

**The Relationship Between Internationally Mobile Student Status and Academic Stress:  
Exploring the Moderating Role of Generic Sense of Ability to Adapt in University Students**

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## Abstract

The research paper aimed to investigate the relationship between internationally mobile (IM) student status and academic stress with a focus on the moderating role of generic sense of ability to adapt (GSA). Since IM students undergo different challenges and experience a variety of stressors it was expected that they would have higher academic stress. The GSA is crucial in the context of adapting to the new environment and coping with the challenges along the academic pathway. Hence, it was expected that GSA would moderate the direct relationship between IM status and academic stress. A quantitative cross-sectional design was implemented, using the Perception of Academic Stress Scale (PAS) and Generic Sense of Ability to Adapt Scale (GSAAS) to measure academic stress and GSA. The final sample comprised 83 students of which 50 were women, 31 were men and two non-binary participants. The age of the participants ranged from 18 to 30 years old ( $M = 21.73$ ;  $SD = 2.23$ ). The simple linear regression analysis revealed that IM student status did not have a significant effect on academic stress ( $B = -0.09$ , 95% CI  $[-0.34, 0.16]$ ,  $p = 0.46$ ). The moderation analysis that was done using the PROCESS macro outlined that GSA did not moderate the relationship between IM student status and academic stress ( $B = 0.25$ , 95% CI  $[-0.16, 0.66]$ ,  $p = 0.23$ ). However, findings revealed that GSA significantly predicted academic stress ( $B = 0.62$ , 95% CI  $[0.38, 0.85]$ ,  $p < 0.001$ ).

The absence of significant differences in academic stress may be potentially interpreted by the fact that both IM and national students experience shared stressors. Considering the current socio-political context students in general share common challenges as raising prices of groceries, transport, tuition fees and housing shortage.

The future research recommends adopting the longitudinal research design to explore how stress evolves during the academic year and whether GSA has a sustained protective factor in the long

run. It is also suggested to implement measurement instruments that will capture the multidimensional nature of academic stress. Additionally, it is recommended to consider cultural proximity as a variable to delve deeper into the complex dynamics between academic stress, GSA and cultural background in student populations.

**Key words:** internationally mobile student status, academic stress, generic sense of ability to adapt, regression analysis, cross-sectional.

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# **The Relationship Between Internationally Mobile Student Status and Academic Stress: Exploring the Moderating Role of Generic Sense of Ability to Adapt in University Students**

## **1. Introduction**

### **1.1 Academic stress**

Every academic year universities in the Netherlands welcome a large number of newcoming students (Statista, 2023). While the beginning of an academic journey in a new university can be exciting, it is also accompanied by significant challenges. Among these challenges, students are often confronted with having to deal with academic stress. Academic stress is defined as the experience of pressure, anxiety, and distress related to education and achieving academic goals (Jagiello et al., 2024; Pascoe et al., 2020). Handling the academic workload might be stressful for many students, as they need to fulfil the academic demands and adapt to a social environment. Different factors contribute to the level of academic stress one is experiencing (Rehman et al., 2023). As the result of extensive research, the findings indicated that the amount of work, academic responsibilities, uncertainty about the future, financial difficulties and fear of failure are major sources of academic stress (Fuente et al., 2020; Rehman et al., 2023; Trigueros et al., 2020). Therefore, academic stress is a common problem for university students and can lead to negative consequences if not dealt with efficiently.

Being negatively affected by academic stress can lead to issues with student well-being and performance. Following the transactional theory by Lazarus & Folkman (1987), the way how student evaluates stress, varies and depends on the individual's cognitive interpretation of the event. To elaborate on this, one could perceive their academic life as less stressful, meanwhile, another may find it overwhelming (Sailo & Varghese, 2024). Furthermore, the

intensity and duration of stress play a crucial role in determining its consequences. To some extent, stress can be motivating and act as a trampoline to personal growth, for instance, when it is moderate or short-term (Sailo & Varghese, 2024). However, excessive and prolonged stress can be detrimental to a student's well-being and affect one's academic performance (Barbayannis et al., 2022; Pozos-Radillo et al., 2014; Sailo & Varghese, 2024). To delve deeper into consequences, prolonged stress can result in sleep disturbances, weakened immunity and headaches (Sailo & Varghese, 2024). Moreover, it negatively affects one's mental health, exacerbating symptoms of anxiety, depression, and academic burnout (Barbayannis et al., 2022). Considering from the behavioural perspective, academic stress can lead to procrastination and poor time management, which in turn negatively affects academic performance (Pozos-Radillo et al., 2014; Sailo & Varghese, 2024).

## **1.2 Challenges Internationally Mobile Students Face**

While all students experience academic stress, there are additional factors internationally mobile students will face. Internationally mobile (IM) students are those “students who have physically crossed the border between two countries for educational purposes” (UNESCO, 2023). Hence, international students who pursue higher degree and plan to stay for more than one year. Adapting to a new environment, speaking another language, a new culture, and completely different living conditions are all factors that might affect IM students' ability to perform throughout their studies (OECD, 2018). A report on study experience and well-being of international students in the Netherlands revealed that students felt highly pressured by the workload and stress associated with their studies (Nuffic, 2022). Sixty - two percent reported that they were often or always experiencing academic stress. Furthermore, research states that IM students who struggle to adapt to Dutch culture and society were less satisfied with their study

experience (Nuffic, 2022). Wu et al., (2015) found that cultural and social differences make it complicated for international students to form social relationships with peers. These factors can heighten the academic stress experienced by international students, causing many to isolate socially and experience loneliness (Nuffic, 2022; Wu et al., 2015).

According to the Minority Stress Model, stress experienced by minority groups (IM students) arises from their status, which subjects them to unique challenges (Valentín-Cortés et al., 2020). One of such minority stressors are the immigration and visa regulations. IM students are required to follow strict academic policies in order to keep their residence permit. International students must obtain at least 50% of credits within the academic year, otherwise they do not meet the requirements to keep their residence permit (University of Twente, 2024). Moreover, non-EU/EEA students at the University of Twente should obtain at least 75% of credits through the first study year, otherwise, students cannot apply for the same programme for three consecutive years (University of Twente, 2024). Such strict policies place immense pressure on IM students, leading to heightened levels of anxiety, fear of deportation and fear of not being able to finish their studies (Valentín-Cortés et al., 2020). Aside from the strict immigration policies, IM students should also manage to find housing within the limited time. Failing to find housing and timely registering with the municipality (Gemeente) can result in fines, which is another stressor for IM students (Government of the Netherlands, 2019).

The stress associated with insecure housing is further exacerbated by another challenge that revolves around difficulties with financial means (Nuffic, 2022; Sailo & Varghese, 2024; Saoradh & Wijssenbeek, 2023). The extensive research on groups of international students reflected that aside from the academic pressure, they experience financial pressure to finish their studies (Nuffic, 2022). International students struggle with finding affordable accommodation,



which can significantly increase levels of stress. Limited understanding of rental regulations, language barrier, and unfamiliarity with the housing market, combined with cultural and social differences contribute to the increased stress, which in turn increases the study-related stress.

The above-mentioned challenges are further compounded by the findings of Lorenzetti et al., (2023), which reveal that many international students are not aware of the support universities are offering to them. Following this, IM students reported a lack of support from high education institutions (HEI) which was a significant source of stress (Nuffic, 2022). Due to the high academic workload, one must handle along with the daily life tasks, international students may not have time to explore support resources provided by the university. Reflecting on these challenges, it is of high importance for universities to understand how students' IM status affects academic stress, to provide them with proper support.

### **1.3 Generic Sense of Ability to Adapt**

One of the key factors in helping IM students to manage academic stress is fostering their generic sense of ability to adapt (GSA) to a new academic environment. Adaptation is the dynamic process that requires students to adapt socially, emotionally and culturally (OECD, 2018). To build on this, adapting socially and culturally entails one's ability to adjust to social norms, language and being able to address routine issues related to work and academia (Pinarbasi, 2023). Additionally, social adjustment requires facing difficulties as making friends, being homesick or going through identity negotiation (David et al, 2009; Pinarbasi, 2023). The mentioned difficulties are part of an extensive process known as acculturation, wherein IM students strive to find the balance between their cultural background and adopt the culture of the host country (Worthy et al., 2020). Berry's acculturation model provides a theoretical framework for understanding this balance and highlights the importance of integration during the adaptation

(Worthy et al., 2020). Hence, integration is the adaptive strategy that allows students to adjust to the norms and expectations of the host country (Pinarbasi, 2023). Therefore, integration fosters a sense of belonging and reduces the psychological strain while adapting to a new culture (Worthy et al., 2020).

Despite the importance of cultural adjustment, IM students also need to achieve a balance between perceived demands as academic workload and adopt coping strategies to reduce anxiety and enhance one's well-being (Prakash, 2018). Coping strategies can be adaptive and maladaptive. Adaptive coping strategies stand for positive reappraisal, hence, a positive way of thinking, positive interpretation of the events and acceptance (Restrepo et al., 2023). Maladaptive coping entails overthinking, rumination, self-sabotage, and self-blame (Restrepo et al., 2023; Stanislawski, 2019). Even though both strategies are used to cope with stress, negative regulations may result in higher levels of experienced stress (Troy & Mauss, 2011). Academic, institutional and social adaptation are crucial factors needed to adapt to university life. To do well in school, adjusting to university systems and finding proper social support may act as a protective factor against academic stress (Restrepo et al., 2023). It was outlined that a strong GSA empowers students to face difficult situations with confidence, thereby enhancing their capacity to address challenges in a new environment (Franken et al., 2023). Previous studies have shown that implementing positive cognitive-emotional regulation strategies, social support, and healthy habits will guarantee a better adaptation which in turn will reduce perceived academic stress (Restrepo et al., 2023; Stanislawski, 2019). Referring back to Beck's acculturation model, it highlights the importance of the ability to adapt in navigating cultural challenges IM students encounter. Investigating the dynamic interplay between the ability to

adapt and academic stress is essential and can foster a better understanding of how to support IM students experiencing high levels of stress.

#### **1.4 Research Questions and Hypotheses**

This research paper is aimed to explore the relationship between IM student status and academic stress. It is assumed that the GSA plays a crucial role in understanding this direct relationship. Thus, a particular focus on how the GSA moderates the direct relationship will be studied. Reflecting on the previously conducted studies it is expected that IM students experience higher levels of academic stress (Nuffic, 2022; OECD, 2018). This was explained by the fact that students have to handle various challenges which significantly contribute to heightened academic stress (Nuffic, 2022; OECD, 2018; Sailo & Varghese, 2024; Saoradh & Wijisenbeek, 2023).

*RQ1:* What is the relationship between internationally mobile student status and academic stress among university students?

*H1:* Internationally mobile student status is a significant predictor of academic stress, with international students experiencing high levels of academic stress.

Following the previously conducted studies, the ability to adapt reduces the level of academic stress (Franken et al., 2023; Restrepo et al., 2023). Hence, it is expected that IM students who foster their ability to adapt will experience lower levels of academic stress (Stanislowski, 2019). To build on this, depending on the GSA of the student, it will moderate the direct relationship between IM student status and academic stress.

*RQ2:* To what extent does the generic sense of ability to adapt moderate the relationship between IM student status and academic stress?

*H2*: Higher levels of the generic sense of ability to adapt decrease the effect of being an IM student on academic stress and lower levels of the generic sense of ability to adapt increase the effect of being an IM student on academic stress.

Analysing the responses of the national Dutch students with IM students will provide insights into the academic stress students face. Therefore, the obtained data can be further used to provide quality support for IM students in managing their academic stress.

## **2. Methods**

### **2.1 Design**

The study implemented a quantitative empirical cross-sectional design based on an online survey. This research was initially done in collaboration of two Bachelor students, with an interest in the relationship among multiple variables as academic stress, IM student status, and GSA. The predictor variable is IM student status, academic stress is the outcome variable, and the GSA is a moderator. The survey consists of a set of psychometrically validated scales as the perceived academic stress scale (PAS), and the generic sense of the ability to adapt scale (GSAAS). The format of the survey was adopted to collect self-reported data at a single point in time.

### **2.2 Participants**

The participants for the study were recruited using convenience sampling. The survey for this study was created using Qualtrics, a cloud-based platform for designing and managing online surveys. A direct link to Qualtrics was distributed via “WhatsApp”, “Telegram”, “Instagram”, “LinkedIn” and students from the faculty of psychology had a chance to participate through the SONA system. The eligibility criteria were to be enrolled at a Dutch university,

understand written English and be at least sixteen years old. The University of Twente is located at the border of the Germany. Due to the geographical proximity of Germany to the Netherlands, it was complicated to differentiate between national and IM students. The exclusion of German students ensured a clearer division between Dutch and IM participants. Moreover, it adjusted the response ratio to 41 Dutch students and 42 IM students. If not fitted to the eligibility criteria, participants were transferred to the end of the questionnaire. A priori power analysis was conducted using G-power analysis to identify the required sample size for a linear multiple regression analysis. The analysis specified a medium effect size of  $f^2 = 0.15$ ,  $\alpha = 0.05$ , power ( $1 - \beta$ ) = 0.80 and number of predictors was 2. The results revealed a required sample size of 68 participants to achieve sufficient statistical power.

## **2.3 Materials**

To answer the research questions of the current research, a set of questionnaires were used. The survey consisted of a set of standardized scales as the perceived academic stress scale (PAS), the generic sense of the ability to adapt scale (GSAAS) and a demographics questionnaire. These scales will be explained in depth in the following section.

### ***2.3.1 Socio-demographic data***

To proceed with the survey, participants were asked to sign an informed consent and answer demographic questions regarding their age, nationality, study program, gender, country of birth, years lived in the Netherlands, and field of study (see Appendix A). One of the important questions was whether a participant was an international student. Due to the dichotomous nature of the predictor variable, this question was crucial to differentiate between the participants.

### 2.3.2 *The Perception of Academic Stress Scale*

The Perception of Academic Stress (PAS) is a scale that measures the personal experiences of students regarding their academic stress (see Appendix B). The initial version of the scale consisted of three subscales measuring stresses related to academic expectations, faculty work and examinations and students' academic self-perceptions (Bedewy & Gabriel, 2015). The final version of the scale consists of 18 items and is divided into 2 blocks, however, without the clear division into subscales. Hence, questions from different subscales were present but in a different order to reduce the response bias. The first block has 5 statements that measure positive perceptions related to academic stress. For instance, "Am confident that I will be successful student", "I can make academic decisions easily". The response items range from *Strongly Disagree* (1) to *Strongly Agree* (5).

The second block consists of 13 statements, however, the response items were reversed. Contrary to the first block, the responses ranged from *Strongly Agree* (1) to *Strongly Disagree* (5). In the original article, the author argues that reversing item responses was done to avoid response patterns (Bedewy & Gabriel, 2015). In comparison to the first block, statements in the second block were negatively phrased. For example, "I fear failing courses this year" and "Even if I pass my exams, am worried about getting a job".

The questionnaire is scored by summing up the scores from 2 blocks. The higher PAS score will indicate lower levels of academic stress one is experiencing. Overall, the PAS scale has high internal consistency reliability as Cronbach's alpha  $\alpha = 0.7$  (Bedewy & Gabriel, 2015). The current study had a Cronbach's alpha  $\alpha = 0.78$ , hence, showing high reliability.

### **2.3.3 The Generic Sense of Ability to Adapt Scale**

The Generic Sense of Ability to Adapt (GSAAS) is a scale directed to measure a person's generic sense of ability to adapt (see Appendix C). The GSAAS consists of 10 items and was scored on a 5-point Likert scale. Response items ranged from *Not at all* (0) to *Always* (4). The scale includes items as "I can cope well with adverse circumstances" and "I see plenty of interesting challenges". A higher score indicates a higher generic sense of ability to adapt. Meanwhile, a low score suggests a low sense of ability to adapt. The scale is highly reliable having a Cronbach's alpha score of  $\alpha = 0.89$  (Franken et al., 2023). In the present research, the implemented GSAAS scale had a Cronbach's alpha  $\alpha = 0.83$ , hence, having high reliability as in the original studies.

## **2.4 Procedure**

The current paper received ethical approval from the ethics committee from the faculty of Behavioural, Management, and Social sciences of the University of Twente. Participants had to fill in the informed consent to proceed with the survey (see Appendix E). The consent form mentioned the rationale of the study, and the rights of the participants that they may withdraw from the study at any time without any consequences (see Appendix D). It was clearly stated that collected data would be treated confidentially, as all the responses were anonymous. The data collection took place from the 24<sup>th</sup> of November till the 13<sup>th</sup> of December.

The message was shared with a brief explanation of the study (see Appendix F). Participants had two options to directly fill in the survey in Qualtrics or in case if they wanted to obtain SONA credits there was a link referring to the Test Subject Pool website of BMS (faculty). As mentioned earlier the data collection was conducted by two Bachelor Students. Building on this, every participant had to fill in the socio-demographic questionnaire, the PAS

scale, and the GSAAS scale. For filling in the survey students were granted 0.25 credits. The mean time for filling in the survey was 7 minutes 34 seconds.

## **2.5 Data analysis**

### ***2.5.1 Data Screening and Cleaning***

The collected results were exported from the Qualtrics survey. The obtained data from the survey was statistically analyzed using the R-studio data software 4.3.1 version. Participants were categorized into two groups due to the dichotomous nature of the predictor variable. IM students were coded as 1 and Dutch national students were coded as 0. 143 participants took part in an online survey and the gathered data was cleaned. Responses from 17 participants were deemed non-applicable and were excluded. 4 participants did not pass the attention check questions and were excluded from the sample and the other 13 participants were excluded because they skipped most of the questions. 24 participants were German and 2 were German-Turkish. Due to not fitting the eligibility criteria, they were also excluded from the sample.

### ***2.5.2 Descriptive statistics***

Descriptive analysis was conducted to better understand the recruited sample. To elaborate on this, mean, standard deviation, minimum, maximum values, skewness and kurtosis were calculated for PAS and GSAAS scales and demographic variables.

### ***2.5.3 Parametric assumptions***

The assumption of normality was evaluated using the Shapiro-Wilk test to identify if the data gathered followed the normal distribution. Total PAS and GSAAS scores were used and histograms were plotted to visually assess how scores across the sample were distributed.



#### ***2.5.4 Inferential statistics/statistical significance***

The inferential statistics were calculated to examine the relationship between IM student status and academic stress, along with the moderating effect of a sense of ability to adapt. To identify the direct effect of the predictor variable IM student status on outcome variable academic stress, a simple linear regression analysis was performed. The PROCESS macro was implemented taking into account the interaction effect of IM student status and sense of ability to adapt to assess the moderation. The statistical significance was assessed using the  $p$ -value below the threshold ( $p < 0.05$ ). The F-test was conducted to determine if the regression model significantly explained the variance in academic stress. To evaluate the overall model fit the  $R^2$  value was calculated.

### **3. Results**

#### **3.1 Descriptive statistics**

##### ***3.1.1 Demographics***

Participants who did not fit the eligibility criteria, had incomplete responses and did not pass the attention check questions were removed from the sample. The final sample size comprised 83 participants. It consisted of 50 women, 31 men and two non-binary participants. The age of the participants ranged from 18 to 30 years old ( $M = 21.73$ ;  $SD = 2.23$ ). National students reported that on average they have been living in the Netherlands for 21.74 years ( $SD = 2.31$ ). IM students indicated that they lived in the Netherlands on average for 2.8 years ( $SD = 1.6$ ). Overall students from 6 fields of study completed the survey (see Table 2). The majority of students were representatives from the faculty of Psychology ( $n = 24$ ) and various science majors like clinical, environmental, human movement, marine, health, organizational and computer ( $n =$

15). Twenty-one different nationalities participated in the survey which highlights the sample diversity. The most common nationalities were Dutch ( $n = 41$ ), Kazakh ( $n=7$ ), Russian ( $n = 6$ ), and Ukrainian ( $n = 4$ ).

**Table 1**

*Demographics descriptives*

Item	Category	$n$	%	$M$
Age	Total	83	100	21.73
Gender	Female	50	60.24	-
	Male	31	37.35	-
	Non-binary	2	2.41	-
Nationality	Dutch	41	49.4	-
	Western Europe	4	4.82	-
	Eastern Europe	11	13.25	-
	Central Asia & Middle East	10	12.05	-
	East & Southeast Asia	5	6.02	-
	America	2	2.41	-
	Russia	6	7.23	-
	Other	4	4.82	-
IM status	Yes	41	49.4	-
	No	42	50.6	-

**Table 2***Participants` Fields of Study*

Field of study	Count
Psychology	24
Business & IT	8
Engineering	12
Science	15
Communication	10
Others	14

**3.1.2 PAS and GSAAS****Table 3***PAS Descriptives*

IM Status	<i>M</i>	<i>SD</i>	Min	Max	Skewness	Kurtosis
0	3.43	0.58	2.11	4.5	-0.08	2.35
1	3.33	0.56	2.61	4.94	0.63	3.06

After data cleaning and analyzing the sample, descriptive statistics for the PAS and GSAAS were computed. The average PAS score for Dutch students ( $M = 3.43$ ,  $SD = 0.58$ ) was slightly higher than for IM students ( $M = 3.33$ ,  $SD = 0.56$ ). These results reveal that Dutch students reported lower academic stress, than international participants. Furthermore, these

results show some variability in the responses within both Dutch and IM students, but the scores were mostly centred around the mean. The mean PAS score per item indicates that the recruited sample experienced lower academic stress ( $M = 3.38$ ,  $SD = 0.57$ ), in comparison to the norm scores ( $M = 2.5$ ) reported in the original research (Bedewy & Gabriel, 2015). The assumption of normality was met, hence, the academic stress was normally distributed (see Appendix G).

**Table 4**

*GSAAS Descriptives*

IM Status	<i>M</i>	<i>SD</i>	Min	Max	Skewness	Kurtosis
0	2.52	0.6	1.3	3.8	-0.23	2.34
1	2.5	0.41	1.6	3.3	-0.38	2.52

To build on this, both Dutch ( $M = 2.52$ ,  $SD = 0.6$ ) and IM ( $M = 2.5$ ,  $SD = 0.41$ ) students reported very similar GSAAS scores. However, international participants showed less variability in their responses. Overall, the current sample showed a higher generic sense of ability to adapt ( $M = 2.51$ ,  $SD = 0.51$ ), in comparison to the norm scores from the original studies ( $M = 1.61$ ,  $SD = 0.76$ ) (Franken et al., 2023). The GSAAS scores were normally distributed, hence, the assumption of normality was met (see Appendix H).

### 3.2 Inferential Statistics

#### 3.2.1 Regression Analysis

In order to examine the main effect of IM student status on academic stress the regression analysis was conducted. Results showed that the fitted regression model was not statistically significant ( $R^2 = 0.01$ ,  $F(1,81) = 0.56$ ,  $p = 0.46$ ). The effect of IM student status on academic

stress was not significant ( $B = -0.09$ , 95% CI  $[-0.34, 0.16]$ ,  $p = 0.46$ ), which suggests that being an international student does not significantly predict academic stress. Therefore,  $H1$  was rejected.

**Table 5**

*Regression Analysis*

	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Intercept	3.43	0.09	38.47	< 0.001
IM status	-0.09	0.13	-0.75	0.46

**3.2.2 Moderation Analysis**

PROCESS macro was implemented to assess the moderation of the sense of ability to adapt on the relationship between IM student status and academic stress (Hayes, 2023). It was revealed that the model was statistically significant ( $R^2 = 0.407$ ,  $F(3, 79) = 18.06$ ,  $p < 0.001$ ) and explained approximately 40.7% of the variance in academic stress. The coefficient for the interaction term between IM student status and ability to adapt indicated that the interaction effect was not statistically significant ( $B = 0.25$ , 95% CI  $[-0.16, 0.66]$ ,  $p = 0.23$ ). These results highlight that the relationship between IM student status and academic stress is not significantly moderated by a sense of ability to adapt. Therefore,  $H2$  was rejected. Hence, it was revealed that higher levels of GSA do not decrease the effect of being an IM student on academic stress.

Despite the non-significant effect of IM student status ( $B = -0.71$ , 95% CI  $[-1.76, 0.34]$ ,  $p = 0.18$ ), the main effect of GSA on academic stress was statistically significant ( $B = 0.62$ , 95% CI  $[0.38, 0.85]$ ,  $p < 0.001$ ), outlining that higher levels of GSA is associated with lower academic

stress. This means that for every 1 unit increase in the sense of ability to adapt, the academic stress decreases by 0.62.

These findings reveal that while GSA is a strong predictor of academic stress, it does not significantly moderate the relationship between IM student status and academic stress.

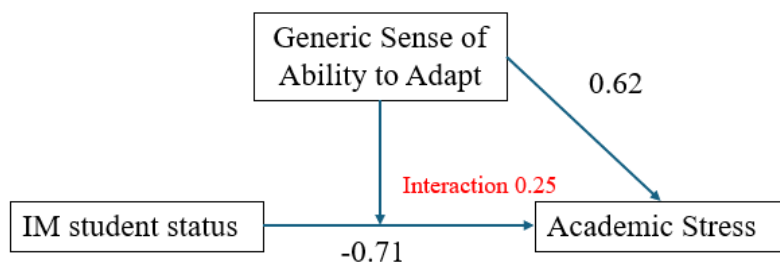
**Table 6**

*Moderation Analysis*

	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	Lower	Upper
Constant	1.87	0.31	6.09	<0.001	1.26	2.48
IM status	-0.71	0.53	-1.34	0.18	-1.76	0.34
GSAAS	0.62	0.12	5.20	<0.001	0.38	0.85
Int_1	0.25	0.21	1.22	0.23	-0.16	0.66

**Figure 1**

*Moderation Analysis*



## 4. Discussion

### 4.1 Implications

The current research paper aimed to investigate the relationship between IM student status and academic stress, focusing on how the GSA moderates this relationship. The first research question was centred around the relationship between the predictor variable, IM student status, and the outcome variable, academic stress. The obtained results were contradictory to the expectations and did not provide any support for a predicting effect of IM student status on academic stress. The second research question was: To what extent does the generic sense of ability to adapt moderate the relationship between IM student status and academic stress? The findings from the current study's sample revealed that the GSA did not moderate the relationship between IM student status and academic stress. However, the moderation analysis revealed that the implemented model was significant, accounting for a substantial proportion of the variance in academic stress. According to the results obtained, the GSA was a significant predictor of academic stress, highlighting its crucial role in influencing stress levels within the context of the research.

#### *4.1.1 Hypothesis 1*

The regression analysis revealed that IM student status had no significant effect on academic stress. Even though results have shown a very small decrease in PAS score, which corresponds to an increase in academic stress, they were not statistically significant. Academic stress is a complex term that is affected by a variety of factors as financial stress, academic workload, housing issues, and pressure from parental expectations (Fuente et al., 2020; Rehman et al., 2023; Sailo & Varghese, 2024; Saoradh & Wijssenbeek, 2023; Trigueros et al., 2020). These stressors could be shared between both national and IM students. Recent research dedicated to

analyzing the sources of stress among domestic and international students revealed that both groups are stressed out about finances, own health, love life, relationship with family, people at work/school, the health of loved ones and life in general (Amanvermez et al., 2024). Building on this, IM student status itself may not be a major determinant of academic stress, but rather a contextual variable that interacts with other factors. When controlling for the depressive and anxiety symptoms, financial stress and concerns about the health of loved ones were more predicting the level of experienced stress (Amanvermez et al., 2024). Hence, the effect of IM student status on stress was non-significant when adjusting for the combination of other factors.

On the other hand, instead of dismissing the fact that IM student status affects academic stress, it is essential to consider these findings in the broader context. The fact that IM student status had no significant effect on academic stress could suggest that both international and national students face different but equally challenging stressors, which in turn balance out their overall academic stress levels. International students experience stressors as cultural adjustment, language barriers, and unfamiliarity with the housing market as was initially stated (Fuente et al., 2020; Rehman et al., 2023; Trigueros et al., 2020; Sailo & Varghese, 2024; Saoradh & Wijssenbeek, 2023). Therefore, it could be potentially assumed that national students have their own stressors that are as equally impactful, as financial pressures, family expectations or employment complications (Amanvermez et al., 2024; Fuente et al., 2020; Rehman et al., 2023; Trigueros et al., 2020). Building on this, these factors may have balanced out the differences in academic stress levels between national and international students.

Furthermore, the research findings should be interpreted in the face of the current socio-political context of higher education in the Netherlands. Recent policy changes as budget cuts to the education sector, introduction of the taxes when students extend their studies and rising



tuition fees in general are additional stressors that affect both international and national students (Hoger Onderwijs Persbureau, 2024; Wolthekker, 2024). It can be assumed that such increases exacerbate one's burden to finish studies (Nuffic, 2022). Taking into consideration additional challenges as increasing housing shortage, increasing prices of groceries, transport, all these factors intensify overall stress, concerns about academic performance and future career prospects of students (Jacobs, 2025; Jacobs, 2024; Louwers & Hilten, 2024). Hence, the mentioned factors could be shared among international and national students, which could potentially explain the lack of significant difference in reported academic stress levels. Both groups face escalating challenges related to academic pressure, with economic factors and socio-cultural context becoming more and more influential.

#### ***4.1.2 Hypothesis 2***

The moderation analysis outlined that GSA serves as a predictor variable of academic stress and does not moderate the relationship between IM student status and academic stress. While this does not align with the *H2* proposed in the current study, it is in line with the previous studies which state that ability to adapt reduces the level of perceived academic stress. To build on this, the ability to adapt indeed serves as a protective factor for overcoming challenges associated with academic and environmental pressures (Franken et al., 2023; Restrepo et al., 2023; Stanislawski, 2019). Hence, higher levels of ability to adapt decrease the level of experienced academic stress. Higher levels of GSA were ensured when students received emotional support from their teachers, were socially and culturally integrated, and were satisfied with their accommodation (Nuffic, 2022). IM students who successfully adapted to living in a foreign country showed better academic resilience, hence, experienced less academic stress (Özdemir & Bayram Özdemir, 2020). Berry's acculturation theory provides a valuable

framework for understanding this relationship through the concept of integration. Successful integration helps IM students to maintain their cultural identity, meanwhile actively engaging with the culture of the host country (Worthy et al., 2020). To elaborate on this, IM students who manage to integrate and adapt to a new culture are better able to navigate challenges, which in turn reduces academic stress.

A reasonable explanation for the obtained results could be that the ability to adapt serves as a main coping mechanism that mitigates stress in general (Mauss et al., 2007; Troy & Mauss, 2011). Regardless of the cultural background of the student, the ability to manage a variety of factors that lead to stress is important for both national and IM students. Building on this, IM student status cannot itself predict the level of academic stress experienced by students. Instead, their ability to adapt and adopt protective coping mechanisms as a positive way of thinking, cognitive reappraisal, learning to integrate culturally into a new environment, active coping, and attention control is what potentially reduces academic stress (Fitzgibbon & Murphy, 2022; Mauss et al., 2007; Tada, 2017).

#### **4.2 Limitations and Strengths**

The results of the current study outlined that GSA significantly predicts the level of academic stress. However, the limited scope of cross-sectional design did not allow to infer causal direction. It could also be that stress levels affect the level of ability to adapt (Restrepo et al., 2023). Hence, stress could act as a buffer for personal growth and increase one's level of GSA when facing challenging situations (Westover, 2023). Furthermore, this research did not account for the intensity or duration of stress, factors that could either prompt GSA or have a negative effect on it. Exposure to moderate stress could promote resilience and personal growth,

meanwhile, excessive and chronic stress might detrimentally reduce one's ability to adapt (Sailo & Varghese, 2024).

A significant limitation of the present research was the exclusion of German students due to the geographical proximity between Germany and the Netherlands. While this helped to balance the response ratio, it reduced the overall sample size. Therefore, it can be potentially assumed that the sample diversity was reduced which limited the generalizability of the findings. It can be also assumed that the exclusion resulted in an underrepresentation of students from culturally similar regions, who could experience adaptation and stress differently than students from more distant cultural backgrounds (Rienties et al., 2011).

Another limitation of this study is the reliance on the Perceived Academic Stress scale as the primary measurement tool for academic stress. Even though PAS has high reliability, it captures factors solely related to academic stress as workload, deadlines, and performance expectations (Bedewy & Gabriel, 2015). PAS does not consider broader contextual factors that contribute to academic stress. The current paper discussed how external factors as cultural integration, language barriers, housing insecurity, pressure from parental expectations and financial pressure majorly affect the overall stress experienced by IM students, which in turn exacerbates academic stress (Fuente et al., 2020; Rehman et al., 2023; Sailo & Varghese, 2024; Saoradh & Wijsenbeek, 2023; Trigueros et al., 2020). By focusing only on academic stress as on the distinct term, PAS does not consider the interplay with other contextual factors, thus, limiting its ability to explore students' stress experience from different perspectives.

A major strength of the current study is the high diversity of the sample. Respondents from twenty-one nationalities participated, allowing for a culturally diverse dataset. Furthermore, the research was conducted with a sufficient sample size, ensuring sufficient statistical power,

which allowed to explore potential relationships between IM student status, academic stress and GSA.

However, the diverse sample can be also seen as a limitation. The homogenization of the sample overlooks important factors related to students' requirements for travelling to and living in the Netherlands. To elaborate on this, students with the European Union (EU) or the European Economic Area (EEA) nationality have benefits over non-EU/EEA students, as the latter require a VISA. For instance, students with non-EU/EEA nationality must go through complex procedures such as being eligible for a VISA application and meeting additional administrative requirements (University of Twente, 2024). Moreover, non-EU/EEA students in the Netherlands are subject to specific academic requirements, such as the obligation to earn at least 75% of their study credits during the first academic year and obtain at least 50% of study credits per academic year to keep their residence permit (University of Twente, 2024). These differences in travel and academic pressures may exacerbate levels of stress and contribute to varying levels of GSA. The current research paper did not account for unique experiences and pressures faced by specific subgroups within the sample. Hence, the obtained results did not fully capture the stressors experienced by non-EU/EEA students and do not reflect the level of ability to adapt in navigating mentioned challenges.

### **4.3 Future research**

Future research should implement a longitudinal research design to account for the intensity and duration of academic stress over time. It is assumed that such an approach would reveal deeper insights into how stress levels evolve during the academic year and whether GSA has a sustained protective factor in the long run (Troy & Mauss, 2011).

Another suggestion for future research should consider cultural proximity as a variable influencing academic stress and GSA. Exploring whether students from culturally similar backgrounds (in this case Netherlands and Germany) to the host country experience lower stress than students from more distant cultures. Previous research that was aimed to compare the academic performance of international students revealed that Western and Mixed-Western students tend to score higher on academic and social integration compared to domestic Dutch students (Rienties et al., 2011). Contrary to that, non-Western students experience more issues with social integration due to a lack of social support, in comparison to Western and domestic students (Rienties et al., 2011). Hence, such consideration could provide insights into the role of cultural fit during the adaptation. Moreover, it would show whether stress levels are influenced more by structural challenges (financial issues, unfamiliarity with the housing market, pressure from parental expectations, fear of failure) or cultural differences.

Future research should aim to address the limitations of the PAS by implementing measurement tools that capture the multidimensional nature of academic stress. For instance, the “Student Stress Inventory” assesses contextual factors as physical stress, interpersonal relationship, and environmental stress along with academic stress (Arip et al., 2018). Such an approach would provide a deeper understanding of factors that contribute to student’s stress in general and potentially reveal insights into how these contextual factors exacerbate academic stress.

Lastly, the results suggest that enhancing GSA among students may be a key protective factor in reducing the level of academic stress (Restrepo et al., 2023; Stanislawski, 2019). HEI can implement the findings of this study and target students to teach them to recognize whether they adopted negative coping strategies and timely substitute them with positive ones.

Furthermore, universities can offer accessible platforms for peer support and cultural exchange, which in turn will promote social and cultural integration.

#### **4.4 Conclusion**

To conclude, the current research paper explored the relationship between IM student status and academic stress and how this relationship was moderated by the generic sense of ability to adapt. The findings revealed that while IM student status did not predict academic stress, GSA was a significant predictor of academic stress. The lack of significant effect of IM student status on academic stress can be potentially explained by modern stressors that are shared between IM and national students. Taking into account the current socio-political situation in the Netherlands, students in general feel a high amount of pressure. Despite the academic stress that they have, it is all exacerbated by economic factors as rising tuition fees, prices of groceries and transport and the introduction of taxes in case of a study delay. These challenges could explain the lack of significant difference in academic stress between IM and national students.

The obtained results highlight the importance of the GSA as a key protective factor against academic stress. These findings could be useful for HEI to develop targeted interventions aimed at fostering GSA among students. Universities could help students identify and replace negative coping strategies with positive ones. This in turn will help students better manage academic stress. Therefore, future research recommends adopting a longitudinal design, implementing measurement instruments that will capture the multidimensional nature of academic stress and considering cultural proximity as a variable to delve deeper into a topic.

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### **AI Statement:**

While working on the present paper, the author used ChatGPT and Microsoft Office Word’s Editor to assist with R-codes and spelling. After the implementation of these tools, the author

carefully reviewed and revised the content as necessary, taking full responsibility for the final version of the work.

## **Appendices**

### ***Appendix A: Demographic questions***

1. How old are you?
2. Which gender do you identify with?
3. What is your nationality?
4. In which country were you born?
5. In this research, immigrant status refers to all international students who have come to the Netherlands from countries outside its borders to study. Are you an international student?
6. How many years have you lived in the Netherlands?
7. What is your field of study?

### ***Appendix B: PAS***

1. Am confident that I will be a successful student
2. Am confident that I will be successful in my future career
3. I can make academic decision easily
4. The time allocated to classes and academic work is enough
5. I have enough time to relax after work

#### Block 2

1. My teachers are critical of my academic performance
2. I fear failing courses this year

3. I think that my worry about examinations is weakness of character
4. Teachers have unrealistic expectations of me
5. The size of the curriculum (workload) is excessive
6. I believe that the amount of work assignment is too much
7. Am unable to catch up if getting behind the work
8. The unrealistic expectation of my parents stresses me out
9. Competition with my peers for grades is quite intense
10. The examination questions are usually difficult
11. Examination time is short to complete the answers
12. For this statement, select '1-Strongly Agree'
13. Examination times are very stressful to me
14. Even if I pass my exams, am worried about getting a job

***Appendix C: GSAAS***

1. I can cope well with adverse circumstances
2. I feel energetic
3. I see plenty of interesting challenges
4. I can cope well with the stress in my life
5. I have influence over my personal circumstances
6. I can easily handle setbacks
7. If something unexpected happens, I can easily adapt
8. I can cope well with my daily life
9. If I encounter difficulties, I can find a way out
10. For this statement, select '4 – Always'

11. If I want something, I go for it

***Appendix D: The recruitment text***

You are being invited to participate in a research study titled “Investigating the relationship between social support, sense of ability to adapt, academic stress and immigrant status”. This study is being done by Jennifer Verlinde and Aruzhan Terekulova from the Faculty of Behavioural, Management and Social Sciences at the University of Twente.

The purpose of this research study is to research the relationship between social support, sense of ability to adapt, academic stress and immigrant status. We want to explore how these constructs influence each other. Understanding the sense of ability to adapt is crucial in this context because it is hypothesized that it may help students to manage academic stress. Hence, ability to adapt can build up resilience needed to navigate challenging situations that occur within the academic environment.

To participate, you must be enrolled at a Dutch university and be able to understand English.

This survey will take you approximately 15 - 20 minutes to complete. The data will be used for research purposes only.

Your participation in this study is entirely voluntary and you can withdraw at any time. You are free to omit any question. We believe there are no known risks associated with this research study; however, as with any online related activity the risk of a breach is always possible. To the best of our ability your answers in this study will remain confidential. We will minimize any risks by storing data securely, anonymizing results and deleting data after 2 years, in line with the guidelines for Bachelor thesis research.

This study has been approved by the BMS Ethics Committee.



**In case of any further questions about data usage or the research in general, here are student and supervisor contact details:**

Jennifer Verlinde (j.m.verlinde@student.utwente.nl)

Aruzhan Terekulova (a.terekulova@student.utwente.nl)

Kai Rosen (k.s.rosen@utwente.nl)

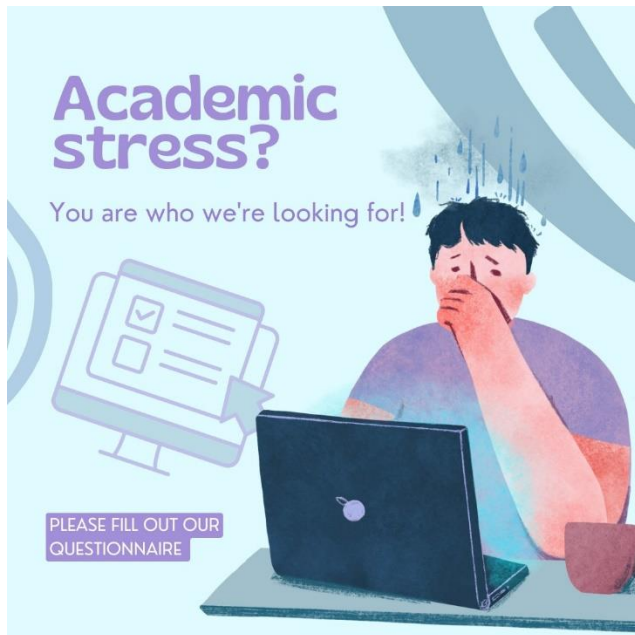
***Appendix E: Informed consent***

- I am voluntarily filling out this questionnaire and understand that I may withdraw from this participation at any time, without any negative consequences and without providing reasons.
- I agree that my answers will be stored and saved, for the purpose of the interview and research.
- I understand that data will be deleted after 2 years, in line with the guidelines for Bachelor thesis research.
- I understand that the answers will remain anonymous.
- I understand that the other researchers and their supervisor will be able to see the stored and saved answers.
- I understand that my personal information will not be misused or shared beyond the study team.
- I understand that data gathered from this study might be used for further research.
- I give my consent to participate in the study which involves answering certain questions regarding my experience of academic stress, perceived social support, sense of ability to adapt and immigrant status.
- I understand that this questionnaire will take approximately 15 to 20 minutes.

**I agree that I understand all the information that was provided to me and agree to participate in this study.**

- I agree to participate
- I do not agree to participate

***Appendix F: Shared message***



Hello everyone! We are conducting a survey to investigate the relationship between academic stress, immigrant status, social support and ability to adapt. It will take approximately 10-15minutes to fill in. There are no open questions, you only need to choose responses that align with your personal experience.

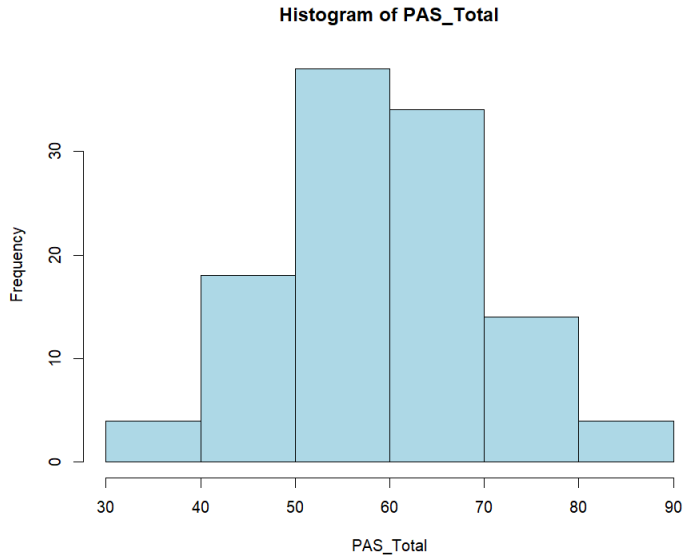
Here is the link to the survey :

[https://utwentebbs.eu.qualtrics.com/jfe/form/SV\\_56F9yd17z06EFuK](https://utwentebbs.eu.qualtrics.com/jfe/form/SV_56F9yd17z06EFuK)

If you need SONA credits , follow this link: [https://utwente.sona-systems.com/default.aspx?p\\_return\\_experiment\\_id=3067](https://utwente.sona-systems.com/default.aspx?p_return_experiment_id=3067)

**Appendix G: Assumption of Normality: PAS scale**

*The distribution of PAS scores across the sample*

**Appendix H: Assumption of Normality: GSAAS scale**

*The distribution of GSAAS scores across the sample*

