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**Academic and social integration of Master students: a cross-institutional comparison between Dutch and international students**

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In Europe there is a growing concern among educators and policy makers that students are not well-prepared to start a Master program. This paper draws on longitudinal research conducted at four universities in the Netherlands and a follow-up exploratory purposively chosen from one of the study sites. In Study 1, differences in academic performance between 146 Dutch and 215 international students were identified by focussing on their levels of academic and social integration. Afterwards, students from 53 countries were clustered into ten geographical clusters using Hofstede culture difference scores. In Study 2, a questionnaire about perceived transitional barriers was completed by 159 Master students at one of the four institutes.

The results of Study 1 indicate that academic and social integration scores of Western European and domestic students were comparable. Eastern European, non-European and in particular Southern Asian and Confucian Asian Master students had significantly lower academic and social integration scores. Follow-up regressions showed that academic adjustment is the main predictor of study-performance, irrespective of cultural differences. Study 2 indicates that half of the Master students experienced a substantial change in their learning strategies, language and research methods. We encourage UK higher educational institutes to conduct more research on whether the specific needs of international Master students are sufficiently supported.

Keywords: International students, Master, Academic integration, Social integration, student transition, cultural differences.

In an increasingly globalised world, businesses are looking for excellent graduates with international experience while at the same time attracting lifelong learners with appropriate working experience and state-of-the-art knowledge and skills (Pence & Wulf, 2009; Van den Bosch, 2008). Given the current slow-down of the world economy and record-high unemployment amongst graduates, students are looking for opportunities to gain international experience in order to obtain a competitive edge over other graduates. As a result, an increasing number of students are studying abroad in order to acquire international experience and increase their attractiveness for international companies (Eringa & Huei-Ling, 2009; Luxon & Peelo, 2009; Rienties, Grohnert, Kommers, Niemantsverdriet, & Nijhuis, 2011).

A large body of research has found that the pedagogies and learning approaches at European higher education institutes are rather heterogeneous, so even just moving from the United Kingdom to the Netherlands may require a different learning style and approach (De Vita, 2001; Hofstede, 1986; Joy & Kolb, 2009; Tempelaar, Rienties, Giesbers, & Schim van der Loeff, 2012). On the one hand, given that most Master

students already have ample experience with higher education, one might argue that their learning styles and attitudes should be more adjusted than Bachelor students (Harvey, Drew, & Smith, 2006). On the other hand, the host institute may require a different learning style of Master students studying abroad (De Vita, 2001; Joy & Kolb, 2009). De Vita (2001, p. 167) refers to this as cultural learning style, “which re-proposes learning as a culturally-based phenomenon may then explain why teaching methods, learning tasks and environments which promote learning in some cultures may be ineffective in others”. Furthermore, as most Master programs last only for 12-15 months, the need to fully adjust to the academic and social life of the host university might be less pressing for international Master students, who just study abroad for their Master program. Finally, an increasing number of Master students is working part-time or full-time besides their studies (McLuckie, Naulty, Luchoomun, & Wahl, 2009; Pence & Wulf, 2009), thereby limiting their time to fully devote to learning.

In Europe there is a growing concern among educators and policy makers that learners are not well-prepared to start a Master-level program (Fastré, Segers, & Gijsselaers, 2008; Rienties, Luchoomun, Giesbers, & Virgailaite-Meckauskaite, 2008). For example, Rienties et al. (2008) found that 66% of Master students in business and economics experienced substantial difficulties in areas of research methods and language skills. The role of universities has been emphasised as instrumental in overcoming those barriers (Sherry, Thomas, & Chui, 2010; Zhou, Jindal-Snape, Topping, & Todman, 2008). An emerging concern for higher education is to provide overall support to master students and students in general (Park, 2008; Wisker, Robinson, & Shacham, 2007).

Although recently a large number of studies on academic and social integration and acculturation processes of international students have become available (Rienties,

Beausaert, Grohnert, Niemantsverdriet, & Kommers, 2012; Sherry, et al., 2010; Ward, Leong, & Low, 2004; Zhou, et al., 2008), only a limited number of studies have specifically focussed on Master programs (Wisker, et al., 2007). The prime goal of Study 1 is to characterise the typical differences in academic- and social integration between 146 domestic and 215 international Master students in four distinct Master programs offered by four universities in the Netherlands. Afterwards, in Study 2 we conduct an explorative analysis of transitional problems experienced amongst 159 Master students at one institute involved in Study 1.

### **Academic and Social integration and cultural differences**

The interaction student attrition model of Tinto (1975) considers that both institutional as well as students' commitments are of paramount importance for academic success and it is a dynamic process. The institution aims to work towards students' wellbeing and their social interaction with a view that these two factors support academic achievement. According to Tinto (1975), students not only need to persist in their study in order to graduate (i.e. academic integration), but they also need to participate in the student culture, both within and outside the immediate context of the learning environment (i.e. social integration). Likewise, students also need to be committed towards this dynamic process of socialising through peer group and interactions put in place by the institution.

Current research indicates that institutes and the social networks of students have a large influence on how students adjust (Christie, Munro, & Fisher, 2004; Rienties, et al., 2011; Zepke & Leach, 2005; Zhou, et al., 2008). For example, the STAR project (2011) emphasises the importance of adaptive capacity building by changing social lives, promoting independent living and peer-group social network among

students. Likewise, Harvey et al. (2006) argue that such approaches have to be supported by innovative changes to teaching and meeting students' expectations.

In the characterization of cultural differences of local and international students, research by Hofstede (1986, 2001) takes a prominent position. Based on an analysis of attitude survey questions obtained from employees in more than 50 countries, Hofstede identified five major dimensions on which cultures differ: power distance, individualism–collectivism, masculinity–femininity, uncertainty avoidance, and long-term–short-term orientation. Power distance refers to the extent to which less powerful members of organisations and institutions accept and expect unequal distribution of power. Individualism versus collectivism signals the degree to which individuals are integrated into groups: from loose ties between individuals, and everyone expected to look after themselves and immediate family, to people being integrated into strong, cohesive in-groups. In masculine societies, emotional gender roles are rather distinct, whereas in feminine societies, these roles overlap. That is, Hofstede (2001) and others have found that values of men and women in the same jobs differed more for higher-masculine countries than in lower-masculine countries. Uncertainty avoidance refers to society's tolerance for uncertainty and ambiguity, indicating the extent to which members of a culture feel threatened by ambiguous and uncertain situations. The fifth and most recent cultural dimension of long-term orientation distinguishes societies in being directed towards future rewards, or the fulfilment of present needs and desires.

Previous research has found that the cultural dimensions identified by Hofstede have a significant impact on learning and teaching styles: see e.g. Hofstede (1986), Joy and Kolb (2009) and our own research (Tempelaar, et al., 2012). Student-centred education is an outstanding example of a learning and teaching paradigm that suits students familiar with low power distance, and weak uncertainty avoidance, such as the

Netherlands or UK (Tempelaar, et al., 2012). In contrast, teacher-centred education best fits high power distance and strong uncertainty avoidance situations, as e.g. existing in Eastern European and Latin countries. In “higher-masculine” countries like Germany and Japan, education is characterized by competition, openly striving for excellence, taking the best students as the norm, and regarding failure as a disaster. In feminine countries like the Netherlands and Nordic European countries, the average student is the norm, whereby excellence is something one keeps to oneself, and failure is at most an unlucky incident, but better useful feedback for a next step in learning (Hofstede, 2001; Tempelaar, et al., 2012). Furthermore, it is well documented that in masculine countries perceived career opportunities are primary drivers, while in feminine countries the intrinsic interests in a subject primarily determine study choice (Hofstede, 2001).

### *Research Questions*

Based upon the academic and social integration and cultural dimension factors identified above, the following research questions are addressed in order to assess whether international Master students’ academic and social integration differs from Dutch Master students and whether these differences have an impact on academic performance:

- To what extent do international Master students differ from domestic Master students with respect to academic and social integration?
- To what extent do differences in academic and social integration between domestic and international students have an impact on academic performance?  
(Study 1)
- To what extent are differences in academic performance mediated by cultural differences? (Study 1)

- What are the main transitional barriers experienced by Master students? (Study 2)

## **Method**

### *Study 1 Academic and Social integration of international students*

#### *Setting and participants*

Academic and social integration will be compared among four Dutch higher educational institutes, which offer extensive introduction programs for (international) students. The integrated questionnaire was distributed among 559 full-time Master students after 6-8 months of study. After removing incompletely filled in questionnaires, the answers of 349 (62%) students were included in the dataset of this study. 34% of the respondents were Dutch. Respondents were assured that their individual responses and particular institutions would not be identified in any published account of the results.

#### *Outcome measures and results*

*Student Adaptation to College Questionnaire.* Based upon the student persistence model of Tinto (1975), students' academic integration was measured by the Student Adaptation to College Questionnaire (Baker & Siryk, 1999), which consists of 67 items and is divided into four scales, namely: academic adjustment; social adjustment; personal-emotional adjustment; and attachment. This questionnaire has been validated by various studies (Baker & Siryk, 1999; Rienties, et al., 2012). Cronbach alphas ranged between 0.80-0.84.

*Academic performance.* The academic performance was assessed by student's grade point average after one year (GPA). In total, 85% of the ID-numbers of Institute A and

Institute D could be linked with the academic performance data of the administrative systems. Data protection policies at Institute B and C prohibit data gathering of academic performance.

*Cultural difference* 52 nationalities are present in the dataset, whereby the largest groups of international students are from Germany (23), China (21), India (12) and Indonesia (11). The assignment of students to cultural clusters is based upon the Globe Culture Clusters framework (House, Hanges, Javidan, Dorfman, & Gupta, 2004). The GLOBE project identified nine cultural dimensions by investigating the relation between culture and leadership styles of Hofstede (1986), and created ten clusters of world cultures transcending national boundaries. The cluster Germanic was subdivided into the Netherlands and the German-speaking countries in Europe (Germanic), both to do justice to the size of the main two groups, as to account for relative large differences in secondary schooling and educationally relevant cultural indices amongst these subgroups (Tempelaar, et al., 2012).

## ***Study 2 Explorative study of transitional problems for Master students***

### *Setting and participants*

For Institute A, 159 international business Master students completed an own-developed questionnaire measuring transitional problems experienced during the Master program (See also Rienties, et al., 2008). The questionnaire was distributed after six months' study, which allows respondents sufficient time to reflect upon their experiences of any transitional problems during their Master program.

### *Questionnaire development and methods*

The online questionnaire relates to four transitional problem areas: 1) learning strategies and attitudes acquired from first degree level; 2) cultural impacts on those students not studying in their home country; 3) challenges as a result of being taught in a foreign language; 4) research skills. The questionnaire consisted of 67 items and took 30 minutes to complete. Students were encouraged by open text-boxes to verbalise the nature of any transitional problems experienced. The questionnaire was initially piloted at a UK university among 30 students. Ambiguous phrases, irrelevant items, leading questions, and questions that might confuse students were removed. In order to enhance the intuitive understanding of our findings, we will present primarily percentages and verbal statement of the students to support and enhance the intuitive findings.

## **Results**

### *Study 1*

➔ Insert Table 1 about here

Table 1 illustrates the academic and social integration of the 10 geographical clusters. For most students, SACQ scores on attachment to the institute are the highest, followed by personal/emotional adjustment, academic adjustment and social adjustment. Dutch students score higher on all four scales of academic integration in comparison to European students, with the exception of social adjustment and personal emotional adjustment for Anglo-Saxon students. Separate t-tests between Dutch students and the four European geographical clusters indicate that European students have similar academic and social adjustment scores, except for Eastern European students who have significantly lower scores on all SACQ scales except academic adjustment (not

illustrated). This indicates that Eastern European students have to overcome substantial social and personal adjustment issues.

When comparing Dutch students to non-European students, significant lower scores on all four scales of SACQ are found for students from Southern and Confucian Asia. Furthermore, significant lower scores on social adjustment are found for students from Sub-Saharan Africa. Finally, significantly lower personal emotional adjustment scores are found for students from Latin America and Middle East. These results indicate that adaptation to the European way of life at university is more emotionally difficult for non-European students, in particular students from Asia, as was found previously (Rienties, et al., 2011; Russell, Rosenthal, & Thomson, 2010).

➔ Insert Table 2 about here

Table 2 shows the results for the correlation analysis and indicates that the four subscales of the SACQ have high significantly positive correlations, as was found in previous research (Baker & Siryk, 1999). Next, with respect to the five indexes of culture differences of Hofstede, power distance is negatively correlated with all four subscales of SACQ, indicating that students from countries with stronger power distances, such as Mexico or Indonesia, have more academic integration issues. The individualism index is positively correlated with all subscales of SACQ, indicating that cultures that are more individualistic such as the UK or the Netherlands tend to have higher academic integration scores. The masculinity index is negatively correlated to SACQ, indicating that students from (relatively) higher-masculinity cultures, such as Italy or India, tend to have lower academic and social integration scores than more feminine countries such as the Netherlands. These findings are in line with Hofstede (2001), who argues that in feminine countries social skills and students' social

adaptation are more important than students' academic performance. Uncertainty avoidance is not correlated SACQ, while long-term orientation is negatively correlated to all SACQ subscales. This indicates that students from cultures with long-term orientation, such as China or South Korea, have on average lower academic integration scores than students from short-term orientation such as the UK or the Netherlands.

Finally, the average grade after one year (GPA) is significantly positively correlated with academic adjustment and personal-emotional adjustment but not to any of the Hofstede indexes. This seems to indicate that long-term study performance is not influenced by cultural differences of international and local students, despite significant correlations with four out of five cultural indexes and SACQ. Follow-up step-wise regression analyses show that academic adjustment ( $\beta = .30$ ;  $p < .01$ ) predicts students' GPA positive, while power distance ( $\beta = -.20$ ;  $p < .05$ ) and individual vs. collective index ( $\beta = -.26$ ;  $p < .05$ ) negatively predict students' average grades.

## ***Study 2***

### *Learning strategies and attitudes*

51% of students experience a change in their study approaches as compared to their first degree. Some of their verbatim statements are shown below:

- More presentation, case studies, scientific articles to read.
- I was more motivated and I could plan better ahead.
- From lecture-based learning to tutorial groups makes sure you are much more involved and active in learning.

### *Social skills, students' mobility and culture*

More than 90% of the international students find it easy to adjust to the culture of the other country, and 28% responded that their study is affected as a result of their being away from families and friends. As no student can be left behind, the role of the family is indeed of crucial importance for academic success (Russell, et al., 2010). Amongst international students, 14% acknowledge the relevance of different religious and moral value base. In addition, these students expressed the necessity of an introduction to the culture of the country where they have been studying. A few supportive comments are presented below:

- Introductory lecture about the local culture was given including topics such as holidays, ways of living, studying behaviour, lifestyles and habits.
- What are the customs and what are the difficulties other students had in previous years with few examples.
- Values of the people, what to expect when interacting with them, how to behave so that nobody will be insulted while communicating.

### *Language*

Another major hurdle for international students is the language in which they are studying, as was found by Sherry at al. (2010). 38% of the respondents found it difficult to study in English. These students have expressed different views about their proficiency in studying in a foreign language and the need for prior training. As a result, 14% of respondents have asked for an immersion course in language. In this context students voiced out that:

- It might be nice to have a special course on academic writing.

- Just a normal course using the kind of vocabulary of the Master we are then going to study.

### *Research skills*

50% of students responded to be insufficiently prepared to use particular research methods in their Master program. This sends a clear signal that research methods remedial courses need to be prioritised, for example:

- Since we are studying a Master of Science, I believe that a more efficient introduction to different research methods would be necessary with real-life examples.
- I need to know how to conduct academic research and how to use statistics programs to evaluate the results.
- We had to use SPSS although I never worked with the software, so that was hard for me.

### **Discussion and conclusion**

The objective of our research was to compare the academic and social integration of domestic and international students at four institutes and to elicit Master students' perception of knowledge and any visible or latent gaps in their skills. Key findings from Study 1 suggest that academic performance is predicted positively by academic integration, in particular academic adjustment.

By distinguishing international students into nine geographical clusters in line Hofstede's cultural difference research, we were able to distinguish the distinctly different academic and social integration processes amongst international students. While most European Master students are able to make a successful academic

integration, non-European students, in particular from Southern and Confucian Asia, have substantial academic, social and personal emotional adjustment issues, in line with our previous study (Rienties, et al., 2012; Tempelaar, et al., 2012) and others (Russell, et al., 2010; Ward, et al., 2004). Finally, given that students from more individualistic countries, such as the Netherlands and UK, obtain higher grades than students from more collectivistic countries indicates that cultural differences across Master students has an impact on performance. Nonetheless, the lower academic and social integration scores for non-European students do not seem to influence academic performance.

Key findings from the explorative Study 2 show a wide diversity of current skills possessed by Master students. 51% of these students experienced a change in their learning strategies in comparison to their first degree. Although a vast majority of international Master students found it straightforward to adjust to the local host culture, 38% of the respondents indicated to have substantial language issues. The largest hurdle identified by 50% of the respondents in Study 2 was research methods, which in comparison to Bachelor degrees plays a more dominant role in the Master program, in particular when students are writing their dissertation.

### ***Constraints and Limitations***

A first limitation of this research is that we used self-reported scores of students on academic and social integration and transitional barriers. Besides the known issues with using self-reported scores, groups or persons who are “at risk” might not have returned the questionnaire or would have filled in the questionnaire in a socially desirable manner. However, we were able to compare academic and social integration among a large sample of Master students at four institutes in Study 1, which strengthens our findings in comparison to studies using a single-institute analysis. A second

limitation was that 104 non-Western students studied at institutes B and C, whose administration policies do not allow academic study performance scores to be linked to research. Therefore, we are not able to conclude whether these international students were able to overcome their initial lower academic and social integration.

### ***Practical implications and future research***

Although Studies 1 and 2 show little impact of cultural difference on academic achievement of students, it was found that underlying features, e.g. social integration and emotional issues, need to be addressed by the institutes. Based upon our findings, rather than focussing purely on social integration, we also suggest higher educational institutes to specifically address measures that can enhance academic adjustment of mainly international Master students in areas of research methods and language. This can for example be done by providing more information about the educational culture of the institute and the required language and research skills. Even better would be to allow international students to experience the educational learning approach of the host institute before starting with their Master program or during the first months (Luxon & Peelo, 2009; Rienties, et al., 2008).

Given the fierce competition among UK Higher Education Institutions (HEI) as well as their other European counterparts to attract international students for a one-or-two year Master program, we encourage more evidence-based research. This will add to our findings about how to best to support these international students and provide value for their large sums of money spent. To this end, our study suggest institutes to specifically identify appropriate developmental activities that are tailored to specific needs and expectations and that can strengthen and sustain students' academic as well as social adjustment.

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## Bio

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Dr Dharma Luchoomun is social scientist at Peninsula College of Medicine and Dentistry, University of Exeter with e-support experience and expertise in areas of education, social inclusion and health care. His methodological approach to research is qualitative as well as mixed methods.

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Table 1 Comparison of academic and social integration across ten clusters of Master students

GLOBE geographical cluster	Anglo-Saxon	Latin Europe	Germanic Europe	The Netherlands	Eastern Europe	Latin America	Sub-Saharan Africa	Middle East	Southern Asia	Confucian Asia	F-value
Countries	UK, USA	France, Belgium	Germany, Austria		Poland, Czech	Mexico, Venezuela	Nigeria, Tanzania	Turkey, Saudi Arabia	India, Iran	China, South Korea	
Academic adjustment (M)	3.25	3.54	3.50	3.64	3.59	3.56	3.87	3.46	3.36	3.25	2.485**
(SD)	0.66	0.40	0.56	0.54	0.65	0.43	0.55	0.66	0.59	0.64	
Social adjustment	3.77	3.51	3.57	3.56	3.34	3.53	3.09	3.78	3.27	3.13	3.412***
	0.43	0.51	0.60	0.55	0.49	0.53	0.90	0.71	0.61	0.54	
Personal and emotional adjustment	4.00	3.61	3.65	3.82	3.33	3.34	3.62	3.40	3.28	3.15	5.038***
	0.23	0.53	0.67	0.74	0.77	0.55	0.51	0.57	0.76	0.63	
Attachment	3.89	3.77	4.03	4.06	3.77	4.00	3.87	3.74	3.73	3.39	4.838***
	0.62	0.58	0.57	0.55	0.57	0.47	0.62	0.65	0.67	0.61	

ANOVA F-Test for students from geographic cluster Anglo Saxon (n=9), Latin Europe (n=28), Germanic Europe (n=23), The Netherlands (n=146), Eastern Europe (n=22), Latin America (n=15), Sub-Saharan Africa (n=11), Middle East (n=10), Southern Asia (n=35), Confucian Asia (n=35). All variables were recoded to a Likert response scale of 1 (=does not apply to me at all) to 5 (applies very closely to me). \*\*\*Coefficient is significant at the 0.001 level (2-tailed). \*\*Coefficient is significant at the 0.01 level (2-tailed).

Table 2 Correlation analysis of the different variables involved in the study

<i>Scale</i>	<i>M</i>	<i>SD</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>
1. Academic adjustment	3.53	.57	1								
2. Social adjustment	3.45	.59	.50**	1							
3. Personal-emotional adjustment	3.59	.72	.53**	.38**	1						
4. Attachment	3.87	.62	.69**	.78**	.48**	1					
5. Power Distance	53.57	19.06	-.12*	-.18**	-.32**	-.24**	1				
6. Individualism – collectivism	58.04	24.96	.16**	.23**	.33**	.29**	-.86**	1			
7. Masculinity – femininity	36.99	22.12	-.19**	-.13*	-.27**	-.24**	.60**	-.65**	1		
8. Uncertainty avoidance,	59.01	19.25	.05	.06	-.03	.02	.07	-.06	.09	1	
9 Long-term – short-term orientation	51.75	27.29	-.20**	-.22**	-.28**	-.34**	.71**	-.69**	.40**	-.73**	1
10. GPA	7.10	.74	.26**	.09	.20*	.08	-.08	-.10	-.02	.05	-.02

\* $p < .05$  . \*\* $p < .01$ .

