

Tilburg University

Building latent class growth trees

Van Den Bergh, Mattis; Vermunt, Jeroen K.

Published in:
Structural Equation Modeling

DOI:
[10.1080/10705511.2017.1389610](https://doi.org/10.1080/10705511.2017.1389610)

Publication date:
2018

Document Version
Publisher's PDF, also known as Version of record

[Link to publication in Tilburg University Research Portal](#)

Citation for published version (APA):
Van Den Bergh, M., & Vermunt, J. K. (2018). Building latent class growth trees. *Structural Equation Modeling*, 25(3), 331-342. <https://doi.org/10.1080/10705511.2017.1389610>

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.



Innovation: The European Journal of Social Science Research

ISSN: 1351-1610 (Print) 1469-8412 (Online) Journal homepage: <https://www.tandfonline.com/loi/ciej20>

Becoming Europeans: the relationship between student exchanges in higher education, European citizenship and a sense of European identity

Christof Van Mol

To cite this article: Christof Van Mol (2018) Becoming Europeans: the relationship between student exchanges in higher education, European citizenship and a sense of European identity, *Innovation: The European Journal of Social Science Research*, 31:4, 449-463, DOI: [10.1080/13511610.2018.1495064](https://doi.org/10.1080/13511610.2018.1495064)

To link to this article: <https://doi.org/10.1080/13511610.2018.1495064>



© 2018 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group



Published online: 10 Jul 2018.



Submit your article to this journal [↗](#)




Article views: 392



View Crossmark data [↗](#)



Becoming Europeans: the relationship between student exchanges in higher education, European citizenship and a sense of European identity

Christof Van Mol  ^{a,b*}

^a*Department of Sociology, Tilburg University, Tilburg, the Netherlands;* ^b*Migration & Migrants, Netherlands Interdisciplinary Demographic Institute / KNAW / UG, the Hague, the Netherlands*

(Received 5 January 2018; final version received 27 May 2018)

Since the initiation of the Erasmus programme in 1987, intra-European student exchanges in higher education are expected to promote a sense of European identity and citizenship among European exchange students. Panel studies grasping students' identification before and after participating in an exchange programme, however, remain remarkably scarce today. Moreover, the few existing studies report conflicting results. This paper adds to this debate, presenting the results of a survey conducted in 2009 and 2010 among non-exchange and exchange students from thirteen European countries, based on a pretest – posttest nonequivalent groups design ($n = 400$). My analyses did not find any statistically significant differences over time within and between the groups of exchange and non-exchange students, and neither between students with similar identification scores at wave 1. Finally, an analysis of the relationship between social network types and identification patterns did also not yield any significant results. Altogether, these findings suggest the impact of European exchange programmes on European citizenship and a sense of European identity is relatively limited.

Keywords: student exchange; Erasmus programme; social interaction; repeated measures; Europe

Introduction

Since the start of the Erasmus programme in 1987, one of the main rationales of European student exchange programmes in higher education has been to promote a sense of European identity and citizenship among its participants (Papatsiba 2006). Also in the newly established Erasmus+ programme (2014–2020), this objective is still included, besides other aims such as fostering intercultural competences or boosting the employability of participating students. In the – at the time of writing – most recent version of the programme guide, for example, it is literally stated that transnational mobility of higher education students and staff should “raise participants’ awareness and understanding of other cultures and countries, offering them the opportunity to build networks of international contacts, to actively participate in society and develop a sense of European citizenship and identity’ (European Commission 2018, 30). This quote clearly shows that from a European policy perspective, it is expected that a sense of European citizenship and identity can

*Email: C.VanMol@uvt.nl

be fostered by bringing young Europeans together. This is exactly where this paper wants to make two main empirical contributions. First, I investigate whether participation in exchange programmes is indeed related to changes in students' identification with Europe, as a European citizen and as a European. Second, I investigate whether social contacts with local, other international and co-national students during the exchange period can act as an explanatory mechanism for explaining eventual changes regarding students' identification patterns. Investigating whether this assumed relationship holds true is important both for policy-making and theory-testing (Wilson 2011), as it allows to test the "transactionalist thesis" (e.g. Deutsch et al. 1957), which postulates that increased interaction across borders has the potential to contribute to the development of collective identities.

In this paper, I focus on three main research questions. First, how do exchange and non-exchange students differ, on average, in the development of their identification with Europe, as a European citizen and as a European over the course of one year? Second, do non-exchange and exchange students who have similar identification scores at the pre-test, differ at the post-test? And third, which interaction patterns abroad are most influential in changing identification patterns among exchange students? By relying on a pretest – posttest nonequivalent groups design including higher education students from thirteen European countries ($n = 400$), the methodological approach adopted in this paper aims to overcome the limitations of repeated cross-sectional research (e.g. King and Ruiz-Gelices 2003; Van Mol 2013) or an exclusive focus on one national departure and/or receiving context (e.g. Llurda et al. 2016; Sigalas 2010; Stoeckel 2016; Wilson 2011), which mostly informed our current understanding of the relationship between student exchanges and the development of a sense of European identity (for an exception, see Mitchell 2015).

The article is structured as follows. In the first section, I provide an overview of the theoretical underpinnings of the main argument of this paper. Next, I review the specific literature on the relationship between student exchanges and the development of a sense of European identity. Subsequently, the methodology is explained. The next section presents and discusses the analyses. Finally, the conclusions are presented and discussed in light of the European integration process.

Background

Theoretical expectations

In the social science literature, the idea that social contact between individuals from a certain group (the "in-group") with people from another group (the "out-group") has the potential to change attitudes towards members of the outgroup was classically formulated by Allport (1954) in the Intergroup Contact Theory. The main argument of Allport's theory is that – under appropriate conditions – prejudices between societal groups can be diminished through personal interaction. From this perspective, one could indeed expect that social interaction between exchange students from different nationalities leads to a reduction in prejudices and acceptance of the other. Nevertheless, different dynamics are at play regarding the context of intra-European student exchanges, as "the European Commission does not fund French students to study in Britain in order to improve their attitudes to Britain, but to improve their attitudes to Europe" (Wilson 2011, 1119). This supranational category involves many more groups than just one in-group and one out-group that come into contact. The "transactionalist thesis" (Deutsch et al. 1957; Fligstein 2008; Kuhn 2015; Lijphart 1964) postulates a similar argument as the Intergroup Contact Theory, but particularly focuses on the idea that increased contacts between

citizens from different countries would foster the development of collective identities. From this viewpoint and in line with existing European policy rhetoric, establishing contacts with other European students throughout a student exchange has the potential to enhance the development of a sense of European identity and citizenship among the participants. Nevertheless, empirical research into the transactionalist thesis is confronted with considerable methodological challenges, in particular how an abstract (and maybe non-existent) concept like “European identity” can be adequately measured and what it can tell us – in substantive terms – about European individuals and society from a behavioural point of view (Favell 2005).

This brings us to the multidimensionality of collective identities (Cram 2012; Herrmann and Brewer 2004): besides the recognition of individuals to be members of a group of “Europeans” (cognition), they should also assign meaning (evaluation) and emotional value (affect) to that group (Mitchell 2015, 331). In its most advanced form, this would mean Europeans should feel solidary to other group members (other Europeans), and act upon these feelings when needed. This has been named the “conative” or “utilitarian” element of European identity (Kaina and Karolewski 2013; Nissen 2003). Recent research into this conative component, however, suggests this highest form of identity is rarely attained to at present (Van Mol, de Valk, and van Wissen 2015). Unfortunately, I do not dispose of data with which to measure students’ solidarity intentions. Due to these data limitations, I focus on students’ expression of self-identity, whereby I follow the general distinction between identification *as* a European (the cognitive component of collective identities), and identification *with* Europe (the affective component of collective identities) adopted by other scholars (e.g. Cram 2012; Mitchell 2015). As argued by Cram (Cram 2012), it is important to distinguish between these two components of collective identities: one can identify as a European without identifying with Europe or vice versa.

However, an exclusive focus on the cognitive and affective components of European identity does not allow to distinguish the different internal meanings ascribed to collective identities by individuals (Huddy 2001). In this paper, I therefore also differentiate between a “civic” or political (sense of citizenship) and a cultural (sense of communal identity) component of European identity (Bruter 2005), which I here consider as subcomponents of the cognitive component. After all, both subcomponents refer to cognitions of being member of a group, but these groups are differently defined. The civic subcomponent thereby refers to the degree individuals feel “they are citizens of a European political system, whose rules, laws, and rights have an influence on their daily life” (Bruter 2003, 1155). From this perspective, it can be expected that by traveling abroad, exchange students might experience more directly the influence of Europe on their daily life through, for example, the right of freedom of movement and the possibility of paying with a single coin in different EU-member states (e.g. Van Mol 2014). The cultural subcomponent, on its turn, refers to self-identification as a European as well as the identification of individuals with other Europeans, “regardless of the nature of the political system” (Bruter 2003, 1156). It hence points to identification with an “imagined community” (cf. Anderson [2006] 1983) beyond the European Union. International student exchanges might stimulate such identification as European exchange students might not only meet students from EU member states. This distinction is also made in the objectives of the Erasmus+ programme, whereby “European citizenship” and a “sense of European identity” are mentioned separately (see the quote in the introduction). Consequently, I take this distinction also into account in this paper when tapping into the cognitive component of collective identities, whereby I distinguish between students’ identification as a European (i.e. the cultural subcomponent) and as a European citizen (i.e. the civic subcomponent).

Previous studies on student exchanges and the development of a sense of European identity

For the sake of convenience, previous research on the assumed causal relationship between student mobility and European identity can be grouped into cross-sectional research and panel studies.

Cross-sectional studies on the impact of student exchanges on the development of a sense of European identity generally suggest that exchange students become more European throughout their exchange (Ambrosi 2013; Jacobone and Moro 2015; King and Ruiz-Gelices 2003; Mitchell 2012). Of note, the few existing comparative studies adopting a cross-sectional design also suggested this relationship is highly dependent on the specific national contexts students originate from (Van Mol 2013, 2014).

Panel studies, in contrast, report rather conflicting evidence. Two studies which focused on the UK as a country of origin and destination (Sigalas 2010; Wilson 2011) and a study in Spain (Llurda et al. 2016) suggested student exchanges do not significantly impact students' identification patterns regarding Europe. Mitchell (2015), in contrast, finds a significant effect of student exchanges among a sample of British, French, German, Italian and Spanish students. Her results on British students, however, confirmed the two previously mentioned studies, namely that no significant changes in European identification can be observed over the exchange period, adding evidence to the idea that this relationship might be context dependent. In addition, her study indicated that social interaction with other international students might be constitutive in changes in identification with Europe (the affective component of collective identities) and as a European (the cognitive component of collective identities), whereas social interaction with local students seems to affect only the affective component of European identity. Of note, socializing with co-nationals had a significant negative effect on the affective component. Finally, the most advanced panel study to date is probably the extensive three-wave panel survey of German students of Stoeckel (2016). Most of his findings were largely in line with those of Mitchell. First, his study indicated that student exchanges have a particular positive impact on students with lower levels of European identity at the moment of departure. Second, his analysis also suggests that it is particularly social interaction with other international students that contributes to a sense of European identity. His findings contradict those of Mitchell, however, regarding the role of social contacts with local students, for which he does not find any significant relationship.

Finally, the studies of Van Mol (2013, 2014), and Wilson (2011) also suggest there is a selection effect: students who participate in international exchange programmes would already be more pro-European compared to those who do not move *before* going abroad. In Wilson's study, for example, students who participated in the Erasmus programme scored higher on all dependent variables – European versus national identity, attachment to Europe, likely to vote for a pro-European party and favour more political union in Europe – before participation, and in the follow-up survey these differences logically persisted.

Hypotheses

Drawing on the literature reviewed above, I test four hypotheses on the relationship between student exchanges and collective identity. First, I expect exchange students to significantly increase their identification with Europe (H1a), as a European (H1b) and as a European citizen (H1c) over their exchange experience compared to the control group

of non-exchange students. This differentiation is based on the distinction between cognitive and affective components of European identity described above. Second, I expect a selection effect, namely that students who participate in exchange programmes already score higher on the identification questions before departure compared to their non-participating peers (H2). Although the studies of Mitchell (2015) and Stoeckel (2016) find no statistically significant differences with the control group of no-mobile students before departure regarding their levels of European identity, their descriptive statistics indicate a slightly higher initial score for prospective exchange students (see Mitchell 2015, Table 2, and Stoeckel 2016, supporting information). Third, I expect exchange programmes to be particularly relevant for increasing identification among students who score lower on the identification questions before their departure (H3). Finally, I expect that social contact with other international students will be most constitutive in explaining changes in identification (H4).

Data, measures and methods

Sample

This study is based on two waves of an online survey administered by the principal author to higher education students (bachelor and master level) from thirteen European countries in 2009 and 2010, and follows a pretest-posttest nonequivalent control group design (NEGD). In each country, the higher education institutions with the largest number of outgoing Erasmus students were contacted, in order to collect a purposive sample of higher education students whereby exchange students are oversampled compared to the general student population. At least one higher education institution in each case-country participated in the study. Students were invited through the dean's office, as this shows to increase the likelihood of participation (Bradshaw Durrant and Rasmussen Dorius 2007). The response rates for the different participating countries are all situated between 10% and 20%. Although these response rates are rather low, they are not uncommon for web surveys (Fricker 2008; Muñoz-Leiva et al. 2010; Smyth and Pearson 2011), especially among an over-surveyed group such as higher education students (Sax, Gilmartin, and Bryant 2003; Van Mol 2017). Students could complete the survey in three languages, namely Dutch, English or Spanish. This limited range of languages was the result of budget constraints, and also led to oversampling of students from Belgium and the Netherlands.

After completion of the data collection, foreign students (with a nationality different from the country of their home university) and second generation migrants were filtered out of the database, as their identification patterns might differ from other students because of their a priori exposure to an international environment. Finally, the database was limited the analysis to students that went on exchange to another European country, as exchange experiences in non-European countries might lead to different – albeit interesting – identification patterns. The final sample consists of 400 higher education students from Austria, Belgium, France, Iceland, Italy, the Netherlands, Norway, Poland, Portugal, Romania, Slovenia, Spain and Sweden. This sample could be divided into a group of exchange students ($n=92$) and a control group of non-exchange students ($n=308$). As the questionnaires were almost identical at the two waves, the responses to the two questionnaires can be taken as evidence of changes in identification over the course of one year. Although the final sample is relatively small, it is comparable to the samples of outgoing students and control groups of non-exchange students in similarly designed studies (e.g.

Sigalas 2010; Wilson 2011). Nevertheless, it is important to keep in mind this study relies on a nonprobability sample, making it impossible to make valid inferences to the total student population of the studied countries. An overview of descriptive statistics of the sample can be consulted in Table 1.

Measures

Dependent variables

Identification patterns were measured by three dependent variables. First, affective identification was measured by the question “On a scale from 1 to 7, how would you say to

Table 1. Descriptive statistics sample.

Variable	Mean	<i>s</i>	Min.	Max.	<i>n</i>
Identification with Europe ¹	0.00	1.26	−5	4	370
Identification as a European citizen ¹	−0.02	0.82	−2	2	366
Identification as a European ¹	−0.04	0.81	−3	3	366
Social interaction local students	3.69	1.15	1	5	83
Social interaction international students	4.53	0.75	2	5	83
Social interaction co-national students	3.04	1.34	1	5	83
Age	23.35	3.94	19	53	400
Variable	Categories	%	Min.	Max.	<i>n</i>
Group	Control group	77.0	0	1	308
	Exchange students	23.0			92
Gender	Male	33.3	0	1	133
	Female	66.8			267
Youth travel < 18	0	9.3	0	5	37
	1–5 times	46.8			187
	6–10 times	21.3			85
	11–15 times	9.0			36
	16–20 times	5.8			23
	More than 20 times	8.0			32
Education mother	No higher education	74.5	0	1	298
	Higher education	25.5			102
Education father	No higher education	69.3	0	1	277
	Higher education	30.8			123
Respondent lived abroad during youth?	No	93.0	0	1	372
	Yes	7.0			28
Country	Austria	11.8	1	14	47
	France	1.3			5
	Iceland	1.5			6
	Italy	8.8			35
	Netherlands	22.3			89
	Norway	3.0			12
	Poland	6.8			27
	Portugal	4.8			19
	Romania	0.8			3
	Slovenia	2.3			9
	Spain	0.5			2
	Sweden	1.0			4
	Belgium	35.3			141
Unknown	0.3			1	

¹Reported statistics are gain scores (score wave 2 – score wave 1).

identify with ...?”, whereby students could rate their identification with their town/city, region, country, Europe, and the world, whereby 1 indicated “not at all” and 7 “very much”. For the purposes of this paper, logically respondents’ answers to the level “Europe” are used. Second, the cultural component of students’ cognitive identification is measured by the question “In general, would you consider yourself European?”, which students could rate on a 5-point-Likert scale, ranging from 1 (not at all) to 5 (very much). Third, the civic component of students’ cognitive identification is measured by the question “In general, would you consider yourself a citizen of Europe?”, which students could rate on a 5-point-Likert scale, ranging from 1 (not at all) to 5 (very much). For the stepwise OLS regression analyses, gain scores (subtracting the scores of wave 1 from the scores of wave 2) are used.

Independent variables

For a first set of analyses, the main independent variable is a dichotomous variable indicating whether a student participated in an international exchange programme between wave 1 and wave 2 or not (0 = control group, 1 = exchange students). For a second set of analyses, the types of social networks students mainly relied on during the exchange period were measured by three variables, based on the question “With whom did you socialize abroad?”. Students could rate this question on a 5-point-Likert scale, ranging from 1 (not at all) to 5 (very much), indicating how much they interacted with people from the host country, from the home country and other foreign students.

Control variables

Several variables that have been indicated to correlate with European identity are included as control variables in the regression analyses. First, age is measured by a continuous variable, as younger people show to feel more European (Citrin and Sides 2004; Fligstein 2008). Second, a variable indicating the number of independent travels a respondent made (alone or with friends) before the age of 18 because European identification might be exponential, i.e. the more one travels to other European countries, the higher their European identification (Fligstein 2008). This variable ranges from 0 (none) to 5 (more than 20 times). Third, gender is included as a dichotomous variable (0 = male, 1 = female), as women appear to be less enthusiastic about Europe (Fligstein 2008; Nelsen and Guth 2000; Recchi 2015). Fourth, I included two dichotomous variables indicating parental education (0 = no higher education, 1 = higher education) because highly educated individuals would be more likely to identify as Europeans (Citrin and Sides 2004; Fligstein 2008; Kuhn 2012; Recchi 2015). Finally, I included a dichotomous variable indicating whether the respondent lived abroad (0 = no, 1 = yes).

Analytic strategy

Different methods are used to address the three central research questions of this paper. For the first research question paired sample t-tests of group means are used. Such analysis allows to investigate differences in gains between the control group and exchange students. Reliability-corrected analysis of covariance (ANCOVA) models are used for addressing the second research question, namely whether exchange students who start with the same score as some students in the control group at the pre-test differ with these control group students at the post-test. Pretests are generally not measured without error (Oakes

and Feldman 2001), and these models correct for the bias that occurs as a result of such measurement error in a nonequivalent groups design. As a robustness check, I calculated corrected scores with both higher (Cronbach's Alpha) and lower bound (test-retest) estimates of reliability (Trochim 2017). As the results were largely identical, in the paper I report the corrected models based on Cronbach's Alpha. For the third research question on social interaction patterns, stepwise OLS regression analysis is used, using gain scores (the difference between the score at wave 1 and wave 2) on the different identification questions as the dependent variables. Bivariate correlations were used previous to running the regression analysis to examine interrelationships between variables, revealing only weak correlations. Subsequently, I tested for multicollinearity. Tolerance values (ranging from .664 to .999) and VIF values (ranging from 1.001 to 1.507) were all within the acceptable limits (Pan and Jackson 2007; Tabachnik and Fidell 2001), indicating no multicollinearity between the variables.

Results

Within and between-group differences in the development of identification patterns

Figure 1 provides the mean responses for exchange and non-exchange students on the three dependent variables at wave 1 and wave 2. As can be observed, our sample scores relatively high on the three identification measures, suggesting higher education students already are a positively selected group regarding their identification with Europe, as a European and as a European citizen. However, no notable increase can be observed for neither of the two groups on the three variables, suggesting quite stable trends across the two groups. This suggests student exchanges do not have a large impact on identification levels. Of note, the figure also shows that exchange students score consistently higher on all three dependent variables previous and after their participation. This suggests exchange programmes mainly attract students who are already more prone to identify with Europe, as a European and as a European citizen. Figure 1, however, does not reveal whether any statistically significant changes occur within groups over time. Paired sample t-tests of group means are helpful for investigating such within groups differences. As can be observed in Table 2, no statistically significant changes occurred over the course of one year for all dependent variables, which suggests that identification processes are relatively stable within the two groups over this timespan.

Altogether, these results falsify hypothesis 1, namely that exchange programmes have a significant impact on identification levels of students.

Although the previous analysis indicates no changes within the groups over time, it does not indicate between group differences, i.e. whether the identification scores of exchange students and the control group of non-exchange students are significantly different in statistical terms – although exchange students score higher on all dependent

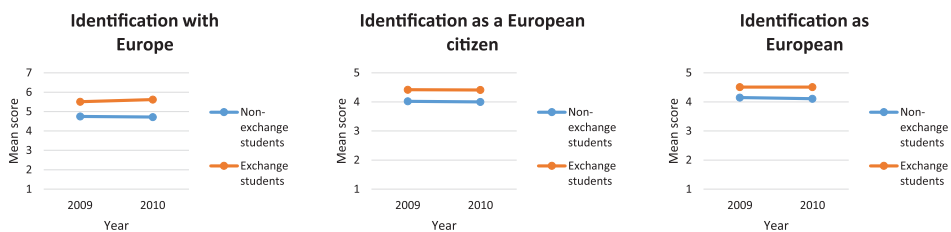


Figure 1. Mean responses of students at wave 1 and wave 2.

Table 2. Within group differences: Paired sample *t*-tests of group means.

		Non-mobile (<i>n</i> = 289) Mean	Mobile (<i>n</i> = 81) Mean
Identification with Europe	Wave 1	4.75 (1.37)	5.51 (1.12)
	Wave 2	4.72 (1.41)	5.62 (1.25)
Identification as a European citizen	Wave 1	4.02 (1.01)	4.42 (0.72)
	Wave 2	4.00 (0.99)	4.41 (0.74)
Identification as a European	Wave 1	4.15 (0.92)	4.51 (0.71)
	Wave 2	4.11 (0.93)	4.51 (0.55)

Notes: Standard deviation in parentheses.
p* < .05; *p* < .01; ****p* < .001.

variables. Therefore, Table 3 shows an independent *t*-test allows to investigate this scenario. For the two time points, the difference between the two groups is statistically significant, suggesting that those who participate in exchange programmes are scoring significantly higher regarding their identification with Europe, as a European and as a European citizen before and after their exchange. As such, these results confirm hypothesis 2, namely that exchange students are already a pre-selected group regarding their identification patterns.

Differences between students with a similar initial score across groups

In a next step, I investigated whether any differences can be detected over time between students who have the same initial score at wave 1 with reliability-corrected analysis of covariance (ANCOVA) models. As Table 4 reveals, no significant differences could be detected here neither regarding the effect of exchanges. This again suggests a negligible impact of exchange programmes in higher education on the development of European citizenship and a sense of European identity. As such, these results do not confirm hypothesis 3, whereby I expected European exchanges to be particularly relevant for students who initially exhibit lower levels of European identity at wave 1.

Social interaction patterns

Whereas the previous analyses already indicated a large selection effect of European exchange programmes and suggested a limited impact of exchange programmes on European identity formation, in this final empirical section I focus on the sample of exchange

Table 3. Between group differences: *t*-test for identification levels by mobility status.

	Year	Mean difference	95% CI for Mean Difference	<i>t</i>	df
Identification with Europe	2009	-0.64	-0.95, -0.34	-4.12***	398
	2010	-0.89	-1.23, -0.55	-5.17***	368
Identification as a European citizen	2009	-0.34	-0.56, -0.12	-3.05**	398
	2010	-0.41	-0.64, -0.18	-3.44**	364
Identification as a European	2009	-0.33	-0.53, -0.13	-3.28**	398
	2010	-0.40	-0.62, -0.19	-3.69***	364

Notes: **p* < .05; ***p* < .01; ****p* < .001.

Table 4. Reliability-corrected analysis of covariance.

	Identification with Europe				Identification as a European citizen				Identification as a European			
	SS	df	MS	F	SS	df	MS	F	SS	df	MS	F
2009 measurement	223.81	1	223.81	173.59***	124.51	1	124.51	229.38***	87.65	1	87.65	173.46***
Exchange	0.62	1	0.62	0.48	0.01	1	0.01	0.03	0.15	1	0.15	0.29
Error	473.18	367	1.29		197.04	363	0.54		183.44	363	0.51	
R^2	.37				.41				.35			

Notes: Reliability correction based on Cronbach's alpha. *P*-values were adjusted using the Bonferroni method.

students only. I thereby investigate whether substantial differences in gain scores exist according to the social network composition of students abroad. As can be observed in [Table 5](#), the degree of contact with different types of social networks do not explain eventual changes in exchange students' identification patterns, falsifying hypothesis 4. In addition, I conducted several interaction analyses to investigate whether interaction patterns might be important depending on the degree of identification before departure, but also here no significant effects are observed (results are available upon simple request to the author).

Conclusion

In this paper, I aimed to investigate one of the main objectives of the Erasmus programme, namely to foster a sense of European identity and citizenship among its participants. It is commonly expected that social interaction with students from other European countries would be constitutive in developing/changing identification patterns. To this end, a pretest – posttest nonequivalent groups design was applied to a small sample of higher education students from thirteen European countries. A differentiation was made between the cognitive and affective component of collective identities, as well as between a civic and cultural sub-component of the cognitive component. Based on the presented analyses, several conclusions can be drawn.

First, the analysis clearly shows no relationship between participation in student exchanges and changes in identification with Europe, as a European and as a European citizen for our sample. As such, the presented findings concur with previous longitudinal studies conducted in Spain and the UK (Llurda et al. 2016; Sigalas 2010; Wilson 2011) and contrast with recent findings in other contexts (Mitchell 2015; Stoeckel 2016). This finding suggests students' identification patterns are relatively stable over time, and immune to experiences in other European countries. Furthermore, I expected student exchanges to be particularly useful for students who before departure score lower regarding their identification with Europe, as a European and as a European citizen. However, this was also not confirmed by our analysis. It is possible this finding is the result of the specific sample this study relied on, consisting of higher education students. After all, it has been well established in the literature that more highly educated individuals are more likely to identify with Europe, as a European and as a European citizen (e.g. Citrin and Sides 2004; Recchi 2015). The descriptive findings of this study indeed showed that our sample – irrespective of being an exchange or non-exchange student – is rather biased towards a high degree of identification with Europe, as a European and as a European citizen.

Second, in contrast to the studies of Mitchell (2015) and Stoeckel (2016), my analysis did also not confirm the idea that social interaction with international students would be most constitutive in changing existing identification patterns. In the analysis, I distinguished between social interaction with local, co-national and other international students during the exchange period, but for none of these interaction patterns significant relationships were detected. Why this is the case remains an open question. A possible explanation might be that the measures I used are too broad, and as such unable to capture the subjective importance specific persons within these networks have on individuals. Future research that is able to distinguish more clearly between a “core friendship network” abroad and more loose ties might provide a great avenue forward to improve our understanding of the mediating role social networks might play (or not) in the development of identification patterns among exchange students. Another possibility is that social interaction with international students might have different impacts depending upon the

Table 5. Stepwise OLS regression analysis on identification with Europe, as a European citizen and as a European (gain scores).

	Identification with Europe		Identification as a European citizen		Identification as a European	
	Model I Social interaction	Model II Full Model	Model III Social interaction	Model IV Full Model	Model V Social interaction	Model VI Full Model
Intercept	.301 (1.240)	-.909 (2.227)	.173 (.594)	-.009 (1.062)	.093 (.654)	.152 (1.168)
Interaction						
Local students	-.188 (.130)	-.213 (.139)	-.042 (.062)	-.056 (.066)	-.047 (.068)	-.043 (.073)
Home country students	.049 (.110)	.044 (.121)	.023 (.053)	.022 (.058)	.023 (.058)	.031 (.063)
International students	.078 (.207)	.205 (.227)	-.019 (.099)	.030 (.108)	.003 (.109)	-.013 (.119)
Age		.027 (.071)		.004 (.034)		.009 (.037)
<i>N</i> independent travels < 18		.046 (.071)		-.012 (.053)		-.073 (.058)
Gender (ref: female)		-.186 (.339)		-.281 (.162)		-.154 (.178)
Higher education mother (ref: no)		-.443 (.390)		-.061 (.186)		.168 (.204)
Higher education father (ref: no)		.414 (.361)		.128 (.172)		-.193 (.189)
Lived abroad < 18 (ref: no)		.478 (.834)		.005 (.397)		.129 (.437)
Observations	79	79	79	79	79	79
R^2	.04	.08	.01	.06	.01	.06
ΔR^2	.04	.04	.01	.05	.01	.05

Notes: Reported values are unstandardized coefficients with standard errors between parentheses. *** < .001; ** < .01; * < .05.

national origin. After all, the possibilities for developing a sense of European identity appear to be quite context-specific, revealing the localized nature of collective identities (Van Mol 2013). The specific design of this study whereby students from different countries are pooled might level out such differences. As such, the diverging findings between this study and those from Mitchell (2015) and Stoeckel (2016) indicate the need for more international comparative research, whereby the link between student exchanges and the development of a sense of European identity is simultaneously investigated in several countries – preferably countries which are different in terms of overall support for the European Union – and with samples that are generalizable to the entire student population of these countries.

Finally, several limitations of this paper should be acknowledged. First, although being comparable to other panel studies on the subject (except those of Mitchell (2015) and Stoeckel (2016)), the sample size of this study is quite small. As such, the findings of this paper cannot be extrapolated to broader populations beyond the sample. Second, because of the small sample size, I could not analyse whether any differences existed between the students in terms of nationalities. Nevertheless, as levels of European identification vary across the continent (Recchi and Salamońska 2014) and also among higher education students (Van Mol 2014, 2013), a more fine-grained analysis with larger sample sizes for different nationalities is desirable. Third, the data used for this paper did not allow to investigate the behavioural consequences of collective identities. The identification patterns of higher education students with Europe, as a European citizen and as a European, albeit being interesting, only shed light on the cognitive and affective components of collective identities. Nevertheless, it would be highly informative to learn more about how specific identification patterns translate into behavioural terms and attitudes.

In conclusion, for our specific sample, no significant relationships could be detected between participation in intra-European student exchanges and the development of a sense of European identity and citizenship. The findings reported in this study add empirical evidence to the idea that higher education students are already a group that is more prone to display higher levels of European identity, and that exchange students are even more likely to have a positive stance towards Europe. All in all, the results presented for our sample thus suggest the other aims and objectives of intra-European exchange programmes such as Erasmus might be prioritized in policy discourse and programme guides, as the main gain of student exchanges might lie on these other outcomes such as increased language skills, intercultural competences and other transversal skills.

Acknowledgments

This research project has been supported by an individual research grant of the Research Foundation - Flanders (2009-2013). Thanks to the editors and the anonymous reviewer for their remarks and suggestions.

Funding

This work was supported by Research Foundation - Flanders.

ORCID

Christof Van Mol  <http://orcid.org/0000-0001-9275-101X>

References

- Allport, G. W. 1954. *The Nature of Prejudice*. Reading: Addison-Wesley.
- Ambrosi, Gioia. 2013. "The Influence of the ERASMUS Programme on Strengthening a European Identity: Case Studies of Spanish and British Exchange Students." In *The ERASMUS Phenomenon - Symbol of a New Generation?* edited by Feyen Benjamin and Krzaklewska Ewa, 143–162. Frankfurt am Main: Peter Lang.
- Anderson, Benedict. [2006] 1983. *Imagined Communities. Reflections on the Origin and Spread of Nationalism*. London & New York: Verso.
- Bradshaw Durrant, Marie, and Cassandra Rasmussen Dorius. 2007. "Study Abroad Survey Instruments: A Comparison of Survey Types and Experiences." *Journal of Studies in International Education* 11 (1): 33–53.
- Bruter, M. 2003. "Winning Hearts and Minds for Europe: The Impact of News and Symbols on Civic and Cultural European Identity." *Comparative Political Studies* 36 (10): 1148–1179.
- Bruter, Michael. 2005. *Citizens of Europe? The Emergence of a Mass European Identity*. Basingstoke & New York: Palgrave Macmillan.
- Citrin, Jack, and John Sides. 2004. "More than Nationals: How Identity Choices Matters in the New Europe." In *Transnational Identities. Becoming European in the EU*, edited by Richard K. Herrmann, Thomas Risse, and Marilynn B. Brewer, 161–185. Lanham & Oxford: Rowman & Littlefield Publishers.
- Cram, Laura. 2012. "Does the EU Need a Navel? Implicit and Explicit Identification with the European Union." *JCMS: Journal of Common Market Studies* 50 (1): 71–86. doi:10.1111/j.1468-5965.2011.02207.x.
- Deutsch, Karl W., Sidney A. Burrell, Robert A. Kann, Maurice Lee, Martin Lichterman, Raymond E. Lindgren, Francis L. Loewenheim, and Richard W. Van Wagenen. 1957. *Political Community and the North Atlantic Area. International Organization in the Light of Historical Experience*. Princeton: Princeton University Press.
- European Commission. 2018. *Erasmus+ Programme Guide. Version 1*. Brussels: Erasmus+.
- Favell, Adrian. 2005. "Europe's Identity Problem." *West European Politics* 28 (5): 1109–1116.
- Fligstein, Neil. 2008. *Euroclash. The EU, European Identity, and the Future of Europe*. New York: Oxford University Press.
- Fricker, Ronald D. 2008. "Sampling Methods for Web and E-Mail Surveys." In *The SAGE Handbook of Online Research Methods*, edited by Fielding Nigel, Raymond M Lee, and Blank Grant, 195–216. Los Angeles, London, New Delhi & Singapore: SAGE.
- Herrmann, Richard K., and Marilynn B. Brewer. 2004. "Identities and Institutions: Becoming European in the EU." In *Transnational Identities. Becoming European in the EU*, edited by Richard K Herrmann, Thomas Risse, and Marilynn B Brewer, 1–22. Lanham, Boulder, New York, Toronto & Oxford: Rowman & Littlefield Publishers, Inc.
- Huddy, Leonie. 2001. "From Social to Political Identity: A Critical Examination of Social Identity Theory." *Political Psychology* 22 (1): 127–156.
- Jacobone, Vittoria, and Giuseppe Moro. 2015. "Evaluating the Impact of the Erasmus Programme: Skills and European Identity." *Assessment & Evaluation in Higher Education* 40 (2): 309–328. doi:10.1080/02602938.2014.909005.
- Kaina, Viktoria, and Ireneusz Pawel Karolewski. 2013. "EU Governance and European Identity." *Living Reviews in European Governance* 8 (1): 1–59.
- King, Russell, and Enric Ruiz-Gelices. 2003. "International Student Migration and the European 'Year Abroad': Effects on European Identity and Subsequent Migration Behaviour." *International Journal of Population Geography* 9 (3): 229–252. doi:10.1002/ijpg.280.
- Kuhn, Theresa. 2012. "Why Educational Exchange Programmes Miss Their Mark: Cross-Border Mobility, Education and European Identity." *JCMS: Journal of Common Market Studies* 50 (6): 994–1010. doi:10.1111/j.1468-5965.2012.02286.x.
- Kuhn, Theresa. 2015. *Experiencing European Integration. Transnational Lives and European Identity*. Oxford: Oxford University Press.
- Lijphart, Arend. 1964. "Tourist Traffic and Integration Potential." *JCMS: Journal of Common Market Studies* 2 (3): 251–262. doi:10.1111/j.1468-5965.1964.tb01086.x.
- Llurda, Enric, Lúdia Gallego-Balsà, Clàudia Barahona, and Xavier Martin-Rubió. 2016. "Erasmus Student Mobility and the Construction of European Citizenship." *The Language Learning Journal* 44 (3): 323–346. doi:10.1080/09571736.2016.1210911.

- Mitchell, Kristine. 2012. "Student Mobility and European Identity: Erasmus Study as a Civic Experience?" *Journal of Contemporary European Research* 8: 490–518.
- Mitchell, Kristine. 2015. "Rethinking the 'Erasmus Effect' on European Identity." *JCMS: Journal of Common Market Studies* 53 (2): 330–348. doi:10.1111/jcms.12152.
- Muñoz-Leiva, Francisco, Juan Sánchez-Fernández, Francisco Montoro-Ríos, and José Angel Ibáñez-Zapata. 2010. "Improving the Response Rate and Quality in Web-Based Surveys Through the Personalization and Frequency of Remainder Mailings." *Qualitative and Quantitative* 44: 1037–1052. doi:10.1007/s11135-009-9256-5.
- Nelsen, Brent F., and James L. Guth. 2000. "Exploring the Gender Gap: Women, Men and Public Attitudes Toward European Integration." *European Union Politics* 1 (3): 267–291. doi:10.1177/1465116500001003001.
- Nissen, Sylke. 2003. "Who Wants Enlargement of the EU? Support for Enlargement among Elites and Citizens in the European Union." *Sociologický Časopis / Czech Sociological Review* 39 (6): 757–772.
- Oakes, J. M., and H. A. Feldman. 2001. "Statistical Power for Nonequivalent Pretest-posttest Designs: The Impact of Change-score Versus ANCOVA Models." *Evaluation Review* 25 (1): 3–28.
- Pan, Y., and R. T. Jackson. 2007. "Ethnic Difference in the Relationship between Acute Inflammation and Serum Ferritin in US Adult Males." *Epidemiology and Infection* 136 (3): 421–431. doi:10.1017/S095026880700831X.
- Papatsiba, Vassiliki. 2006. "Making Higher Education More European through Student Mobility? Revisiting EU Initiatives in the Context of the Bologna Process." *Comparative Education* 42 (1): 93–111.
- Recchi, Ettore. 2015. *Mobile Europe. The Theory and Practice of Free Movement in the EU*. Basingstoke: Palgrave Macmillan.
- Recchi, Ettore, and Justyna Salamońska. 2014. "Keeping the European Faith. Collective Identity Before and After the Euro-crisis." *Partecipazione e Conflitto* 7 (3): 509–531. doi:10.1285/i20356609v7i3p509.
- Sax, Linda J., Shannon K. Gilmartin, and Alyssa N. Bryant. 2003. "Assessing Response Rates and Nonresponse Bias in Web and Paper Surveys." *Research in Higher Education* 44 (4): 409–432. doi:10.1023/A:1024232915870.
- Sigalas, Emmanuel. 2010. "Cross-border Mobility and European Identity: The Effectiveness of Intergroup Contact During the ERASMUS Year Abroad." *European Union Politics* 11 (2): 241–265. doi:10.1177/1465116510363656.
- Smyth, Jolene D, and Jennie E Pearson. 2011. "Internet Survey Methods: A Review of Strengths, Weaknesses, and Innovations." In *Social and Behavioral Research and the Internet. Advances in Applied Methods and Research Strategies*, edited by Das Marcel, Ester Peter, and Kaczmirek Lars, 11–44. New York & London: Routledge.
- Stoeckel, Florian. 2016. "Contact and Community: The Role of Social Interactions for a Political Identity." *Political Psychology* 37 (3): 431–442. doi:10.1111/pops.12295.
- Tabachnik, Barbara G., and Linda S. Fidell. 2001. *Using Multivariate Statistics*. Boston et al.: Pearson Education Limited.
- Trochim, William M. K. 2017. "Nonequivalent Groups Analysis." Web Center for Social Research Methods. Accessed July 31, 2017. <https://www.socialresearchmethods.net/kb/statnegd.php>.
- Van Mol, Christof. 2013. "Intra-European Student Mobility and European Identity: A Successful Marriage?" *Population, Space and Place* 19 (2): 209–222. doi:10.1002/psp.1752.
- Van Mol, Christof. 2014. *Intra-European Student Mobility in International Higher Education Circuits: Europe on the Move*. Basingstoke: Palgrave Macmillan.
- Van Mol, Christof. 2017. "Improving Web Survey Efficiency: The Impact of an Extra Reminder and Reminder Content on Web Survey Response." *International Journal of Social Research Methodology* 20 (4): 317–327. doi:10.1080/13645579.2016.1185255.
- Van Mol, Christof, Helga A. G. de Valk, and Leo J. G. van Wissen. 2015. "Falling in Love with(in) Europe: European Bi-national Love Relationships, European Identification and Transnational Solidarity." *European Union Politics*. doi:10.1177/1465116515588621.
- Wilson, Iain. 2011. "What Should We Expect of 'Erasmus Generations'?" *JCMS: Journal of Common Market Studies* 49 (5): 1113–1140. doi:10.1111/j.1468-5965.2010.02158.x.