodson, P. (2011). Predictors of international students' psychosocial adjustment to life in the United States: A systematic review. *International Journal of Intercultural Relations*, 35(2), 139–162. <http://doi.org/10.1016/j.ijintrel.2010.11.011>
- Zuckerman, M. (1994). *Behavioral expressions and biosocial bases of sensation seeking*. Cambridge university press.
- Zuckerman, M. (2005). *Psychobiology of personality*. Cambridge: Cambridge University Press.
- Zuckerman, M., Eysenck, S. B., & Eysenck, H. J. (1978). Sensation seeking in England and America: cross-cultural, age, and sex comparisons. *Journal of Consulting and Clinical Psychology*, 46(1), 139.
- Zuckerman, M., Kuhlman, D. M., Joireman, J., Teta, P., & Kraft, M. (1993). A comparison of three structural models for personality: The Big Three, the Big Five, and the Alternative Five. *Journal of Personality and Social Psychology*, 65(4), 757–768.