Spotlight on inclusion in outbound mobility

Which groups of students are less likely to seek experience abroad and why?

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Contents

Summary

Which groups of higher-education students are least likely to spend time abroad during their studies? What do they experience as the main barriers to studying or doing an internship in a foreign country? By answering these questions, we aim to provide an up-to-date picture of inclusion in outbound credit mobility, and advise higher education institutions on the steps they can take to broaden participation. The results presented in this report are based on data from over 15,000 students enrolled in Dutch higher education who completed the Student Monitor survey in 2020. Our analysis takes into account additional factors like gender, field of study, and the impact of COVID-19 restrictions.

Below are some of our main findings and recommendations. A full description of these and more can be found in the main body of this report.

Main findings
- At both research universities (RU) and universities of applied sciences (UAS), students with children and those without higher-educated parents (known as first-generation students) are significantly less likely to participate in credit mobility. Of these 2 characteristics, **being a first-generation student is the strongest predictor of staying at home**.
- Being from a lower-income family significantly increases the likelihood that RU students will stay at home. We did not find this association for UAS students.
- Having a disability or (mental) health condition does not on its own affect the probability of staying at home, nor does having a second-generation migration background.
- The majority of **first-generation students who stay at home consider cost and distance from loved ones to be the main barriers to going abroad** during their studies. In addition, UAS first-generation students are more likely than their RU counterparts to experience loss of employment and insufficient language skills as obstacles. Low motivation plays an equally important role for both groups.

Recommendations
- **Tap into existing structures** to reach students who typically go 'under the radar', for example via meetings with the study advisor in their first year. Well-informed staff can ensure that all students are aware of their mobility and funding options at an early stage.
- **Facilitate shorter stays** to help overcome some of the major barriers associated with standard forms of mobility for first-generation students. Short-stay mobility options are also likely to be attractive to students with children, and those from lower-income families.
- **Focus on individual learning outcomes** to demonstrate the added value of international experience and inspire more first-generation students to participate in mobility.
- **Internationalisation at home** should be a central part of the strategy to make international competencies achievable for everyone. Integrating virtual mobility into the curriculum can also act as a springboard to physical mobility.

Introduction

Studying or doing an internship in a foreign country can help students in higher education develop international competencies. A prior Nuffic study (Kommers, et al., 2021) found that student mobility is the most widely implemented method of internationalisation in institutions of higher education (note: this is based on pre-Covid data). However, in 2015-16, some 75% of all Dutch higher education graduates did *not* participate in credit mobility (study or internship abroad) during their studies (Nuffic, 2018). This means that the majority of higher education students miss out on this opportunity to work on their international skills. This is not due to a lack of interest: 67% of first-year students surveyed in 2018 were interested in gaining experience abroad during their studies (Elfferich, 2020). If higher education institutions want to promote outbound credit mobility, it is important to know which students currently end up staying at home. This study focuses on non-mobile students and investigates the specific background factors that are associated with not participating in credit mobility.

Previous research

The topic of inclusion in student mobility is certainly not a new one. Previous research has looked at the relationship between demographic factors and the *intention* to go abroad for study or an internship, as well as actual participation. Some studies have asked which groups are overrepresented in student mobility, while others have focused on the typically less-mobile students. Several studies have found that students from lower socio-economic backgrounds tend to be less mobile than their peers (Grabher et al., 2014; Netz et al., 2016; Kommers, 2020), as well as students with a disability and those from ethnic minority groups (De Wit, 2018; Go International, 2016; Carette et al., 2019). In addition, some researchers have reported lower mobility rates or lower intention rates for first-generation students (Kommers, 2020; Resch et al., 2021, Hauschildt et al., 2021) and students who have grown up in the care system (Go International, 2016). Of these studies, only a few focus specifically on the Dutch context. In their research on the inclusivity of the Erasmus+ programme, Kurver et al. (2019) found that Dutch students who participate in credit mobility tend to be older, from higher socio-economic backgrounds, and less often have disabilities. In addition, non-mobile students were more likely to be first-generation students. Prior Nuffic research (Elfferich, 2020) concluded that family income does not affect students' intentions to go abroad.

In terms of the barriers that students experience, a recent Europe-wide study found that anticipated cost is the main reason for students to not plan to study abroad (Hauschildt et al., 2021). Other reasons were not wanting to be away from family and friends, and the fear of losing parttime employment. A survey conducted at one university of applied sciences in the Netherlands found similar reasons for not participating in credit mobility. Costs, not knowing how to arrange an experience abroad, and distance from loved ones were the top three obstacles in that study (De Klerk & Gravendaal, 2021).

The current study

While several studies have been conducted on the topic of inclusion in outbound mobility, this study aims to provide specific insight into the Dutch context. By focusing on the students who do *not* seek experience abroad during their studies, the results of this research can tell us something about the current state of inclusivity in credit mobility in the Netherlands. Moreover, this study contributes to the existing literature by presenting results from a large, recently published dataset. Importantly, the data was not collected for the specific purpose of researching mobility. As a result, it is less likely that students interested in going abroad are overrepresented in the sample.

This study aims to answer two main questions:
- Which groups of students are currently less likely to participate in outbound credit mobility?
- What do these students experience as the main barriers and motivations when it comes to going abroad?

Method

Student Monitor

To answer our research questions, we used data from the Higher Education Student Monitor (2020). This large-scale annual survey, commissioned by the Ministry of Education, Culture, and Science, aims to monitor developments in how students in the Netherlands live, work, and study. Among the many areas covered are socio-economic background, personal circumstances, and participation in mobility. As such, the Student Monitor provides a rich dataset for investigating issues around inclusivity.

Students are eligible to participate in the Student Monitor if they are currently enrolled in higher education in the Netherlands, studying abroad, or have temporarily paused their studies but remain enrolled. The government agency DUO contacted eligible students by post between July and September 2020, inviting them to complete the survey.

Respondents

In total, 18,004 students completed the Student Monitor survey in 2020. Of these, 2,512 respondents were classified as international (i.e., having come to the Netherlands from abroad to study). We do not include international students in our analysis, because they are by definition already mobile and the current study focuses on students with no prior experience of mobility in higher education. Although beyond the scope of this study, the participation of international students in credit mobility while studying in the Netherlands is an issue that deserves attention in its own right.

The resulting sample of 15,492 respondents (after excluding international students) is described in Figure 1. Almost two thirds of the sample is enrolled at a research university (RU), the rest at a university of applied sciences (UAS). This is in contrast to the distribution in the general student population, which was 36% RU and 64% UAS in the academic year 2019-20 (DUO). Bachelor's students account for 62% of our sample, with master's students the second largest group (34%). Together, pre-master's students, trainee teachers, and associate degree students make up the remaining 4%. Some 59% of respondents are women, 40% men, and 1% non-binary. The majority (67%) is aged between 18 to 24, a further 22% between 25 and 30. The remaining 11% of respondents is over 30. In section G of the appendix we discuss how these distributions compare to the general student population. To explore the sample in more detail, visit the dashboard.

Figure 1. *Educational characteristics of the sample. UAS = University of applied sciences, RU = Research university.*
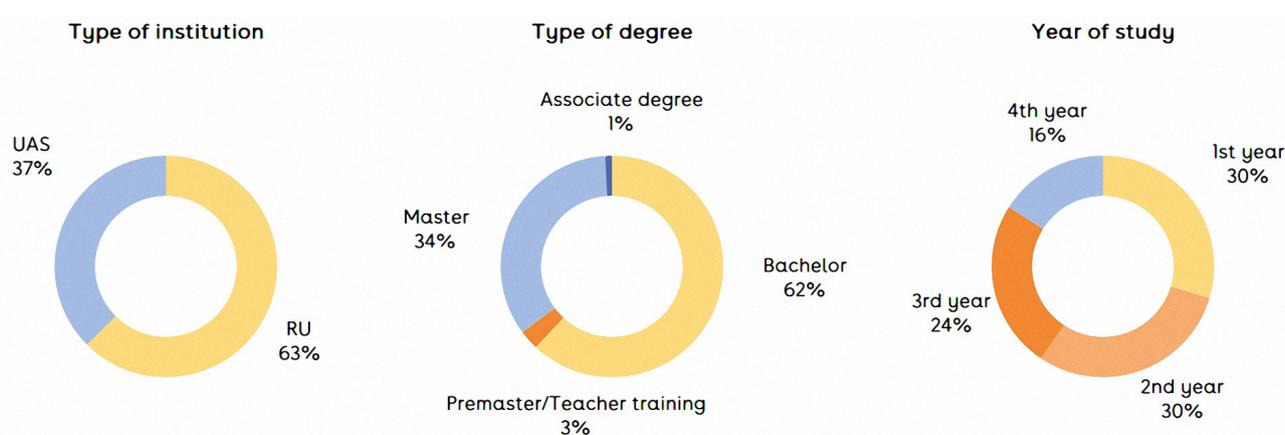
Data analysis

To determine a student's participation in mobility, we looked at their responses to the following two questions in the survey:

- Have you ever been enrolled in higher education outside of the Netherlands?
- During your degree, have you ever been abroad for any other study-related activities?

For the current study, respondents who answered 'No, and I am not planning to' to the first question *and* 'No other study-related activities' to the second question are of special interest. In our analysis, we refer to them as students who 'stay at home'. According to this definition, the rate of staying at home was 61% amongst UAS respondents and 51% amongst RU respondents. Because of the distinct characteristics of these two groups, and the underrepresentation of UAS students in the original sample, we consider them separately in the main analysis.

For both the UAS and RU groups, we examined to what extent a student's background affects the likelihood of them staying at home. Based on the literature reviewed in the introduction, and the content of the Student Monitor dataset, we focused on the five background characteristics below. To find out how these characteristics are distributed in the sample, see the appendix (section B) and our dashboard.

1. First-generation student: Neither of the respondent's parents/caretakers obtained a higher-education diploma.
2. Low family income: Respondents who rate their parents' financial situation as not good (at all) relative to that of other families.

3. Parenthood: Respondents who have at least one child.
4. Disability or (mental) health condition: Respondents who report having at least one disability or (mental) health condition.
5. Migration background: Respondents who were themselves born abroad (first-generation immigrants) and students who were born in the Netherlands to parents from abroad (second-generation immigrants).

There are of course many other factors that could make a student more or less likely to go abroad during their studies. Notably, participation in mobility is known to vary depending on age, gender, and academic performance (Böttcher et al., 2016; Cordua & Netz, 2021; Kommers, 2020). The study programme itself can also play a decisive role: students of International business, for example, are more likely to (have the option to) go abroad than Nursing students. Other relevant study-related factors are year of study, type of degree (bachelor, master, etc.), and whether the student is full time or part time. Finally, since these data were collected in the summer of 2020, it is important to take into account the possible influence of COVID-19 restrictions on student's plans (not) to go abroad.

We conducted a regression analysis containing the five student background characteristics listed above to find out how each one relates to the probability of staying at home. To ensure that any relationships we find are independent of the other factors mentioned such as age and gender, we include controls for age, gender, academic performance, year of study, degree type, full/part time, influence of COVID-19 restrictions, and compatibility with the study programme. We applied the same regression analysis to the data from UAS and RU respondents separately. See the appendix for a full description of the variables (section A) and the statistical method (section C).

Results

The main results of the regression analysis for UAS and RU respondents are presented in Figures 2(a) and (b). The student background characteristics are listed on the left hand side of each plot. The x-axis measures the probability that a student with a given background characteristic will stay at home. A probability of 0.5 (the grey line) means there is no effect: having the characteristic neither increases nor decreases the likelihood that a student will stay at home. If the dot lies to the right of the grey line, that characteristic has a positive effect on the likelihood of staying at home. In other words, assuming all other factors are kept the same, a student with that characteristic has a higher chance of staying at home than a student without it. When a dot lies to the left of the line, the reverse is true. An asterisk indicates that the effect is statistically significant, while the horizontal line through each dot represents a margin of error: the shorter the line, the more reliable the effect.

Figure 2. *Results of regression analysis for UAS (N = 4,556) and RU respondents (N= 8,308). Due to missing data, 2,828 respondents were excluded from the analysis. (*) indicates a statistically significant effect based on a threshold of p < 0.05.*

(a) University of applied sciences

Probability of staying at home

(b) Research university
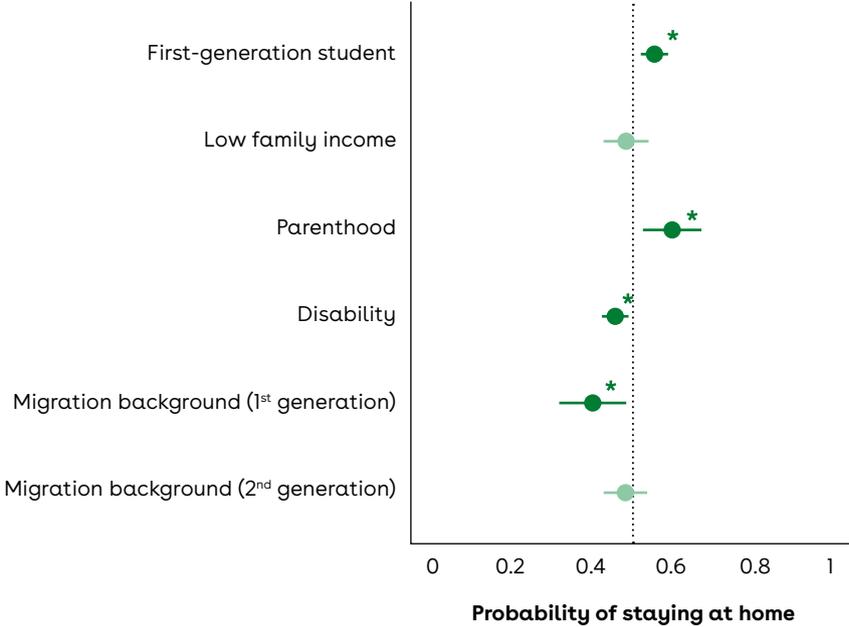
Probability of staying at home
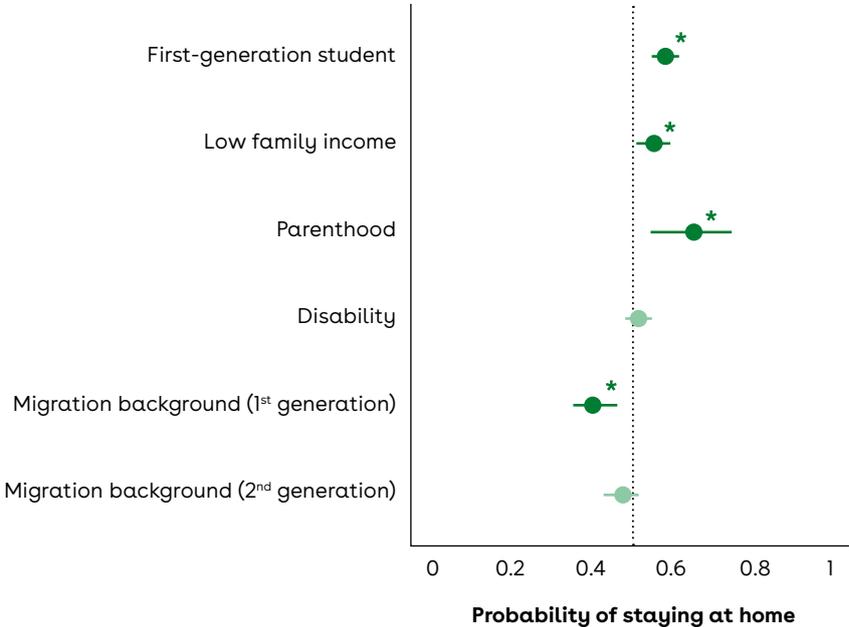
Note: The dots represent the probability of staying at home for a student with each of the characteristics listed on the left. The further a dot lies to the right of the grey line (i.e., probability > 0.5), the more likely it is that a student with that characteristic will stay at home. An asterisk (*) indicates that the effect of the characteristic is statistically significant. The horizontal line through each dot represents a margin of error. For simplicity, these figures only show results for the 5 student background characteristics under investigation. Complete tables of the results for all other variables in the regression analysis can be found in the appendix (sections D and E).

For UAS respondents, Figure 2(a) tells us that the following characteristics have a significant effect on the likelihood staying at home: First-generation student, Parenthood, Disability, and Migration background (1st generation). The significant effects for RU respondents, shown in Figure 2(b), are First-generation student, Low family income, Parenthood, and Migration background (1st generation). Below we discuss the results for each of the background characteristics in turn.

First-generation student

Overall, 61% of the 4,656 first-generation respondents in the sample say they have not been abroad during their studies and have no plans to go. Amongst their peers with higher-educated parents, the rate of staying at home is 51%. Consistent with this difference, Figures 2(a) and (b) show a statistically significant increase in the probability of staying at home for first-generation students studying at both universities of applied science and research universities. This effect is independent of all other factors in the analysis. To illustrate, if we were to compare two male 3rd year bachelor Psychology students with the same average grade, both from low-income families, the student with at least one higher-educated parent would have a significantly higher chance of studying abroad, or planning to, than his classmate whose parents had not been to university.

Low family income

Of all 1,527 students in the sample from low-income families, 58% report staying at home, compared to 54% of respondents from average- to high-income families. When we analyse responses from UAS and RU students separately, however, the two sets of results differ. Being from a low-income family significantly increases the probability that an RU student will stay at home (Figure 2(b)), but the same does not appear to be true for UAS students from low-income families. According to Figure 2(a), low family income on its own is not a statistically significant predictor of mobility outcomes for UAS students in our sample.

Parenthood

In the sample as a whole, there are 1,107 respondents with children, 73% of whom stay at home. The rate of staying at home amongst respondents with no children is 53%. The results in Figures 2(a) and (b) confirm that this is a statistically significant effect. At universities of applied sciences, students with children are 1.5 times more likely to miss out on experience abroad during their studies than their peers without children. The difference is even more pronounced at research universities, where parents are almost twice as likely to stay at home.

Disability or (mental) health condition

The rate of staying at home amongst the 4,781 respondents in our sample with a disability or (mental) health condition is 54%, close to the rate for those with no reported disability/condition (55%). Similarly, the regression results for UAS students (Figure 2(a)) show that the probability of staying at home is unaffected by the presence of a disability or health condition. The RU results in Figure 2(b) tell a slightly different story: here, having a disability is associated with a *reduced* chance of staying at home.

Migration background

In total, 2,462 respondents have a migration background, of which 53% report staying at home (compared to 55% of respondents with no migration background). Across the two categories of migration background, UAS and RU students show a similar pattern of results (Figures 2(a) and (b)). On its own, a second-generation migration background appears to have no effect on the probability of staying at home. Interestingly, the results for first-generation migration background suggest that students born outside of the Netherlands are significantly *less* likely to stay at home than their peers with no migration background.

Additional factors

Some of the additional factors included in the analysis emerged as significant predictors in their own right. Consistent with previous research (Böttcher et al., 2016; Cordua, et al., 2021; Van Mol, 2020), we see that male students have a statistically lower chance of participating in mobility than their female and non-binary peers. Also more likely to stay at home are part time students and those with below-average grades. Logically, year of study and degree type matter too, with third-year, fourth-year, and master's students significantly more mobile.

'First generation' the most reliable predictor of mobility outcomes for UAS and RU students

To summarise the results so far, only 2 of the 5 background characteristics we investigated significantly increase the probability of staying at home for UAS students: being a first-generation student and having children. For RU students, low family income also plays a significant role. Which of these characteristics is the most reliable for predicting mobility outcomes?

Although the group with the highest probability of staying at home is students with children, the predictive power of this characteristic is relatively weak. That is because only a minority of our sample (7%) has children, so in most cases it does not help us explain why students stay at home (see also the relatively wide margin of error for 'Parenthood' in Figures 2(a) and (b)).

Of the two remaining characteristics, 'First-generation student' has the narrowest margin of error, making it the most reliable predictor of (non-)participation in mobility at both research universities and universities of applied sciences. In the next section we take a closer look at this group: What are the barriers facing the first-generation students who stay at home, and what motivates the minority that does go abroad?

What do first-generation students experience as the main barriers to going abroad during their studies?

Figure 3. *Response to the question: To what extent is each of the following aspects a barrier to you going abroad as part of your studies? The percentage of first-generation respondents who indicated that each aspect "plays an (important) role" is given for UAS (N=1,598) and RU (N=1,277) separately. Only respondents staying at home are included.*
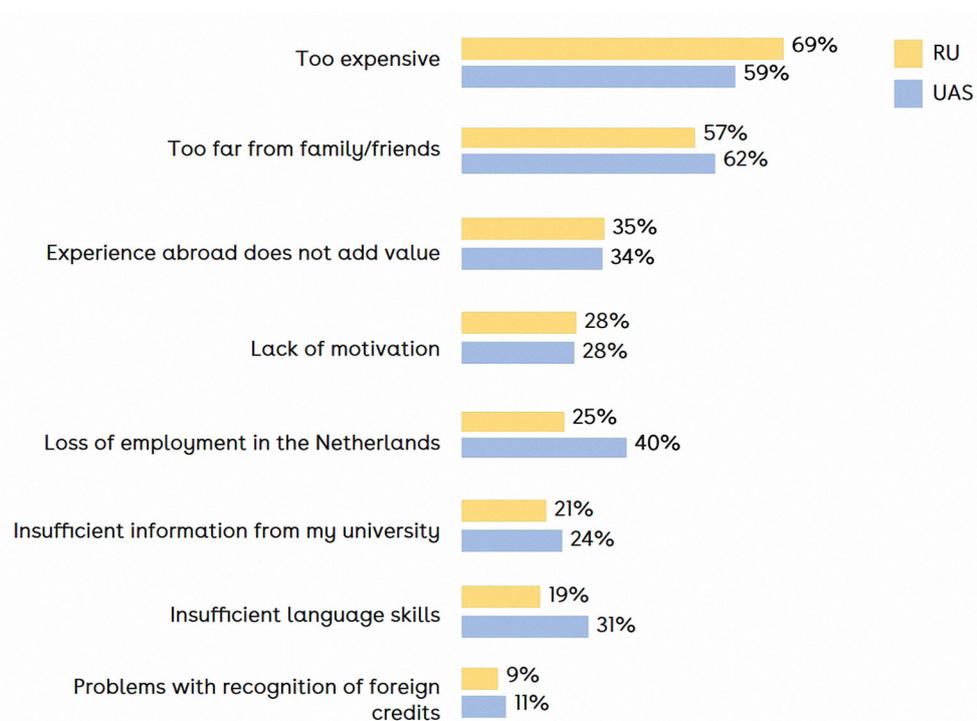
Most first-generation students find going abroad too costly and too far from loved ones

Amongst UAS first-generation students who stay at home, the most important obstacles to participating in mobility are distance from loved ones (62%), cost (59%), and loss of employment in the Netherlands (40%). A further 31% cites insufficient language skills as a reason not to go abroad. This differs from the experience of RU first-generation students, for whom cost plays the biggest role (69%), followed by distance from loved ones (57%). They are much less likely than their UAS counterparts to see either losing a part time job (25%) or insufficient language skills (19%) as a barrier. In contrast, both groups are equally affected by a lack of motivation to go abroad (28%). It is striking that roughly 1 in 4 UAS respondents has been hindered by a lack of information from their institution. For RU respondents this is 1 in 5. Regardless of institution type, approximately 1 in 3 first-generation students who stay at home does not see the added value of going abroad.

To view the barriers for all other groups, see the dashboard.

What motivates the first-generation students who do go abroad?

Developing international competencies a priority for mobile first-generation students
The Student Monitor asks students who *have* been abroad about their reasons for going.
Of the 986 first-generation students who responded to this question, more than 3 quarters
(78%) are motivated by the desire to discover another culture and learn to get on with people
from different cultural backgrounds. Factors related to personal growth also score highly as
reasons to go abroad. Namely, managing in unfamiliar situations (71%) and gaining an insight
into one's strengths and limitations (71%). A similar proportion of first-generation respondents
seek international experience with a view to their future career: gaining professional
experience and learning about international career opportunities play an important role
for 70% and 66% respectively. Dealing with uncertainty was the least popular motivation
amongst this group, with just over half (53%) rating it as important. These results did not differ
significantly by institution type.

Conclusions

**First-generation students and students with children go abroad significantly
less often**
First-generation students and students with children have a statistically smaller chance of
participating in credit mobility, or planning to, than their peers without those characteristics.
This goes for both UAS and RU students.

Family income matters more for RU students
An additional background characteristic that appears to matter for RU students but not for
UAS students is family income. RU students from lower-income families are significantly more
likely to stay at home than their peers from average-to high-income families. The absence
of this effect for UAS students has several possible explanations which require further
investigation. For one, family income might be a less influential factor amongst UAS students
because they rely more on their own earnings from part time employment. Added to this, UAS
students are more likely than RU students to go abroad for an internship (Hauschildt et al.,
2021). Because internships are often subsidised by employers, they can be a less cost-intensive
option than studying abroad.

Although having a disability or a migration background did not increase the likelihood of
staying at home in our analysis, we cannot conclude that these groups face no barriers to
going abroad. Rather than signalling which groups of students need *less* support, these results
are intended to highlight where *further* support could be directed to broaden participation
in mobility.

**Mobility outcomes most reliably associated with being a first-generation
student**
Of the 2 background characteristics that were significantly related to mobility outcomes for
both UAS and RU students, the effect of being a first-generation student was the most reliable.
Almost 1 in 3 respondents in our sample is a first-generation student, while fewer than 1 in
10 is a parent. That makes first-generation status better at explaining non-participation in
credit mobility.

Cost and distance from loved ones put the majority of first-generation students off going abroad

We took a closer look at the barriers experienced by first-generation students who stay at home. Cost ranks in the top 3 for both RU and UAS groups, but appears to play a particularly important role for first-generation students at research universities. For their peers at universities of applied sciences, distance from loved ones is the number 1 obstacle to seeking experience abroad. Loss of employment in the Netherlands is another important reason not to go abroad, primarily for UAS first-generation students. In addition, almost a third of UAS students in this group perceives insufficient language skills as barrier, compared to only one fifth of their RU counterparts. A similar share of both groups reports that insufficient information from the university, as well as a perceived lack of added value, played a role in their decision not to participate in mobility.

First-generation students who do go abroad do so in order to develop their international competencies

According to the first-generation students who have participated in credit mobility, the top 5 motivations for doing so relate to intercultural competencies, personal growth, and international orientation.

Recommendations

Given the results of this study, what can higher education institutions do to make credit mobility, and international experience in general, more inclusive? That's the question we posed to UAS and RU internationalisation professionals from across the Netherlands via a series of online discussions in November 2021. The following recommendations are based on their contributions.

Communication: Plant the seed and nurture it

The job of communication is not only to inform, but also to normalise participation in mobility and inspire students to take the leap themselves. This is especially important for students who don't have the previous experiences of family and friends to draw upon.

We recommend a combination of communication strategies to reach students who might otherwise 'go under the radar'. Centrally-organised, mass information events in the first or second year can be an effective way to generate enthusiasm about the opportunities on offer. Once the seed is planted, it needs to be nurtured, for example through smaller, more personal information sessions. Invite students who have already been abroad for a minor or internship to share their experiences and make sure there is plenty of time for questions, advises one UAS professional. As well as frequency, the timing of communication is crucial: too often, students do not find out about the funding options available to them until it is too late to apply.

Tap into existing structures

To ensure that *all* students are aware at an early stage of the possibility of incorporating an international component in their studies, it may be possible to tap into existing structures at the institution. For example, all UAS students are required to meet with a study advisor in their first year. We heard from one UAS professional who is working on an information brochure for

study advisors to equip them to educate and inspire students about studying abroad during those meetings. Teachers and mentors can also 'plant the seed' by encouraging students to explore their options on time.

For privacy reasons, communication targeting specific groups of students is not always a desirable or feasible option. Targeted communication *can* work, however, where there is already a support system in place for a particular group. Some institutions provide additional support to first-generation students, for instance, through general information evenings for those students and their parents. As one UAS professional told us, these events serve as an opportunity to highlight what students stand to gain from an experience abroad, while addressing any concerns their parents might have. We recommend getting parents of first-generation students on board where possible so that participation in mobility is supported at home.

Facilitate shorter stays

This study found that the majority of first-generation students are put off by the cost of going abroad and the distance from loved ones. Whether it's a 3-week exchange or a mini-internship across the border, shorter stays can help to reduce these obstacles and so make mobility more accessible to students with fewer opportunities. Institutions should consider facilitating short-term mobility as a viable alternative to traditional long stays where appropriate.

Shorter stays are an example of how the standard model can be adapted to make mobility more inclusive. 'Tailor-made' solutions are also recommended to enable students with (young) children to gain experience abroad. Although relatively small, this group should not be overlooked in efforts to improve inclusivity.

Focus on individual learning outcomes

In many cases, removing every obstacle is an unrealistic goal for institutions. As well as trying to address the 'why not', we recommend paying attention to the 'why'. From the student's perspective, the added value of going abroad may not be self-evident. Well-informed teachers, mentors, and study advisors play a critical role in making explicit what the student can expect to gain from an international experience (see Nuffic's international competencies model). Our results suggest that this student-centred approach, based on individual learning goals, could be effective in motivating groups with fewer opportunities to participate in mobility.

Integrate *internationalisation at home*

Physical mobility is by no means the only way for students to develop international competencies. The normalisation of online learning during the global pandemic has paved the way for advances in virtual forms of mobility such as online internships and exchanges. *Internationalisation at home* (IaH) promises to make international experience accessible to anyone with an internet connection. To ensure this goal is achieved, the implementation of IaH in higher education needs to be structural, with learning outcomes embedded in university curricula and staff appropriately trained. IaH can boost inclusivity indirectly, too, by acting as a springboard for physical mobility. Students who currently choose to stay at home may find that going abroad feels like less of a leap once they have gained some international experience online.

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Appendix

A. Description of outcome, predictor, and control variables

	Description
Outcome variable	
Staying at home	Binary variable based on responses to (a) "Have you ever been enrolled in higher education outside of the Netherlands?", <u>and</u> (b) "During your degree have you ever been abroad for other study-related activities?" Coded '1' if response to (a) is "No, and not planning to" and response to (b) is "I have not been abroad"; otherwise coded '0'.
Predictor variables	
First-generation student	Binary variable indicating whether a respondent is the first generation in their immediate family to attend higher education. Coded '1' if the highest level of education of both mother and father is secondary vocational training (in Dutch: MBO); otherwise coded '0' (i.e., at least one higher-educated parent).
Low family income	Binary variable derived from the response to "How comfortable are your parents/ carers financially, if you compare them with other families?" Coded '1' if the response is "Not comfortable" or "Not comfortable at all"; coded '0' if the response is "Average", "Comfortable", or "Very comfortable".
Parenthood	Binary variable, coded '1' if a respondent indicates having at least one child, otherwise coded '0'.
Disability/ (mental) illness	Binary variable, coded '1' if a respondent reports having a disability and/or (mental) health condition; otherwise coded '0'.
Migration background	Categorical variable based on the country of birth of the respondent and their parents. Coded '0' if both respondent and parents were born in the Netherlands (i.e., no migration background); coded as '1' if both respondent and parents were born abroad (i.e., first-generation migration background); coded as '2' if the respondent was born in the Netherlands to parents born abroad (i.e., second-generation migration background).
Control variables	
Age	Continuous variable: Age of respondent in years.
Male	Binary variable, coded '1' if a respondent identifies as male, otherwise coded '0'.
Year of study	Categorical variable indicating year of degree programme. Four categories: first, second, third and fourth year.
Master's student	Binary variable, coded '1' if the respondent is currently studying for a master's degree. All other degree types coded '0' (i.e., bachelor's, premaster, teacher training, associate degree).
Part time	Binary variable, coded '1' for part-time or dual students; otherwise coded '0' (i.e., full-time student).
Average exam grade	Continuous variable: Average grade for all completed components of the current study programme.
Incompatible with study programme	Binary variable based on response to the question "To what extent is the following aspect a barrier to you going abroad as part of your studies?" Coded '1' if the respondent indicates that "Incompatible with my study programme" either plays a role or plays an important role; otherwise coded '0'.
Hindered by Covid-19 uncertainty	Binary variable based on response to the question "To what extent is the following aspect a barrier to you going abroad as part of your studies?" Coded '1' if the respondent indicates that "Uncertainty about the possibilities due to Covid-19 restrictions" either plays a role or plays an important role; otherwise coded '0'.

B. Descriptive summary of UAS and RU data

(i) Binary/categorical variables

	UAS (N = 5,706)		RU (N = 9,672)	
	Frequency	% of total	Frequency	% of total
Staying at home	3,423	60.90	4,826	50.82
First-generation student	2,422	45.42	2,234	24.00
Low family income	607	10.64	920	9.51
Parenthood	899	15.76	208	2.15
Disability/(mental) illness	1,982	35.44	2,799	29.55
Migration background (1st generation)	240	4.23	427	4.44
Migration background (2nd generation)	595	10.49	1,200	12.47
Male	2,102	36.84	4,052	41.89
Master's student	1,098	19.24	4,203	43.46
Part time	1,510	26.46	207	2.14
Incompatible with study programme	1,501	26.77	2,665	27.90
Hindered by Covid-19 uncertainty	1,886	33.64	3,300	34.55

(ii) Continuous variables. SD = Standard Deviation.

	UAS				RU			
	Median	Mean	SD	Range	Median	Mean	SD	Range
Age (years)	24	27.33	9.63	14–67	23	23.80	5.23	16–83
Year of study	3	2.69	1.11	1–4	2	2.01	0.92	1–4
Average exam grade	7	7.20	0.62	4–10	7.30	7.32	0.67	1.5–10

C. Generalised logistic regression analysis

- We used the 'lme4' package in R (version 4.1.1) to fit a generalised logistic regression mixed model (henceforth called mixed logit model) to the UAS and RU data separately. The model predicts the log-odds of the binary outcome 'staying at home' (see section A for description).

- The model includes random intercepts for higher education institution and field of study, reflecting the nested structure of the data (i.e., students are nested within institutions and fields of study). We assume that the baseline rate of staying at home varies depending on the specific institution and field of study. The two random intercepts in the model account for this variance.

- The fixed factors in the model are 'First-generation student' (1/0), 'Low family income' (1/0), Parenthood (1/0), Disability/(mental) illness (1/0); and Migration background (0/1/2). For all fixed factors, the reference level was '0'. That equates respectively to second-generation student, average-to-high family income, no children, no reported disability/(mental) illness, and no migration background.

- 'Age' and 'Average exam grade' were mean-centred (i.e., scaled so that the sample mean becomes 0) and entered into the model as continuous covariates. 'Year of study' (1-4) was also added as a continuous covariate (where year 1 is the reference value).

- The remaining control variables were entered into the model with '0' always taken as the reference level (see section A). The reference levels were thus female, bachelor's student, first year, full time, going abroad compatible with study programme, and not hindered by Covid-19 uncertainty.

D. Summary of fixed effects in the mixed logit model for UAS respondents

(4556 observations; AIC = 5652; R^2 = 0.13). The intercept represents the log-odds of a UAS respondent staying at home when all variables are at reference level. SE = Standard error. ***p < 0.001, **p < 0.01, *p < 0.05.

	Coefficient	SE	z value	p value	Probability
Intercept	0.83	0.23	3.58	0.00	
Predictor variables					
First-generation student	0.22	0.07	3.34	0.00	0.56***
Low family income	-0.06	0.11	-0.49	0.62	0.49
Parenthood	0.40	0.15	2.62	0.0	0.60**
Disability/(mental) illness	-0.17	0.07	-2.45	0.01	0.46*
Migration background (1st generation)	-0.39	0.18	-2.18	0.03	0.40*
Migration background (2nd generation)	-0.07	0.11	-0.58	0.56	0.48
Control variables					
Age	0.01	0.01	1.68	0.09	0.50
Male	0.13	0.07	3.34	0.00	0.53*
Year of study	-0.20	0.03	-6.24	0.00	0.45***
Master's student	-0.89	0.12	-7.18	0.00	0.29***
Part time	0.31	0.12	2.50	0.01	0.58*
Average exam grade	-0.08	0.05	-1.53	0.13	0.48
Incompatible with study programme	0.17	0.08	2.24	0.02	0.54*
Hindered by Covid-19 uncertainty	-0.25	0.07	-3.56	0.00	0.44***

E. Summary of fixed effects in the mixed logit model for RU respondents

(8308 observations; AIC = 10998.02; R^2 = 0.09). The intercept represents the log-odds of an RU respondent staying at home when all variables are at reference level. SE = Standard error. ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$.

	Coefficient	SE	z value	p value	Probability
Intercept	0.00	0.14	0.02	0.98	
Predictor variables					
First-generation student	0.33	0.06	5.90	0.00*	0.58***
Low family income	0.21	0.08	2.44	0.01*	0.55*
Parenthood	0.62	0.23	2.71	0.01*	0.65**
Disability/(mental) illness	0.05	0.05	1.00	0.32	0.51
Migration background (1st generation)	-0.37	0.12	-3.12	0.00*	0.41**
Migration background (2nd generation)	-0.10	0.07	-1.42	0.16	0.47
Control variables					
Age	-0.00	0.01	-0.51	0.61	0.50
Male	0.30	0.05	6.42	0.00*	0.57***
Year of study	-0.07	0.03	-2.31	0.02*	0.48*
Master's student	-0.26	0.06	-4.42	0.00*	0.42***
Part time	0.43	0.20	2.12	0.03*	0.61*
Average exam grade	-0.24	0.04	-6.46	0.00*	0.44***
Incompatible with study programme	0.58	0.05	10.99	0.00*	0.64***
Hindered by Covid-19 uncertainty	-0.47	0.05	-9.54	0.00*	0.38***

F. Variance inflation factor

Variance inflation factor (VIF) is a measure of the intercorrelation (or collinearity) among predictor variables in a regression model. High collinearity can distort the model results. We computed the VIF of all predictor variables in the UAS and RU models using the 'forcats' package in R. Values ranged from 1.02 to 3.12. Values below 5 reflect an acceptable degree of collinearity (Sheather, 2009; p.203).

G. Representation of the research sample.

This study used data from 15,492 Dutch higher education (HE) students who completed the Student Monitor survey in July-September 2020. To determine how this sample compares to the actual student population in the Netherlands, we looked at the government's central register of HE students from the academic year 2019-20 ('1 cijfer ho', DUO). Below we present the distributions of institution type (RU/UAS), degree type (Bachelor/Master), and gender (female/male) in our sample versus in the Dutch HE student population. Other variables relevant for this study (e.g., age) are not available in the '1 cijfer ho' dataset.

		Student Monitor research sample	Dutch HE student population*
Institution type	RU	62%	36%
	UAS	38%	64%
Degree type	Bachelor	62%	86%
	Master	34%	14%
Gender	Female	59%	51%
	Male	40%	49%

*based on '1 cijfer ho' data (DUO) from 2019-20.

Colophon

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